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October 17, 2019

Ms. Tanowa Troupe, Secretary
Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3797

Re: **Case No. 18-1607-EL-BGN -** In the Matter of the Application of Firelands Wind, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Wind-Powered Electric Generation Facility in Huron and Erie Counties, Ohio.

Response to Second Data Request from Staff of the Ohio Power Siting Board

Dear Ms. Troupe:

Attached please find Firelands Wind, LLC's ("Applicant") response to the Second Data Request from the staff of the Ohio Power Siting Board ("OPSB Staff"), which was received by the Applicant on October 16, 2019.

As requested by OPSB Staff, attached is a revised Attachment B to Attachment 3, the Shadow Flicker Analysis Update, which was filed on October 4, 2019, as part of the Revised Fourth Supplement to the Application. The only difference in this version of Attachment B is that there is only one numeric table per page, as opposed to four.

Applicant provided this response to OPSB Staff on October 17, 2019, and, as requested, provided OPSB Staff with four hardcopies.

We are available, at your convenience, to answer any questions you may have.

Respectfully submitted,

/s/ *Christine M.T. Pirik*
Christine M.T. Pirik (0029759)
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(Counsel is willing to accept service via email.)
Attorneys for Firelands Wind, LLC

Cc: Tamara Turkenton
Jonathan Pawley

CERTIFICATE OF SERVICE

The Ohio Power Siting Board's e-filing system will electronically serve notice of the filing of this document on the parties referenced in the service list of the docket card who have electronically subscribed to these cases. In addition, the undersigned certifies that a copy of the foregoing document is also being served upon the persons below this 17th day of October, 2019.

/s/ Christine M.T. Pirik
Christine M.T. Pirik (0029759)

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Administrative Law Judge:

jay.agranoff@puco.ohio.gov

COLUMBUS 59714-18 124945v1

Attachment B

WindPRO results and Calendars

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

Assumptions for shadow calculations

Maximum distance for influence	1,580	m
Minimum sun height over horizon for influence	3	°
Day step for calculation	1	days
Time step for calculation	1	minutes

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067

W	WNW	NW	NNW	Sum
738	557	368	264	8,760

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Height Contours: CONTOURLINE_2018-10-16_Emerson SFA_2.wpo (5)
Obstacles not used in calculation
Eye height for map: 1.5 m
Grid resolution: 10.0 m

All coordinates are in
UTM (north)-NAD83 (US+CA) Zone: 17

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	RPM
			[m]					[kW]	[m]	[m]	[RPM]
T1	349,610	4,577,737	217.3	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T10	350,596	4,574,852	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T11	349,346	4,574,706	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T12	350,350	4,574,226	220.4	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T13	350,857	4,574,161	220.5	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T14	357,937	4,573,872	214.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T15	358,653	4,573,775	212.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T16	359,025	4,573,635	210.6	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T17	354,188	4,573,276	218.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T18	353,140	4,572,979	220.4	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T19	354,497	4,572,964	218.3	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T2	351,853	4,577,442	218.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T20	354,715	4,572,600	220.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T21	353,014	4,572,078	226.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T22	354,553	4,571,744	222.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T23	352,819	4,569,529	230.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T24	348,396	4,569,363	238.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T25	348,244	4,568,858	238.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T26	348,798	4,568,694	238.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T27	351,228	4,567,779	236.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T28	352,926	4,567,712	231.2	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T29	349,444	4,567,624	240.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T3	358,825	4,576,927	210.6	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T30	351,584	4,567,411	236.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T31	353,180	4,567,359	230.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T32	349,341	4,567,218	240.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T33	353,823	4,567,087	229.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T34	346,474	4,567,059	239.4	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T35	351,585	4,566,709	236.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T36	353,266	4,566,658	230.3	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T37	346,951	4,566,553	241.9	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T38	346,312	4,566,449	244.1	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T39	348,733	4,565,759	240.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T4	359,059	4,576,484	209.8	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T40	350,634	4,563,323	239.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T41	350,633	4,562,919	238.6	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0

To be continued on next page...

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	RPM
			[m]					[kW]	[m]	[m]	[RPM]
T42	350,980	4,562,522	238.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T43	346,461	4,562,366	252.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T44	351,176	4,561,655	240.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T45	351,138	4,561,116	241.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T46	350,550	4,560,477	242.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T47	346,548	4,559,973	249.4	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T48	348,005	4,557,521	254.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T49	350,518	4,557,129	252.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T5	359,405	4,576,468	208.5	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T50	347,093	4,557,038	257.2	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T51	347,967	4,556,813	256.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T52	346,198	4,556,139	262.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T53	346,199	4,555,776	263.2	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T54	351,385	4,555,703	254.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T55	350,877	4,555,552	254.1	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T56	349,645	4,555,532	258.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T57	346,776	4,555,489	261.4	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T58	351,517	4,554,997	256.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T59	347,062	4,554,879	262.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T6	349,536	4,575,674	218.4	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T60	353,545	4,553,056	260.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T61	348,088	4,552,977	268.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T62	353,545	4,552,541	262.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T63	348,267	4,552,275	270.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T64	346,500	4,551,303	274.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T65	348,263	4,551,051	272.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T66	351,881	4,550,874	267.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T67	351,296	4,550,732	266.7	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T68	350,723	4,550,571	269.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T69	349,753	4,550,478	270.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T7	350,758	4,575,598	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T70	347,305	4,550,131	275.5	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T71	350,744	4,549,945	268.1	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T72	350,171	4,575,540	218.8	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T73	347,988	4,574,744	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T74	347,821	4,574,437	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T75	348,951	4,569,244	238.0	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T76	352,771	4,562,205	239.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T77	351,065	4,562,197	240.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T78	346,973	4,555,202	262.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T79	353,883	4,552,527	261.5	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T8	351,344	4,575,426	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T80	346,667	4,547,606	290.6	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T81	346,668	4,546,855	291.6	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T82	346,447	4,545,876	284.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T83	346,772	4,545,781	287.8	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 11...	Yes	GE WIND ENERGY	GE 3.0-140-3,000	3,000	140.0	110.0	0.0
T84	354,248	4,576,820	216.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T85	353,297	4,576,782	220.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T86	354,685	4,576,614	216.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T87	346,898	4,567,229	238.0	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0
T9	350,345	4,575,175	219.3	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 10...	Yes	GE WIND ENERGY	GE 5.5-158-5,500	5,500	158.0	107.5	0.0

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
2	351,971	4,551,976	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3	352,230	4,569,172	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
5	353,658	4,568,766	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
6	351,513	4,556,129	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
7	347,724	4,554,982	261.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
8	354,816	4,551,509	259.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
9	353,048	4,577,587	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
10	347,147	4,569,722	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
11	347,408	4,556,393	259.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
12	347,106	4,553,301	263.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
13	352,114	4,565,265	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
15	345,797	4,566,154	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
16	353,657	4,569,026	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
17	345,291	4,561,441	254.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
19	352,856	4,570,343	233.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
20	352,798	4,565,458	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
21	347,892	4,569,862	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
23	352,606	4,553,875	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
25	348,655	4,566,909	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
26	350,575	4,556,102	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
27	350,270	4,551,427	265.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
28	346,094	4,550,068	278.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
29	357,524	4,574,391	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
30	357,523	4,574,412	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
31	358,610	4,574,557	212.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
32	359,196	4,575,959	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
33	352,420	4,572,652	229.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
34	353,513	4,571,307	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
35	356,876	4,574,320	216.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
36	356,604	4,574,142	216.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
37	346,674	4,548,267	286.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
38	354,582	4,551,944	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
39	350,352	4,554,193	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
40	351,670	4,549,484	270.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
41	355,503	4,576,077	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
42	359,820	4,572,362	208.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
43	359,948	4,573,474	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
44	352,845	4,577,517	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
45	353,876	4,576,036	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
46	352,002	4,569,123	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
47	347,527	4,551,727	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
48	348,421	4,558,912	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
49	356,218	4,576,260	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
50	357,955	4,577,125	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
51	350,566	4,565,854	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
52	347,575	4,545,306	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
53	345,869	4,563,307	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
54	347,645	4,555,057	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
56	350,180	4,548,624	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
57	353,835	4,575,824	219.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
58	350,022	4,568,482	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
59	348,436	4,557,851	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
62	354,167	4,578,198	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
63	350,113	4,562,562	241.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
64	350,095	4,562,953	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
65	346,363	4,565,208	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
66	347,752	4,570,146	235.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
68	350,087	4,554,842	256.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
70	347,562	4,570,399	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
71	351,992	4,553,073	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
72	352,661	4,551,610	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
74	357,991	4,577,122	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
75	351,886	4,572,221	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
76	350,397	4,572,776	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
77	354,598	4,572,195	221.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
78	348,304	4,573,128	223.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
79	346,838	4,560,484	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
80	348,422	4,578,302	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
83	355,544	4,571,708	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
85	346,043	4,560,379	252.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
86	349,686	4,560,271	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
87	350,142	4,557,205	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
88	349,856	4,578,512	218.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
89	357,466	4,574,287	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
90	360,302	4,574,299	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
91	352,181	4,567,715	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
93	348,569	4,554,584	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
94	345,801	4,567,370	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
95	346,311	4,567,623	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
96	354,709	4,576,167	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
98	351,676	4,563,037	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
99	354,114	4,565,428	230.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
100	350,070	4,564,063	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
102	348,139	4,556,289	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
103	355,457	4,572,148	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
104	352,174	4,567,157	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
106	347,924	4,564,968	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
107	354,055	4,566,057	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
110	356,502	4,573,493	219.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
111	357,296	4,574,297	216.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
112	345,753	4,562,890	250.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
113	353,826	4,577,333	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
114	345,801	4,567,317	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
115	347,685	4,570,183	233.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
116	351,846	4,578,748	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
118	351,972	4,570,994	231.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
119	356,431	4,573,515	219.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
120	351,512	4,569,660	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
122	347,671	4,570,389	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
123	351,043	4,554,129	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
124	353,404	4,577,741	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
127	345,817	4,566,194	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
129	352,674	4,554,779	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
130	352,437	4,551,955	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
131	360,024	4,577,342	209.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
132	351,530	4,578,710	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
133	352,046	4,549,462	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
134	352,624	4,553,662	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
135	346,967	4,574,989	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
137	351,700	4,562,581	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
139	355,024	4,566,656	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
140	348,175	4,570,335	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
141	354,876	4,551,637	258.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
142	354,016	4,575,678	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
143	349,258	4,568,017	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
144	347,943	4,573,987	221.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
145	352,318	4,566,469	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
146	348,848	4,569,916	237.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
147	347,596	4,570,141	233.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
148	349,858	4,558,561	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
149	346,701	4,565,405	245.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
150	347,798	4,573,124	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
151	350,383	4,572,986	224.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
152	353,894	4,577,969	210.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
153	354,049	4,572,266	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
154	345,664	4,561,060	253.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
155	350,006	4,562,178	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
156	351,088	4,558,585	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
157	357,719	4,574,646	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
158	357,851	4,574,638	215.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
159	351,996	4,569,421	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
160	356,588	4,573,619	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
161	344,808	4,555,561	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
162	354,329	4,568,216	228.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
163	345,306	4,545,729	285.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
165	347,693	4,565,281	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
166	345,199	4,561,430	254.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
167	345,464	4,560,913	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
168	354,333	4,551,170	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
169	352,673	4,551,172	265.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
170	346,468	4,549,738	280.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
171	358,318	4,576,290	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
172	351,808	4,578,358	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
173	352,713	4,565,517	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
174	349,233	4,576,495	219.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
176	347,395	4,569,750	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
178	346,203	4,558,869	253.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
179	350,401	4,578,410	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
180	355,544	4,572,258	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
181	355,665	4,572,405	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
182	346,259	4,545,337	290.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
183	345,964	4,561,199	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
185	354,436	4,551,418	260.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
186	353,969	4,576,188	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
187	346,571	4,561,321	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
189	352,257	4,576,347	219.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
191	348,169	4,570,098	236.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
192	347,724	4,570,118	235.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
193	348,855	4,551,861	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
195	345,622	4,552,512	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
196	354,235	4,578,242	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
197	349,904	4,575,140	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
198	345,218	4,567,181	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
199	345,881	4,567,518	238.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
200	350,589	4,556,069	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
201	347,989	4,545,233	284.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
202	348,870	4,576,511	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
203	352,717	4,565,375	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
204	346,375	4,560,736	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
205	352,943	4,555,276	255.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
206	354,095	4,551,863	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
207	347,145	4,549,677	278.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
209	352,520	4,576,339	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
210	347,452	4,569,757	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
211	346,262	4,560,367	252.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
212	350,086	4,561,425	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
213	352,869	4,554,555	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
214	350,084	4,556,125	253.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
215	356,654	4,574,331	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
216	357,357	4,574,299	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
217	357,572	4,574,389	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
218	358,235	4,574,692	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
220	346,936	4,548,248	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
221	351,732	4,561,166	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
222	351,041	4,556,215	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
223	354,169	4,570,124	226.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
224	351,028	4,557,704	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
225	347,418	4,556,330	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
227	349,910	4,567,290	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
228	350,100	4,562,231	240.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
229	346,647	4,552,551	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
230	352,864	4,577,559	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
231	353,959	4,575,917	219.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
232	350,152	4,555,457	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
233	353,769	4,551,995	261.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
234	351,988	4,569,306	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
235	347,681	4,570,145	234.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
236	353,873	4,568,579	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
237	349,858	4,549,572	272.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
239	347,980	4,548,181	282.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
240	345,557	4,545,630	283.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
241	347,959	4,565,262	243.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
242	345,899	4,560,556	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
243	354,541	4,551,300	259.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
244	348,842	4,578,319	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
245	354,001	4,566,061	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
246	345,882	4,568,507	237.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
248	347,591	4,565,296	243.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
249	354,445	4,551,153	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
250	357,794	4,577,110	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
251	355,981	4,572,718	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
252	350,125	4,573,402	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
253	353,814	4,578,116	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
254	345,816	4,565,902	244.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
255	348,095	4,565,598	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
258	345,058	4,545,318	282.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
259	347,256	4,563,342	244.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
260	347,905	4,564,854	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
261	349,127	4,556,190	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
262	345,273	4,551,786	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
263	350,188	4,578,550	218.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
264	352,613	4,577,227	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
265	352,044	4,569,134	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
266	347,300	4,569,738	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
268	352,390	4,560,308	238.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
270	354,171	4,574,759	218.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
271	359,876	4,574,368	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
272	349,837	4,578,271	219.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
273	347,060	4,573,920	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
275	345,961	4,566,804	241.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
277	350,140	4,557,015	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
278	347,266	4,545,387	291.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
279	346,614	4,562,783	248.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
280	352,048	4,570,388	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
281	349,773	4,573,347	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
283	350,133	4,559,428	245.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
284	355,437	4,572,104	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
285	348,957	4,576,500	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
286	357,907	4,577,123	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
287	350,430	4,572,693	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
288	350,071	4,557,308	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
289	356,127	4,576,785	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
291	352,144	4,569,061	234.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
293	349,992	4,564,270	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
294	348,087	4,570,209	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
295	347,576	4,570,429	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
298	352,907	4,568,928	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
299	354,483	4,577,656	212.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
300	354,048	4,578,008	210.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
301	345,895	4,560,480	252.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
303	355,639	4,571,586	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
304	345,777	4,566,429	242.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
305	347,708	4,567,596	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
310	348,787	4,556,261	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
312	351,558	4,549,360	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
313	357,884	4,576,036	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
314	348,896	4,549,284	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
315	354,609	4,566,484	226.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
317	353,167	4,570,701	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
319	354,350	4,552,485	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
320	352,345	4,576,711	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
321	348,092	4,570,309	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
322	347,805	4,570,109	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
323	347,673	4,570,121	234.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
324	352,600	4,553,553	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
325	352,676	4,550,799	264.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
327	347,192	4,548,158	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
328	345,881	4,562,145	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
329	345,780	4,562,224	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
330	353,508	4,551,897	262.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
331	348,807	4,549,619	273.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
332	359,914	4,576,818	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
333	347,552	4,565,759	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
334	347,837	4,558,618	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
335	349,549	4,556,225	254.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
336	347,205	4,554,311	264.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
337	354,012	4,577,983	211.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
338	345,885	4,568,343	236.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
339	347,559	4,545,255	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
340	347,894	4,564,883	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
341	347,556	4,565,765	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
342	354,869	4,551,676	257.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
343	354,878	4,570,381	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
344	358,324	4,576,201	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
346	350,374	4,564,617	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
347	346,924	4,549,759	280.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
348	346,988	4,565,325	242.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
349	345,596	4,561,006	253.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
350	347,544	4,550,966	271.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
351	346,663	4,562,849	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
352	353,322	4,577,656	214.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
353	351,983	4,569,366	236.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
354	347,584	4,565,292	243.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
355	347,723	4,570,179	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
356	353,100	4,560,695	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
357	348,847	4,558,644	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
359	358,247	4,577,901	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
360	353,807	4,576,810	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
361	351,211	4,558,529	247.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
362	352,684	4,552,529	262.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
364	350,394	4,572,944	224.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
365	352,339	4,573,592	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
366	349,125	4,576,496	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
367	345,301	4,565,438	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
368	347,800	4,569,850	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
369	349,018	4,554,113	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
370	346,541	4,562,806	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
371	348,720	4,573,901	221.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
372	349,827	4,568,777	238.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
373	347,630	4,570,191	233.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
376	353,695	4,571,653	225.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
377	358,358	4,574,946	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
378	348,168	4,570,526	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
380	348,063	4,570,148	236.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
381	346,386	4,561,128	250.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
382	351,627	4,562,173	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
383	348,565	4,555,317	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
384	352,691	4,552,943	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
385	359,920	4,576,696	209.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
386	353,974	4,562,887	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
387	350,248	4,551,465	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
388	347,555	4,569,766	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
389	346,202	4,558,849	253.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
390	358,397	4,576,871	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
391	354,018	4,575,635	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
392	345,116	4,545,363	282.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
393	346,855	4,565,400	243.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
394	350,220	4,578,295	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
395	351,856	4,578,925	220.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
396	349,397	4,568,206	241.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
397	352,789	4,577,937	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
398	347,660	4,570,210	233.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
399	351,771	4,561,830	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
400	351,952	4,569,438	236.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
401	346,036	4,562,819	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
402	350,114	4,559,700	242.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
403	351,996	4,549,454	268.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
404	350,142	4,550,519	270.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
405	354,192	4,574,827	219.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
406	353,503	4,575,941	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
407	354,282	4,576,189	216.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
408	350,070	4,557,364	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
410	347,011	4,552,480	273.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
411	354,832	4,551,345	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
412	351,450	4,549,498	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
413	352,008	4,578,698	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
415	355,829	4,577,665	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
416	354,024	4,575,861	218.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
417	347,565	4,551,197	273.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
418	345,797	4,567,453	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
420	352,645	4,577,524	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
421	353,437	4,576,097	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
422	350,017	4,563,022	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
423	351,657	4,562,647	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
424	349,619	4,556,157	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
425	358,284	4,574,699	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
426	351,581	4,572,652	229.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
427	349,978	4,574,706	219.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
428	357,582	4,574,324	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
429	350,093	4,562,379	241.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
430	352,497	4,555,013	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
432	350,293	4,578,380	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
434	355,984	4,572,830	219.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
435	349,987	4,564,393	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
437	347,510	4,553,283	262.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
438	350,531	4,569,056	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
439	347,651	4,570,131	234.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
440	354,332	4,553,838	258.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
441	347,401	4,546,746	294.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
442	353,964	4,566,128	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
443	347,472	4,568,103	238.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
444	355,571	4,571,787	221.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
445	346,062	4,550,304	278.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
447	345,885	4,567,227	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
448	350,422	4,572,712	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
449	355,749	4,572,534	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
451	346,278	4,567,619	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
452	353,823	4,568,555	233.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
453	354,508	4,551,383	260.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
454	349,368	4,549,669	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
456	348,946	4,578,328	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
457	349,849	4,578,580	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
458	355,632	4,572,237	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
459	347,334	4,569,736	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
460	353,426	4,561,634	236.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
461	347,380	4,553,095	264.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
462	353,851	4,578,050	211.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
463	355,870	4,571,208	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
464	356,623	4,574,339	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
466	346,153	4,545,432	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
467	345,810	4,565,930	244.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
468	347,779	4,565,267	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
469	347,714	4,570,152	234.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
474	352,129	4,569,071	235.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
475	346,741	4,562,791	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
476	345,887	4,567,695	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
477	351,774	4,562,837	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
478	346,753	4,561,495	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
479	347,562	4,556,232	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
480	354,887	4,551,539	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
481	353,057	4,550,640	259.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
482	350,482	4,549,391	272.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
483	357,511	4,576,100	215.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
484	349,426	4,573,471	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
485	357,997	4,574,685	214.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
486	353,261	4,577,671	214.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
487	352,803	4,572,744	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
488	345,898	4,560,486	252.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
489	345,814	4,567,816	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
490	349,535	4,566,246	239.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
491	357,902	4,577,210	214.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
492	352,270	4,567,998	234.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
494	355,427	4,572,058	220.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
495	357,092	4,574,309	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
496	346,100	4,547,861	290.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
498	350,157	4,554,825	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
499	355,679	4,571,604	221.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
500	352,193	4,567,289	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
501	352,253	4,567,621	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
502	347,479	4,570,300	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
503	347,480	4,567,871	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
504	345,632	4,560,981	253.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
507	353,932	4,578,049	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
508	349,773	4,569,705	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
509	354,625	4,567,394	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
510	354,258	4,552,740	260.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
512	356,177	4,572,974	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
513	353,169	4,577,735	216.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
515	353,042	4,570,841	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
516	348,871	4,573,395	222.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
517	349,922	4,573,377	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
518	350,097	4,560,304	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
519	346,998	4,556,297	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
520	348,931	4,553,155	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
521	348,820	4,554,397	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
523	359,180	4,574,345	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
524	352,880	4,577,931	218.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
526	345,628	4,561,056	253.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
527	350,189	4,551,977	264.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
528	351,177	4,549,585	270.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
529	351,459	4,550,162	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
530	349,876	4,578,899	215.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
531	350,411	4,578,458	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
532	360,683	4,576,054	204.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
533	345,465	4,565,556	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
534	348,156	4,569,886	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
535	350,129	4,558,088	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
536	351,377	4,548,969	270.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
538	350,359	4,572,943	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
539	345,241	4,546,338	292.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
540	348,209	4,570,076	236.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
541	350,217	4,556,764	252.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
542	354,503	4,551,220	259.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
543	352,674	4,550,401	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
544	345,907	4,565,791	245.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
545	346,793	4,558,645	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
546	351,275	4,554,269	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
547	352,590	4,577,641	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
548	345,388	4,565,187	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
549	346,730	4,565,814	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
550	347,711	4,570,182	233.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
551	345,695	4,559,201	252.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
552	357,589	4,574,590	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
553	348,963	4,576,139	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
554	358,665	4,576,046	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
555	358,247	4,577,626	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
556	354,941	4,570,369	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
557	347,670	4,570,347	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
558	345,685	4,561,006	252.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
559	350,106	4,561,367	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
560	351,184	4,554,207	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
561	351,222	4,578,701	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
562	354,467	4,572,202	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
563	349,640	4,576,668	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
564	352,166	4,568,451	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
566	345,738	4,562,229	252.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
567	351,790	4,560,113	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
569	352,313	4,566,468	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
570	347,602	4,566,895	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
571	351,039	4,560,143	243.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
572	350,127	4,558,552	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
573	346,646	4,552,558	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
574	353,743	4,576,210	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
575	349,349	4,563,858	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
576	351,691	4,561,059	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
577	354,146	4,562,143	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
578	354,189	4,561,900	235.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
579	354,323	4,551,800	251.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
580	347,938	4,552,465	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
581	359,611	4,576,021	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
582	352,574	4,565,450	232.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
583	348,983	4,551,490	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
584	345,263	4,551,791	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
585	347,648	4,570,158	233.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
586	352,685	4,553,323	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
588	357,682	4,574,744	215.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
590	346,401	4,565,410	244.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
591	348,074	4,570,160	236.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
592	348,167	4,570,444	232.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
593	345,851	4,559,631	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
594	353,143	4,569,988	228.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
595	356,183	4,576,161	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
596	351,467	4,574,491	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
597	353,699	4,575,477	219.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
598	354,146	4,576,189	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
599	349,349	4,568,095	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
601	354,621	4,573,824	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
602	351,979	4,569,374	236.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
604	345,568	4,545,687	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
605	346,550	4,562,812	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
606	347,411	4,569,815	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
607	345,468	4,560,743	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
608	348,758	4,552,313	269.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
609	351,597	4,549,496	271.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
610	351,794	4,578,679	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
611	358,321	4,576,229	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
612	347,842	4,546,710	292.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
613	351,116	4,557,711	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
614	347,647	4,555,453	260.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
615	348,752	4,553,216	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
617	350,625	4,576,196	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
618	346,904	4,573,988	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
619	354,364	4,551,235	261.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
620	352,744	4,550,496	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
621	354,141	4,574,854	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
622	358,491	4,575,609	212.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
624	351,945	4,563,446	235.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
625	347,256	4,545,343	290.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
626	345,557	4,566,604	241.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
627	354,352	4,569,796	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
628	351,675	4,561,259	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
629	351,796	4,578,897	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
630	350,079	4,563,539	241.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
631	348,032	4,569,818	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
632	350,124	4,559,017	246.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
634	355,466	4,571,860	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
635	352,223	4,569,064	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
636	350,040	4,567,048	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
639	345,728	4,565,326	245.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
641	347,114	4,547,050	295.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
643	352,046	4,569,307	237.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
645	347,659	4,570,157	233.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
647	354,357	4,553,863	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
648	348,676	4,552,509	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
650	352,901	4,570,406	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
652	351,520	4,551,282	266.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
653	352,439	4,572,720	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
654	348,917	4,549,246	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
655	347,961	4,565,210	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
656	354,130	4,568,440	228.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
657	352,549	4,577,023	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
658	353,903	4,575,974	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
659	353,749	4,571,891	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
660	347,869	4,573,129	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
661	352,003	4,569,150	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
662	345,252	4,551,767	276.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
663	346,961	4,562,776	248.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
664	347,202	4,563,018	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
665	346,372	4,567,707	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
668	356,804	4,574,343	216.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
669	356,639	4,574,023	217.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
670	357,864	4,577,126	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
677	350,216	4,578,420	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
678	351,836	4,571,816	230.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
679	355,494	4,572,184	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
680	349,988	4,564,379	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
681	347,228	4,569,729	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
682	350,572	4,556,104	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
683	348,790	4,552,039	266.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
684	357,523	4,574,436	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
685	358,134	4,574,682	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
686	353,119	4,577,664	216.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
687	355,907	4,572,735	219.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
688	351,382	4,574,432	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
689	354,486	4,567,965	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
690	354,434	4,551,385	261.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
691	347,450	4,551,641	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
692	345,873	4,563,308	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
693	347,455	4,566,665	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
695	355,574	4,571,691	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
696	358,967	4,575,963	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
697	347,588	4,570,390	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
698	347,581	4,570,257	232.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
699	348,796	4,567,729	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
701	350,255	4,549,296	273.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
702	352,940	4,577,907	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
703	347,736	4,562,612	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
704	348,047	4,565,834	241.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
705	347,747	4,570,178	234.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
706	348,019	4,554,197	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
708	348,755	4,578,314	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
710	352,013	4,570,611	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
711	350,046	4,558,631	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
713	349,986	4,556,214	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
714	352,661	4,551,611	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
716	353,512	4,570,481	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
717	354,102	4,578,129	209.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
718	351,772	4,562,341	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
720	345,298	4,557,378	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
721	350,572	4,578,916	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
722	351,812	4,563,174	234.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
723	348,823	4,554,301	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
724	351,366	4,554,327	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
725	357,423	4,574,294	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
726	360,189	4,574,323	206.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
727	355,489	4,577,244	216.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
728	352,266	4,567,695	236.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
729	355,432	4,572,149	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
730	346,951	4,573,920	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
731	357,180	4,574,303	216.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
733	350,097	4,560,005	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
734	352,687	4,552,846	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
735	356,521	4,573,514	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
737	346,035	4,544,924	284.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
738	351,573	4,549,097	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
739	358,324	4,576,393	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
740	352,339	4,566,412	235.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
742	353,657	4,577,655	213.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
743	346,219	4,567,625	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
744	354,622	4,567,620	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
745	351,916	4,578,753	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
746	346,907	4,575,336	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
747	357,511	4,574,526	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
748	358,323	4,576,143	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
749	352,680	4,565,496	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
750	354,818	4,566,508	226.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
752	351,708	4,561,611	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
753	348,394	4,558,597	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
755	354,014	4,577,451	214.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
756	352,344	4,576,714	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
757	345,192	4,545,287	282.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
759	347,644	4,569,840	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
760	350,014	4,562,092	240.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
761	350,112	4,559,235	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
762	352,686	4,550,451	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
764	359,958	4,577,418	209.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
765	351,858	4,578,988	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
766	351,805	4,571,238	231.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
767	345,595	4,560,990	253.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
769	351,240	4,554,240	258.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
770	350,305	4,550,810	266.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
772	345,803	4,567,357	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
774	345,689	4,561,039	253.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
775	345,658	4,561,062	253.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
776	349,866	4,578,224	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
777	357,834	4,574,637	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
778	347,604	4,570,156	233.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
779	351,702	4,562,804	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
780	351,470	4,551,732	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
781	352,675	4,550,109	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
782	354,246	4,578,189	208.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
783	353,943	4,577,980	210.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
784	352,790	4,565,323	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
785	351,697	4,562,153	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
787	346,742	4,556,724	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
788	350,126	4,558,014	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
789	350,409	4,572,991	224.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
791	348,167	4,570,415	232.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
793	346,580	4,554,244	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
794	350,342	4,549,535	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
795	352,204	4,576,277	219.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
796	358,321	4,576,318	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
797	358,304	4,578,085	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
798	349,949	4,568,273	238.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
799	357,840	4,574,680	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
801	346,788	4,558,585	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
803	347,732	4,573,126	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
804	347,095	4,545,273	292.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
805	345,200	4,545,754	284.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
806	347,245	4,562,813	246.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
808	350,107	4,559,776	243.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
809	348,596	4,555,286	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
810	347,885	4,549,723	276.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
811	352,500	4,574,832	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
812	360,051	4,573,010	209.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
813	352,633	4,577,746	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
814	347,671	4,573,443	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
815	345,355	4,546,628	292.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
816	347,422	4,569,751	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
817	357,784	4,574,631	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
818	347,101	4,573,981	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
819	348,151	4,570,106	236.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
821	353,214	4,551,893	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
822	349,687	4,552,409	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
823	350,203	4,551,016	265.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
824	359,982	4,576,463	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
825	346,359	4,549,648	278.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
826	345,797	4,567,414	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
827	347,844	4,569,157	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
828	348,483	4,558,714	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
829	351,792	4,578,780	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
830	346,461	4,565,471	245.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
831	347,707	4,570,121	235.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
832	348,011	4,569,871	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
834	350,160	4,562,184	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
835	350,115	4,558,492	248.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
837	353,220	4,575,704	221.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
838	354,569	4,576,160	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
840	349,999	4,565,708	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
841	351,578	4,549,458	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
843	348,796	4,576,511	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
844	352,351	4,576,345	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
845	353,144	4,570,004	228.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
846	347,570	4,566,093	241.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
847	346,990	4,558,715	252.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
848	347,355	4,553,143	264.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
849	355,951	4,572,682	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
850	349,117	4,549,568	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
851	346,438	4,549,702	280.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
852	345,721	4,565,328	245.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
853	355,477	4,572,161	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
854	355,417	4,571,916	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
855	355,022	4,573,074	218.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
857	349,431	4,569,208	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
860	353,139	4,569,793	229.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
861	350,095	4,562,235	241.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
862	352,036	4,572,642	229.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
863	352,909	4,577,564	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
864	345,799	4,567,218	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
865	345,996	4,561,840	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
866	352,704	4,554,608	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
868	357,332	4,574,297	216.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
869	351,656	4,562,959	236.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
870	349,964	4,567,481	238.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
871	350,129	4,550,974	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
872	345,753	4,568,254	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
873	348,818	4,556,197	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
874	354,812	4,551,533	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
875	354,426	4,551,131	260.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
876	349,995	4,573,422	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
877	356,530	4,574,459	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
878	353,805	4,578,177	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
879	350,101	4,563,273	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
880	351,782	4,562,341	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
881	352,663	4,551,458	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
882	346,721	4,545,308	290.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
883	346,809	4,565,397	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
885	347,510	4,552,119	273.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
886	346,091	4,549,639	275.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
887	346,965	4,562,776	248.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
889	345,780	4,554,139	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
890	352,190	4,549,472	270.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
891	352,515	4,578,738	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
892	356,767	4,574,339	216.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
893	357,575	4,574,410	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
894	358,181	4,574,696	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
895	353,149	4,577,675	216.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
896	347,575	4,546,627	294.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
897	346,214	4,545,413	289.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
898	347,675	4,570,149	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
899	353,957	4,568,099	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
901	351,464	4,551,664	266.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
902	347,679	4,548,237	283.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
903	352,520	4,577,112	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
904	350,139	4,578,425	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
905	347,938	4,573,106	223.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
907	347,277	4,569,738	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
908	346,325	4,567,718	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
909	345,809	4,567,858	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
911	346,620	4,554,278	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
912	349,778	4,569,906	237.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
914	354,903	4,576,237	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
916	354,630	4,567,471	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
917	351,808	4,560,091	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
919	350,381	4,572,964	224.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
921	349,801	4,578,266	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
922	355,631	4,571,598	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
923	345,895	4,566,816	240.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
924	347,593	4,570,274	232.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
925	348,055	4,567,696	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
926	349,672	4,560,262	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
927	350,163	4,549,957	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
928	357,148	4,574,305	217.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
929	357,881	4,574,678	215.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
930	354,060	4,578,082	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
931	352,252	4,568,752	234.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
932	351,695	4,562,580	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
933	350,487	4,564,709	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
934	345,683	4,561,023	253.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
935	351,045	4,558,290	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
936	350,427	4,579,034	217.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
937	347,123	4,573,906	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
938	351,593	4,562,809	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
940	346,662	4,556,274	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
941	346,699	4,556,285	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
942	345,119	4,555,767	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
943	355,419	4,577,211	216.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
944	358,264	4,576,067	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
945	355,392	4,572,153	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
946	351,472	4,551,632	267.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
948	347,638	4,552,918	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
949	353,368	4,577,748	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
950	354,680	4,566,505	227.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
951	351,682	4,560,860	241.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
952	345,999	4,549,935	278.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
954	360,174	4,573,916	206.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
955	352,895	4,577,886	218.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
956	352,186	4,567,835	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
958	347,235	4,548,163	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
959	345,203	4,565,546	245.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
960	346,011	4,544,926	284.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
961	346,802	4,563,189	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
962	351,590	4,566,165	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
963	354,867	4,551,706	256.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
964	347,633	4,554,303	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
965	348,961	4,573,771	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
966	350,914	4,576,328	221.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
967	352,685	4,565,427	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
968	345,811	4,566,113	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
969	347,751	4,569,838	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
970	354,336	4,553,542	256.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
971	347,619	4,546,710	294.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
972	357,519	4,574,552	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
973	352,326	4,576,558	218.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
974	360,032	4,576,959	208.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
975	347,161	4,567,645	239.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
976	347,793	4,570,125	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
977	348,093	4,570,528	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
978	346,459	4,560,988	251.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
979	350,253	4,548,933	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
980	347,182	4,546,195	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
981	347,687	4,570,125	234.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
982	346,100	4,550,230	275.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
983	354,673	4,570,223	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
985	353,836	4,577,882	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
986	358,324	4,576,168	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
987	355,624	4,572,345	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
988	350,003	4,565,251	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
990	345,606	4,561,043	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
992	350,254	4,554,770	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
993	352,037	4,573,772	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
994	348,814	4,550,416	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
997	353,860	4,576,204	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
998	349,188	4,568,594	238.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
999	345,898	4,567,282	239.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1000	346,353	4,562,940	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1002	346,842	4,575,344	218.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1003	349,887	4,578,256	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1004	358,897	4,575,970	210.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1005	354,501	4,567,102	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1006	352,816	4,561,551	239.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1007	352,167	4,552,998	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1008	347,527	4,553,226	265.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1009	347,050	4,573,981	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1010	348,894	4,576,687	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1011	353,865	4,575,707	219.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1012	347,547	4,569,819	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1013	346,750	4,567,586	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1014	347,558	4,566,094	241.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1016	356,170	4,576,511	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1017	358,312	4,577,993	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1018	353,559	4,571,374	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1019	352,094	4,576,282	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1020	353,758	4,576,127	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1021	352,615	4,565,593	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1022	350,084	4,562,200	241.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1023	351,855	4,578,894	220.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1024	348,058	4,570,129	236.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1025	351,248	4,552,131	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1028	347,018	4,575,643	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1029	353,909	4,575,563	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1030	358,398	4,576,931	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1031	347,664	4,570,192	233.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1032	352,414	4,566,196	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1033	352,669	4,576,334	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1034	351,887	4,578,752	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1035	350,072	4,564,060	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1036	351,844	4,563,189	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1038	350,094	4,562,068	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1039	352,245	4,549,448	270.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1040	359,913	4,576,629	208.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1041	352,999	4,575,300	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1042	354,143	4,562,647	235.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1043	350,142	4,550,503	271.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1044	350,138	4,551,042	264.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1045	350,020	4,555,293	255.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1046	351,791	4,578,807	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1047	351,500	4,569,368	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1048	348,862	4,551,191	268.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1049	348,050	4,569,879	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1052	353,392	4,575,782	220.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1053	351,953	4,569,336	237.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1054	351,997	4,563,400	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1055	351,589	4,556,129	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1056	349,990	4,574,656	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1058	352,618	4,565,404	232.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1059	347,742	4,553,279	267.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1060	351,470	4,551,566	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1061	345,713	4,565,364	245.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1062	354,877	4,551,600	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1063	350,278	4,578,437	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1065	352,773	4,577,533	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1066	350,575	4,566,210	238.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1067	352,148	4,567,052	235.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1068	351,670	4,563,033	236.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1069	345,342	4,561,445	254.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1070	345,820	4,558,760	254.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1072	358,335	4,574,658	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1073	352,044	4,568,916	235.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1074	347,642	4,570,135	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1075	347,914	4,569,868	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1076	353,763	4,568,752	230.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1077	345,885	4,560,119	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1079	356,077	4,572,844	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1080	350,092	4,564,453	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1081	352,770	4,565,542	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1082	347,370	4,567,520	240.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1083	351,284	4,558,502	246.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1084	351,539	4,557,672	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1085	354,254	4,553,007	259.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1086	355,850	4,571,264	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1087	355,021	4,576,211	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1088	350,416	4,572,759	225.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1089	355,825	4,572,628	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1090	355,710	4,572,466	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1091	346,439	4,567,620	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1092	348,416	4,558,915	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1094	346,811	4,548,270	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1095	360,068	4,572,915	209.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1096	359,105	4,576,036	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1097	358,073	4,577,202	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1098	350,690	4,556,090	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1099	354,424	4,551,354	261.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1100	356,678	4,573,662	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1101	358,038	4,574,686	214.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1102	353,054	4,577,649	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1103	350,109	4,562,559	241.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1104	346,516	4,545,426	290.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1105	345,804	4,567,260	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1106	347,448	4,566,657	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1107	347,733	4,570,150	234.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1108	348,018	4,554,207	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1109	351,472	4,549,995	265.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1110	355,673	4,572,156	219.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1111	355,507	4,571,788	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1112	356,215	4,576,303	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1113	347,292	4,565,303	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1114	350,221	4,556,192	252.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1115	357,985	4,577,207	214.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1117	349,916	4,573,710	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1118	350,013	4,562,364	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1119	345,792	4,566,007	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1120	354,437	4,551,564	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1123	348,415	4,573,104	223.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1124	350,315	4,566,303	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1125	352,429	4,566,126	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1126	347,162	4,562,920	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1127	345,882	4,567,698	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1128	350,169	4,548,801	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1129	348,218	4,545,360	285.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1130	353,192	4,577,651	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1131	352,776	4,572,423	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1132	356,988	4,574,315	217.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1133	352,893	4,577,905	218.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1134	354,181	4,578,116	209.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1135	349,998	4,564,598	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1136	352,183	4,567,587	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1137	345,804	4,566,473	242.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1138	348,312	4,578,328	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1139	349,930	4,578,372	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1140	355,532	4,571,761	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1141	350,624	4,572,696	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1143	354,660	4,576,156	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1144	350,034	4,569,643	238.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1146	353,375	4,569,349	229.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1148	351,705	4,554,548	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1149	350,089	4,554,841	256.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1150	347,591	4,560,908	248.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1151	350,135	4,557,137	252.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1153	357,250	4,574,297	216.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1154	350,479	4,564,704	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1155	352,683	4,552,800	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1156	350,050	4,567,872	238.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1158	353,825	4,566,506	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1160	356,029	4,577,219	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1161	347,628	4,570,372	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1162	352,673	4,552,347	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1164	346,137	4,562,885	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1166	353,104	4,570,939	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1167	347,680	4,570,190	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1168	345,618	4,560,981	253.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1169	347,251	4,554,344	264.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1170	351,474	4,578,708	218.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1171	358,277	4,573,337	214.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1172	352,783	4,577,306	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1173	348,186	4,570,084	236.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1174	347,604	4,554,855	261.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1175	351,258	4,554,136	258.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1177	345,821	4,566,197	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1178	352,046	4,549,461	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1179	350,209	4,550,467	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1181	351,038	4,554,215	258.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1182	351,304	4,578,706	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1183	347,609	4,573,941	221.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1184	347,149	4,573,210	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1185	349,348	4,576,426	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1186	349,293	4,576,490	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1188	348,161	4,570,177	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1189	347,373	4,569,808	237.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1190	345,804	4,566,058	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1191	345,520	4,566,585	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1192	355,306	4,566,664	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1193	349,201	4,576,494	219.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1194	360,020	4,575,590	209.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1195	358,322	4,576,063	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1196	346,947	4,574,899	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1197	350,779	4,566,294	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1198	352,668	4,565,517	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1199	345,595	4,561,016	253.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1200	352,022	4,560,145	239.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1201	345,969	4,552,596	271.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1202	354,195	4,578,214	208.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1203	349,510	4,568,221	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1204	353,482	4,572,366	223.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1206	345,235	4,546,346	292.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1207	345,674	4,561,056	253.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1210	357,581	4,574,470	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1211	353,769	4,572,075	225.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1212	352,705	4,553,713	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1213	354,842	4,551,381	257.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1215	352,458	4,576,342	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1217	354,376	4,551,272	261.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1218	352,005	4,569,424	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1219	355,517	4,572,218	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1220	347,709	4,573,124	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1221	347,627	4,570,134	234.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1224	345,826	4,565,981	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1225	347,824	4,565,279	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1226	345,682	4,561,488	252.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1227	345,484	4,560,819	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1228	351,481	4,556,074	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1229	354,027	4,576,192	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1231	351,546	4,551,216	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1232	354,175	4,561,977	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1233	350,055	4,559,074	246.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1234	345,901	4,559,672	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1235	350,363	4,578,401	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1236	358,395	4,576,976	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1237	351,379	4,574,429	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1238	352,297	4,576,348	219.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1239	359,624	4,575,927	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1240	352,411	4,569,664	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1241	349,338	4,549,590	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1242	347,095	4,545,324	292.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1243	345,168	4,561,610	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1244	349,175	4,553,214	265.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1245	352,136	4,551,836	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1246	346,830	4,573,771	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1248	347,479	4,569,761	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1249	346,779	4,565,277	243.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1250	351,843	4,578,681	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1252	353,500	4,575,602	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1253	358,320	4,576,267	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1254	358,491	4,575,633	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1256	351,797	4,578,961	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1257	353,289	4,577,680	214.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1259	347,739	4,570,112	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1260	345,979	4,562,021	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1262	354,960	4,551,831	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1264	348,206	4,565,701	240.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1265	347,565	4,550,586	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1266	345,992	4,545,396	287.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1267	351,022	4,557,701	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1268	350,248	4,578,439	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1269	352,276	4,567,249	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1270	347,931	4,564,830	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1271	350,227	4,562,388	240.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1272	354,246	4,565,729	228.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1273	347,644	4,570,172	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1274	345,485	4,560,725	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1276	350,555	4,554,570	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1277	357,398	4,574,300	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1278	354,143	4,568,427	228.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1279	347,098	4,562,757	248.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1280	347,942	4,565,220	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1281	350,116	4,559,347	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1282	350,262	4,549,509	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1283	353,762	4,575,943	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1284	352,679	4,553,274	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1285	347,633	4,549,675	276.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1286	348,424	4,549,694	276.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1287	356,203	4,576,380	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1288	357,823	4,577,115	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1289	358,092	4,577,540	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1290	355,541	4,572,159	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1292	347,989	4,565,118	243.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1294	346,798	4,558,584	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1297	348,811	4,578,313	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1298	354,581	4,551,245	258.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1299	346,347	4,549,613	278.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1300	353,356	4,551,990	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1301	350,250	4,550,020	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1302	346,513	4,548,253	287.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1303	355,486	4,571,825	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1304	347,837	4,573,129	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1305	352,286	4,576,990	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1306	359,008	4,575,963	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1308	351,971	4,569,293	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1309	346,437	4,567,694	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1310	348,471	4,556,199	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1311	354,517	4,551,519	257.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1312	353,092	4,577,660	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1313	355,863	4,572,683	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1314	351,448	4,574,421	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1315	358,097	4,574,685	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1317	352,017	4,569,146	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1318	345,917	4,565,508	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1319	345,782	4,567,136	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1321	348,422	4,558,313	250.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1323	348,467	4,573,099	223.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1324	348,370	4,566,386	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1325	354,510	4,566,408	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1328	352,916	4,577,908	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1329	352,043	4,570,445	233.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1330	352,583	4,565,914	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1331	346,827	4,545,389	291.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1332	352,478	4,560,286	238.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1334	349,875	4,578,351	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1335	347,020	4,573,915	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1338	347,734	4,570,178	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1339	347,578	4,570,226	232.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1341	349,982	4,556,205	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1343	355,017	4,576,152	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1344	350,010	4,562,367	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1345	347,601	4,570,413	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1347	347,999	4,564,656	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1348	348,160	4,570,227	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1349	349,066	4,558,615	248.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1350	347,815	4,556,316	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1351	348,895	4,549,403	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1352	350,610	4,572,677	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1353	357,202	4,574,311	216.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1354	350,137	4,564,494	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1355	346,242	4,560,350	252.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1356	351,403	4,554,329	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1358	354,165	4,577,470	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1359	352,015	4,563,908	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1360	353,587	4,569,083	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1361	347,104	4,562,688	249.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1362	346,362	4,567,630	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1363	347,494	4,570,326	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1364	348,982	4,567,795	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1366	354,611	4,576,155	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1367	345,485	4,560,962	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1370	351,483	4,559,210	242.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1371	353,589	4,572,370	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1372	345,992	4,545,396	287.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1373	347,290	4,563,408	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1374	345,885	4,568,329	236.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1375	350,231	4,550,485	271.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1377	348,529	4,556,773	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1378	355,954	4,577,216	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1379	350,006	4,565,708	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1380	354,191	4,553,314	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1381	345,441	4,550,912	280.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1383	357,528	4,574,500	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1384	358,323	4,576,107	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1385	350,095	4,562,633	241.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1386	345,788	4,562,902	250.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1387	347,869	4,570,099	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1388	345,637	4,560,983	253.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1389	347,600	4,555,737	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1390	351,061	4,554,234	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1391	351,859	4,578,957	220.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1395	345,808	4,566,059	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1396	347,556	4,566,591	241.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1397	347,855	4,564,935	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1398	346,597	4,565,036	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1399	354,006	4,578,035	210.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1400	350,415	4,572,952	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1402	347,808	4,560,287	248.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1404	351,906	4,549,468	269.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1405	354,270	4,578,207	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1406	354,351	4,576,296	216.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1408	347,569	4,569,824	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1409	350,123	4,558,015	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1410	347,726	4,554,730	261.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1411	349,873	4,578,274	219.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1412	346,676	4,575,067	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1414	354,785	4,566,560	226.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1415	348,094	4,570,357	233.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1416	354,831	4,551,465	259.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1417	345,548	4,562,856	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1418	348,233	4,573,842	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1420	350,027	4,568,647	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1421	347,616	4,570,171	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1422	348,378	4,557,828	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1423	352,688	4,550,290	267.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1424	352,566	4,574,894	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1425	355,568	4,572,190	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1426	349,996	4,563,528	241.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1428	351,562	4,549,433	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1429	348,034	4,546,569	294.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1430	347,148	4,545,327	292.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1431	351,708	4,562,154	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1432	353,029	4,555,212	254.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1433	352,391	4,576,346	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1434	347,529	4,552,120	272.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1435	351,829	4,549,549	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1436	358,346	4,574,917	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1437	352,220	4,576,349	218.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1438	353,706	4,571,799	224.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1439	347,702	4,565,289	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1440	345,249	4,561,438	254.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1441	346,559	4,554,245	268.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1442	348,773	4,551,313	268.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1443	352,974	4,578,399	221.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1445	350,004	4,574,032	221.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1446	349,651	4,568,420	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1449	353,148	4,575,587	221.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1450	355,974	4,571,123	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1451	346,608	4,561,617	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1452	352,981	4,551,903	264.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1454	351,451	4,578,703	218.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1455	358,363	4,574,803	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1456	354,464	4,576,157	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1457	347,522	4,569,765	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1458	347,978	4,569,873	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1459	349,959	4,562,006	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1460	351,290	4,554,155	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1461	359,982	4,576,414	207.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1462	352,961	4,576,162	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1463	351,964	4,569,430	236.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1466	346,447	4,565,283	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1467	352,215	4,551,836	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1468	350,232	4,549,730	271.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1469	351,963	4,578,755	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1470	358,325	4,576,345	212.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1471	352,098	4,570,229	233.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1472	351,796	4,561,416	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1473	354,963	4,573,041	218.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1475	357,658	4,577,146	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1477	352,714	4,565,528	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1478	347,145	4,549,691	278.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1480	345,513	4,562,343	252.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1481	345,336	4,551,451	276.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1482	355,563	4,576,291	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1483	352,961	4,577,593	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1484	353,535	4,576,082	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1486	346,029	4,561,917	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1488	351,862	4,556,118	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1490	355,515	4,571,870	221.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1491	357,308	4,574,297	216.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1492	357,529	4,574,363	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1493	351,652	4,562,645	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1494	348,015	4,565,192	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1495	347,920	4,569,295	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1496	345,809	4,568,267	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1497	351,823	4,554,627	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1498	354,806	4,551,589	259.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1499	350,117	4,558,516	248.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1500	345,766	4,558,760	255.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1501	348,400	4,557,206	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1504	347,839	4,569,856	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1505	351,549	4,550,227	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1507	346,604	4,545,293	289.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1508	350,326	4,578,397	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1509	349,023	4,566,495	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1510	350,603	4,556,169	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1511	354,523	4,551,436	258.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1512	345,249	4,551,701	277.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1514	356,505	4,574,446	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1515	350,210	4,562,374	240.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1517	351,907	4,551,977	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1518	350,198	4,550,943	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1519	353,361	4,571,305	227.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1520	348,062	4,573,114	223.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1521	356,496	4,574,347	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1523	347,786	4,565,267	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1524	347,961	4,570,074	236.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1525	351,118	4,554,067	259.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1526	347,715	4,553,088	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1527	349,201	4,566,249	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1528	355,650	4,571,521	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1529	345,976	4,545,429	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1530	347,740	4,562,575	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1531	347,665	4,568,723	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1532	347,003	4,556,299	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1533	355,392	4,571,998	221.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1534	350,413	4,572,970	224.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1535	353,820	4,577,911	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1538	353,183	4,572,579	226.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1539	357,920	4,574,680	215.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1540	353,237	4,577,669	215.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1541	354,750	4,576,152	216.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1542	352,101	4,569,081	235.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1543	349,717	4,569,993	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1545	351,812	4,563,164	234.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1546	354,625	4,567,434	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1547	345,688	4,561,023	253.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1548	347,745	4,553,886	258.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1549	350,111	4,550,708	267.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1550	346,950	4,574,335	218.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1551	351,766	4,562,830	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1552	347,796	4,568,881	239.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1553	357,113	4,574,303	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1554	352,205	4,568,182	235.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1559	353,257	4,577,760	215.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1561	345,647	4,560,978	252.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1562	352,265	4,554,891	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1564	350,683	4,554,438	256.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1567	358,259	4,574,305	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1568	352,194	4,567,903	235.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1569	347,564	4,570,235	232.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1570	345,571	4,555,696	262.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1571	355,714	4,571,570	221.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1572	356,484	4,573,462	219.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1573	352,895	4,577,936	218.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1574	345,179	4,565,533	245.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1575	351,460	4,549,844	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1576	347,917	4,564,725	244.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1577	347,660	4,554,179	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1578	353,536	4,577,769	212.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1579	350,350	4,572,973	224.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1580	353,834	4,551,732	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1581	354,557	4,551,203	259.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1583	349,015	4,575,139	219.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1584	356,566	4,573,571	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1585	347,126	4,546,276	290.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1586	345,822	4,567,489	239.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1587	348,381	4,570,019	237.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1588	352,223	4,576,388	219.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1589	352,653	4,565,430	233.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1590	348,093	4,570,603	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1591	351,459	4,550,161	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1592	346,159	4,567,667	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1593	347,696	4,570,181	233.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1594	352,489	4,551,940	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1595	345,904	4,565,792	245.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1596	351,576	4,578,714	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1598	350,057	4,559,456	244.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1599	350,117	4,559,517	244.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1601	355,603	4,572,322	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1602	354,176	4,572,221	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1603	351,451	4,574,702	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1604	345,301	4,550,492	278.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1605	354,983	4,570,382	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1606	352,263	4,568,399	235.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1607	349,292	4,568,050	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1609	347,671	4,570,368	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1610	346,481	4,561,034	251.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1612	350,438	4,578,472	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1613	357,522	4,574,586	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1614	358,587	4,576,053	212.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1615	347,004	4,575,457	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1616	347,798	4,570,143	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1617	348,166	4,570,376	233.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1618	346,143	4,562,882	254.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1619	347,129	4,562,958	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1620	350,090	4,562,167	240.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1621	350,110	4,559,140	246.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1622	353,821	4,576,206	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1623	345,586	4,558,867	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1624	352,066	4,556,035	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1625	346,637	4,565,406	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1626	356,176	4,576,461	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1627	353,593	4,570,299	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1628	354,094	4,575,373	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1629	352,365	4,566,198	233.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1631	350,223	4,551,183	266.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1632	351,853	4,578,864	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1633	351,347	4,578,692	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1634	346,986	4,573,983	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1635	353,984	4,575,723	218.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1636	349,977	4,566,054	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1637	347,547	4,551,757	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1638	347,364	4,569,745	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1639	354,328	4,553,297	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1640	346,345	4,552,287	270.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1641	352,125	4,573,708	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1642	356,623	4,573,677	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1643	351,986	4,569,424	236.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1647	346,532	4,561,170	250.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1648	354,079	4,576,189	218.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1649	354,500	4,551,413	260.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1650	347,659	4,570,128	234.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1651	347,509	4,569,818	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1652	351,122	4,557,713	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1653	350,311	4,575,995	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1654	347,394	4,548,574	282.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1655	348,235	4,545,325	286.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1656	347,510	4,565,937	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1657	350,678	4,558,472	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1659	351,706	4,578,667	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1661	345,989	4,561,988	252.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1662	349,989	4,561,296	242.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1663	347,605	4,546,711	294.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1664	360,728	4,575,977	204.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1665	351,953	4,569,321	237.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1666	351,776	4,561,467	240.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1667	348,486	4,558,724	250.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1668	348,467	4,578,804	214.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1669	351,794	4,578,841	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1670	354,771	4,570,239	224.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1671	352,602	4,576,337	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1672	350,083	4,563,534	241.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1673	348,613	4,555,346	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1674	348,095	4,569,885	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1679	351,037	4,548,393	276.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1688	345,110	4,559,813	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1693	344,776	4,556,490	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1694	345,062	4,559,825	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1709	352,364	4,549,521	270.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1728	347,361	4,570,291	231.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1733	345,301	4,550,350	278.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1761	344,908	4,557,028	260.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1795	347,109	4,569,934	235.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1841	349,823	4,570,383	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1848	354,286	4,562,440	234.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1853	348,245	4,570,809	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1872	344,796	4,556,730	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1876	352,439	4,549,510	272.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1887	348,409	4,570,882	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1899	351,507	4,548,672	270.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1906	352,395	4,549,468	272.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1909	358,312	4,578,214	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1953	347,420	4,570,356	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1979	347,016	4,569,924	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
1993	354,286	4,551,008	260.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2014	344,634	4,556,139	264.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2016	352,654	4,549,501	271.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2041	348,092	4,572,941	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2049	348,326	4,570,843	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2053	347,162	4,569,789	237.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2075	354,365	4,551,085	260.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2093	351,575	4,548,699	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2107	347,390	4,570,352	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2147	360,140	4,575,179	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2171	346,995	4,569,842	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2172	347,050	4,569,926	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2175	345,217	4,547,164	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2190	352,483	4,578,830	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2200	354,349	4,578,345	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2213	347,413	4,570,326	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2229	358,239	4,578,320	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2235	354,400	4,551,111	260.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2252	346,979	4,569,920	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2268	344,987	4,562,731	252.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
2301	347,000	4,573,166	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2302	347,137	4,569,965	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2303	352,455	4,549,457	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2319	355,071	4,551,553	255.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2346	354,240	4,551,065	260.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2353	348,212	4,570,805	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2388	347,344	4,570,260	231.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2409	358,249	4,578,240	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2443	344,981	4,562,732	252.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2452	347,418	4,570,343	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2463	346,968	4,573,171	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2488	355,097	4,551,556	255.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2495	346,992	4,569,923	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2516	348,155	4,570,784	231.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2539	354,853	4,551,294	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2554	347,195	4,569,783	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2556	352,322	4,549,473	271.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2561	348,293	4,570,841	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2586	360,301	4,575,237	208.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2590	351,513	4,548,569	272.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2612	347,374	4,570,273	231.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2619	347,383	4,570,344	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2645	355,158	4,551,917	255.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2659	347,085	4,569,933	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2690	344,796	4,556,731	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2694	354,380	4,578,379	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2704	360,782	4,575,905	205.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2706	352,469	4,549,417	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2714	348,366	4,570,936	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2743	358,243	4,578,278	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2759	346,939	4,569,927	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2761	345,125	4,546,946	289.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2817	347,130	4,569,792	236.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2820	348,450	4,576,551	216.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2835	347,088	4,573,178	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2844	347,589	4,570,498	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2845	354,309	4,551,024	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2848	347,303	4,573,094	222.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2860	354,189	4,551,015	260.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2877	348,373	4,570,864	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2880	347,368	4,570,247	231.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2899	352,366	4,549,470	272.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2964	345,235	4,547,905	288.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2974	350,422	4,569,724	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2980	360,368	4,575,226	208.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2982	345,925	4,563,813	244.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2992	344,880	4,556,946	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3007	352,512	4,549,465	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3020	346,918	4,575,861	217.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3021	352,567	4,549,530	271.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3022	345,218	4,547,164	288.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3054	347,892	4,570,768	230.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3055	347,830	4,570,737	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3056	347,953	4,570,791	230.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3057	347,995	4,570,802	230.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3058	348,032	4,570,818	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3059	348,096	4,570,846	230.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3060	347,941	4,570,660	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3061	348,043	4,570,740	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3062	347,788	4,570,650	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3063	347,761	4,570,638	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3064	347,714	4,570,620	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3065	347,826	4,570,664	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3066	347,852	4,570,674	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3067	347,881	4,570,685	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
3068	347,681	4,570,610	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3069	347,684	4,570,679	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3070	347,723	4,570,694	231.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3071	347,782	4,570,717	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3072	348,188	4,570,681	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3073	348,450	4,570,885	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3074	347,640	4,570,667	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3075	347,610	4,570,655	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3076	347,581	4,570,645	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3077	347,553	4,570,636	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3078	347,520	4,570,626	231.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3079	347,490	4,570,617	231.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3080	347,458	4,570,612	230.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3081	347,534	4,570,552	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3082	347,585	4,570,564	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3083	347,622	4,570,586	232.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3084	347,429	4,570,528	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3085	347,473	4,570,531	231.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3086	347,505	4,570,547	231.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3097	347,293	4,569,805	237.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3098	347,227	4,569,792	237.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3099	351,250	4,569,492	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3102	348,584	4,573,096	223.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3103	348,537	4,573,102	223.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3105	348,113	4,573,107	223.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3106	347,985	4,573,110	223.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3107	347,828	4,573,066	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3108	346,905	4,573,171	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3109	346,936	4,573,169	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3122	346,832	4,573,838	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3123	346,865	4,573,867	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3124	346,684	4,573,818	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3125	346,756	4,573,680	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3126	346,743	4,573,653	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3127	346,732	4,573,625	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3128	346,719	4,573,595	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3129	346,707	4,573,571	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3130	346,693	4,573,537	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3131	346,678	4,573,496	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3132	346,662	4,573,467	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3133	346,651	4,573,441	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3134	346,641	4,573,411	220.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3137	346,935	4,574,288	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3138	346,842	4,574,171	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3139	346,900	4,575,303	218.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3140	346,899	4,575,368	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3141	346,901	4,575,396	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3142	346,936	4,575,565	215.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3146	353,856	4,576,137	221.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3147	353,831	4,575,960	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3149	354,727	4,551,718	245.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3151	347,393	4,570,512	230.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3152	350,486	4,578,382	218.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3153	350,490	4,578,431	218.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3154	351,036	4,578,518	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3155	351,155	4,578,584	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3157	351,894	4,569,312	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3158	352,127	4,569,261	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3159	351,921	4,578,819	220.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3160	347,430	4,570,609	230.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3161	354,378	4,578,283	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3162	356,086	4,576,568	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3163	354,323	4,578,324	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3164	345,904	4,565,110	246.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3165	346,866	4,569,672	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

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9/5/2019 11:32 PM/3.2.737

SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
3166	346,921	4,569,760	236.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3167	346,948	4,569,769	236.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3168	346,997	4,569,765	237.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3169	346,991	4,569,814	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3170	347,010	4,569,870	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3171	347,038	4,569,876	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3172	347,063	4,569,842	235.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3173	347,056	4,569,792	236.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3174	347,098	4,569,780	236.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3175	352,011	4,570,555	233.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3176	352,029	4,570,499	234.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3177	350,000	4,573,310	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3178	348,429	4,573,022	223.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3179	346,853	4,573,929	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3180	347,453	4,576,215	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3181	348,227	4,578,259	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3183	354,819	4,551,411	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3184	354,820	4,551,314	258.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3185	354,582	4,551,225	258.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3186	354,461	4,551,233	260.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3187	354,444	4,551,196	260.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3188	354,404	4,551,321	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3189	353,827	4,551,619	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3190	353,902	4,551,593	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3191	353,992	4,551,475	256.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3192	353,840	4,551,519	261.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3193	353,864	4,551,464	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3194	353,856	4,551,415	258.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3195	354,207	4,551,370	256.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3196	354,215	4,551,312	259.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3197	354,195	4,551,269	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3198	354,011	4,551,376	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3199	354,085	4,551,351	256.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3200	354,031	4,551,325	260.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3201	354,119	4,551,195	262.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3202	354,006	4,551,218	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3203	354,080	4,551,115	263.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3204	353,980	4,551,145	263.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3205	353,888	4,551,216	259.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3206	353,921	4,551,111	263.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3207	353,874	4,551,088	264.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3208	353,882	4,550,961	263.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3209	353,753	4,551,013	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3210	353,747	4,550,967	262.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3212	353,595	4,551,129	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3213	353,740	4,551,191	258.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3214	353,744	4,551,242	258.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3218	354,032	4,550,969	262.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3219	353,992	4,550,987	258.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3224	352,559	4,549,465	274.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3228	351,681	4,557,772	248.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3229	354,527	4,551,468	256.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3230	348,185	4,569,886	238.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3231	348,165	4,570,467	232.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3232	348,094	4,570,265	234.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3233	353,082	4,570,453	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3234	350,657	4,573,439	222.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3235	348,180	4,573,148	223.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3236	358,255	4,577,595	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
2	0:00	0	0:00	0:00
3	0:00	0	0:00	0:00
5	0:00	0	0:00	0:00
6	26:22	52	0:37	4:52
7	115:29	191	0:48	39:11
8	0:00	0	0:00	0:00
9	27:26	100	0:29	6:13
10	30:30	88	0:27	5:07
11	26:07	87	0:28	7:04
12	20:43	59	0:36	5:06
13	0:00	0	0:00	0:00
15	20:50	73	0:27	8:58
16	9:51	37	0:20	3:20
17	0:00	0	0:00	0:00
19	0:00	0	0:00	0:00
20	0:00	0	0:00	0:00
21	63:26	100	0:49	9:17
23	16:18	44	0:28	2:03
25	54:43	80	0:52	24:51
26	65:21	133	0:52	14:19
27	27:07	84	0:31	3:59
28	12:41	38	0:28	4:31
29	41:45	97	0:43	6:07
30	30:53	86	0:34	4:34
31	1:31	12	0:10	0:14
32	0:00	0	0:00	0:00
33	88:00	144	0:47	26:10
34	33:32	83	0:31	15:06
35	16:02	46	0:31	3:46
36	9:02	34	0:24	2:27
37	0:00	0	0:00	0:00
38	11:34	44	0:20	3:57
39	0:00	0	0:00	0:00
40	37:27	79	0:38	12:55
41	7:20	44	0:14	2:29
42	0:00	0	0:00	0:00
43	30:11	56	0:45	9:55
44	27:33	82	0:36	7:58
45	0:00	0	0:00	0:00
46	25:53	60	0:33	11:56
47	44:22	102	0:36	8:24
48	0:00	0	0:00	0:00
49	7:03	32	0:20	2:17
50	34:24	94	0:36	7:58
51	0:00	0	0:00	0:00
52	27:27	75	0:29	9:24
53	0:00	0	0:00	0:00
54	143:13	217	0:54	48:11
56	0:00	0	0:00	0:00
57	0:00	0	0:00	0:00
58	26:04	90	0:28	6:22
59	113:04	115	1:22	24:49
62	0:00	0	0:00	0:00
63	60:14	142	0:42	15:22
64	128:53	212	1:07	33:58
65	0:00	0	0:00	0:00
66	17:42	58	0:23	2:23
68	8:32	33	0:23	3:08
70	0:00	0	0:00	0:00
71	6:30	29	0:20	2:09
72	4:14	20	0:16	0:41
74	45:21	120	0:38	10:20
75	13:56	40	0:30	4:13

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
76	0:00	0	0:00	0:00
77	0:00	0	0:00	0:00
78	0:00	0	0:00	0:00
79	0:00	0	0:00	0:00
80	10:52	38	0:25	2:20
83	16:59	42	0:33	5:44
85	77:58	102	0:53	11:37
86	35:50	71	0:42	14:16
87	141:30	122	1:31	42:25
88	0:00	0	0:00	0:00
89	101:52	128	1:02	15:59
90	11:58	46	0:24	2:48
91	127:45	155	1:25	39:13
93	6:24	29	0:19	2:05
94	70:38	175	0:44	15:30
95	75:22	119	0:53	12:17
96	13:57	56	0:22	4:44
98	120:02	186	1:13	28:10
99	0:00	0	0:00	0:00
100	0:00	0	0:00	0:00
102	0:00	0	0:00	0:00
103	30:00	84	0:34	9:13
104	180:48	266	0:54	53:47
106	0:00	0	0:00	0:00
107	0:00	0	0:00	0:00
110	9:12	39	0:22	3:39
111	72:22	132	0:49	12:17
112	56:20	94	0:44	8:17
113	93:13	62	2:05	13:50
114	66:34	168	0:45	15:58
115	16:11	58	0:21	2:11
116	0:00	0	0:00	0:00
118	0:00	0	0:00	0:00
119	7:49	36	0:20	3:02
120	7:48	30	0:23	2:26
122	0:00	0	0:00	0:00
123	0:00	0	0:00	0:00
124	6:20	29	0:20	1:56
127	46:33	103	0:44	20:48
129	14:51	44	0:30	4:50
130	23:37	90	0:21	10:37
131	10:21	36	0:26	3:11
132	0:00	0	0:00	0:00
133	13:52	49	0:25	4:41
134	31:59	94	0:35	4:54
135	51:50	134	0:38	10:07
137	146:16	270	0:51	41:31
139	17:34	55	0:29	5:55
140	0:00	0	0:00	0:00
141	0:00	0	0:00	0:00
142	0:00	0	0:00	0:00
143	34:20	48	0:54	4:42
144	11:05	54	0:17	5:08
145	95:31	142	1:15	34:05
146	0:00	0	0:00	0:00
147	6:25	26	0:18	0:46
148	0:00	0	0:00	0:00
149	0:00	0	0:00	0:00
150	0:00	0	0:00	0:00
151	0:00	0	0:00	0:00
152	0:00	0	0:00	0:00
153	87:13	163	0:46	23:44
154	0:00	0	0:00	0:00
155	71:20	192	0:37	26:33

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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	Shadow, worst case			Shadow, expected values
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
156	0:00	0	0:00	0:00
157	4:05	20	0:15	0:28
158	6:01	28	0:17	0:43
159	28:10	57	0:40	10:30
160	10:08	38	0:24	3:49
161	28:33	115	0:24	12:03
162	26:32	84	0:26	5:52
163	21:06	62	0:31	7:43
165	27:59	71	0:31	12:47
166	0:00	0	0:00	0:00
167	5:20	26	0:15	0:38
168	0:00	0	0:00	0:00
169	33:57	62	0:49	10:16
170	36:41	74	0:39	16:46
171	58:00	111	0:44	23:18
172	0:00	0	0:00	0:00
173	0:00	0	0:00	0:00
174	0:00	0	0:00	0:00
176	15:25	42	0:31	3:47
178	0:00	0	0:00	0:00
179	18:20	46	0:30	3:17
180	69:10	149	0:39	22:46
181	67:27	193	0:34	21:29
182	0:00	0	0:00	0:00
183	0:00	0	0:00	0:00
185	0:00	0	0:00	0:00
186	4:44	25	0:14	2:12
187	0:00	0	0:00	0:00
189	38:56	86	0:34	17:31
191	0:00	0	0:00	0:00
192	16:56	66	0:22	2:23
193	0:00	0	0:00	0:00
195	0:00	0	0:00	0:00
196	0:00	0	0:00	0:00
197	286:51	328	1:38	92:10
198	27:46	104	0:26	5:35
199	80:58	142	0:46	13:47
200	59:18	110	0:54	13:47
201	22:06	86	0:25	7:37
202	0:00	0	0:00	0:00
203	0:00	0	0:00	0:00
204	0:00	0	0:00	0:00
205	7:41	31	0:22	2:20
206	0:00	0	0:00	0:00
207	0:00	0	0:00	0:00
209	21:08	75	0:22	6:33
210	17:49	46	0:32	4:15
211	63:46	72	1:06	8:46
212	35:35	97	0:33	11:29
213	11:09	42	0:23	3:41
214	50:12	123	0:36	8:16
215	9:55	36	0:25	2:27
216	87:28	130	0:53	14:08
217	30:46	86	0:33	4:37
218	0:00	0	0:00	0:00
220	0:00	0	0:00	0:00
221	77:12	142	1:00	24:31
222	22:52	72	0:32	3:46
223	8:04	35	0:21	2:08
224	9:53	28	0:26	1:40
225	24:24	81	0:28	7:06
227	80:40	138	1:02	28:38
228	89:01	210	0:41	31:42
229	9:49	41	0:22	4:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
230	27:11	83	0:35	7:32
231	0:00	0	0:00	0:00
232	159:58	154	2:07	55:50
233	0:00	0	0:00	0:00
234	33:31	71	0:39	13:38
235	15:56	66	0:21	2:15
236	0:00	0	0:00	0:00
237	47:11	88	0:41	21:16
239	10:49	40	0:25	2:55
240	49:36	109	0:41	19:53
241	0:00	0	0:00	0:00
242	35:51	64	0:40	4:52
243	0:00	0	0:00	0:00
244	42:27	84	0:36	6:03
245	0:00	0	0:00	0:00
246	0:00	0	0:00	0:00
248	27:59	86	0:28	12:31
249	0:00	0	0:00	0:00
250	23:04	75	0:31	5:49
251	16:28	65	0:25	5:27
252	0:00	0	0:00	0:00
253	0:00	0	0:00	0:00
254	1:20	20	0:06	0:37
255	74:06	125	0:51	30:41
258	17:20	67	0:23	7:40
259	0:00	0	0:00	0:00
260	0:00	0	0:00	0:00
261	20:14	65	0:25	6:56
262	11:06	38	0:26	2:41
263	0:00	0	0:00	0:00
264	104:33	195	0:48	25:29
265	24:00	56	0:33	11:06
266	17:15	59	0:28	3:39
268	0:00	0	0:00	0:00
270	0:00	0	0:00	0:00
271	29:07	88	0:29	6:06
272	0:00	0	0:00	0:00
273	0:00	0	0:00	0:00
275	167:02	223	1:08	39:16
277	169:48	122	1:36	72:47
278	14:53	50	0:24	5:02
279	9:19	24	0:30	1:29
280	0:00	0	0:00	0:00
281	0:00	0	0:00	0:00
283	0:00	0	0:00	0:00
284	21:30	51	0:35	6:22
285	16:28	50	0:24	2:08
286	30:30	89	0:35	7:12
287	0:00	0	0:00	0:00
288	95:42	101	1:14	24:22
289	7:31	31	0:22	2:26
291	0:00	0	0:00	0:00
293	0:00	0	0:00	0:00
294	0:00	0	0:00	0:00
295	0:00	0	0:00	0:00
298	0:00	0	0:00	0:00
299	19:05	52	0:26	3:30
300	0:00	0	0:00	0:00
301	53:24	88	0:42	7:41
303	14:23	40	0:30	4:47
304	72:50	87	1:13	26:24
305	31:10	64	0:42	8:40
310	28:04	58	0:35	3:44
312	0:00	0	0:00	0:00

To be continued on next page...

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
313	19:26	66	0:26	8:28
314	0:00	0	0:00	0:00
315	10:07	36	0:25	3:23
317	0:00	0	0:00	0:00
319	116:55	120	1:17	40:43
320	24:08	52	0:38	8:46
321	0:00	0	0:00	0:00
322	19:19	60	0:24	2:37
323	14:18	70	0:21	2:05
324	22:41	56	0:35	4:28
325	44:16	92	0:46	14:58
327	24:44	46	0:40	4:28
328	88:57	99	1:03	39:28
329	64:12	97	0:54	25:23
330	0:00	0	0:00	0:00
331	0:00	0	0:00	0:00
332	137:03	180	1:14	34:20
333	24:23	90	0:27	8:24
334	0:00	0	0:00	0:00
335	8:04	35	0:21	1:32
336	0:00	0	0:00	0:00
337	0:00	0	0:00	0:00
338	0:00	0	0:00	0:00
339	16:21	59	0:23	5:35
340	0:00	0	0:00	0:00
341	25:30	91	0:27	8:46
342	0:00	0	0:00	0:00
343	0:00	0	0:00	0:00
344	76:12	130	0:44	32:59
346	0:00	0	0:00	0:00
347	0:00	0	0:00	0:00
348	0:00	0	0:00	0:00
349	0:00	0	0:00	0:00
350	71:49	100	1:08	25:58
351	0:00	0	0:00	0:00
352	20:01	69	0:25	3:44
353	29:15	61	0:39	11:13
354	27:41	86	0:27	12:23
355	16:31	54	0:22	2:11
356	0:00	0	0:00	0:00
357	0:00	0	0:00	0:00
359	0:00	0	0:00	0:00
360	235:39	173	2:24	81:47
361	0:00	0	0:00	0:00
362	24:38	56	0:38	8:34
364	0:00	0	0:00	0:00
365	43:04	80	0:39	6:07
366	2:21	16	0:11	0:16
367	0:00	0	0:00	0:00
368	70:03	108	0:46	10:35
369	0:00	0	0:00	0:00
370	0:00	0	0:00	0:00
371	13:12	48	0:22	4:28
372	54:08	141	0:35	18:29
373	0:00	0	0:00	0:00
376	36:34	90	0:38	13:12
377	0:00	0	0:00	0:00
378	0:00	0	0:00	0:00
380	0:00	0	0:00	0:00
381	0:00	0	0:00	0:00
382	154:40	203	1:33	50:28
383	25:06	78	0:33	9:10
384	65:21	126	0:45	19:29
385	111:07	143	1:24	34:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
386	15:17	58	0:26	3:25
387	27:12	79	0:30	3:55
388	28:30	55	0:45	6:25
389	0:00	0	0:00	0:00
390	200:55	244	1:15	67:22
391	0:00	0	0:00	0:00
392	17:56	63	0:25	7:50
393	0:00	0	0:00	0:00
394	28:48	54	0:39	5:22
395	0:00	0	0:00	0:00
396	14:10	56	0:21	4:50
397	25:02	65	0:35	6:04
398	0:00	0	0:00	0:00
399	144:49	175	1:11	53:07
400	24:14	53	0:38	8:55
401	66:43	78	1:02	9:23
402	0:00	0	0:00	0:00
403	16:25	56	0:26	5:34
404	260:09	212	2:20	83:15
405	0:00	0	0:00	0:00
406	3:33	32	0:09	1:39
407	9:52	43	0:19	3:20
408	97:14	106	1:12	21:21
410	37:41	106	0:31	15:35
411	0:00	0	0:00	0:00
412	8:39	35	0:19	2:53
413	0:00	0	0:00	0:00
415	0:00	0	0:00	0:00
416	0:00	0	0:00	0:00
417	59:06	105	0:51	17:38
418	70:29	165	0:43	13:32
420	32:35	59	0:46	10:49
421	26:42	86	0:26	11:58
422	143:50	258	0:58	42:57
423	153:28	253	0:53	41:09
424	9:02	36	0:23	1:52
425	0:00	0	0:00	0:00
426	7:14	32	0:21	1:44
427	232:42	299	1:03	71:22
428	68:29	113	1:01	10:16
429	72:44	194	0:41	19:52
430	24:44	81	0:37	8:21
432	11:42	34	0:26	2:02
434	16:05	64	0:24	5:11
435	0:00	0	0:00	0:00
437	61:28	85	0:57	13:04
438	0:00	0	0:00	0:00
439	13:32	72	0:21	1:59
440	0:00	0	0:00	0:00
441	43:39	71	0:50	14:37
442	0:00	0	0:00	0:00
443	23:58	76	0:25	10:54
444	15:29	40	0:32	5:09
445	11:01	36	0:27	3:17
447	81:38	163	0:52	21:27
448	0:00	0	0:00	0:00
449	48:47	159	0:32	14:17
451	60:28	101	0:52	10:42
452	0:00	0	0:00	0:00
453	0:00	0	0:00	0:00
454	9:38	37	0:23	3:39
456	37:44	68	0:40	5:11
457	0:00	0	0:00	0:00
458	54:19	144	0:35	18:06

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
459	13:50	45	0:29	3:24
460	0:00	0	0:00	0:00
461	49:18	95	0:50	13:04
462	0:00	0	0:00	0:00
463	12:12	48	0:23	4:08
464	9:19	36	0:24	2:18
466	6:05	23	0:20	2:49
467	6:09	38	0:13	2:52
468	16:08	52	0:25	7:29
469	17:10	62	0:22	2:21
474	0:00	0	0:00	0:00
475	44:02	56	0:59	8:06
476	29:20	82	0:33	5:26
477	120:05	270	0:44	32:24
478	0:00	0	0:00	0:00
479	18:17	68	0:24	5:51
480	0:00	0	0:00	0:00
481	15:33	44	0:30	5:03
482	0:00	0	0:00	0:00
483	0:00	0	0:00	0:00
484	0:00	0	0:00	0:00
485	0:00	0	0:00	0:00
486	24:34	76	0:27	4:28
487	13:25	55	0:22	5:49
488	52:42	86	0:42	7:31
489	16:28	52	0:29	3:03
490	34:54	84	0:36	7:46
491	31:11	97	0:34	6:41
492	127:43	171	1:07	27:09
494	21:38	49	0:36	6:39
495	27:54	63	0:39	5:41
496	61:36	82	0:59	14:29
498	9:57	37	0:24	3:41
499	13:03	39	0:28	4:23
500	164:52	269	1:14	51:29
501	130:45	145	1:25	43:40
502	0:00	0	0:00	0:00
503	10:22	36	0:22	1:48
504	0:00	0	0:00	0:00
507	0:00	0	0:00	0:00
508	35:50	96	0:36	9:00
509	49:34	131	0:43	14:29
510	241:12	239	1:53	74:42
512	5:54	27	0:20	1:48
513	23:04	75	0:25	4:28
515	0:00	0	0:00	0:00
516	0:00	0	0:00	0:00
517	0:00	0	0:00	0:00
518	112:57	101	1:20	50:06
519	93:48	203	0:45	26:53
520	27:57	54	0:42	8:51
521	0:00	0	0:00	0:00
523	29:21	80	0:34	6:39
524	19:09	54	0:32	5:00
526	0:00	0	0:00	0:00
527	0:00	0	0:00	0:00
528	0:00	0	0:00	0:00
529	69:06	128	0:49	22:58
530	0:00	0	0:00	0:00
531	6:38	26	0:19	1:07
532	13:57	48	0:26	4:38
533	0:00	0	0:00	0:00
534	35:07	70	0:35	4:50
535	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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	Shadow, worst case			Shadow, expected values
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
536	0:00	0	0:00	0:00
538	0:00	0	0:00	0:00
539	23:27	90	0:26	7:52
540	0:00	0	0:00	0:00
541	0:00	0	0:00	0:00
542	0:00	0	0:00	0:00
543	25:07	84	0:25	8:23
544	0:00	0	0:00	0:00
545	0:00	0	0:00	0:00
546	0:00	0	0:00	0:00
547	36:54	63	0:48	11:37
548	0:00	0	0:00	0:00
549	0:00	0	0:00	0:00
550	16:24	56	0:22	2:11
551	0:00	0	0:00	0:00
552	23:47	62	0:28	3:14
553	86:30	115	0:53	13:22
554	11:07	39	0:22	5:11
555	0:00	0	0:00	0:00
556	0:00	0	0:00	0:00
557	0:00	0	0:00	0:00
558	0:00	0	0:00	0:00
559	39:20	103	0:34	13:23
560	0:00	0	0:00	0:00
561	0:00	0	0:00	0:00
562	15:10	77	0:22	5:09
563	0:00	0	0:00	0:00
564	43:48	70	0:54	7:41
566	52:37	84	0:51	20:26
567	13:53	46	0:27	4:34
569	97:21	142	1:13	34:44
570	123:21	206	0:57	39:54
571	0:00	0	0:00	0:00
572	0:00	0	0:00	0:00
573	9:43	40	0:22	3:56
574	42:28	85	0:38	19:11
575	9:49	38	0:24	2:19
576	96:27	149	1:05	31:49
577	9:13	34	0:24	3:05
578	9:15	36	0:23	3:00
579	0:00	0	0:00	0:00
580	126:14	121	1:23	28:01
581	0:00	0	0:00	0:00
582	0:00	0	0:00	0:00
583	55:11	108	0:46	12:14
584	10:56	38	0:26	2:39
585	0:00	0	0:00	0:00
586	56:19	134	0:41	10:48
588	0:00	0	0:00	0:00
590	0:00	0	0:00	0:00
591	0:00	0	0:00	0:00
592	0:00	0	0:00	0:00
593	33:06	61	0:41	15:14
594	17:01	36	0:36	2:56
595	8:02	36	0:20	2:38
596	135:41	223	0:54	42:39
597	0:00	0	0:00	0:00
598	0:00	0	0:00	0:00
599	0:00	0	0:00	0:00
601	3:27	16	0:16	0:33
602	28:23	59	0:39	10:50
604	44:21	94	0:42	17:00
605	0:00	0	0:00	0:00
606	16:21	45	0:31	3:41

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
607	21:17	70	0:25	3:01
608	69:32	85	1:04	24:11
609	33:08	72	0:37	11:22
610	0:00	0	0:00	0:00
611	78:05	136	0:44	33:18
612	13:53	42	0:29	4:39
613	25:03	48	0:39	4:34
614	95:28	187	0:51	28:14
615	46:27	72	0:52	14:19
617	16:34	50	0:30	4:14
618	27:44	66	0:33	12:45
619	0:00	0	0:00	0:00
620	61:03	128	0:41	21:04
621	0:00	0	0:00	0:00
622	0:00	0	0:00	0:00
624	20:17	72	0:26	6:18
625	1:18	18	0:06	0:25
626	60:19	135	0:45	21:22
627	5:23	25	0:19	1:38
628	93:51	148	1:05	27:32
629	0:00	0	0:00	0:00
630	76:56	117	1:01	17:34
631	66:32	98	0:53	9:38
632	0:00	0	0:00	0:00
634	19:30	44	0:35	6:24
635	0:00	0	0:00	0:00
636	57:02	90	0:52	19:08
639	0:00	0	0:00	0:00
641	100:26	107	1:14	30:15
643	44:15	87	0:42	18:24
645	0:00	0	0:00	0:00
647	0:00	0	0:00	0:00
648	94:30	109	1:08	26:17
650	0:00	0	0:00	0:00
652	97:54	86	1:38	14:29
653	83:50	134	0:52	33:15
654	0:00	0	0:00	0:00
655	0:00	0	0:00	0:00
656	17:54	78	0:26	3:49
657	53:02	108	0:46	15:12
658	0:00	0	0:00	0:00
659	76:54	135	0:49	24:38
660	0:00	0	0:00	0:00
661	36:06	71	0:39	16:29
662	10:38	38	0:26	2:37
663	85:48	98	1:00	17:45
664	24:26	50	0:36	4:29
665	67:59	86	0:56	9:41
668	13:38	42	0:29	3:13
669	9:54	35	0:25	3:02
670	27:14	84	0:33	6:30
677	0:00	0	0:00	0:00
678	15:34	46	0:29	6:01
679	50:12	112	0:37	16:21
680	0:00	0	0:00	0:00
681	25:39	77	0:26	4:32
682	65:26	133	0:51	14:18
683	70:11	84	1:00	24:25
684	18:06	69	0:28	2:55
685	0:00	0	0:00	0:00
686	33:02	101	0:26	6:12
687	19:03	68	0:26	6:17
688	130:16	194	1:03	40:04
689	16:44	69	0:24	4:37

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
690	0:00	0	0:00	0:00
691	64:37	137	0:38	12:23
692	0:00	0	0:00	0:00
693	110:00	222	1:07	33:42
695	15:54	41	0:32	5:22
696	0:00	0	0:00	0:00
697	0:00	0	0:00	0:00
698	0:00	0	0:00	0:00
699	94:45	138	0:53	19:08
701	0:00	0	0:00	0:00
702	15:52	47	0:30	4:28
703	10:45	37	0:27	3:18
704	36:01	60	0:46	11:25
705	16:24	52	0:22	2:09
706	0:00	0	0:00	0:00
708	31:06	86	0:33	4:46
710	0:00	0	0:00	0:00
711	0:00	0	0:00	0:00
713	40:21	110	0:32	6:30
714	4:01	20	0:16	0:39
716	0:00	0	0:00	0:00
717	0:00	0	0:00	0:00
718	128:01	215	1:19	42:11
720	0:00	0	0:00	0:00
721	0:00	0	0:00	0:00
722	60:53	146	0:37	15:41
723	0:00	0	0:00	0:00
724	0:00	0	0:00	0:00
725	97:50	128	0:58	15:25
726	18:03	66	0:27	3:57
727	46:50	104	0:39	10:19
728	128:01	143	1:29	40:49
729	25:29	69	0:35	7:20
730	1:41	18	0:07	0:47
731	43:38	89	0:44	8:36
733	0:00	0	0:00	0:00
734	67:06	129	0:45	22:21
735	9:26	38	0:22	3:42
737	0:00	0	0:00	0:00
738	0:00	0	0:00	0:00
739	41:36	80	0:44	15:25
740	100:23	126	1:15	36:48
742	0:00	0	0:00	0:00
743	47:15	84	0:48	8:56
744	54:55	121	0:40	12:08
745	0:00	0	0:00	0:00
746	16:52	51	0:30	3:06
747	18:25	82	0:26	2:47
748	62:16	117	0:43	27:28
749	0:00	0	0:00	0:00
750	20:31	80	0:22	6:59
752	147:41	213	1:08	44:44
753	0:00	0	0:00	0:00
755	16:29	40	0:30	2:55
756	24:01	52	0:38	8:43
757	22:21	69	0:26	10:14
759	42:36	86	0:45	7:33
760	76:31	197	0:37	27:28
761	0:00	0	0:00	0:00
762	45:18	106	0:40	15:23
764	12:20	41	0:27	3:26
765	0:00	0	0:00	0:00
766	0:00	0	0:00	0:00
767	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
769	0:00	0	0:00	0:00
770	222:50	221	2:08	53:09
772	70:19	176	0:44	15:44
774	0:00	0	0:00	0:00
775	0:00	0	0:00	0:00
776	0:00	0	0:00	0:00
777	8:05	32	0:19	0:58
778	1:30	12	0:09	0:10
779	130:37	270	0:55	37:39
780	0:00	0	0:00	0:00
781	15:39	63	0:22	5:21
782	0:00	0	0:00	0:00
783	0:00	0	0:00	0:00
784	0:00	0	0:00	0:00
785	169:28	223	1:30	53:02
787	25:04	73	0:29	6:53
788	0:00	0	0:00	0:00
789	0:00	0	0:00	0:00
791	0:00	0	0:00	0:00
793	0:00	0	0:00	0:00
794	0:00	0	0:00	0:00
795	29:16	74	0:32	13:21
796	51:53	99	0:44	20:19
797	0:00	0	0:00	0:00
798	29:28	95	0:29	9:01
799	0:21	6	0:04	0:02
801	0:00	0	0:00	0:00
803	0:00	0	0:00	0:00
804	0:00	0	0:00	0:00
805	16:29	55	0:28	5:56
806	40:36	84	0:42	9:39
808	0:00	0	0:00	0:00
809	21:58	56	0:34	8:37
810	0:00	0	0:00	0:00
811	25:26	72	0:28	8:45
812	7:24	39	0:16	2:30
813	33:16	62	0:44	10:00
814	0:00	0	0:00	0:00
815	34:10	115	0:27	7:16
816	16:31	44	0:32	4:01
817	0:00	0	0:00	0:00
818	0:00	0	0:00	0:00
819	0:00	0	0:00	0:00
821	0:00	0	0:00	0:00
822	6:53	28	0:21	2:16
823	110:07	138	1:27	18:22
824	85:37	144	1:02	29:30
825	20:32	59	0:28	9:29
826	70:45	169	0:43	14:29
827	254:29	270	1:42	65:29
828	0:00	0	0:00	0:00
829	0:00	0	0:00	0:00
830	0:00	0	0:00	0:00
831	16:27	68	0:22	2:20
832	43:38	88	0:39	6:09
834	98:36	196	0:44	36:18
835	0:00	0	0:00	0:00
837	0:00	0	0:00	0:00
838	25:44	78	0:26	8:54
840	9:19	34	0:25	3:07
841	17:43	53	0:26	6:01
843	0:00	0	0:00	0:00
844	35:07	75	0:37	16:01
845	6:55	22	0:23	1:07

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
846	22:02	75	0:26	6:28
847	0:00	0	0:00	0:00
848	38:43	72	0:48	10:37
849	17:32	65	0:25	5:47
850	0:00	0	0:00	0:00
851	27:55	66	0:34	12:50
852	0:00	0	0:00	0:00
853	38:08	97	0:33	12:12
854	21:43	47	0:37	6:53
855	113:53	173	1:06	37:16
857	156:59	215	1:20	47:06
860	150:21	133	1:19	35:18
861	84:26	204	0:41	29:40
862	41:41	119	0:33	11:43
863	26:19	86	0:34	7:02
864	64:17	140	0:46	17:28
865	0:00	0	0:00	0:00
866	16:17	51	0:28	5:26
868	81:56	131	0:52	13:29
869	132:20	220	1:16	33:14
870	175:18	207	1:23	59:56
871	107:34	157	1:00	19:19
872	0:57	10	0:07	0:06
873	38:01	70	0:37	5:15
874	0:00	0	0:00	0:00
875	0:00	0	0:00	0:00
876	0:00	0	0:00	0:00
877	7:43	33	0:21	1:49
878	0:00	0	0:00	0:00
879	186:44	233	1:08	48:30
880	126:14	214	1:18	41:33
881	55:20	93	0:44	11:13
882	0:00	0	0:00	0:00
883	0:00	0	0:00	0:00
885	51:28	109	0:43	17:33
886	29:22	88	0:28	13:08
887	85:47	98	1:00	17:46
889	0:22	13	0:02	0:10
890	9:05	39	0:21	3:00
891	0:00	0	0:00	0:00
892	12:33	40	0:28	3:01
893	18:11	66	0:29	3:02
894	0:00	0	0:00	0:00
895	32:09	93	0:27	5:53
896	51:19	130	0:40	14:36
897	0:00	0	0:00	0:00
898	15:43	66	0:21	2:13
899	18:14	54	0:33	5:25
901	0:00	0	0:00	0:00
902	30:13	87	0:33	6:18
903	89:16	142	0:53	27:19
904	0:00	0	0:00	0:00
905	0:00	0	0:00	0:00
907	19:44	67	0:28	3:54
908	67:10	88	0:52	9:38
909	17:01	54	0:30	2:56
911	0:00	0	0:00	0:00
912	32:09	88	0:33	6:47
914	0:00	0	0:00	0:00
916	40:19	96	0:42	11:29
917	13:36	46	0:27	4:29
919	0:00	0	0:00	0:00
921	0:00	0	0:00	0:00
922	14:34	40	0:30	4:52

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
923	177:31	235	1:01	46:12
924	0:00	0	0:00	0:00
925	30:36	84	0:45	8:42
926	34:48	71	0:42	13:55
927	66:39	84	1:02	22:56
928	33:07	70	0:42	6:26
929	0:00	0	0:00	0:00
930	0:00	0	0:00	0:00
931	0:00	0	0:00	0:00
932	147:56	272	0:51	42:01
933	0:00	0	0:00	0:00
934	0:00	0	0:00	0:00
935	0:00	0	0:00	0:00
936	0:00	0	0:00	0:00
937	0:00	0	0:00	0:00
938	119:16	202	1:20	36:12
940	151:48	239	1:14	47:35
941	144:00	235	1:09	45:02
942	43:57	117	0:33	17:22
943	51:03	108	0:42	11:22
944	41:20	104	0:30	18:22
945	25:17	58	0:36	6:44
946	0:00	0	0:00	0:00
948	177:40	198	1:20	65:18
949	6:45	29	0:21	2:03
950	8:43	34	0:23	2:55
951	92:54	132	1:05	31:54
952	11:04	38	0:25	4:08
954	20:38	63	0:30	6:30
955	17:47	49	0:33	5:03
956	141:29	189	1:22	36:11
958	30:47	54	0:43	5:43
959	0:00	0	0:00	0:00
960	0:00	0	0:00	0:00
961	0:00	0	0:00	0:00
962	0:00	0	0:00	0:00
963	0:00	0	0:00	0:00
964	0:00	0	0:00	0:00
965	22:39	95	0:23	8:42
966	8:45	38	0:21	2:08
967	0:00	0	0:00	0:00
968	23:48	78	0:28	10:29
969	67:32	113	0:48	10:35
970	46:54	102	0:42	10:10
971	41:42	107	0:38	11:39
972	21:10	78	0:26	3:04
973	27:09	61	0:38	10:40
974	89:50	148	0:50	20:37
975	70:25	58	1:35	13:00
976	18:37	58	0:24	2:30
977	0:00	0	0:00	0:00
978	0:00	0	0:00	0:00
979	0:00	0	0:00	0:00
980	99:55	139	0:59	23:15
981	15:21	68	0:22	2:12
982	12:27	38	0:29	3:55
983	0:00	0	0:00	0:00
985	0:00	0	0:00	0:00
986	69:38	122	0:44	30:31
987	60:35	174	0:35	19:13
988	13:15	51	0:24	4:29
990	0:00	0	0:00	0:00
992	12:47	42	0:27	4:49
993	40:31	124	0:29	8:48

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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	Shadow, worst case			Shadow, expected values
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
994	30:53	83	0:39	10:48
997	29:40	66	0:36	13:39
998	193:38	142	1:32	67:29
999	88:56	193	0:52	21:14
1000	0:00	0	0:00	0:00
1002	18:47	70	0:28	3:16
1003	0:00	0	0:00	0:00
1004	0:00	0	0:00	0:00
1005	69:32	127	0:53	23:18
1006	0:00	0	0:00	0:00
1007	16:05	64	0:24	4:55
1008	63:01	83	0:59	14:58
1009	3:51	23	0:13	1:47
1010	0:00	0	0:00	0:00
1011	0:00	0	0:00	0:00
1012	30:02	62	0:44	6:11
1013	80:23	70	1:25	12:01
1014	22:02	75	0:26	6:30
1016	7:10	30	0:21	2:24
1017	0:00	0	0:00	0:00
1018	34:50	96	0:32	15:20
1019	40:26	130	0:28	15:58
1020	17:50	56	0:26	8:16
1021	0:00	0	0:00	0:00
1022	89:05	199	0:40	32:54
1023	0:00	0	0:00	0:00
1024	0:00	0	0:00	0:00
1025	0:00	0	0:00	0:00
1028	5:33	24	0:17	0:39
1029	0:00	0	0:00	0:00
1030	170:57	236	1:14	47:01
1031	0:00	0	0:00	0:00
1032	23:57	50	0:43	10:02
1033	0:00	0	0:00	0:00
1034	0:00	0	0:00	0:00
1035	0:00	0	0:00	0:00
1036	57:17	140	0:37	14:38
1038	64:01	174	0:38	22:49
1039	0:00	0	0:00	0:00
1040	107:37	136	1:24	35:04
1041	0:00	0	0:00	0:00
1042	8:48	35	0:24	2:42
1043	271:03	218	2:23	86:45
1044	86:09	136	0:52	14:01
1045	61:49	143	0:40	23:23
1046	0:00	0	0:00	0:00
1047	8:12	34	0:22	3:02
1048	89:51	141	0:59	22:20
1049	34:01	84	0:31	4:51
1052	0:00	0	0:00	0:00
1053	27:43	61	0:38	10:50
1054	19:37	82	0:25	6:03
1055	50:06	64	1:16	9:14
1056	256:10	292	1:07	75:08
1058	0:00	0	0:00	0:00
1059	153:35	129	1:21	25:06
1060	0:00	0	0:00	0:00
1061	0:00	0	0:00	0:00
1062	0:00	0	0:00	0:00
1063	0:00	0	0:00	0:00
1065	23:14	49	0:39	7:41
1066	23:19	65	0:29	10:44
1067	122:48	209	0:57	33:49
1068	121:27	187	1:13	28:37

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1069	0:00	0	0:00	0:00
1070	0:00	0	0:00	0:00
1072	0:00	0	0:00	0:00
1073	0:00	0	0:00	0:00
1074	0:31	7	0:06	0:03
1075	58:35	98	0:48	8:30
1076	0:00	0	0:00	0:00
1077	36:54	61	0:47	10:22
1079	7:17	30	0:22	2:14
1080	0:00	0	0:00	0:00
1081	0:00	0	0:00	0:00
1082	117:49	136	1:17	28:31
1083	0:00	0	0:00	0:00
1084	21:25	60	0:33	5:04
1085	122:21	168	1:08	31:42
1086	11:39	44	0:23	3:55
1087	0:00	0	0:00	0:00
1088	0:00	0	0:00	0:00
1089	39:39	134	0:29	11:09
1090	55:03	186	0:33	16:49
1091	100:12	107	1:04	15:07
1092	0:00	0	0:00	0:00
1094	0:00	0	0:00	0:00
1095	0:00	0	0:00	0:00
1096	0:00	0	0:00	0:00
1097	63:16	152	0:41	12:14
1098	64:58	85	1:17	13:42
1099	0:00	0	0:00	0:00
1100	11:58	42	0:26	4:29
1101	0:00	0	0:00	0:00
1102	31:29	112	0:28	6:22
1103	60:39	145	0:42	15:23
1104	0:00	0	0:00	0:00
1105	65:06	148	0:46	16:47
1106	115:33	243	1:06	35:57
1107	17:30	60	0:22	2:22
1108	0:00	0	0:00	0:00
1109	39:44	63	0:50	13:27
1110	50:06	122	0:33	17:08
1111	17:53	42	0:34	5:59
1112	7:00	32	0:20	2:16
1113	8:39	38	0:20	3:35
1114	34:29	89	0:33	5:49
1115	41:26	129	0:37	8:25
1117	30:02	70	0:34	13:46
1118	56:01	155	0:37	16:10
1119	22:10	66	0:26	10:09
1120	0:00	0	0:00	0:00
1123	0:00	0	0:00	0:00
1124	14:54	50	0:26	6:13
1125	0:00	0	0:00	0:00
1126	48:17	76	0:45	9:29
1127	28:58	82	0:33	5:21
1128	0:00	0	0:00	0:00
1129	7:40	33	0:20	2:30
1130	32:52	94	0:28	5:54
1131	118:33	95	1:31	17:04
1132	20:58	53	0:35	4:38
1133	17:55	52	0:32	4:56
1134	0:00	0	0:00	0:00
1135	0:00	0	0:00	0:00
1136	141:38	176	1:25	45:24
1137	78:38	85	1:23	27:02
1138	8:33	35	0:23	1:53

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1139	0:00	0	0:00	0:00
1140	17:08	42	0:33	5:44
1141	0:00	0	0:00	0:00
1143	18:51	75	0:24	6:29
1144	23:23	77	0:29	5:48
1146	96:54	118	0:58	33:52
1148	0:00	0	0:00	0:00
1149	8:29	33	0:23	3:07
1150	0:00	0	0:00	0:00
1151	164:46	143	1:32	58:30
1153	56:22	108	0:47	10:24
1154	0:00	0	0:00	0:00
1155	71:25	140	0:45	25:15
1156	75:05	151	0:50	21:02
1158	116:17	136	1:05	40:21
1160	9:28	38	0:23	2:28
1161	0:00	0	0:00	0:00
1162	35:00	81	0:37	13:34
1164	0:00	0	0:00	0:00
1166	0:00	0	0:00	0:00
1167	0:00	0	0:00	0:00
1168	0:00	0	0:00	0:00
1169	0:00	0	0:00	0:00
1170	0:00	0	0:00	0:00
1171	63:46	95	0:49	28:28
1172	80:58	154	0:52	16:33
1173	0:00	0	0:00	0:00
1174	101:15	147	0:59	35:00
1175	0:00	0	0:00	0:00
1177	47:52	104	0:45	21:23
1178	13:56	50	0:25	4:42
1179	297:26	263	2:11	99:40
1181	0:00	0	0:00	0:00
1182	0:00	0	0:00	0:00
1183	0:00	0	0:00	0:00
1184	0:00	0	0:00	0:00
1185	0:00	0	0:00	0:00
1186	0:00	0	0:00	0:00
1188	0:00	0	0:00	0:00
1189	14:57	43	0:30	3:29
1190	28:08	79	0:27	12:44
1191	55:57	129	0:46	20:10
1192	8:28	37	0:21	2:46
1193	0:00	0	0:00	0:00
1194	0:00	0	0:00	0:00
1195	37:50	98	0:32	16:45
1196	43:44	105	0:38	10:21
1197	24:52	59	0:33	11:29
1198	0:00	0	0:00	0:00
1199	0:00	0	0:00	0:00
1200	8:14	35	0:21	2:40
1201	0:00	0	0:00	0:00
1202	0:00	0	0:00	0:00
1203	23:46	75	0:25	8:11
1204	141:40	201	1:34	35:42
1206	22:47	86	0:26	7:36
1207	0:00	0	0:00	0:00
1210	20:17	76	0:29	3:09
1211	71:07	156	0:48	22:15
1212	38:27	74	0:37	5:22
1213	0:00	0	0:00	0:00
1215	26:00	79	0:30	10:34
1217	0:00	0	0:00	0:00
1218	28:45	57	0:40	10:42

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1219	63:17	131	0:40	20:51
1220	0:00	0	0:00	0:00
1221	3:31	19	0:14	0:24
1224	14:29	54	0:22	6:42
1225	14:05	47	0:23	6:33
1226	0:00	0	0:00	0:00
1227	18:17	52	0:25	2:22
1228	80:48	68	1:49	14:39
1229	0:00	0	0:00	0:00
1231	162:16	110	1:57	26:14
1232	9:01	35	0:23	2:58
1233	0:00	0	0:00	0:00
1234	44:16	69	0:47	20:14
1235	15:36	42	0:28	2:46
1236	162:30	217	1:12	40:18
1237	129:23	192	1:03	39:44
1238	38:54	82	0:36	17:37
1239	0:00	0	0:00	0:00
1240	89:23	95	1:13	24:20
1241	9:34	39	0:22	3:46
1242	0:00	0	0:00	0:00
1243	0:23	14	0:02	0:10
1244	15:49	43	0:32	4:53
1245	11:35	55	0:17	5:21
1246	0:00	0	0:00	0:00
1248	22:26	47	0:40	5:18
1249	0:00	0	0:00	0:00
1250	0:00	0	0:00	0:00
1252	0:00	0	0:00	0:00
1253	69:05	144	0:44	28:35
1254	0:00	0	0:00	0:00
1256	0:00	0	0:00	0:00
1257	19:19	67	0:24	3:43
1259	17:33	66	0:22	2:28
1260	0:00	0	0:00	0:00
1262	0:07	7	0:01	0:02
1264	76:25	98	1:01	28:59
1265	6:01	20	0:23	0:58
1266	27:27	58	0:36	12:39
1267	9:41	28	0:26	1:38
1268	0:00	0	0:00	0:00
1269	178:31	288	1:19	52:00
1270	0:00	0	0:00	0:00
1271	104:24	199	0:49	28:43
1272	0:00	0	0:00	0:00
1273	0:00	0	0:00	0:00
1274	21:53	72	0:26	3:07
1276	38:19	80	0:37	17:24
1277	93:51	128	0:56	14:50
1278	15:51	62	0:25	3:28
1279	69:15	116	0:51	15:48
1280	0:00	0	0:00	0:00
1281	0:00	0	0:00	0:00
1282	0:00	0	0:00	0:00
1283	0:00	0	0:00	0:00
1284	63:30	140	0:41	12:10
1285	0:00	0	0:00	0:00
1286	23:02	67	0:31	7:49
1287	7:00	31	0:20	2:19
1288	24:33	79	0:31	6:04
1289	36:09	68	0:37	4:58
1290	45:44	108	0:35	15:14
1292	0:00	0	0:00	0:00
1294	0:00	0	0:00	0:00

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9/5/2019 11:32 PM/3.2.737

SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1297	40:02	88	0:35	5:50
1298	0:00	0	0:00	0:00
1299	12:23	48	0:21	5:46
1300	0:00	0	0:00	0:00
1301	85:28	93	1:11	26:19
1302	0:00	0	0:00	0:00
1303	18:37	43	0:34	6:11
1304	0:00	0	0:00	0:00
1305	18:31	45	0:35	5:08
1306	0:00	0	0:00	0:00
1308	32:42	70	0:38	13:24
1309	67:16	80	1:00	9:30
1310	14:17	49	0:27	2:28
1311	0:00	0	0:00	0:00
1312	32:41	105	0:27	6:18
1313	21:19	72	0:28	7:02
1314	114:39	182	0:59	36:58
1315	0:00	0	0:00	0:00
1317	32:34	67	0:38	14:56
1318	0:00	0	0:00	0:00
1319	62:57	124	0:53	19:16
1321	0:00	0	0:00	0:00
1323	0:00	0	0:00	0:00
1324	7:12	30	0:21	2:25
1325	12:54	42	0:27	4:11
1328	16:53	50	0:31	4:41
1329	0:00	0	0:00	0:00
1330	0:00	0	0:00	0:00
1331	0:00	0	0:00	0:00
1332	2:19	27	0:07	0:46
1334	0:00	0	0:00	0:00
1335	0:00	0	0:00	0:00
1338	16:34	54	0:22	2:11
1339	0:00	0	0:00	0:00
1341	40:11	111	0:32	6:31
1343	0:00	0	0:00	0:00
1344	55:29	155	0:37	15:57
1345	0:00	0	0:00	0:00
1347	0:00	0	0:00	0:00
1348	0:00	0	0:00	0:00
1349	0:00	0	0:00	0:00
1350	11:10	38	0:22	1:57
1351	0:00	0	0:00	0:00
1352	0:00	0	0:00	0:00
1353	47:42	97	0:45	9:02
1354	0:00	0	0:00	0:00
1355	80:51	84	1:10	11:27
1356	0:00	0	0:00	0:00
1358	29:19	60	0:36	5:31
1359	9:08	37	0:23	2:32
1360	17:10	46	0:28	5:51
1361	53:04	82	0:52	14:27
1362	88:43	112	0:57	13:45
1363	0:00	0	0:00	0:00
1364	70:25	85	1:04	18:26
1366	24:32	81	0:25	8:29
1367	0:00	0	0:00	0:00
1370	0:00	0	0:00	0:00
1371	101:41	164	1:12	26:47
1372	27:31	58	0:36	12:41
1373	0:00	0	0:00	0:00
1374	0:00	0	0:00	0:00
1375	281:51	258	2:05	96:24
1377	80:16	92	1:18	27:29

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

	Shadow, worst case			Shadow, expected values
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
1378	11:21	44	0:25	2:50
1379	9:09	34	0:25	3:03
1380	49:41	74	0:53	15:02
1381	33:18	100	0:33	14:36
1383	17:49	68	0:27	2:46
1384	49:35	109	0:35	21:57
1385	81:01	173	0:46	27:45
1386	57:15	86	0:46	8:11
1387	19:30	54	0:25	2:34
1388	0:00	0	0:00	0:00
1389	89:12	194	0:47	23:17
1390	0:00	0	0:00	0:00
1391	0:00	0	0:00	0:00
1395	28:16	79	0:28	12:48
1396	93:57	235	0:53	28:23
1397	0:00	0	0:00	0:00
1398	0:00	0	0:00	0:00
1399	0:00	0	0:00	0:00
1400	0:00	0	0:00	0:00
1402	9:07	33	0:24	2:47
1404	22:19	69	0:29	7:36
1405	0:00	0	0:00	0:00
1406	37:40	87	0:33	13:03
1408	32:22	66	0:45	6:27
1409	0:00	0	0:00	0:00
1410	58:42	114	0:49	19:40
1411	0:00	0	0:00	0:00
1412	23:43	85	0:28	5:00
1414	30:31	93	0:30	10:26
1415	0:00	0	0:00	0:00
1416	0:00	0	0:00	0:00
1417	24:15	60	0:36	4:43
1418	0:00	0	0:00	0:00
1420	48:11	160	0:28	12:15
1421	0:00	0	0:00	0:00
1422	132:28	118	1:31	29:23
1423	10:08	40	0:23	3:20
1424	22:03	74	0:27	7:34
1425	56:56	124	0:37	19:07
1426	81:20	129	0:54	16:56
1428	7:31	37	0:16	2:31
1429	23:53	106	0:23	6:16
1430	0:00	0	0:00	0:00
1431	170:51	224	1:29	53:26
1432	6:40	29	0:21	2:06
1433	30:57	69	0:35	14:11
1434	56:28	116	0:44	19:14
1435	23:21	65	0:32	7:54
1436	0:00	0	0:00	0:00
1437	37:54	90	0:33	16:57
1438	99:58	152	0:52	34:23
1439	29:03	72	0:31	13:15
1440	0:00	0	0:00	0:00
1441	0:00	0	0:00	0:00
1442	99:50	146	1:04	24:43
1443	0:00	0	0:00	0:00
1445	72:35	114	0:59	30:47
1446	39:43	81	0:42	13:26
1449	0:00	0	0:00	0:00
1450	10:37	48	0:20	3:35
1451	0:00	0	0:00	0:00
1452	0:00	0	0:00	0:00
1454	0:00	0	0:00	0:00
1455	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1456	20:50	65	0:26	7:09
1457	25:45	51	0:43	5:56
1458	47:53	92	0:41	6:48
1459	69:51	206	0:32	20:52
1460	0:00	0	0:00	0:00
1461	98:17	174	1:03	33:52
1462	13:08	56	0:19	6:05
1463	25:22	54	0:38	9:23
1466	0:00	0	0:00	0:00
1467	7:13	44	0:14	3:21
1468	87:20	92	1:10	39:14
1469	0:00	0	0:00	0:00
1470	47:49	91	0:44	18:18
1471	12:05	36	0:25	1:30
1472	152:33	226	0:58	49:27
1473	152:17	211	1:15	50:46
1475	17:15	67	0:26	4:21
1477	0:00	0	0:00	0:00
1478	0:00	0	0:00	0:00
1480	23:19	52	0:38	8:11
1481	13:03	39	0:30	3:57
1482	45:51	100	0:43	15:45
1483	26:14	89	0:32	6:32
1484	26:37	74	0:29	12:09
1486	0:00	0	0:00	0:00
1488	103:05	96	1:21	21:32
1490	17:25	43	0:33	5:42
1491	75:44	132	0:50	12:41
1492	56:22	107	0:53	8:22
1493	155:18	255	0:53	41:44
1494	0:00	0	0:00	0:00
1495	223:25	282	1:19	60:47
1496	0:00	0	0:00	0:00
1497	0:00	0	0:00	0:00
1498	0:00	0	0:00	0:00
1499	0:00	0	0:00	0:00
1500	0:00	0	0:00	0:00
1501	98:55	125	1:07	21:28
1504	68:38	105	0:47	10:12
1505	88:51	160	0:43	30:12
1507	0:00	0	0:00	0:00
1508	11:20	34	0:25	1:58
1509	0:00	0	0:00	0:00
1510	71:34	115	1:01	13:49
1511	0:00	0	0:00	0:00
1512	10:29	37	0:26	2:39
1514	7:20	33	0:21	1:46
1515	102:21	205	0:48	28:17
1517	0:00	0	0:00	0:00
1518	162:27	163	1:37	30:15
1519	17:17	59	0:26	7:27
1520	0:00	0	0:00	0:00
1521	7:12	32	0:21	1:48
1523	15:17	51	0:24	7:06
1524	16:45	47	0:26	2:08
1525	0:00	0	0:00	0:00
1526	136:52	119	1:30	38:36
1527	33:34	56	0:45	6:17
1528	14:37	43	0:29	4:45
1529	42:15	75	0:41	19:11
1530	10:40	36	0:26	3:21
1531	145:09	176	1:20	59:10
1532	93:06	204	0:44	26:42
1533	23:16	50	0:37	7:13

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
1534	0:00	0	0:00	0:00
1535	0:00	0	0:00	0:00
1538	17:35	72	0:24	6:48
1539	0:00	0	0:00	0:00
1540	27:40	80	0:29	4:57
1541	0:00	0	0:00	0:00
1542	0:00	0	0:00	0:00
1543	8:34	38	0:21	2:05
1545	63:01	148	0:38	16:08
1546	49:36	134	0:43	14:03
1547	0:00	0	0:00	0:00
1548	0:00	0	0:00	0:00
1549	238:44	225	1:36	64:40
1550	71:25	152	0:42	29:29
1551	124:40	281	0:44	34:18
1552	139:45	167	1:19	48:01
1553	29:40	65	0:40	6:00
1554	82:11	131	0:59	15:05
1559	8:12	32	0:23	2:30
1561	0:00	0	0:00	0:00
1562	57:27	141	0:49	19:27
1564	0:00	0	0:00	0:00
1567	92:44	60	2:11	14:41
1568	127:52	179	1:18	31:01
1569	0:00	0	0:00	0:00
1570	84:29	156	0:58	29:54
1571	12:21	39	0:28	4:06
1572	9:07	39	0:21	3:39
1573	18:25	54	0:32	4:48
1574	0:00	0	0:00	0:00
1575	45:59	73	0:51	15:27
1576	0:00	0	0:00	0:00
1577	0:00	0	0:00	0:00
1578	0:00	0	0:00	0:00
1579	0:00	0	0:00	0:00
1580	0:00	0	0:00	0:00
1581	0:00	0	0:00	0:00
1583	129:47	235	1:08	29:38
1584	10:00	38	0:23	3:50
1585	57:30	113	0:48	13:09
1586	72:55	154	0:43	13:06
1587	0:00	0	0:00	0:00
1588	32:49	93	0:33	14:21
1589	0:00	0	0:00	0:00
1590	0:00	0	0:00	0:00
1591	68:57	128	0:49	22:55
1592	40:16	79	0:44	7:21
1593	16:22	58	0:21	2:12
1594	22:24	83	0:22	10:06
1595	0:00	0	0:00	0:00
1596	0:00	0	0:00	0:00
1598	0:00	0	0:00	0:00
1599	0:00	0	0:00	0:00
1601	58:01	170	0:36	18:23
1602	47:45	93	0:48	8:37
1603	118:46	268	0:47	34:52
1604	0:00	0	0:00	0:00
1605	0:00	0	0:00	0:00
1606	34:42	90	0:31	6:28
1607	0:00	0	0:00	0:00
1609	0:00	0	0:00	0:00
1610	0:00	0	0:00	0:00
1612	6:46	27	0:19	1:08
1613	22:15	70	0:26	3:08

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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	Shadow, worst case			Shadow, expected values
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
1614	27:09	63	0:34	12:31
1615	30:58	78	0:32	4:25
1616	17:34	54	0:24	2:18
1617	0:00	0	0:00	0:00
1618	0:00	0	0:00	0:00
1619	33:57	60	0:42	6:25
1620	87:58	190	0:41	33:13
1621	0:00	0	0:00	0:00
1622	35:08	73	0:38	16:04
1623	0:00	0	0:00	0:00
1624	49:47	77	0:57	13:43
1625	0:00	0	0:00	0:00
1626	7:13	30	0:21	2:25
1627	0:00	0	0:00	0:00
1628	0:00	0	0:00	0:00
1629	23:36	61	0:36	10:47
1631	21:59	68	0:32	4:26
1632	0:00	0	0:00	0:00
1633	0:00	0	0:00	0:00
1634	14:53	47	0:25	6:56
1635	0:00	0	0:00	0:00
1636	9:18	33	0:25	2:51
1637	31:55	89	0:32	6:31
1638	14:23	40	0:30	3:34
1639	32:45	60	0:45	10:12
1640	0:00	0	0:00	0:00
1641	42:36	125	0:31	8:42
1642	10:30	39	0:25	3:55
1643	27:09	57	0:39	10:06
1647	0:00	0	0:00	0:00
1648	0:00	0	0:00	0:00
1649	0:00	0	0:00	0:00
1650	13:44	72	0:21	2:00
1651	26:43	57	0:41	5:41
1652	25:01	48	0:39	4:33
1653	150:56	142	1:41	27:30
1654	0:00	0	0:00	0:00
1655	7:28	34	0:20	2:27
1656	27:55	96	0:25	9:08
1657	0:00	0	0:00	0:00
1659	0:00	0	0:00	0:00
1661	0:00	0	0:00	0:00
1662	31:17	95	0:30	11:13
1663	42:14	106	0:39	11:51
1664	13:53	50	0:25	4:41
1665	28:37	64	0:38	11:22
1666	163:25	237	1:00	52:39
1667	0:00	0	0:00	0:00
1668	0:00	0	0:00	0:00
1669	0:00	0	0:00	0:00
1670	0:00	0	0:00	0:00
1671	16:18	50	0:23	2:58
1672	79:05	119	1:02	18:04
1673	21:14	52	0:35	8:03
1674	34:35	78	0:33	4:53
1679	0:00	0	0:00	0:00
1688	6:36	29	0:20	2:25
1693	7:33	32	0:22	1:58
1694	5:56	29	0:19	2:10
1709	0:00	0	0:00	0:00
1728	5:14	25	0:16	0:37
1733	0:00	0	0:00	0:00
1761	16:43	72	0:23	2:24
1795	8:44	34	0:23	1:59

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

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No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
1841	0:00	0	0:00	0:00
1848	6:42	29	0:21	2:05
1853	0:00	0	0:00	0:00
1872	7:59	34	0:22	1:52
1876	0:00	0	0:00	0:00
1887	0:00	0	0:00	0:00
1899	0:00	0	0:00	0:00
1906	0:00	0	0:00	0:00
1909	0:00	0	0:00	0:00
1953	0:00	0	0:00	0:00
1979	7:07	31	0:21	1:43
1993	0:00	0	0:00	0:00
2014	6:12	28	0:19	2:05
2016	0:00	0	0:00	0:00
2041	0:00	0	0:00	0:00
2049	0:00	0	0:00	0:00
2053	20:13	70	0:24	3:38
2075	0:00	0	0:00	0:00
2093	0:00	0	0:00	0:00
2107	0:00	0	0:00	0:00
2147	0:00	0	0:00	0:00
2171	6:49	30	0:21	1:41
2172	7:39	32	0:22	1:48
2175	18:11	73	0:22	6:18
2190	0:00	0	0:00	0:00
2200	0:00	0	0:00	0:00
2213	0:00	0	0:00	0:00
2229	0:00	0	0:00	0:00
2235	0:00	0	0:00	0:00
2252	6:37	30	0:20	1:37
2268	6:56	30	0:21	1:48
2301	0:00	0	0:00	0:00
2302	9:14	36	0:23	1:57
2303	0:00	0	0:00	0:00
2319	0:00	0	0:00	0:00
2346	0:00	0	0:00	0:00
2353	0:00	0	0:00	0:00
2388	12:33	40	0:23	1:34
2409	0:00	0	0:00	0:00
2443	6:54	30	0:21	1:48
2452	0:00	0	0:00	0:00
2463	0:00	0	0:00	0:00
2488	0:00	0	0:00	0:00
2495	6:47	30	0:21	1:39
2516	0:00	0	0:00	0:00
2539	0:00	0	0:00	0:00
2554	18:21	66	0:26	3:28
2556	0:00	0	0:00	0:00
2561	0:00	0	0:00	0:00
2586	0:00	0	0:00	0:00
2590	0:00	0	0:00	0:00
2612	7:11	30	0:18	0:52
2619	0:00	0	0:00	0:00
2645	26:38	80	0:26	9:13
2659	8:12	32	0:22	1:53
2690	8:00	34	0:22	1:52
2694	0:00	0	0:00	0:00
2704	13:24	52	0:23	4:32
2706	0:00	0	0:00	0:00
2714	0:00	0	0:00	0:00
2743	0:00	0	0:00	0:00
2759	6:08	29	0:20	1:30
2761	6:40	29	0:20	2:07
2817	22:38	75	0:25	3:53

To be continued on next page...

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
2820	20:16	52	0:28	2:39
2835	0:00	0	0:00	0:00
2844	0:00	0	0:00	0:00
2845	0:00	0	0:00	0:00
2848	0:00	0	0:00	0:00
2860	0:00	0	0:00	0:00
2877	0:00	0	0:00	0:00
2880	12:19	40	0:23	1:32
2899	0:00	0	0:00	0:00
2964	7:43	31	0:23	2:04
2974	5:51	28	0:19	1:47
2980	0:00	0	0:00	0:00
2982	0:00	0	0:00	0:00
2992	11:29	50	0:23	1:51
3007	0:00	0	0:00	0:00
3020	0:00	0	0:00	0:00
3021	0:00	0	0:00	0:00
3022	18:20	73	0:23	6:22
3054	0:00	0	0:00	0:00
3055	0:00	0	0:00	0:00
3056	0:00	0	0:00	0:00
3057	0:00	0	0:00	0:00
3058	0:00	0	0:00	0:00
3059	0:00	0	0:00	0:00
3060	0:00	0	0:00	0:00
3061	0:00	0	0:00	0:00
3062	0:00	0	0:00	0:00
3063	0:00	0	0:00	0:00
3064	0:00	0	0:00	0:00
3065	0:00	0	0:00	0:00
3066	0:00	0	0:00	0:00
3067	0:00	0	0:00	0:00
3068	0:00	0	0:00	0:00
3069	0:00	0	0:00	0:00
3070	0:00	0	0:00	0:00
3071	0:00	0	0:00	0:00
3072	0:00	0	0:00	0:00
3073	0:00	0	0:00	0:00
3074	0:00	0	0:00	0:00
3075	0:00	0	0:00	0:00
3076	0:00	0	0:00	0:00
3077	0:00	0	0:00	0:00
3078	0:00	0	0:00	0:00
3079	0:00	0	0:00	0:00
3080	0:00	0	0:00	0:00
3081	0:00	0	0:00	0:00
3082	0:00	0	0:00	0:00
3083	0:00	0	0:00	0:00
3084	0:00	0	0:00	0:00
3085	0:00	0	0:00	0:00
3086	0:00	0	0:00	0:00
3097	12:27	40	0:28	3:01
3098	13:57	55	0:26	3:01
3099	4:55	26	0:17	1:42
3102	0:00	0	0:00	0:00
3103	0:00	0	0:00	0:00
3105	0:00	0	0:00	0:00
3106	0:00	0	0:00	0:00
3107	0:00	0	0:00	0:00
3108	0:00	0	0:00	0:00
3109	0:00	0	0:00	0:00
3122	0:00	0	0:00	0:00
3123	0:39	13	0:04	0:18
3124	8:34	44	0:16	3:59

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
3125	0:00	0	0:00	0:00
3126	0:00	0	0:00	0:00
3127	0:00	0	0:00	0:00
3128	0:00	0	0:00	0:00
3129	0:00	0	0:00	0:00
3130	0:00	0	0:00	0:00
3131	0:00	0	0:00	0:00
3132	0:00	0	0:00	0:00
3133	0:00	0	0:00	0:00
3134	0:00	0	0:00	0:00
3137	67:53	145	0:41	28:23
3138	47:33	122	0:37	20:21
3139	21:52	74	0:30	3:53
3140	17:02	54	0:29	2:58
3141	17:49	58	0:29	2:59
3142	25:15	62	0:29	3:25
3146	7:33	36	0:17	3:31
3147	0:00	0	0:00	0:00
3149	0:00	0	0:00	0:00
3151	0:00	0	0:00	0:00
3152	31:04	66	0:33	5:58
3153	22:24	53	0:31	4:08
3154	0:00	0	0:00	0:00
3155	0:00	0	0:00	0:00
3157	23:44	56	0:35	9:20
3158	62:55	93	0:47	28:01
3159	0:00	0	0:00	0:00
3160	0:00	0	0:00	0:00
3161	0:00	0	0:00	0:00
3162	8:23	32	0:23	2:47
3163	0:00	0	0:00	0:00
3164	0:00	0	0:00	0:00
3165	5:19	26	0:18	1:25
3166	5:52	27	0:19	1:31
3167	6:11	27	0:20	1:35
3168	25:28	93	0:23	4:17
3169	24:17	86	0:23	3:59
3170	6:59	30	0:21	1:43
3171	16:00	63	0:22	2:51
3172	19:31	70	0:22	3:21
3173	25:42	83	0:25	4:15
3174	26:08	82	0:26	4:21
3175	0:00	0	0:00	0:00
3176	0:00	0	0:00	0:00
3177	0:00	0	0:00	0:00
3178	0:00	0	0:00	0:00
3179	16:29	53	0:25	7:39
3180	0:00	0	0:00	0:00
3181	7:08	31	0:21	1:45
3183	0:00	0	0:00	0:00
3184	0:00	0	0:00	0:00
3185	0:00	0	0:00	0:00
3186	0:00	0	0:00	0:00
3187	0:00	0	0:00	0:00
3188	0:00	0	0:00	0:00
3189	0:00	0	0:00	0:00
3190	0:00	0	0:00	0:00
3191	0:00	0	0:00	0:00
3192	0:00	0	0:00	0:00
3193	0:00	0	0:00	0:00
3194	0:00	0	0:00	0:00
3195	0:00	0	0:00	0:00
3196	0:00	0	0:00	0:00
3197	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
3198	0:00	0	0:00	0:00
3199	0:00	0	0:00	0:00
3200	0:00	0	0:00	0:00
3201	0:00	0	0:00	0:00
3202	0:00	0	0:00	0:00
3203	0:00	0	0:00	0:00
3204	0:00	0	0:00	0:00
3205	0:00	0	0:00	0:00
3206	0:00	0	0:00	0:00
3207	0:00	0	0:00	0:00
3208	0:00	0	0:00	0:00
3209	0:00	0	0:00	0:00
3210	0:00	0	0:00	0:00
3212	0:00	0	0:00	0:00
3213	0:00	0	0:00	0:00
3214	0:00	0	0:00	0:00
3218	0:00	0	0:00	0:00
3219	0:00	0	0:00	0:00
3224	0:00	0	0:00	0:00
3228	16:26	56	0:28	3:45
3229	0:00	0	0:00	0:00
3230	33:14	66	0:36	4:32
3231	0:00	0	0:00	0:00
3232	0:00	0	0:00	0:00
3233	0:00	0	0:00	0:00
3234	0:00	0	0:00	0:00
3235	0:00	0	0:00	0:00
3236	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
T1	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (682)	143:05	24:35
T10	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (711)	265:29	96:30
T11	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (712)	227:24	55:49
T12	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (713)	161:20	44:57
T13	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (714)	255:10	73:39
T14	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (715)	290:57	57:38
T15	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (716)	130:14	25:40
T16	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (717)	182:44	56:26
T17	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (718)	77:07	26:42
T18	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (719)	137:07	46:15
T19	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (720)	185:49	63:45
T2	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (705)	228:45	73:24
T20	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (704)	206:34	72:06
T21	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (721)	519:20	131:02
T22	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (685)	393:33	111:12
T23	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (686)	528:14	162:35
T24	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (687)	409:33	120:02
T25	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (722)	481:45	135:54
T26	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (723)	404:50	123:01
T27	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (724)	266:53	77:25
T28	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (725)	291:49	80:39
T29	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (688)	297:40	86:40
T3	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (683)	402:27	131:07
T30	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (689)	295:50	87:11
T31	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (726)	220:18	59:13
T32	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (727)	313:08	95:10
T33	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (728)	191:45	56:22
T34	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (690)	388:13	107:17
T35	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (729)	258:09	78:50
T36	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (730)	271:45	88:30
T37	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (691)	287:29	89:03

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SHADOW - Main Result

Calculation: 2019-09-04_Emerson GE Turbines

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
T38	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (692)	366:21	99:20
T39	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (693)	340:14	112:34
T4	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (684)	319:21	101:08
T40	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (731)	323:08	111:21
T41	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (732)	383:03	109:54
T42	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (733)	488:28	152:49
T43	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (734)	518:17	135:39
T44	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (735)	431:53	127:15
T45	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (736)	435:18	127:34
T46	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (737)	208:47	76:38
T47	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (694)	263:22	60:20
T48	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (695)	130:04	28:57
T49	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (738)	524:46	170:24
T5	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (706)	447:57	140:48
T50	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (696)	29:48	8:05
T51	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (739)	228:39	69:42
T52	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (740)	214:15	66:42
T53	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (741)	211:13	59:33
T54	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (742)	296:30	66:23
T55	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (697)	241:51	62:53
T56	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (743)	263:53	74:25
T57	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (698)	106:03	33:06
T58	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (744)	162:24	58:07
T59	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (699)	198:44	63:07
T6	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (707)	112:20	21:49
T60	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (745)	410:24	121:09
T61	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (746)	611:08	177:57
T62	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (700)	258:01	73:45
T63	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (701)	434:05	125:29
T64	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (747)	151:19	48:31
T65	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (748)	308:39	83:20
T66	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (749)	318:55	76:02
T67	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (750)	190:24	54:57
T68	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (751)	514:05	146:33
T69	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (752)	463:46	131:48
T7	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (708)	125:31	24:55
T70	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (753)	116:36	43:02
T71	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (754)	465:06	152:50
T72	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (755)	52:36	14:18
T73	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (756)	155:51	44:55
T74	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (757)	175:08	54:28
T75	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (702)	321:44	91:31
T76	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (758)	214:18	64:02
T77	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (759)	415:19	117:44
T78	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (760)	219:05	65:10
T79	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (761)	408:44	123:34
T8	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (709)	92:51	27:11
T80	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (762)	155:52	36:39
T81	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (763)	199:21	64:24
T82	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (764)	238:47	74:18
T83	GE WIND ENERGY GE 3.0-140 3000 140.0 !O! hub: 110.0 m (TOT: 180.0 m) (703)	181:55	56:42
T84	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (765)	270:35	77:55
T85	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (766)	453:06	128:23
T86	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (767)	230:54	68:15
T87	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (768)	586:32	140:10
T9	GE WIND ENERGY GE 5.5-158 5500 158.0 !O! hub: 107.5 m (TOT: 186.5 m) (710)	184:49	68:37

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7693)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March		April		May		June	
1	07:57	07:43	07:07		07:16	18:40 (T59)	06:31		19:21 (T78)	06:02	19:39 (T78)
	17:13	17:48	18:22		19:56	3 18:43 (T59)	20:27	44	20:05 (T78)	20:57	33 20:32 (T57)
2	07:57	07:42	07:06	17:44 (T59)	07:15		06:29		19:21 (T78)	06:01	19:43 (T78)
	17:14	17:49	18:23	10 17:54 (T59)	19:57		20:28	45	20:06 (T78)	20:58	28 20:33 (T57)
3	07:57	07:41	07:04	17:40 (T59)	07:13		06:28		19:21 (T78)	06:01	20:10 (T57)
	17:15	17:50	18:24	19 17:59 (T59)	19:58		20:29	46	20:07 (T78)	20:58	24 20:34 (T57)
4	07:57	07:40	07:03	17:37 (T59)	07:11		06:27		19:21 (T78)	06:01	20:09 (T57)
	17:16	17:52	18:25	25 18:02 (T59)	19:59		20:30	47	20:08 (T78)	20:59	25 20:34 (T57)
5	07:57	07:39	07:01	17:34 (T59)	07:10		06:25		19:20 (T78)	06:00	20:10 (T57)
	17:17	17:53	18:27	29 18:03 (T59)	20:00		20:31	48	20:08 (T78)	21:00	25 20:35 (T57)
6	07:57	07:38	06:59	17:32 (T59)	07:08		06:24		19:20 (T78)	06:00	20:10 (T57)
	17:18	17:54	18:28	33 18:05 (T59)	20:00		20:32	48	20:08 (T78)	21:00	26 20:36 (T57)
7	07:57	07:37	06:58	17:30 (T59)	07:06		06:23		19:20 (T78)	06:00	20:10 (T57)
	17:19	17:55	18:29	36 18:06 (T59)	20:01		20:33	48	20:08 (T78)	21:01	27 20:37 (T57)
8	07:57	07:36	07:56	18:28 (T59)	07:05		06:22		19:20 (T78)	05:59	20:09 (T57)
	17:20	17:57	19:30	39 19:07 (T59)	20:02		20:34	48	20:08 (T78)	21:02	28 20:37 (T57)
9	07:57	07:35	07:55	18:28 (T59)	07:03		06:21		19:20 (T78)	05:59	20:10 (T57)
	17:21	17:58	19:31	40 19:08 (T59)	20:04		20:35	48	20:08 (T78)	21:02	27 20:37 (T57)
10	07:57	07:34	07:53	18:26 (T59)	07:02		06:20		19:20 (T78)	05:59	20:10 (T57)
	17:22	17:59	19:32	43 19:09 (T59)	20:05		20:36	47	20:07 (T78)	21:03	28 20:38 (T57)
11	07:57	07:32	07:51	18:26 (T59)	07:00		06:18		19:21 (T78)	05:59	20:10 (T57)
	17:23	18:00	19:33	44 19:10 (T59)	20:06		20:37	46	20:07 (T78)	21:03	29 20:39 (T57)
12	07:56	07:31	07:50	18:25 (T59)	06:58		06:17		19:21 (T78)	05:59	20:10 (T57)
	17:24	18:02	19:34	45 19:10 (T59)	20:07		20:38	46	20:07 (T78)	21:04	29 20:39 (T57)
13	07:56	07:30	07:48	18:24 (T59)	06:57		06:16		19:21 (T78)	05:59	20:11 (T57)
	17:25	18:03	19:36	46 19:10 (T59)	20:08		20:39	45	20:06 (T78)	21:04	29 20:40 (T57)
14	07:56	07:29	07:46	18:24 (T59)	06:55		06:15		19:22 (T78)	05:59	20:11 (T57)
	17:26	18:04	19:37	46 19:10 (T59)	20:09		20:41	44	20:06 (T78)	21:05	29 20:40 (T57)
15	07:55	07:27	07:45	18:23 (T59)	06:54		06:14		19:22 (T78)	05:59	20:11 (T57)
	17:27	18:05	19:38	47 19:10 (T59)	20:10		20:42	44	20:06 (T78)	21:05	29 20:40 (T57)
16	07:55	07:26	07:43	18:22 (T59)	06:52		06:13		19:22 (T78)	05:59	20:11 (T57)
	17:28	18:06	19:39	48 19:10 (T59)	20:11		20:42	43	20:05 (T78)	21:06	30 20:41 (T57)
17	07:54	07:25	07:41	18:23 (T59)	06:51		06:12		19:23 (T78)	05:59	20:11 (T57)
	17:30	18:08	19:40	47 19:10 (T59)	20:12		20:43	41	20:04 (T78)	21:06	30 20:41 (T57)
18	07:54	07:23	07:40	18:22 (T59)	06:49	19:41 (T78)	06:12		19:23 (T78)	05:59	20:11 (T57)
	17:31	18:09	19:41	47 19:09 (T59)	20:13	11 19:52 (T78)	20:44	41	20:04 (T78)	21:07	30 20:41 (T57)
19	07:53	07:22	07:38	18:22 (T59)	06:48	19:37 (T78)	06:11		19:24 (T78)	05:59	20:11 (T57)
	17:32	18:10	19:42	47 19:09 (T59)	20:14	16 19:53 (T78)	20:45	39	20:03 (T78)	21:07	30 20:41 (T57)
20	07:53	07:21	07:36	18:22 (T59)	06:46	19:34 (T78)	06:10		19:25 (T78)	05:59	20:11 (T57)
	17:33	18:11	19:43	46 19:08 (T59)	20:15	20 19:54 (T78)	20:46	38	20:03 (T78)	21:07	31 20:42 (T57)
21	07:52	07:19	07:35	18:22 (T59)	06:45	19:32 (T78)	06:09		19:26 (T78)	05:59	20:12 (T57)
	17:34	18:13	19:44	46 19:08 (T59)	20:16	23 19:55 (T78)	20:47	38	20:24 (T57)	21:07	31 20:43 (T57)
22	07:52	07:18	07:33	18:22 (T59)	06:43	19:29 (T78)	06:08		19:26 (T78)	05:59	20:12 (T57)
	17:35	18:14	19:45	45 19:07 (T59)	20:17	26 19:55 (T78)	20:48	41	20:24 (T57)	21:08	31 20:43 (T57)
23	07:51	07:16	07:31	18:22 (T59)	06:42	19:28 (T78)	06:07		19:27 (T78)	06:00	20:12 (T57)
	17:37	18:15	19:46	43 19:05 (T59)	20:18	29 19:57 (T78)	20:49	43	20:25 (T57)	21:08	30 20:42 (T57)
24	07:50	07:15	07:30	18:24 (T59)	06:40	19:27 (T78)	06:07		19:29 (T78)	06:00	20:12 (T57)
	17:38	18:16	19:48	41 19:05 (T59)	20:20	31 19:58 (T78)	20:50	43	20:27 (T57)	21:08	30 20:42 (T57)
25	07:49	07:13	07:28	18:24 (T59)	06:39	19:25 (T78)	06:06		19:29 (T78)	06:00	20:13 (T57)
	17:39	18:17	19:49	40 19:04 (T59)	20:21	34 19:59 (T78)	20:51	44	20:27 (T57)	21:08	30 20:43 (T57)
26	07:49	07:12	07:26	18:24 (T59)	06:37	19:25 (T78)	06:05		19:30 (T78)	06:00	20:13 (T57)
	17:40	18:18	19:50	38 19:02 (T59)	20:22	35 20:00 (T78)	20:52	43	20:27 (T57)	21:08	30 20:43 (T57)
27	07:48	07:10	07:25	18:26 (T59)	06:36	19:23 (T78)	06:05		19:32 (T78)	06:01	20:13 (T57)
	17:42	18:20	19:51	35 19:01 (T59)	20:23	37 20:00 (T78)	20:53	43	20:29 (T57)	21:08	30 20:43 (T57)
28	07:47	07:09	07:23	18:27 (T59)	06:35	19:23 (T78)	06:04		19:32 (T78)	06:01	20:14 (T57)
	17:43	18:21	19:52	32 18:59 (T59)	20:24	39 20:02 (T78)	20:54	42	20:29 (T57)	21:08	29 20:43 (T57)
29	07:46		07:21	18:28 (T59)	06:33	19:22 (T78)	06:03		19:34 (T78)	06:02	20:14 (T57)
	17:44		19:53	28 18:56 (T59)	20:25	41 20:03 (T78)	20:54	41	20:30 (T57)	21:08	29 20:43 (T57)
30	07:45		07:20	18:31 (T59)	06:32	19:21 (T78)	06:03		19:35 (T78)	06:02	20:14 (T57)
	17:45		19:54	23 18:54 (T59)	20:26	42 20:03 (T78)	20:55	40	20:31 (T57)	21:08	29 20:43 (T57)
31	07:44		07:18	18:34 (T59)			06:02		19:38 (T78)		
	17:47		19:55	17 18:51 (T59)			20:56	37	20:32 (T57)		
Potential sun hours	297	297	370		399		448			452	
Total, worst case				1125		387		1351			866
Sun reduction				0.44		0.52		0.57			0.64
Oper. time red.				1.00		1.00		1.00			1.00
Wind dir. red.				0.66		0.57		0.57			0.54
Total reduction				0.29		0.30		0.33			0.35
Total, real				331		116		439			301

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7693)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:03	20:14 (T57)	06:27	19:31 (T78)	06:58		07:28	18:03 (T59)	07:02	07:37
	21:08	29 20:43 (T57)	20:50	47 20:18 (T78)	20:07		19:15	46 18:49 (T59)	17:28	07:04
2	06:03	20:15 (T57)	06:28	19:30 (T78)	06:59		07:29	18:03 (T59)	07:03	07:38
	21:08	28 20:43 (T57)	20:49	47 20:17 (T78)	20:06		19:13	45 18:48 (T59)	17:27	07:04
3	06:04	20:15 (T57)	06:29	19:30 (T78)	07:00		07:30	18:05 (T59)	07:04	07:39
	21:08	28 20:43 (T57)	20:48	47 20:17 (T78)	20:04		19:12	43 18:48 (T59)	17:26	07:04
4	06:04	20:16 (T57)	06:30	19:30 (T78)	07:01		07:31	18:05 (T59)	07:06	07:40
	21:08	27 20:43 (T57)	20:47	47 20:17 (T78)	20:02		19:10	41 18:46 (T59)	17:25	07:03
5	06:05	20:15 (T57)	06:31	19:30 (T78)	07:02		07:32	18:06 (T59)	07:07	07:41
	21:08	27 20:42 (T57)	20:46	47 20:17 (T78)	20:01		19:08	39 18:45 (T59)	17:23	07:03
6	06:05	20:16 (T57)	06:32	19:29 (T78)	07:03		07:33	18:06 (T59)	07:08	07:42
	21:08	26 20:42 (T57)	20:44	48 20:17 (T78)	19:57		19:07	38 18:44 (T59)	17:22	07:03
7	06:06	20:16 (T57)	06:33	19:29 (T78)	07:04		07:34	18:07 (T59)	07:09	07:43
	21:07	25 20:41 (T57)	20:43	48 20:17 (T78)	19:56		19:05	35 18:42 (T59)	17:21	07:03
8	06:07	20:16 (T57)	06:34	19:29 (T78)	07:05		07:35	18:08 (T59)	07:10	07:44
	21:07	26 20:42 (T57)	20:42	48 20:17 (T78)	19:54		19:03	32 18:40 (T59)	17:20	07:03
9	06:07	20:17 (T57)	06:34	19:29 (T78)	07:06		07:36	18:10 (T59)	07:12	07:45
	21:07	25 20:42 (T57)	20:41	48 20:17 (T78)	19:52		19:02	28 18:38 (T59)	17:19	07:03
10	06:08	20:17 (T57)	06:35	19:29 (T78)	07:06		07:37	18:12 (T59)	07:13	07:46
	21:06	24 20:41 (T57)	20:40	46 20:15 (T78)	19:51		19:00	23 18:35 (T59)	17:18	07:03
11	06:09	19:49 (T78)	06:36	19:29 (T78)	07:07		07:38	18:15 (T59)	07:14	07:46
	21:06	32 20:41 (T57)	20:38	45 20:14 (T78)	19:49		18:59	16 18:31 (T59)	17:17	07:03
12	06:09	19:47 (T78)	06:37	19:30 (T78)	07:08	18:26 (T59)	07:39		07:15	07:47
	21:05	34 20:40 (T57)	20:37	43 20:13 (T78)	19:47	16 18:42 (T59)	18:57		17:16	07:03
13	06:10	19:44 (T78)	06:38	19:30 (T78)	07:09	18:23 (T59)	07:40		07:16	07:48
	21:05	38 20:39 (T57)	20:36	42 20:12 (T78)	19:46	22 18:45 (T59)	18:55		17:15	07:03
14	06:11	19:43 (T78)	06:39	19:30 (T78)	07:10	18:20 (T59)	07:41		07:18	07:49
	21:04	40 20:39 (T57)	20:34	40 20:10 (T78)	19:44	27 18:47 (T59)	18:54		17:14	07:04
15	06:12	19:42 (T78)	06:40	19:31 (T78)	07:11	18:17 (T59)	07:43		07:19	07:50
	21:04	42 20:39 (T57)	20:33	38 20:09 (T78)	19:42	31 18:48 (T59)	18:52		17:13	07:04
16	06:12	19:42 (T78)	06:41	19:31 (T78)	07:12	18:15 (T59)	07:44		07:20	07:50
	21:03	41 20:38 (T57)	20:32	37 20:08 (T78)	19:40	34 18:49 (T59)	18:51		17:13	07:04
17	06:13	19:40 (T78)	06:43	19:32 (T78)	07:13	18:13 (T59)	07:45		07:21	07:51
	21:03	43 20:37 (T57)	20:30	35 20:07 (T78)	19:39	37 18:50 (T59)	18:49		17:12	07:04
18	06:14	19:39 (T78)	06:44	19:32 (T78)	07:14	18:12 (T59)	07:46		07:22	07:52
	21:02	44 20:37 (T57)	20:29	33 20:05 (T78)	19:37	39 18:51 (T59)	18:48		17:11	07:05
19	06:15	19:38 (T78)	06:45	19:33 (T78)	07:15	18:10 (T59)	07:47		07:23	07:52
	21:01	43 20:36 (T57)	20:27	31 20:04 (T78)	19:35	41 18:51 (T59)	18:46		17:10	07:05
20	06:16	19:38 (T78)	06:46	19:34 (T78)	07:16	18:09 (T59)	07:48		07:25	07:53
	21:01	43 20:36 (T57)	20:26	28 20:02 (T78)	19:34	43 18:52 (T59)	18:45		17:10	07:05
21	06:16	19:37 (T78)	06:47	19:35 (T78)	07:17	18:08 (T59)	07:49		07:26	07:53
	21:00	42 20:35 (T57)	20:24	26 20:01 (T78)	19:32	44 18:52 (T59)	18:43		17:09	07:06
22	06:17	19:37 (T78)	06:48	19:37 (T78)	07:18	18:07 (T59)	07:50		07:27	07:54
	20:59	40 20:35 (T57)	20:23	23 20:00 (T78)	19:30	45 18:52 (T59)	18:42		17:08	07:06
23	06:18	19:35 (T78)	06:49	19:38 (T78)	07:19	18:06 (T59)	07:52		07:28	07:54
	20:58	37 20:12 (T78)	20:21	19 19:57 (T78)	19:29	46 18:52 (T59)	18:40		17:08	07:07
24	06:19	19:35 (T78)	06:50	19:41 (T78)	07:20	18:05 (T59)	07:53		07:29	07:55
	20:58	38 20:13 (T78)	20:20	15 19:56 (T78)	19:27	47 18:52 (T59)	18:39		17:07	07:07
25	06:20	19:34 (T78)	06:51	19:45 (T78)	07:21	18:05 (T59)	07:54		07:30	07:55
	20:57	40 20:14 (T78)	20:18	9 19:54 (T78)	19:25	47 18:52 (T59)	18:37		17:07	07:08
26	06:21	19:34 (T78)	06:52		07:23	18:04 (T59)	07:55		07:32	07:56
	20:56	41 20:15 (T78)	20:17		19:23	48 18:52 (T59)	18:36		17:06	07:09
27	06:22	19:33 (T78)	06:53		07:24	18:04 (T59)	07:56		07:33	07:56
	20:55	42 20:15 (T78)	20:15		19:22	47 18:51 (T59)	18:35		17:06	07:09
28	06:23	19:33 (T78)	06:54		07:25	18:03 (T59)	07:57		07:34	07:56
	20:54	43 20:16 (T78)	20:14		19:20	48 18:51 (T59)	18:33		17:05	07:10
29	06:24	19:32 (T78)	06:55		07:26	18:03 (T59)	07:58		07:35	07:57
	20:53	44 20:16 (T78)	20:12		19:18	47 18:50 (T59)	18:32		17:05	07:11
30	06:25	19:32 (T78)	06:56		07:27	18:03 (T59)	08:00		07:36	07:57
	20:52	45 20:17 (T78)	20:10		19:17	46 18:49 (T59)	18:31		17:04	07:12
31	06:26	19:32 (T78)	06:57				08:01			07:57
	20:51	45 20:17 (T78)	20:09				18:30			07:12
Potential sun hours	459		428		375		345		297	287
Total, worst case		1122		937		755		386		
Sun reduction		0.66		0.61		0.59		0.48		
Oper. time red.		1.00		1.00		1.00		1.00		
Wind dir. red.		0.56		0.57		0.66		0.66		
Total reduction		0.37		0.35		0.39		0.32		
Total, real		415		328		298		124		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 54 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7736)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April		May		June	
1	07:57	07:43		07:07		17:00 (T59)	07:16		19:04 (T78)	06:02	19:59 (T57)
	17:13	17:48		18:22	52	17:52 (T59)	19:56		19:56 (T78)	20:57	33 20:32 (T57)
2	07:57	07:42		07:06		16:59 (T59)	07:15		19:04 (T78)	06:01	20:00 (T57)
	17:14	17:49		18:23	52	17:51 (T59)	19:57		19:56 (T78)	20:58	33 20:33 (T57)
3	07:57	07:41		07:04		16:59 (T59)	07:13		19:04 (T78)	06:01	20:00 (T57)
	17:15	17:50		18:24	53	17:52 (T59)	19:58		19:56 (T78)	20:58	34 20:34 (T57)
4	07:57	07:40		07:03		16:59 (T59)	07:11		19:05 (T78)	06:01	20:00 (T57)
	17:16	17:52		18:25	52	17:51 (T59)	19:59		19:56 (T78)	20:59	34 20:34 (T57)
5	07:57	07:39		07:01		16:58 (T59)	07:10		19:04 (T78)	06:00	20:00 (T57)
	17:17	17:53		18:27	52	17:50 (T59)	20:00		19:55 (T78)	21:00	35 20:35 (T57)
6	07:57	07:38		06:59		16:59 (T59)	07:08		19:05 (T78)	06:00	20:00 (T57)
	17:18	17:54		18:28	51	17:50 (T59)	20:00		19:54 (T78)	21:00	36 20:36 (T57)
7	07:57	07:37		06:58		16:59 (T59)	07:06		19:06 (T78)	06:00	20:01 (T57)
	17:19	17:55		18:29	51	17:50 (T59)	20:01		19:54 (T78)	21:01	36 20:37 (T57)
8	07:57	07:36		07:56		17:59 (T59)	07:05		19:06 (T78)	05:59	20:00 (T57)
	17:20	17:57		19:30	50	18:49 (T59)	20:02		19:53 (T78)	21:02	36 20:36 (T57)
9	07:57	07:35		07:55		18:00 (T59)	07:03	19:29 (T78)	19:07 (T78)	05:59	20:01 (T57)
	17:21	17:58		19:31	48	18:48 (T59)	20:04	11 19:40 (T78)	19:53 (T78)	21:02	35 20:36 (T57)
10	07:57	07:34		07:53		18:00 (T59)	07:02	19:25 (T78)	19:08 (T78)	05:59	20:01 (T57)
	17:22	17:59		19:32	47	18:47 (T59)	20:05	19 19:44 (T78)	19:52 (T78)	21:03	36 20:37 (T57)
11	07:57	07:32		07:51		18:01 (T59)	07:00	19:21 (T78)	19:08 (T78)	05:59	20:01 (T57)
	17:23	18:00		19:33	46	18:47 (T59)	20:06	24 19:45 (T78)	19:51 (T78)	21:03	36 20:37 (T57)
12	07:56	07:31		07:50		18:01 (T59)	06:58	19:18 (T78)	19:09 (T78)	05:59	20:01 (T57)
	17:24	18:02		19:34	44	18:45 (T59)	20:07	27 19:45 (T78)	19:50 (T78)	21:04	36 20:37 (T57)
13	07:56	07:30		07:48		18:02 (T59)	06:57	19:16 (T78)	19:10 (T78)	05:59	20:02 (T57)
	17:25	18:03		19:36	42	18:44 (T59)	20:08	31 19:47 (T78)	19:50 (T78)	21:04	36 20:38 (T57)
14	07:56	07:29	17:20 (T59)	07:46		18:04 (T59)	06:55	19:14 (T78)	19:11 (T78)	05:59	20:02 (T57)
	17:26	18:04	12 17:32 (T59)	19:37	39	18:43 (T59)	20:09	33 19:47 (T78)	19:49 (T78)	21:05	36 20:38 (T57)
15	07:55	07:27	17:16 (T59)	07:45		18:04 (T59)	06:54	19:13 (T78)	19:12 (T78)	05:59	20:02 (T57)
	17:27	18:05	21 17:37 (T59)	19:38	37	18:41 (T59)	20:10	36 19:49 (T78)	19:47 (T78)	21:05	36 20:38 (T57)
16	07:55	07:26	17:14 (T59)	07:43		18:06 (T59)	06:52	19:11 (T78)	19:13 (T78)	05:59	20:02 (T57)
	17:28	18:06	26 17:40 (T59)	19:39	33	18:39 (T59)	20:11	39 19:50 (T78)	20:19 (T57)	21:06	36 20:38 (T57)
17	07:54	07:25	17:11 (T59)	07:41		18:08 (T59)	06:51	19:10 (T78)	19:14 (T78)	05:59	20:02 (T57)
	17:30	18:08	30 17:41 (T59)	19:40	29	18:37 (T59)	20:12	41 19:51 (T78)	20:20 (T57)	21:06	36 20:38 (T57)
18	07:54	07:23	17:09 (T59)	07:40		18:10 (T59)	06:49	19:09 (T78)	19:16 (T78)	05:59	20:03 (T57)
	17:31	18:09	34 17:43 (T59)	19:41	24	18:34 (T59)	20:13	43 19:52 (T78)	20:21 (T57)	21:07	35 20:38 (T57)
19	07:53	07:22	17:08 (T59)	07:38		18:13 (T59)	06:48	19:08 (T78)	19:17 (T78)	05:59	20:03 (T57)
	17:32	18:10	37 17:45 (T59)	19:42	17	18:30 (T59)	20:14	45 19:53 (T78)	20:22 (T57)	21:07	35 20:38 (T57)
20	07:53	07:21	17:06 (T59)	07:36			06:46	19:07 (T78)	19:20 (T78)	05:59	20:03 (T57)
	17:33	18:11	40 17:46 (T59)	19:43			20:15	47 19:54 (T78)	20:23 (T57)	21:07	36 20:39 (T57)
21	07:52	07:19	17:05 (T59)	07:35			06:45	19:07 (T78)	19:22 (T78)	05:59	20:04 (T57)
	17:34	18:13	43 17:48 (T59)	19:44			20:16	48 19:55 (T78)	20:24 (T57)	21:07	36 20:40 (T57)
22	07:52	07:18	17:04 (T59)	07:33			06:43	19:05 (T78)	19:25 (T78)	05:59	20:04 (T57)
	17:35	18:14	44 17:48 (T59)	19:45			20:17	50 19:55 (T78)	20:24 (T57)	21:08	36 20:40 (T57)
23	07:51	07:16	17:03 (T59)	07:31			06:42	19:05 (T78)	20:01 (T57)	06:00	20:04 (T57)
	17:37	18:15	46 17:49 (T59)	19:46			20:18	52 19:57 (T78)	20:25 (T57)	21:08	35 20:39 (T57)
24	07:50	07:15	17:02 (T59)	07:30			06:40	19:05 (T78)	20:02 (T57)	06:00	20:04 (T57)
	17:38	18:16	47 17:49 (T59)	19:48			20:20	53 19:58 (T78)	20:27 (T57)	21:08	35 20:39 (T57)
25	07:49	07:13	17:02 (T59)	07:28			06:39	19:04 (T78)	20:01 (T57)	06:00	20:04 (T57)
	17:39	18:17	48 17:50 (T59)	19:49			20:21	54 19:58 (T78)	20:27 (T57)	21:08	36 20:40 (T57)
26	07:49	07:12	17:00 (T59)	07:26			06:37	19:04 (T78)	20:00 (T57)	06:00	20:04 (T57)
	17:40	18:18	50 17:50 (T59)	19:50			20:22	54 19:58 (T78)	20:27 (T57)	21:08	36 20:40 (T57)
27	07:48	07:10	17:00 (T59)	07:25			06:36	19:03 (T78)	20:00 (T57)	06:01	20:04 (T57)
	17:42	18:20	51 17:51 (T59)	19:51			20:23	54 19:57 (T78)	20:29 (T57)	21:08	36 20:40 (T57)
28	07:47	07:09	16:59 (T59)	07:23			06:35	19:04 (T78)	20:00 (T57)	06:01	20:05 (T57)
	17:43	18:21	52 17:51 (T59)	19:52			20:24	53 19:57 (T78)	20:29 (T57)	21:08	36 20:41 (T57)
29	07:46			07:21			06:33	19:04 (T78)	20:00 (T57)	06:02	20:05 (T57)
	17:44			19:53			20:25	53 19:57 (T78)	20:54	30 20:30 (T57)	21:08	36 20:41 (T57)
30	07:45			07:20			06:32	19:03 (T78)	06:03	20:00 (T57)	06:02	20:06 (T57)
	17:45			19:54			20:26	53 19:56 (T78)	20:55	31 20:31 (T57)	21:08	35 20:41 (T57)
31	07:44			07:18					06:02	20:00 (T57)		
	17:47			19:55					20:56	32 20:32 (T57)		
Potential sun hours	297	297		370			399		448		452	
Total, worst case			581		819			920		1219		1063
Sun reduction			0.40		0.44			0.52		0.57		0.64
Oper. time red.			1.00		1.00			1.00		1.00		1.00
Wind dir. red.			0.69		0.69			0.57		0.57		0.54
Total reduction			0.28		0.31			0.30		0.33		0.35
Total, real			163		253			279		398		375

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 54 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7736)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:03		20:05 (T57)	06:27		19:20 (T78)	06:58		19:20 (T78)	07:28		17:40 (T59)	07:02	07:37
	21:08	36	20:41 (T57)	20:50	41	20:01 (T78)	20:07	24	19:44 (T78)	19:15	44	18:24 (T59)	17:28	17:04
2	06:03		20:06 (T57)	06:28		19:18 (T78)	06:59		19:23 (T78)	07:29		17:39 (T59)	07:03	07:38
	21:08	36	20:42 (T57)	20:49	43	20:01 (T78)	20:06	19	19:42 (T78)	19:13	45	18:24 (T59)	17:27	17:04
3	06:04		20:06 (T57)	06:29		19:17 (T78)	07:00		19:27 (T78)	07:30		17:39 (T59)	07:04	07:39
	21:08	36	20:42 (T57)	20:48	45	20:02 (T78)	20:04	11	19:38 (T78)	19:12	47	18:26 (T59)	17:26	17:04
4	06:04		20:06 (T57)	06:30		19:16 (T78)	07:01			07:31		17:38 (T59)	07:06	07:40
	21:08	36	20:42 (T57)	20:47	47	20:03 (T78)	20:02			19:10	48	18:26 (T59)	17:25	17:03
5	06:05		20:06 (T57)	06:31		19:16 (T78)	07:02			07:32		17:37 (T59)	07:07	07:41
	21:08	36	20:42 (T57)	20:46	47	20:03 (T78)	20:01			19:08	49	18:26 (T59)	17:23	17:03
6	06:05		20:07 (T57)	06:32		19:15 (T78)	07:03			07:33		17:36 (T59)	07:08	07:42
	21:08	35	20:42 (T57)	20:44	49	20:04 (T78)	19:57			19:07	50	18:26 (T59)	17:22	17:03
7	06:06		20:06 (T57)	06:33		19:14 (T78)	07:04			07:34		17:35 (T59)	07:09	07:43
	21:07	35	20:41 (T57)	20:43	50	20:04 (T78)	19:56			19:05	51	18:26 (T59)	17:21	17:03
8	06:07		20:07 (T57)	06:34		19:14 (T78)	07:05			07:35		17:34 (T59)	07:10	07:44
	21:07	35	20:42 (T57)	20:42	50	20:04 (T78)	19:54			19:03	52	18:26 (T59)	17:20	17:03
9	06:07		20:07 (T57)	06:35		19:13 (T78)	07:06			07:36		17:34 (T59)	07:12	07:45
	21:07	35	20:42 (T57)	20:41	52	20:05 (T78)	19:52			19:02	52	18:26 (T59)	17:19	17:03
10	06:08		20:07 (T57)	06:35		19:13 (T78)	07:06			07:37		17:33 (T59)	07:13	07:46
	21:06	34	20:41 (T57)	20:40	52	20:05 (T78)	19:51			19:00	52	18:25 (T59)	17:18	17:03
11	06:09		20:08 (T57)	06:36		19:13 (T78)	07:07			07:38		17:33 (T59)	07:14	07:46
	21:06	33	20:41 (T57)	20:38	52	20:05 (T78)	19:49			18:59	52	18:25 (T59)	17:17	17:03
12	06:09		20:08 (T57)	06:37		19:12 (T78)	07:08			07:39		17:32 (T59)	07:15	07:47
	21:05	32	20:40 (T57)	20:37	53	20:05 (T78)	19:47			18:57	52	18:24 (T59)	17:16	17:03
13	06:10		20:08 (T57)	06:38		19:12 (T78)	07:09			07:40		17:32 (T59)	07:16	07:48
	21:05	31	20:39 (T57)	20:36	53	20:05 (T78)	19:46			18:55	52	18:24 (T59)	17:15	17:03
14	06:11		20:08 (T57)	06:39		19:12 (T78)	07:10			07:41		17:33 (T59)	07:18	07:49
	21:05	31	20:39 (T57)	20:34	53	20:05 (T78)	19:44			18:54	51	18:24 (T59)	17:14	17:04
15	06:12		20:09 (T57)	06:40		19:11 (T78)	07:11			07:43		17:33 (T59)	07:19	07:50
	21:04	30	20:39 (T57)	20:33	54	20:05 (T78)	19:42			18:52	50	18:23 (T59)	17:13	17:04
16	06:12		20:10 (T57)	06:42		19:11 (T78)	07:12			07:44		17:33 (T59)	07:20	07:50
	21:03	28	20:38 (T57)	20:32	54	20:05 (T78)	19:40			18:51	50	18:23 (T59)	17:13	17:04
17	06:13		20:09 (T57)	06:43		19:11 (T78)	07:13			07:45		17:33 (T59)	07:21	07:51
	21:03	28	20:37 (T57)	20:30	54	20:05 (T78)	19:39			18:49	49	18:22 (T59)	17:12	17:04
18	06:14		20:10 (T57)	06:44		19:11 (T78)	07:14			07:46		17:34 (T59)	07:22	07:52
	21:02	27	20:37 (T57)	20:29	53	20:04 (T78)	19:37			18:48	47	18:21 (T59)	17:11	17:05
19	06:15		20:11 (T57)	06:45		19:11 (T78)	07:15			07:47		17:34 (T59)	07:24	07:52
	21:01	25	20:36 (T57)	20:27	53	20:04 (T78)	19:35			18:46	45	18:19 (T59)	17:10	17:05
20	06:16		20:12 (T57)	06:46		19:11 (T78)	07:16			07:48		17:35 (T59)	07:25	07:53
	21:01	24	20:36 (T57)	20:26	51	20:02 (T78)	19:34			18:45	44	18:19 (T59)	17:10	17:05
21	06:16		19:38 (T78)	06:47		19:11 (T78)	07:17			07:49		17:36 (T59)	07:26	07:53
	21:00	28	20:35 (T57)	20:24	50	20:01 (T78)	19:32			18:43	42	18:18 (T59)	17:09	17:06
22	06:17		19:34 (T78)	06:48		19:11 (T78)	07:18			07:50		17:37 (T59)	07:27	07:54
	20:59	35	20:35 (T57)	20:23	49	20:00 (T78)	19:30			18:42	39	18:16 (T59)	17:08	17:06
23	06:18		19:30 (T78)	06:49		19:11 (T78)	07:19			07:52		17:38 (T59)	07:28	07:54
	20:58	39	20:33 (T57)	20:21	46	19:57 (T78)	19:29			18:40	36	18:14 (T59)	17:08	17:07
24	06:19		19:28 (T78)	06:50		19:11 (T78)	07:20		17:58 (T59)	07:53		17:39 (T59)	07:29	07:55
	20:58	40	20:32 (T57)	20:20	45	19:56 (T78)	19:27	14	18:12 (T59)	18:39	34	18:13 (T59)	17:07	17:07
25	06:20		19:27 (T78)	06:51		19:12 (T78)	07:22		17:54 (T59)	07:54		17:42 (T59)	07:30	07:55
	20:57	42	20:32 (T57)	20:18	42	19:54 (T78)	19:25	22	18:16 (T59)	18:37	29	18:11 (T59)	17:07	17:08
26	06:21		19:26 (T78)	06:52		19:12 (T78)	07:23		17:50 (T59)	07:55		17:44 (T59)	07:32	07:56
	20:56	42	20:31 (T57)	20:17	41	19:53 (T78)	19:23	28	18:18 (T59)	18:36	25	18:09 (T59)	17:06	17:09
27	06:22		19:24 (T78)	06:53		19:13 (T78)	07:24		17:48 (T59)	07:56		17:47 (T59)	07:33	07:56
	20:55	42	20:30 (T57)	20:15	38	19:51 (T78)	19:22	32	18:20 (T59)	18:35	18	18:05 (T59)	17:06	17:09
28	06:23		19:23 (T78)	06:54		19:14 (T78)	07:25		17:46 (T59)	07:57		17:51 (T59)	07:34	07:56
	20:54	41	20:30 (T57)	20:14	36	19:50 (T78)	19:20	35	18:21 (T59)	18:33	9	18:00 (T59)	17:05	17:10
29	06:24		19:22 (T78)	06:55		19:15 (T78)	07:26		17:44 (T59)	07:58			07:35	07:57
	20:53	37	19:59 (T78)	20:12	33	19:48 (T78)	19:18	38	18:22 (T59)	18:32			17:05	17:11
30	06:25		19:21 (T78)	06:56		19:16 (T78)	07:27		17:42 (T59)	08:00			07:36	07:57
	20:52	39	20:00 (T78)	20:10	31	19:47 (T78)	19:17	41	18:23 (T59)	18:31			17:04	17:12
31	06:26		19:20 (T78)	06:57		19:18 (T78)				08:01				07:57
	20:51	41	20:01 (T78)	20:09	27	19:45 (T78)				18:30				17:12
Potential sun hours	459			428			375			345			297	287
Total, worst case		1069			1444			264			1214			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.55			0.57			0.67			0.69			
Total reduction		0.37			0.36			0.40			0.34			
Total, real		395			513			106			410			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 64 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7743)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May	June
1	07:57		08:20 (T77)	07:43		08:04 (T42)	07:07		07:16	07:40 (T41)	06:30	06:01
	17:13	29	08:49 (T77)	17:48	20	08:24 (T42)	18:22		19:56	66	08:46 (T41)	20:27	20:57
2	07:57		08:20 (T77)	07:43		08:03 (T42)	07:06		07:15	07:40 (T41)	06:29	06:01
	17:14	29	08:49 (T77)	17:49	22	08:25 (T42)	18:23		19:57	66	08:46 (T41)	20:28	20:58
3	07:57		08:20 (T77)	07:42		08:02 (T42)	07:04		07:13	07:40 (T41)	06:28	06:01
	17:15	30	08:50 (T77)	17:50	24	08:26 (T42)	18:24		19:58	66	08:46 (T41)	20:29	20:58
4	07:58		08:20 (T77)	07:40		08:01 (T42)	07:03		07:11	07:39 (T41)	06:26	06:00
	17:16	30	08:50 (T77)	17:51	26	08:27 (T42)	18:25		19:59	66	08:45 (T41)	20:30	20:59
5	07:58		08:20 (T77)	07:39		08:00 (T42)	07:01		07:10	07:40 (T41)	06:25	06:00
	17:17	30	08:50 (T77)	17:53	28	08:28 (T42)	18:26		20:00	65	08:45 (T41)	20:31	21:00
6	07:57		08:20 (T77)	07:38		07:58 (T42)	06:59		07:08	07:39 (T41)	06:24	06:00
	17:18	31	08:51 (T77)	17:54	29	08:27 (T42)	18:28		20:00	65	08:44 (T41)	20:32	21:01
7	07:57		08:19 (T77)	07:37		07:57 (T42)	06:58		07:06	07:39 (T41)	06:23	05:59
	17:18	31	08:50 (T77)	17:55	31	08:28 (T42)	18:29		20:01	64	08:43 (T41)	20:33	21:01
8	07:57		08:20 (T77)	07:36		07:56 (T42)	07:56		07:05	07:39 (T41)	06:22	05:59
	17:19	31	08:51 (T77)	17:56	33	08:29 (T42)	19:30		20:02	64	08:43 (T41)	20:34	21:02
9	07:57		08:21 (T77)	07:35		07:55 (T42)	07:55		07:03	07:39 (T41)	06:20	05:59
	17:20	30	08:51 (T77)	17:58	34	08:29 (T42)	19:31		20:04	63	08:42 (T41)	20:35	21:02
10	07:57		08:22 (T77)	07:34		07:54 (T42)	07:53		07:01	07:39 (T41)	06:19	05:59
	17:22	30	08:52 (T77)	17:59	35	08:29 (T42)	19:32		20:05	62	08:41 (T41)	20:37	21:03
11	07:57		08:21 (T77)	07:32		07:52 (T42)	07:51		07:00	07:40 (T41)	06:18	05:58
	17:23	30	08:51 (T77)	18:00	37	08:29 (T42)	19:33		20:06	61	08:41 (T41)	20:38	21:04
12	07:56		08:23 (T77)	07:31		07:51 (T42)	07:50		06:58	07:39 (T41)	06:17	05:58
	17:24	29	08:52 (T77)	18:01	38	08:29 (T42)	19:34		20:07	60	08:39 (T41)	20:39	21:04
13	07:56		08:24 (T77)	07:30		07:52 (T42)	07:48	08:15 (T41)	06:57	07:40 (T41)	06:16	05:58
	17:25	28	08:52 (T77)	18:03	37	08:29 (T42)	19:35	9	08:24 (T41)	20:08	59	08:39 (T41)	20:40	21:05
14	07:56		08:24 (T77)	07:29		07:52 (T42)	07:46		08:09 (T41)	06:55		07:40 (T41)	06:15	05:58
	17:26	27	08:51 (T77)	18:04	37	08:29 (T42)	19:37	22	08:31 (T41)	20:09	57	08:37 (T41)	20:41	21:05
15	07:55		08:25 (T77)	07:27		07:52 (T42)	07:45		08:04 (T41)	06:53		07:42 (T41)	06:14	05:58
	17:27	27	08:52 (T77)	18:05	36	08:28 (T42)	19:38	30	08:34 (T41)	20:10	54	08:36 (T41)	20:42	21:06
16	07:55		08:26 (T77)	07:26		07:53 (T42)	07:43		08:02 (T41)	06:52		07:42 (T41)	06:13	05:58
	17:28	25	08:51 (T77)	18:06	34	08:27 (T42)	19:39	34	08:36 (T41)	20:11	53	08:35 (T41)	20:43	21:06
17	07:54		08:27 (T77)	07:25		07:53 (T42)	07:41		08:00 (T41)	06:50		07:43 (T41)	06:12	05:58
	17:29	24	08:51 (T77)	18:07	33	08:26 (T42)	19:40	38	08:38 (T41)	20:12	51	08:34 (T41)	20:44	21:06
18	07:54		08:28 (T77)	07:23		07:54 (T42)	07:40		07:59 (T41)	06:49		07:44 (T41)	06:11	05:58
	17:30	22	08:50 (T77)	18:09	31	08:25 (T42)	19:41	41	08:40 (T41)	20:13	48	08:32 (T41)	20:45	21:07
19	07:53		08:30 (T77)	07:22		07:56 (T42)	07:38		07:57 (T41)	06:47		07:45 (T41)	06:10	05:58
	17:32	20	08:50 (T77)	18:10	29	08:25 (T42)	19:42	44	08:41 (T41)	20:14	46	08:31 (T41)	20:46	21:07
20	07:53		08:31 (T77)	07:21		07:56 (T42)	07:36		07:55 (T41)	06:46		07:46 (T41)	06:09	05:59
	17:33	18	08:49 (T77)	18:11	26	08:22 (T42)	19:43	47	08:42 (T41)	20:15	42	08:28 (T41)	20:46	21:07
21	07:52		08:32 (T77)	07:19		07:59 (T42)	07:35		07:54 (T41)	06:44		07:48 (T41)	06:09	05:59
	17:34	15	08:47 (T77)	18:12	22	08:21 (T42)	19:44	50	08:44 (T41)	20:16	39	08:27 (T41)	20:47	21:08
22	07:52		08:36 (T77)	07:18		08:00 (T42)	07:33		07:52 (T41)	06:43		07:49 (T41)	06:08	05:59
	17:35	10	08:46 (T77)	18:14	18	08:18 (T42)	19:45	52	08:44 (T41)	20:17	35	08:24 (T41)	20:48	21:08
23	07:51			07:16		08:04 (T42)	07:31		07:50 (T41)	06:41		07:51 (T41)	06:07	05:59
	17:36			18:15	11	08:15 (T42)	19:46	55	08:45 (T41)	20:18	31	08:22 (T41)	20:49	21:08
24	07:50			07:15			07:30		07:49 (T41)	06:40		07:53 (T41)	06:06	05:59
	17:38			18:16			19:47	57	08:46 (T41)	20:20	26	08:19 (T41)	20:50	21:08
25	07:50			07:13			07:28		07:47 (T41)	06:39		07:57 (T41)	06:06	06:00
	17:39			18:17			19:49	59	08:46 (T41)	20:21	18	08:15 (T41)	20:51	21:08
26	07:49		08:09 (T42)	07:12			07:26		07:45 (T41)	06:37		08:03 (T41)	06:05	06:00
	17:40	3	08:12 (T42)	18:18			19:50	61	08:46 (T41)	20:22	6	08:09 (T41)	20:52	21:08
27	07:48		08:09 (T42)	07:10			07:25		07:44 (T41)	06:36			06:04	06:00
	17:41	7	08:16 (T42)	18:19			19:51	63	08:47 (T41)	20:23			20:53	21:09
28	07:47		08:08 (T42)	07:09			07:23		07:43 (T41)	06:34			06:04	06:01
	17:43	10	08:18 (T42)	18:21			19:52	64	08:47 (T41)	20:24			20:54	21:09
29	07:46		08:07 (T42)				07:21		07:42 (T41)	06:33			06:03	06:01
	17:44	13	08:20 (T42)				19:53	65	08:47 (T41)	20:25			20:55	21:09
30	07:45		08:06 (T42)				07:20		07:41 (T41)	06:32			06:02	06:02
	17:45	16	08:22 (T42)				19:54	65	08:46 (T41)	20:26			20:55	21:09
31	07:44		08:05 (T42)				07:18		07:41 (T41)				06:02	
	17:46	18	08:23 (T42)				19:55	66	08:47 (T41)				20:56	
Potential sun hours	297			297			370			399			449	453
Total, worst case		643			671			922			1333			
Sun reduction		0.31			0.40			0.44			0.52			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.52			0.55			0.62			0.62			
Total reduction		0.16			0.21			0.27			0.32			
Total, real		103			144			246			421			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 64 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7743)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November			December		
1	06:02	06:26			06:57		07:39 (T41)	07:28			07:02		07:23 (T42)	07:37		08:04 (T77)
	21:09	20:50			20:07	61	08:40 (T41)	19:15			17:28	35	07:58 (T42)	17:04	29	08:33 (T77)
2	06:03	06:27			06:58		07:38 (T41)	07:29			07:03		07:25 (T42)	07:38		08:05 (T77)
	21:08	20:49			20:06	62	08:40 (T41)	19:13			17:27	34	07:59 (T42)	17:03	30	08:35 (T77)
3	06:03	06:28			06:59		07:37 (T41)	07:30			07:04		07:26 (T42)	07:39		08:05 (T77)
	21:08	20:48			20:04	63	08:40 (T41)	19:11			17:26	32	07:58 (T42)	17:03	30	08:35 (T77)
4	06:04	06:29			07:00		07:36 (T41)	07:31			07:06		07:27 (T42)	07:40		08:05 (T77)
	21:08	20:47			20:02	64	08:40 (T41)	19:10			17:24	31	07:58 (T42)	17:03	31	08:36 (T77)
5	06:04	06:30			07:01		07:36 (T41)	07:32			07:07		07:28 (T42)	07:41		08:05 (T77)
	21:08	20:46			20:01	65	08:41 (T41)	19:08			17:23	29	07:57 (T42)	17:03	31	08:36 (T77)
6	06:05	06:31			07:02		07:35 (T41)	07:33			07:08		07:30 (T42)	07:42		08:06 (T77)
	21:08	20:45			19:57	66	08:41 (T41)	19:06			17:22	28	07:58 (T42)	17:03	31	08:37 (T77)
7	06:06	06:32			07:03		07:35 (T41)	07:34			07:09		07:31 (T42)	07:43		08:07 (T77)
	21:07	20:43			19:56	65	08:40 (T41)	19:05			17:21	26	07:57 (T42)	17:03	30	08:37 (T77)
8	06:06	06:33			07:04		07:34 (T41)	07:35			07:10		07:32 (T42)	07:44		08:07 (T77)
	21:07	20:42			19:54	66	08:40 (T41)	19:03			17:20	24	07:56 (T42)	17:03	30	08:37 (T77)
9	06:07	06:34			07:05		07:34 (T41)	07:36			07:12		07:34 (T42)	07:45		08:08 (T77)
	21:07	20:41			19:52	66	08:40 (T41)	19:02			17:19	22	07:56 (T42)	17:03	30	08:38 (T77)
10	06:08	06:35			07:06		07:34 (T41)	07:37			07:13		07:35 (T42)	07:46		08:09 (T77)
	21:06	20:40			19:51	66	08:40 (T41)	19:00			17:18	20	07:55 (T42)	17:03	29	08:38 (T77)
11	06:08	06:36			07:07		07:33 (T41)	07:38			07:14		07:36 (T42)	07:47		08:10 (T77)
	21:06	20:38			19:49	67	08:40 (T41)	18:58			17:17	18	07:54 (T42)	17:03	29	08:39 (T77)
12	06:09	06:37			07:08		07:32 (T41)	07:39			07:15		07:37 (T42)	07:47		08:11 (T77)
	21:06	20:37			19:47	66	08:38 (T41)	18:57			17:16	15	07:52 (T42)	17:03	28	08:39 (T77)
13	06:10	06:38			07:09		07:32 (T41)	07:40			07:16		07:39 (T42)	07:48		08:12 (T77)
	21:05	20:36			19:46	66	08:38 (T41)	18:55			17:15	13	07:52 (T42)	17:03	28	08:40 (T77)
14	06:10	06:39			07:10		07:32 (T41)	07:41			07:18		07:40 (T42)	07:49		08:12 (T77)
	21:05	20:34			19:44	65	08:37 (T41)	18:54			17:14	10	07:50 (T42)	17:03	28	08:40 (T77)
15	06:11	06:40			07:11		07:32 (T41)	07:43			07:19		07:41 (T42)	07:50		08:13 (T77)
	21:04	20:33			19:42	64	08:36 (T41)	18:52			17:13	7	07:48 (T42)	17:03	28	08:41 (T77)
16	06:12	06:41			07:12		07:32 (T41)	07:44			07:20		07:43 (T42)	07:50		08:14 (T77)
	21:04	20:32			19:40	64	08:36 (T41)	18:50			17:12	3	07:46 (T42)	17:04	27	08:41 (T77)
17	06:13	06:42		08:08 (T41)	07:13		07:33 (T41)	07:45			07:21			07:51		08:14 (T77)
	21:03	20:30	10	08:18 (T41)	19:39	62	08:35 (T41)	18:49			17:11			17:04	27	08:41 (T77)
18	06:14	06:43		08:01 (T41)	07:14		07:34 (T41)	07:46			07:22			07:52		08:15 (T77)
	21:02	20:29	21	08:22 (T41)	19:37	60	08:34 (T41)	18:47			17:11			17:04	27	08:42 (T77)
19	06:14	06:44		07:58 (T41)	07:15		07:35 (T41)	07:47		08:33 (T42)	07:24			07:52		08:16 (T77)
	21:02	20:27	27	08:25 (T41)	19:35	58	08:33 (T41)	18:46	14	08:47 (T42)	17:10			17:05	27	08:43 (T77)
20	06:15	06:45		07:55 (T41)	07:16		07:36 (T41)	07:48		08:31 (T42)	07:25		08:11 (T77)	07:53		08:16 (T77)
	21:01	20:26	32	08:27 (T41)	19:34	55	08:31 (T41)	18:44	20	08:51 (T42)	17:09	10	08:21 (T77)	17:05	27	08:43 (T77)
21	06:16	06:46		07:53 (T41)	07:17		07:37 (T41)	07:49		08:29 (T42)	07:26		08:08 (T77)	07:53		08:17 (T77)
	21:00	20:24	36	08:29 (T41)	19:32	53	08:30 (T41)	18:43	23	08:52 (T42)	17:09	15	08:23 (T77)	17:06	27	08:44 (T77)
22	06:17	06:47		07:51 (T41)	07:18		07:38 (T41)	07:50		08:27 (T42)	07:27		08:07 (T77)	07:54		08:17 (T77)
	20:59	20:23	40	08:31 (T41)	19:30	51	08:29 (T41)	18:42	27	08:54 (T42)	17:08	18	08:25 (T77)	17:06	27	08:44 (T77)
23	06:18	06:48		07:49 (T41)	07:19		07:39 (T41)	07:52		08:25 (T42)	07:28		08:06 (T77)	07:54		08:18 (T77)
	20:59	20:21	43	08:32 (T41)	19:28	48	08:27 (T41)	18:40	29	08:54 (T42)	17:07	20	08:26 (T77)	17:07	27	08:45 (T77)
24	06:19	06:49		07:48 (T41)	07:20		07:40 (T41)	07:53		08:24 (T42)	07:29		08:05 (T77)	07:55		08:18 (T77)
	20:58	20:20	46	08:34 (T41)	19:27	45	08:25 (T41)	18:39	31	08:55 (T42)	17:07	22	08:27 (T77)	17:07	27	08:45 (T77)
25	06:20	06:50		07:46 (T41)	07:21		07:41 (T41)	07:54		08:23 (T42)	07:31		08:05 (T77)	07:55		08:18 (T77)
	20:57	20:18	49	08:35 (T41)	19:25	42	08:23 (T41)	18:37	34	08:57 (T42)	17:06	24	08:29 (T77)	17:08	27	08:45 (T77)
26	06:21	06:51		07:45 (T41)	07:22		07:42 (T41)	07:55		08:22 (T42)	07:32		08:05 (T77)	07:56		08:19 (T77)
	20:56	20:17	51	08:36 (T41)	19:23	39	08:21 (T41)	18:36	35	08:57 (T42)	17:06	25	08:30 (T77)	17:08	27	08:46 (T77)
27	06:22	06:52		07:44 (T41)	07:23		07:43 (T41)	07:56		08:22 (T42)	07:33		08:04 (T77)	07:56		08:19 (T77)
	20:55	20:15	53	08:37 (T41)	19:22	36	08:19 (T41)	18:35	35	08:57 (T42)	17:05	27	08:31 (T77)	17:09	27	08:46 (T77)
28	06:23	06:53		07:42 (T41)	07:24		07:44 (T41)	07:57		08:21 (T42)	07:34		08:04 (T77)	07:56		08:19 (T77)
	20:54	20:14	55	08:37 (T41)	19:20	32	08:16 (T41)	18:33	37	08:58 (T42)	17:05	27	08:31 (T77)	17:10	28	08:47 (T77)
29	06:23	06:54		07:41 (T41)	07:25		07:47 (T41)	07:59		08:21 (T42)	07:35		08:04 (T77)	07:57		08:19 (T77)
	20:53	20:12	57	08:38 (T41)	19:18	25	08:12 (T41)	18:32	38	08:59 (T42)	17:04	28	08:32 (T77)	17:10	28	08:47 (T77)
30	06:24	06:55		07:40 (T41)	07:27		07:51 (T41)	08:00		08:21 (T42)	07:36		08:04 (T77)	07:57		08:20 (T77)
	20:52	20:10	59	08:39 (T41)	19:16	16	08:07 (T41)	18:31	38	08:59 (T42)	17:04	29	08:33 (T77)	17:11	28	08:48 (T77)
31	06:25	06:56		07:39 (T41)				08:01		08:22 (T42)				07:57		08:20 (T77)
	20:51	20:09	60	08:39 (T41)				18:29	36	08:58 (T42)				17:12	28	08:48 (T77)
Potential sun hours	460	429			375			345			297			287		
Total, worst case			639			1658			397			592			878	
Sun reduction			0.61			0.59			0.48			0.30			0.22	
Oper. time red.			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.			0.62			0.62			0.55			0.54			0.52	
Total reduction			0.37			0.36			0.26			0.16			0.11	
Total, real			237			594			102			93			99	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 87 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7760)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February			March			April			May	June
1	07:57	07:43			07:07		07:36 (T49)	07:16		08:03 (T49)	06:30	06:02
	17:13	17:48			18:22	43	08:19 (T49)	19:56	88	09:31 (T49)	20:27	20:57
2	07:57	07:42			07:06		07:33 (T49)	07:15		08:02 (T49)	06:29	06:01
	17:14	17:49			18:23	48	08:21 (T49)	19:57	88	09:30 (T49)	20:28	20:58
3	07:57	07:41			07:04		07:30 (T49)	07:13		08:03 (T49)	06:28	06:01
	17:15	17:50			18:24	53	08:23 (T49)	19:58	86	09:29 (T49)	20:29	20:58
4	07:57	07:40			07:03		07:28 (T49)	07:11		08:03 (T49)	06:27	06:00
	17:16	17:51			18:25	57	08:25 (T49)	19:59	85	09:28 (T49)	20:30	20:59
5	07:57	07:39			07:01		07:26 (T49)	07:10		08:04 (T49)	06:25	06:00
	17:17	17:53			18:26	61	08:27 (T49)	20:00	84	09:28 (T49)	20:31	21:00
6	07:57	07:38			06:59		07:24 (T49)	07:08		08:03 (T49)	06:24	06:00
	17:18	17:54			18:28	65	08:29 (T49)	20:00	83	09:26 (T49)	20:32	21:00
7	07:57	07:37			06:58		07:22 (T49)	07:06		08:03 (T49)	06:23	05:59
	17:19	17:55			18:29	67	08:29 (T49)	20:01	82	09:25 (T49)	20:33	21:01
8	07:57	07:36			07:56		08:20 (T49)	07:05		08:04 (T49)	06:22	05:59
	17:20	17:56			19:30	70	09:30 (T49)	20:02	80	09:24 (T49)	20:34	21:02
9	07:57	07:35			07:55		08:19 (T49)	07:03		08:04 (T49)	06:21	05:59
	17:21	17:58			19:31	73	09:32 (T49)	20:03	79	09:23 (T49)	20:35	21:02
10	07:57	07:34			07:53		08:17 (T49)	07:01		08:04 (T49)	06:19	05:59
	17:22	17:59			19:32	75	09:32 (T49)	20:05	77	09:21 (T49)	20:36	21:03
11	07:57	07:32			07:51		08:16 (T49)	07:00		08:05 (T49)	06:18	05:59
	17:23	18:00			19:33	77	09:33 (T49)	20:06	75	09:20 (T49)	20:37	21:03
12	07:56	07:31			07:50		08:15 (T49)	06:58		08:06 (T49)	06:17	05:59
	17:24	18:01			19:34	79	09:34 (T49)	20:07	73	09:19 (T49)	20:38	21:04
13	07:56	07:30			07:48		08:14 (T49)	06:57		08:07 (T49)	06:16	05:58
	17:25	18:03			19:35	80	09:34 (T49)	20:08	71	09:18 (T49)	20:39	21:04
14	07:56	07:29			07:46		08:12 (T49)	06:55		08:07 (T49)	06:15	05:58
	17:26	18:04			19:37	83	09:35 (T49)	20:09	69	09:16 (T49)	20:40	21:05
15	07:55	07:27			07:45		08:12 (T49)	06:54		08:08 (T49)	06:14	05:58
	17:27	18:05			19:38	84	09:36 (T49)	20:10	67	09:15 (T49)	20:41	21:05
16	07:55	07:26			07:43		08:11 (T49)	06:52		08:09 (T49)	06:13	05:58
	17:28	18:06			19:39	85	09:36 (T49)	20:11	64	09:13 (T49)	20:42	21:06
17	07:54	07:25			07:41		08:09 (T49)	06:50		08:10 (T49)	06:12	05:58
	17:29	18:08			19:40	87	09:36 (T49)	20:12	62	09:12 (T49)	20:43	21:06
18	07:54	07:23			07:40		08:09 (T49)	06:49		08:11 (T49)	06:11	05:58
	17:31	18:09			19:41	87	09:36 (T49)	20:13	58	09:09 (T49)	20:44	21:07
19	07:53	07:22			07:38		08:08 (T49)	06:47		08:13 (T49)	06:10	05:59
	17:32	18:10			19:42	88	09:36 (T49)	20:14	55	09:08 (T49)	20:45	21:07
20	07:53	07:20			07:36		08:07 (T49)	06:46		08:14 (T49)	06:10	05:59
	17:33	18:11			19:43	89	09:36 (T49)	20:15	51	09:05 (T49)	20:46	21:07
21	07:52	07:19			07:35		08:07 (T49)	06:44		08:15 (T49)	06:09	05:59
	17:34	18:12			19:44	89	09:36 (T49)	20:16	49	09:04 (T49)	20:47	21:07
22	07:52	07:18			07:33		08:06 (T49)	06:43		08:17 (T49)	06:08	05:59
	17:35	18:14			19:45	90	09:36 (T49)	20:17	44	09:01 (T49)	20:48	21:08
23	07:51	07:16			07:31		08:05 (T49)	06:41		08:19 (T49)	06:07	05:59
	17:36	18:15			19:46	90	09:35 (T49)	20:18	39	08:58 (T49)	20:49	21:08
24	07:50	07:15			07:30		08:06 (T49)	06:40		08:21 (T49)	06:06	06:00
	17:38	18:16			19:47	90	09:36 (T49)	20:19	34	08:55 (T49)	20:50	21:08
25	07:49	07:13			07:28		08:05 (T49)	06:39		08:24 (T49)	06:06	06:00
	17:39	18:17			19:48	90	09:35 (T49)	20:21	28	08:52 (T49)	20:51	21:08
26	07:49	07:12		07:49 (T49)	07:26		08:04 (T49)	06:37		08:28 (T49)	06:05	06:00
	17:40	18:18	17	08:06 (T49)	19:50	90	09:34 (T49)	20:22	20	08:48 (T49)	20:52	21:08
27	07:48	07:10		07:43 (T49)	07:25		08:04 (T49)	06:36			06:04	06:01
	17:41	18:19	29	08:12 (T49)	19:51	91	09:35 (T49)	20:23			20:53	21:08
28	07:47	07:09		07:39 (T49)	07:23		08:04 (T49)	06:34			06:04	06:01
	17:43	18:21	36	08:15 (T49)	19:52	90	09:34 (T49)	20:24			20:54	21:08
29	07:46				07:21		08:03 (T49)	06:33			06:03	06:01
	17:44				19:53	90	09:33 (T49)	20:25			20:54	21:08
30	07:45				07:20		08:04 (T49)	06:32			06:03	06:02
	17:45				19:54	89	09:33 (T49)	20:26			20:55	21:08
31	07:44				07:18		08:03 (T49)				06:02	
	17:46				19:55	89	09:32 (T49)				20:56	
Potential sun hours	297	297			370			399			448	452
Total, worst case			82			2439			1691			
Sun reduction			0.40			0.44			0.52			
Oper. time red.			1.00			1.00			1.00			
Wind dir. red.			0.58			0.58			0.58			
Total reduction			0.23			0.25			0.30			
Total, real			19			617			506			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 87 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7760)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November	December
1	06:02	06:26			06:57		08:04 (T49)	07:28		07:53 (T49)	07:02	07:37
	21:08	20:50			20:07	75	09:19 (T49)	19:15	80	09:13 (T49)	17:28	17:04
2	06:03	06:27			06:58		08:03 (T49)	07:29		07:54 (T49)	07:03	07:38
	21:08	20:49			20:06	77	09:20 (T49)	19:13	78	09:12 (T49)	17:27	17:04
3	06:03	06:28			06:59		08:02 (T49)	07:30		07:55 (T49)	07:04	07:39
	21:08	20:48			20:04	79	09:21 (T49)	19:11	76	09:11 (T49)	17:26	17:03
4	06:04	06:29			07:00		08:01 (T49)	07:31		07:56 (T49)	07:06	07:40
	21:08	20:47			20:02	80	09:21 (T49)	19:10	74	09:10 (T49)	17:24	17:03
5	06:04	06:30			07:01		08:00 (T49)	07:32		07:57 (T49)	07:07	07:41
	21:08	20:46			20:01	82	09:22 (T49)	19:08	72	09:09 (T49)	17:23	17:03
6	06:05	06:31			07:02		08:00 (T49)	07:33		07:58 (T49)	07:08	07:42
	21:08	20:44			19:57	82	09:22 (T49)	19:06	69	09:07 (T49)	17:22	17:03
7	06:06	06:32			07:03		07:59 (T49)	07:34		07:59 (T49)	07:09	07:43
	21:07	20:43			19:56	84	09:23 (T49)	19:05	66	09:05 (T49)	17:21	17:03
8	06:06	06:33			07:04		07:58 (T49)	07:35		08:00 (T49)	07:10	07:44
	21:07	20:42			19:54	85	09:23 (T49)	19:03	63	09:03 (T49)	17:20	17:03
9	06:07	06:34			07:05		07:57 (T49)	07:36		08:02 (T49)	07:12	07:45
	21:07	20:41			19:52	87	09:24 (T49)	19:02	59	09:01 (T49)	17:19	17:03
10	06:08	06:35			07:06		07:57 (T49)	07:37		08:03 (T49)	07:13	07:46
	21:06	20:39			19:51	87	09:24 (T49)	19:00	56	08:59 (T49)	17:18	17:03
11	06:08	06:36			07:07		07:56 (T49)	07:38		08:05 (T49)	07:14	07:46
	21:06	20:38			19:49	88	09:24 (T49)	18:58	51	08:56 (T49)	17:17	17:03
12	06:09	06:37			07:08		07:54 (T49)	07:39		08:07 (T49)	07:15	07:47
	21:05	20:37			19:47	89	09:23 (T49)	18:57	46	08:53 (T49)	17:16	17:03
13	06:10	06:38			07:09		07:54 (T49)	07:40		08:09 (T49)	07:16	07:48
	21:05	20:36			19:45	89	09:23 (T49)	18:55	41	08:50 (T49)	17:15	17:03
14	06:11	06:39			07:10		07:53 (T49)	07:41		08:12 (T49)	07:18	07:49
	21:04	20:34			19:44	90	09:23 (T49)	18:54	34	08:46 (T49)	17:14	17:03
15	06:11	06:40			07:11		07:53 (T49)	07:42		08:18 (T49)	07:19	07:49
	21:04	20:33			19:42	90	09:23 (T49)	18:52	25	08:43 (T49)	17:13	17:04
16	06:12	06:41		08:41 (T49)	07:12		07:53 (T49)	07:44		08:25 (T49)	07:20	07:50
	21:03	20:31	8	08:49 (T49)	19:40	90	09:23 (T49)	18:51	9	08:34 (T49)	17:12	17:04
17	06:13	06:42		08:34 (T49)	07:13		07:52 (T49)	07:45			07:21	07:51
	21:03	20:30	22	08:56 (T49)	19:39	91	09:23 (T49)	18:49			17:12	17:04
18	06:14	06:43		08:30 (T49)	07:14		07:52 (T49)	07:46			07:22	07:52
	21:02	20:29	29	08:59 (T49)	19:37	90	09:22 (T49)	18:47			17:11	17:04
19	06:15	06:44		08:27 (T49)	07:15		07:52 (T49)	07:47			07:23	07:52
	21:01	20:27	35	09:02 (T49)	19:35	90	09:22 (T49)	18:46			17:10	17:05
20	06:15	06:45		08:23 (T49)	07:16		07:52 (T49)	07:48			07:25	07:53
	21:01	20:26	41	09:04 (T49)	19:34	90	09:22 (T49)	18:45			17:09	17:05
21	06:16	06:46		08:21 (T49)	07:17		07:52 (T49)	07:49			07:26	07:53
	21:00	20:24	45	09:06 (T49)	19:32	89	09:21 (T49)	18:43			17:09	17:06
22	06:17	06:47		08:19 (T49)	07:18		07:51 (T49)	07:50			07:27	07:54
	20:59	20:23	49	09:08 (T49)	19:30	90	09:21 (T49)	18:42			17:08	17:06
23	06:18	06:48		08:17 (T49)	07:19		07:51 (T49)	07:51			07:28	07:54
	20:58	20:21	52	09:09 (T49)	19:28	89	09:20 (T49)	18:40			17:07	17:07
24	06:19	06:49		08:15 (T49)	07:20		07:51 (T49)	07:53			07:29	07:55
	20:58	20:20	56	09:11 (T49)	19:27	89	09:20 (T49)	18:39			17:07	17:07
25	06:20	06:50		08:14 (T49)	07:21		07:52 (T49)	07:54			07:30	07:55
	20:57	20:18	58	09:12 (T49)	19:25	87	09:19 (T49)	18:37			17:06	17:08
26	06:21	06:51		08:12 (T49)	07:22		07:52 (T49)	07:55			07:31	07:56
	20:56	20:17	62	09:14 (T49)	19:23	86	09:18 (T49)	18:36			17:06	17:09
27	06:22	06:52		08:11 (T49)	07:23		07:52 (T49)	07:56			07:33	07:56
	20:55	20:15	64	09:15 (T49)	19:22	85	09:17 (T49)	18:35			17:05	17:09
28	06:23	06:53		08:09 (T49)	07:24		07:52 (T49)	07:57			07:34	07:56
	20:54	20:14	67	09:16 (T49)	19:20	84	09:16 (T49)	18:33			17:05	17:10
29	06:24	06:54		08:08 (T49)	07:25		07:53 (T49)	07:58			07:35	07:56
	20:53	20:12	69	09:17 (T49)	19:18	82	09:15 (T49)	18:32			17:05	17:11
30	06:25	06:55		08:07 (T49)	07:27		07:53 (T49)	08:00			07:36	07:57
	20:52	20:10	71	09:18 (T49)	19:17	81	09:14 (T49)	18:31			17:04	17:11
31	06:26	06:56		08:05 (T49)				08:01				07:57
	20:51	20:09	74	09:19 (T49)				18:29				17:12
Potential sun hours	459	428			375			345			297	287
Total, worst case			802			2577			899			
Sun reduction			0.61			0.59			0.48			
Oper. time red.			1.00			1.00			1.00			
Wind dir. red.			0.58			0.58			0.58			
Total reduction			0.35			0.34			0.28			
Total, real			281			875			248			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 91 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7764)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May		June
1	07:57			07:43		16:38 (T30)	07:07		07:35 (T31)	07:16		07:35 (T28)	06:30		06:01
	17:13			17:47	43	17:21 (T30)	18:22	28	08:03 (T31)	19:56	73	19:34 (T27)	20:27		20:57
2	07:57			07:43		16:37 (T30)	07:06		07:36 (T31)	07:14		07:33 (T28)	06:29		06:01
	17:14			17:49	45	17:22 (T30)	18:23	25	08:01 (T31)	19:57	77	19:35 (T27)	20:28		20:58
3	07:58			07:41		16:37 (T30)	07:04		07:37 (T31)	07:13		07:32 (T28)	06:28		06:00
	17:15			17:50	45	17:22 (T30)	18:24	22	07:59 (T31)	19:58	81	19:37 (T27)	20:29		20:58
4	07:58			07:40		16:37 (T30)	07:02		07:40 (T31)	07:11		07:30 (T28)	06:26		06:00
	17:15			17:51	46	17:23 (T30)	18:25	18	07:58 (T31)	19:59	83	19:37 (T27)	20:30		20:59
5	07:58			07:39		16:37 (T30)	07:01		07:42 (T31)	07:09		07:30 (T28)	06:25		06:00
	17:16			17:52	47	17:24 (T30)	18:26	12	07:54 (T31)	20:00	84	19:38 (T27)	20:31		21:00
6	07:58			07:38		16:35 (T30)	06:59			07:08		07:30 (T28)	06:24		05:59
	17:17			17:54	48	17:23 (T30)	18:27			20:00	85	19:40 (T27)	20:32		21:01
7	07:57			07:37		16:36 (T30)	06:58			07:06		07:30 (T28)	06:23		05:59
	17:18			17:55	48	17:24 (T30)	18:29			20:01	85	19:40 (T27)	20:33		21:01
8	07:57			07:36		16:36 (T30)	07:56			07:05		07:30 (T28)	06:21		05:59
	17:19			17:56	48	17:24 (T30)	19:30			20:02	84	19:40 (T27)	20:34		21:02
9	07:57			07:35		16:36 (T30)	07:54			07:03		07:30 (T28)	06:20		05:59
	17:20			17:57	49	17:25 (T30)	19:31			20:03	82	19:39 (T27)	20:35		21:02
10	07:57			07:34		16:36 (T30)	07:53			07:01		07:30 (T28)	06:19		05:58
	17:21			17:59	49	17:25 (T30)	19:32			20:05	81	19:38 (T27)	20:37		21:03
11	07:57			07:32		07:52 (T31)	07:51			07:00		07:31 (T28)	06:18		05:58
	17:22			18:00	54	17:24 (T30)	19:33			20:06	78	19:37 (T27)	20:38		21:04
12	07:56			07:31		07:51 (T31)	07:50			06:58		07:31 (T28)	06:17		05:58
	17:23			18:01	58	17:25 (T30)	19:34			20:07	74	19:36 (T27)	20:39		21:04
13	07:56			07:30		07:50 (T31)	07:48			06:56		07:32 (T28)	06:16		05:58
	17:25			18:02	61	17:25 (T30)	19:35			20:08	71	19:35 (T27)	20:40		21:05
14	07:56			07:29		07:49 (T31)	07:46			06:55		07:32 (T28)	06:15		05:58
	17:26			18:04	63	17:25 (T30)	19:36			20:09	67	19:33 (T27)	20:41		21:05
15	07:55			07:27		07:47 (T31)	07:45			06:53		07:33 (T28)	06:14		05:58
	17:27			18:05	64	17:24 (T30)	19:38			20:10	61	19:31 (T27)	20:42		21:06
16	07:55			07:26		07:46 (T31)	07:43			06:52		07:34 (T28)	06:13		05:58
	17:28			18:06	65	17:24 (T30)	19:39			20:11	56	19:30 (T27)	20:43		21:06
17	07:55			07:25		07:44 (T31)	07:41			06:50		07:35 (T28)	06:12		05:58
	17:29			18:07	67	17:23 (T30)	19:40			20:12	46	19:26 (T27)	20:44		21:06
18	07:54			07:23		07:43 (T31)	07:40			06:49		07:37 (T28)	06:11		05:58
	17:30			18:09	67	17:22 (T30)	19:41			20:13	36	19:23 (T27)	20:45		21:07
19	07:53			07:22		07:42 (T31)	07:38			06:47		07:39 (T28)	06:10		05:58
	17:31			18:10	67	17:22 (T30)	19:42			20:14	22	08:01 (T28)	20:46		21:07
20	07:53			07:21		07:40 (T31)	07:36		07:55 (T28)	06:46		07:42 (T28)	06:09		05:58
	17:33			18:11	67	17:20 (T30)	19:43	9	08:04 (T28)	20:15	16	07:58 (T28)	20:46		21:07
21	07:52		16:50 (T30)	07:19		07:39 (T31)	07:35		07:54 (T28)	06:44			06:08		05:59
	17:34	13	17:03 (T30)	18:12	67	17:20 (T30)	19:44	15	08:09 (T28)	20:16			20:47		21:08
22	07:52		16:48 (T30)	07:18		07:37 (T31)	07:33		07:52 (T28)	06:43			06:08		05:59
	17:35	19	17:07 (T30)	18:13	66	17:18 (T30)	19:45	20	08:12 (T28)	20:17			20:48		21:08
23	07:51		16:46 (T30)	07:16		07:36 (T31)	07:31		07:50 (T28)	06:41			06:07		05:59
	17:36	23	17:09 (T30)	18:15	64	17:17 (T30)	19:46	23	08:13 (T28)	20:18			20:49		21:08
24	07:50		16:44 (T30)	07:15		07:34 (T31)	07:30		07:49 (T28)	06:40			06:06		05:59
	17:37	26	17:10 (T30)	18:16	61	17:14 (T30)	19:47	27	08:16 (T28)	20:20			20:50		21:08
25	07:50		16:43 (T30)	07:13		07:33 (T31)	07:28		07:47 (T28)	06:38			06:05		06:00
	17:39	29	17:12 (T30)	18:17	59	17:13 (T30)	19:48	38	19:27 (T27)	20:21			20:51		21:08
26	07:49		16:42 (T30)	07:12		07:33 (T31)	07:26		07:45 (T28)	06:37			06:05		06:00
	17:40	32	17:14 (T30)	18:18	51	17:09 (T30)	19:50	45	19:28 (T27)	20:22			20:52		21:09
27	07:48		16:41 (T30)	07:10		07:34 (T31)	07:24		07:43 (T28)	06:36			06:04		06:00
	17:41	35	17:16 (T30)	18:19	40	17:05 (T30)	19:51	52	19:29 (T27)	20:23			20:53		21:09
28	07:47		16:40 (T30)	07:09		07:34 (T31)	07:23		07:42 (T28)	06:34			06:03		06:01
	17:42	37	17:17 (T30)	18:20	30	08:04 (T31)	19:52	56	19:30 (T27)	20:24			20:54		21:09
29	07:46		16:40 (T30)				07:21		07:40 (T28)	06:33			06:03		06:01
	17:44	38	17:18 (T30)				19:53	61	19:31 (T27)	20:25			20:55		21:09
30	07:45		16:39 (T30)				07:19		07:38 (T28)	06:31			06:02		06:01
	17:45	40	17:19 (T30)				19:54	66	19:32 (T27)	20:26			20:55		21:09
31	07:44		16:38 (T30)				07:18		07:37 (T28)				06:02		
	17:46	42	17:20 (T30)				19:55	71	19:34 (T27)				20:56		
Potential sun hours	297			297			370			399			449		453
Total, worst case		334			1539			588			1342				
Sun reduction		0.31			0.40			0.44			0.52				
Oper. time red.		1.00			1.00			1.00			1.00				
Wind dir. red.		0.72			0.68			0.62			0.63				
Total reduction		0.23			0.27			0.27			0.33				
Total, real		76			422			161			441				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 91 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7764)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November			December
1	06:02	06:26			06:57		07:30 (T28)	07:27			07:02		16:05 (T30)	07:37
	21:09	20:50			20:07	78	19:36 (T27)	19:15			17:28	49	16:54 (T30)	17:04
2	06:02	06:27			06:58		07:29 (T28)	07:29			07:03		16:06 (T30)	07:38
	21:08	20:49			20:06	81	19:37 (T27)	19:13			17:27	49	16:55 (T30)	17:03
3	06:03	06:28			06:59		07:28 (T28)	07:30			07:04		16:05 (T30)	07:39
	21:08	20:48			20:04	82	19:37 (T27)	19:11			17:25	49	16:54 (T30)	17:03
4	06:04	06:29			07:00		07:27 (T28)	07:31			07:06		16:05 (T30)	07:40
	21:08	20:47			20:02	84	19:37 (T27)	19:10			17:24	49	16:54 (T30)	17:03
5	06:04	06:30			07:01		07:27 (T28)	07:32			07:07		16:05 (T30)	07:41
	21:08	20:46			20:01	85	19:37 (T27)	19:08			17:23	48	16:53 (T30)	17:03
6	06:05	06:31			07:02		07:26 (T28)	07:33			07:08		16:06 (T30)	07:42
	21:08	20:45			19:57	85	19:36 (T27)	19:06			17:22	48	16:54 (T30)	17:03
7	06:05	06:32			07:03		07:26 (T28)	07:34			07:09		16:07 (T30)	07:43
	21:07	20:43			19:56	84	19:34 (T27)	19:05			17:21	46	16:53 (T30)	17:02
8	06:06	06:33			07:04		07:25 (T28)	07:35		08:21 (T31)	07:10		16:07 (T30)	07:44
	21:07	20:42			19:54	84	19:33 (T27)	19:03	5	08:26 (T31)	17:20	45	16:52 (T30)	17:02
9	06:07	06:34			07:05		07:25 (T28)	07:36		08:16 (T31)	07:12		16:08 (T30)	07:45
	21:07	20:41			19:52	81	19:30 (T27)	19:01	15	08:31 (T31)	17:19	44	16:52 (T30)	17:02
10	06:07	06:35			07:06		07:26 (T28)	07:37		08:13 (T31)	07:13		16:09 (T30)	07:46
	21:06	20:40			19:51	77	19:28 (T27)	19:00	20	08:33 (T31)	17:18	43	16:52 (T30)	17:02
11	06:08	06:36			07:07		07:27 (T28)	07:38		08:11 (T31)	07:14		16:09 (T30)	07:47
	21:06	20:38			19:49	75	19:27 (T27)	18:58	23	08:34 (T31)	17:17	42	16:51 (T30)	17:02
12	06:09	06:37			07:08		07:28 (T28)	07:39		08:09 (T31)	07:15		16:10 (T30)	07:47
	21:06	20:37			19:47	70	19:25 (T27)	18:57	26	08:35 (T31)	17:16	40	16:50 (T30)	17:03
13	06:09	06:38			07:09		07:29 (T28)	07:40		08:07 (T31)	07:16		16:12 (T30)	07:48
	21:05	20:36			19:45	66	19:23 (T27)	18:55	29	08:36 (T31)	17:15	38	16:50 (T30)	17:03
14	06:10	06:39			07:10		07:30 (T28)	07:41		08:07 (T31)	07:18		16:12 (T30)	07:49
	21:05	20:34			19:44	62	19:22 (T27)	18:53	31	08:38 (T31)	17:14	37	16:49 (T30)	17:03
15	06:11	06:40			07:11		07:31 (T28)	07:42		08:06 (T31)	07:19		16:13 (T30)	07:50
	21:04	20:33			19:42	57	19:20 (T27)	18:52	46	17:40 (T30)	17:13	35	16:48 (T30)	17:03
16	06:12	06:41			07:12		07:32 (T28)	07:44		08:05 (T31)	07:20		16:15 (T30)	07:50
	21:04	20:32			19:40	52	19:18 (T27)	18:50	54	17:43 (T30)	17:12	32	16:47 (T30)	17:03
17	06:13	06:42			07:13		07:33 (T28)	07:45		08:05 (T31)	07:21		16:17 (T30)	07:51
	21:03	20:30			19:39	48	19:17 (T27)	18:49	59	17:45 (T30)	17:11	29	16:46 (T30)	17:04
18	06:13	06:43			07:14		07:34 (T28)	07:46		08:06 (T31)	07:22		16:18 (T30)	07:52
	21:02	20:29			19:37	40	19:15 (T27)	18:47	63	17:47 (T30)	17:11	26	16:44 (T30)	17:04
19	06:14	06:44			07:15		07:35 (T28)	07:47		08:07 (T31)	07:24		16:20 (T30)	07:52
	21:02	20:27			19:35	30	19:13 (T27)	18:46	65	17:48 (T30)	17:10	23	16:43 (T30)	17:04
20	06:15	06:45			07:16		07:36 (T28)	07:48		08:09 (T31)	07:25		16:23 (T30)	07:53
	21:01	20:26			19:33	24	08:00 (T28)	18:44	67	17:50 (T30)	17:09	19	16:42 (T30)	17:05
21	06:16	06:46			07:17		07:37 (T28)	07:49		08:10 (T31)	07:26		16:25 (T30)	07:53
	21:00	20:24			19:32	21	07:58 (T28)	18:43	67	17:51 (T30)	17:08	14	16:39 (T30)	17:05
22	06:17	06:47		07:51 (T28)	07:18		07:38 (T28)	07:50		08:11 (T31)	07:27		16:31 (T30)	07:54
	20:59	20:23	5	07:56 (T28)	19:30	17	07:55 (T28)	18:41	68	17:51 (T30)	17:08	2	16:33 (T30)	17:06
23	06:18	06:48		07:45 (T28)	07:19		07:39 (T28)	07:51		08:12 (T31)	07:28			07:54
	20:59	20:21	17	08:02 (T28)	19:28	11	07:50 (T28)	18:40	68	17:52 (T30)	17:07			17:06
24	06:19	06:49		07:42 (T28)	07:20			07:53		08:13 (T31)	07:29			07:55
	20:58	20:20	23	08:05 (T28)	19:27			18:39	67	17:52 (T30)	17:07			17:07
25	06:20	06:50		07:40 (T28)	07:21			07:54		08:15 (T31)	07:31			07:55
	20:57	20:18	37	19:26 (T27)	19:25			18:37	66	17:53 (T30)	17:06			17:07
26	06:20	06:51		07:38 (T28)	07:22			07:55		08:16 (T31)	07:32			07:56
	20:56	20:17	47	19:30 (T27)	19:23			18:36	66	17:54 (T30)	17:05			17:08
27	06:21	06:52		07:36 (T28)	07:23			07:56		08:17 (T31)	07:33			07:56
	20:55	20:15	56	19:32 (T27)	19:21			18:34	65	17:54 (T30)	17:05			17:09
28	06:22	06:53		07:34 (T28)	07:24			07:57		08:18 (T31)	07:34			07:56
	20:54	20:14	62	19:33 (T27)	19:20			18:33	62	17:54 (T30)	17:05			17:09
29	06:23	06:54		07:33 (T28)	07:25			07:58		08:20 (T31)	07:35			07:57
	20:53	20:12	67	19:34 (T27)	19:18			18:32	60	17:55 (T30)	17:04			17:10
30	06:24	06:55		07:32 (T28)	07:26			08:00		08:21 (T31)	07:36			07:57
	20:52	20:10	71	19:35 (T27)	19:16			18:30	56	17:54 (T30)	17:04			17:11
31	06:25	06:56		07:31 (T28)				08:01		08:22 (T31)				07:57
	20:51	20:09	75	19:36 (T27)				18:29	53	17:54 (T30)				17:12
Potential sun hours	460	429			375			345			297			287
Total, worst case			460			1394			1201			807		
Sun reduction			0.61			0.59			0.48			0.30		
Oper. time red.			1.00			1.00			1.00			1.00		
Wind dir. red.			0.63			0.63			0.65			0.72		
Total reduction			0.39			0.37			0.32			0.22		
Total, real			178			521			379			177		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 104 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7774)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:57		15:54 (T35)	07:43		08:04 (T36)	07:07	07:16			06:30		06:55 (T31)	06:01		19:32 (T30)
	17:13	52	16:46 (T35)	17:47	39	16:47 (T35)	18:22	19:56			20:27	32	07:27 (T31)	20:57	53	20:25 (T30)
2	07:57		15:55 (T35)	07:43		08:03 (T36)	07:06	07:14			06:29		06:56 (T31)	06:01		19:32 (T30)
	17:14	52	16:47 (T35)	17:49	39	16:46 (T35)	18:23	19:57			20:28	30	07:26 (T31)	20:58	54	20:26 (T30)
3	07:58		15:55 (T35)	07:41		08:02 (T36)	07:04	07:13			06:28		06:56 (T31)	06:00		19:32 (T30)
	17:15	52	16:47 (T35)	17:50	37	16:44 (T35)	18:24	19:58			20:29	29	07:25 (T31)	20:58	53	20:25 (T30)
4	07:58		15:56 (T35)	07:40		08:01 (T36)	07:02	07:11			06:26		06:57 (T31)	06:00		19:32 (T30)
	17:15	52	16:48 (T35)	17:51	34	16:42 (T35)	18:25	19:59			20:30	27	07:24 (T31)	20:59	54	20:26 (T30)
5	07:58		15:56 (T35)	07:39		08:00 (T36)	07:01	07:09			06:25		06:58 (T31)	06:00		19:33 (T30)
	17:16	52	16:48 (T35)	17:52	28	16:38 (T35)	18:26	20:00			20:31	25	07:23 (T31)	21:00	53	20:26 (T30)
6	07:57		15:57 (T35)	07:38		07:58 (T36)	06:59	07:08			06:24		07:00 (T31)	05:59		19:32 (T30)
	17:17	52	16:49 (T35)	17:54	18	08:16 (T36)	18:27	20:00			20:32	21	07:21 (T31)	21:01	54	20:26 (T30)
7	07:57		15:57 (T35)	07:37		07:57 (T36)	06:58	07:06			06:23		07:02 (T31)	05:59		19:33 (T30)
	17:18	52	16:49 (T35)	17:55	20	08:17 (T36)	18:29	20:01			20:33	32	20:05 (T30)	21:01	53	20:26 (T30)
8	07:57		15:57 (T35)	07:36		07:56 (T36)	07:56	07:05			06:21		07:03 (T31)	05:59		19:33 (T30)
	17:19	52	16:49 (T35)	17:56	21	08:17 (T36)	19:30	20:02			20:34	34	20:07 (T30)	21:02	54	20:27 (T30)
9	07:57		15:57 (T35)	07:35		07:55 (T36)	07:54	07:03			06:20		07:07 (T31)	05:59		19:34 (T30)
	17:20	53	16:50 (T35)	17:57	23	08:18 (T36)	19:31	20:03			20:35	31	20:10 (T30)	21:02	53	20:27 (T30)
10	07:57		15:58 (T35)	07:34		07:54 (T36)	07:53	07:01			06:19		19:42 (T30)	05:58		19:33 (T30)
	17:21	52	16:50 (T35)	17:59	24	08:18 (T36)	19:32	20:05			20:36	30	20:12 (T30)	21:03	53	20:26 (T30)
11	07:57		15:58 (T35)	07:32		07:52 (T36)	07:51	07:00			06:18		19:40 (T30)	05:58		19:33 (T30)
	17:22	52	16:50 (T35)	18:00	26	08:18 (T36)	19:33	20:06			20:38	33	20:13 (T30)	21:04	54	20:27 (T30)
12	07:56		15:58 (T35)	07:31		07:51 (T36)	07:50	06:58		07:17 (T31)	06:17		19:39 (T30)	05:58		19:34 (T30)
	17:23	53	16:51 (T35)	18:01	27	08:18 (T36)	19:34	20:07	2	07:19 (T31)	20:39	35	20:14 (T30)	21:04	53	20:27 (T30)
13	07:56		15:59 (T35)	07:30		07:50 (T36)	07:48	06:56		07:16 (T31)	06:16		19:38 (T30)	05:58		19:34 (T30)
	17:25	53	16:52 (T35)	18:02	28	08:18 (T36)	19:35	20:08	8	07:24 (T31)	20:40	37	20:15 (T30)	21:05	53	20:27 (T30)
14	07:56		15:59 (T35)	07:29		07:49 (T36)	07:46	06:55		07:14 (T31)	06:15		19:37 (T30)	05:58		19:34 (T30)
	17:26	52	16:51 (T35)	18:04	29	08:18 (T36)	19:36	20:09	11	07:25 (T31)	20:41	39	20:16 (T30)	21:05	53	20:27 (T30)
15	07:55		16:00 (T35)	07:27		07:48 (T36)	07:45	06:53		07:12 (T31)	06:14		19:36 (T30)	05:58		19:34 (T30)
	17:27	52	16:52 (T35)	18:05	29	08:17 (T36)	19:38	20:10	14	07:26 (T31)	20:42	41	20:17 (T30)	21:06	54	20:28 (T30)
16	07:55		16:00 (T35)	07:26		07:49 (T36)	07:43	06:52		07:11 (T31)	06:13		19:35 (T30)	05:58		19:34 (T30)
	17:28	52	16:52 (T35)	18:06	27	08:16 (T36)	19:39	20:11	17	07:28 (T31)	20:43	43	20:18 (T30)	21:06	54	20:28 (T30)
17	07:55		16:01 (T35)	07:25		07:49 (T36)	07:41	06:50		07:09 (T31)	06:12		19:35 (T30)	05:58		19:35 (T30)
	17:29	52	16:53 (T35)	18:07	26	08:15 (T36)	19:40	20:12	19	07:28 (T31)	20:44	45	20:20 (T30)	21:06	53	20:28 (T30)
18	07:54		16:01 (T35)	07:23		07:51 (T36)	07:40	06:49		07:08 (T31)	06:11		19:35 (T30)	05:58		19:35 (T30)
	17:30	51	16:52 (T35)	18:09	23	08:14 (T36)	19:41	20:13	21	07:29 (T31)	20:45	45	20:20 (T30)	21:07	54	20:41 (T27)
19	07:53		16:02 (T35)	07:22		07:52 (T36)	07:38	06:47		07:06 (T31)	06:10		19:34 (T30)	05:58		19:36 (T30)
	17:31	51	16:53 (T35)	18:10	21	08:13 (T36)	19:42	20:14	23	07:29 (T31)	20:46	47	20:21 (T30)	21:07	54	20:42 (T27)
20	07:53		16:03 (T35)	07:21		07:54 (T36)	07:36	06:46		07:05 (T31)	06:09		19:33 (T30)	05:58		19:36 (T30)
	17:33	50	16:53 (T35)	18:11	16	08:10 (T36)	19:43	20:15	25	07:30 (T31)	20:46	48	20:21 (T30)	21:07	54	20:42 (T27)
21	07:52		16:03 (T35)	07:19		07:57 (T36)	07:35	06:44		07:03 (T31)	06:08		19:33 (T30)	05:59		19:36 (T30)
	17:34	49	16:52 (T35)	18:12	10	08:07 (T36)	19:44	20:16	27	07:30 (T31)	20:47	48	20:21 (T30)	21:08	54	20:42 (T27)
22	07:52		16:04 (T35)	07:18			07:33	06:43		07:02 (T31)	06:08		19:33 (T30)	05:59		19:36 (T30)
	17:35	49	16:53 (T35)	18:13			19:45	20:17	28	07:30 (T31)	20:48	49	20:22 (T30)	21:08	54	20:42 (T27)
23	07:51		16:05 (T35)	07:16			07:31	06:41		07:01 (T31)	06:07		19:32 (T30)	05:59		19:36 (T30)
	17:36	48	16:53 (T35)	18:15			19:46	20:18	30	07:31 (T31)	20:49	50	20:22 (T30)	21:08	54	20:42 (T27)
24	07:50		16:05 (T35)	07:15			07:30	06:40		06:59 (T31)	06:06		19:32 (T30)	05:59		19:37 (T30)
	17:37	47	16:52 (T35)	18:16			19:47	20:20	31	07:30 (T31)	20:50	51	20:23 (T30)	21:08	54	20:43 (T27)
25	07:50		16:06 (T35)	07:13			07:28	06:38		06:58 (T31)	06:05		19:32 (T30)	06:00		19:37 (T30)
	17:39	46	16:52 (T35)	18:17			19:48	20:21	32	07:30 (T31)	20:51	52	20:24 (T30)	21:08	54	20:43 (T27)
26	07:49		16:08 (T35)	07:12			07:26	06:37		06:56 (T31)	06:05		19:32 (T30)	06:00		19:37 (T30)
	17:40	44	16:52 (T35)	18:18			19:50	20:22	33	07:29 (T31)	20:52	51	20:23 (T30)	21:09	53	20:30 (T30)
27	07:48		16:09 (T35)	07:10			07:24	06:36		06:55 (T31)	06:04		19:31 (T30)	06:00		19:37 (T30)
	17:41	43	16:52 (T35)	18:19			19:51	20:23	34	07:29 (T31)	20:53	52	20:23 (T30)	21:09	54	20:31 (T30)
28	07:47		16:10 (T35)	07:09			07:23	06:34		06:54 (T31)	06:03		19:32 (T30)	06:01		19:37 (T30)
	17:42	41	16:51 (T35)	18:20			19:52	20:24	35	07:29 (T31)	20:54	52	20:24 (T30)	21:09	54	20:31 (T30)
29	07:46		16:11 (T35)				07:21	06:33		06:54 (T31)	06:03		19:31 (T30)	06:01		19:38 (T30)
	17:44	39	16:50 (T35)				19:53	20:25	34	07:28 (T31)	20:55	53	20:24 (T30)	21:09	53	20:31 (T30)
30	07:45		08:06 (T36)				07:19	06:31		06:54 (T31)	06:02		19:32 (T30)	06:01		19:38 (T30)
	17:45	38	16:49 (T35)				19:54	20:26	34	07:28 (T31)	20:55	53	20:25 (T30)	21:09	53	20:31 (T30)
31	07:44		08:05 (T36)				07:18				06:02		19:31 (T30)			
	17:46	39	16:48 (T35)				19:55				20:56	54	20:25 (T30)			
Potential sun hours	297			297			370	399			449			453		
Total, worst case		1522			545				458			1269			1607	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.74			0.59				0.67			0.57			0.55	
Total reduction		0.24			0.25				0.36			0.34			0.37	
Total, real		362			134				166			431			593	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 104 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7774)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02		19:38 (T30)	06:26		19:50 (T30)	06:57	07:27			07:02		07:23 (T36)	07:37		15:41 (T35)
	21:09	54	20:32 (T30)	20:50	34	20:24 (T30)	20:07	19:15			17:28	24	07:47 (T36)	17:04	52	16:33 (T35)
2	06:02		19:38 (T30)	06:27		19:52 (T30)	06:58	07:29			07:03		07:25 (T36)	07:38		15:41 (T35)
	21:08	54	20:32 (T30)	20:49	31	20:23 (T30)	20:06	19:13			17:27	23	07:48 (T36)	17:03	53	16:34 (T35)
3	06:03		19:39 (T30)	06:28		19:53 (T30)	06:59	07:30			07:04		07:26 (T36)	07:39		15:41 (T35)
	21:08	53	20:32 (T30)	20:48	29	20:22 (T30)	20:04	19:11			17:25	21	07:47 (T36)	17:03	53	16:34 (T35)
4	06:04		19:38 (T30)	06:29		07:16 (T31)	07:00	07:31			07:06		07:27 (T36)	07:40		15:42 (T35)
	21:08	54	20:32 (T30)	20:47	34	20:20 (T30)	20:02	19:10			17:24	20	07:47 (T36)	17:03	52	16:34 (T35)
5	06:04		19:39 (T30)	06:30		07:13 (T31)	07:01	07:32			07:07		07:28 (T36)	07:41		15:42 (T35)
	21:08	54	20:33 (T30)	20:46	34	20:17 (T30)	20:01	19:08			17:23	18	07:46 (T36)	17:03	53	16:35 (T35)
6	06:05		19:39 (T30)	06:31		07:11 (T31)	07:02	07:33			07:08		07:30 (T36)	07:42		15:43 (T35)
	21:08	53	20:32 (T30)	20:45	31	20:13 (T30)	19:57	19:06			17:22	30	16:09 (T35)	17:03	52	16:35 (T35)
7	06:05		19:39 (T30)	06:32		07:09 (T31)	07:03	07:34			07:09		07:31 (T36)	07:43		15:43 (T35)
	21:07	54	20:33 (T30)	20:43	22	07:31 (T31)	19:56	19:05			17:21	35	16:12 (T35)	17:02	52	16:35 (T35)
8	06:06		19:39 (T30)	06:33		07:08 (T31)	07:04	07:35			07:10		07:32 (T36)	07:44		15:44 (T35)
	21:07	53	20:32 (T30)	20:42	25	07:33 (T31)	19:54	19:03			17:20	37	16:14 (T35)	17:02	52	16:36 (T35)
9	06:07		19:39 (T30)	06:34		07:06 (T31)	07:05	07:36			07:12		07:34 (T36)	07:45		15:43 (T35)
	21:07	54	20:33 (T30)	20:41	28	07:34 (T31)	19:52	19:01			17:19	39	16:17 (T35)	17:02	52	16:35 (T35)
10	06:07		19:40 (T30)	06:35		07:05 (T31)	07:06	07:37			07:13		07:35 (T36)	07:46		15:44 (T35)
	21:06	53	20:33 (T30)	20:40	30	07:35 (T31)	19:51	19:00			17:18	39	16:18 (T35)	17:02	52	16:36 (T35)
11	06:08		19:39 (T30)	06:36		07:04 (T31)	07:07	07:38			07:14		07:36 (T36)	07:47		15:44 (T35)
	21:06	53	20:32 (T30)	20:38	31	07:35 (T31)	19:49	18:58			17:17	39	16:19 (T35)	17:03	52	16:36 (T35)
12	06:09		19:40 (T30)	06:37		07:04 (T31)	07:08	07:39			07:15		07:37 (T36)	07:47		15:45 (T35)
	21:06	53	20:33 (T30)	20:37	32	07:36 (T31)	19:47	18:57			17:16	38	16:20 (T35)	17:03	52	16:37 (T35)
13	06:09		19:40 (T30)	06:38		07:03 (T31)	07:09	07:40			07:16		15:43 (T35)	07:48		15:46 (T35)
	21:05	53	20:33 (T30)	20:36	33	07:36 (T31)	19:45	18:55			17:15	39	16:22 (T35)	17:03	51	16:37 (T35)
14	06:10		19:41 (T30)	06:39		07:01 (T31)	07:10	07:41			07:18		15:42 (T35)	07:49		15:46 (T35)
	21:05	52	20:33 (T30)	20:34	35	07:36 (T31)	19:44	18:53			17:14	41	16:23 (T35)	17:03	51	16:37 (T35)
15	06:11		19:40 (T30)	06:40		07:01 (T31)	07:11	07:42			07:19		15:41 (T35)	07:50		15:46 (T35)
	21:04	53	20:33 (T30)	20:33	35	07:36 (T31)	19:42	18:52			17:13	43	16:24 (T35)	17:03	51	16:37 (T35)
16	06:12		19:41 (T30)	06:41		07:02 (T31)	07:12	07:44			07:20		15:41 (T35)	07:50		15:47 (T35)
	21:04	52	20:33 (T30)	20:32	34	07:36 (T31)	19:40	18:50			17:12	44	16:25 (T35)	17:03	51	16:38 (T35)
17	06:13		19:41 (T30)	06:42		07:03 (T31)	07:13	07:45			07:21		15:40 (T35)	07:51		15:48 (T35)
	21:03	52	20:33 (T30)	20:30	33	07:36 (T31)	19:39	18:49			17:11	46	16:26 (T35)	17:04	50	16:38 (T35)
18	06:13		19:42 (T30)	06:43		07:04 (T31)	07:14	07:46			07:22		15:39 (T35)	07:52		15:48 (T35)
	21:02	51	20:33 (T30)	20:29	32	07:36 (T31)	19:37	18:47			17:11	47	16:26 (T35)	17:04	50	16:38 (T35)
19	06:14		19:42 (T30)	06:44		07:05 (T31)	07:15	07:47			07:24		15:39 (T35)	07:52		15:49 (T35)
	21:02	51	20:33 (T30)	20:27	31	07:36 (T31)	19:35	18:46			17:10	48	16:27 (T35)	17:04	50	16:39 (T35)
20	06:15		19:42 (T30)	06:45		07:06 (T31)	07:16	07:48			07:25		15:39 (T35)	07:53		15:49 (T35)
	21:01	50	20:32 (T30)	20:26	30	07:36 (T31)	19:33	18:44			17:09	49	16:28 (T35)	17:05	50	16:39 (T35)
21	06:16		19:42 (T30)	06:46		07:07 (T31)	07:17	07:49		08:27 (T36)	07:26		15:39 (T35)	07:53		15:50 (T35)
	21:00	50	20:32 (T30)	20:24	28	07:35 (T31)	19:32	18:43	12	08:39 (T36)	17:08	49	16:28 (T35)	17:05	49	16:39 (T35)
22	06:17		19:43 (T30)	06:47		07:08 (T31)	07:18	07:50		08:24 (T36)	07:27		15:39 (T35)	07:54		15:50 (T35)
	20:59	49	20:32 (T30)	20:23	27	07:35 (T31)	19:30	18:41	17	08:41 (T36)	17:08	50	16:29 (T35)	17:06	49	16:39 (T35)
23	06:18		19:43 (T30)	06:48		07:09 (T31)	07:19	07:51		08:22 (T36)	07:28		15:38 (T35)	07:54		15:51 (T35)
	20:59	49	20:32 (T30)	20:21	25	07:34 (T31)	19:28	18:40	21	08:43 (T36)	17:07	51	16:29 (T35)	17:06	50	16:41 (T35)
24	06:19		19:44 (T30)	06:49		07:10 (T31)	07:20	07:53		08:20 (T36)	07:29		15:38 (T35)	07:55		15:51 (T35)
	20:58	47	20:31 (T30)	20:20	23	07:33 (T31)	19:27	18:39	24	08:44 (T36)	17:07	51	16:29 (T35)	17:07	50	16:41 (T35)
25	06:20		19:45 (T30)	06:50		07:11 (T31)	07:21	07:54		08:20 (T36)	07:31		15:39 (T35)	07:55		15:51 (T35)
	20:57	46	20:31 (T30)	20:18	21	07:32 (T31)	19:25	18:37	26	08:46 (T36)	17:06	52	16:31 (T35)	17:08	50	16:41 (T35)
26	06:20		19:45 (T30)	06:51		07:12 (T31)	07:22	07:55		08:18 (T36)	07:32		15:39 (T35)	07:56		15:52 (T35)
	20:56	45	20:30 (T30)	20:17	19	07:31 (T31)	19:23	18:36	28	08:46 (T36)	17:05	52	16:31 (T35)	17:08	50	16:42 (T35)
27	06:21		19:45 (T30)	06:52		07:13 (T31)	07:23	07:56		08:17 (T36)	07:33		15:39 (T35)	07:56		15:52 (T35)
	20:55	44	20:29 (T30)	20:15	17	07:30 (T31)	19:21	18:34	29	08:46 (T36)	17:05	52	16:31 (T35)	17:09	51	16:43 (T35)
28	06:22		19:46 (T30)	06:53		07:14 (T31)	07:24	07:57		08:18 (T36)	07:34		15:39 (T35)	07:56		15:52 (T35)
	20:54	42	20:28 (T30)	20:14	14	07:28 (T31)	19:20	18:33	29	08:47 (T36)	17:05	52	16:31 (T35)	17:09	51	16:43 (T35)
29	06:23		19:47 (T30)	06:54		07:15 (T31)	07:25	07:58		08:20 (T36)	07:35		15:39 (T35)	07:57		15:52 (T35)
	20:53	40	20:27 (T30)	20:12	11	07:26 (T31)	19:18	18:32	28	08:48 (T36)	17:04	53	16:32 (T35)	17:10	51	16:43 (T35)
30	06:24		19:48 (T30)	06:55		07:16 (T31)	07:26	08:00		08:21 (T36)	07:36		15:40 (T35)	07:57		15:54 (T35)
	20:52	39	20:27 (T30)	20:10	7	07:23 (T31)	19:16	18:30	27	08:48 (T36)	17:04	52	16:32 (T35)	17:11	51	16:45 (T35)
31	06:25		19:49 (T30)	06:56		07:17 (T31)		08:01		08:22 (T36)				07:57		15:54 (T35)
	20:51	37	20:26 (T30)	20:09	2	07:19 (T31)		18:29	25	08:47 (T36)				17:12	52	16:46 (T35)
Potential sun hours	460			429			375	345			297			287		
Total, worst case		1544			818				266			1234			1585	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.55			0.65				0.55			0.71			0.74	
Total reduction		0.38			0.41				0.28			0.22			0.17	
Total, real		588			337				73			275			268	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 137 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7798)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		16:26 (T77)	07:43		16:24 (T77)	07:07		07:36 (T76)	07:16		18:34 (T42)	06:30		19:38 (T41)	06:01
	17:13	21	16:47 (T77)	17:47	51	17:15 (T77)	18:22	26	08:02 (T76)	19:56	41	19:15 (T42)	20:27	27	20:05 (T41)	20:57
2	07:57		16:26 (T77)	07:42		16:25 (T77)	07:06		07:36 (T76)	07:14		18:35 (T42)	06:29		19:38 (T41)	06:01
	17:14	22	16:48 (T77)	17:49	50	17:15 (T77)	18:23	24	08:00 (T76)	19:57	39	19:14 (T42)	20:28	28	20:06 (T41)	20:58
3	07:57		16:26 (T77)	07:41		16:25 (T77)	07:04		07:37 (T76)	07:13		18:37 (T42)	06:28		19:37 (T41)	06:01
	17:15	23	16:49 (T77)	17:50	50	17:15 (T77)	18:24	21	07:58 (T76)	19:58	36	19:13 (T42)	20:29	29	20:06 (T41)	20:58
4	07:57		16:26 (T77)	07:40		16:26 (T77)	07:02		07:40 (T76)	07:11		18:37 (T42)	06:26		19:37 (T41)	06:00
	17:16	24	16:50 (T77)	17:51	49	17:15 (T77)	18:25	16	07:56 (T76)	19:59	34	19:11 (T42)	20:30	31	20:08 (T41)	20:59
5	07:57		16:26 (T77)	07:39		16:26 (T77)	07:01		07:43 (T76)	07:09		18:39 (T42)	06:25		19:38 (T41)	06:00
	17:17	25	16:51 (T77)	17:52	48	17:14 (T77)	18:26	8	07:51 (T76)	20:00	29	19:08 (T42)	20:31	31	20:09 (T41)	21:00
6	07:57		16:26 (T77)	07:38		16:26 (T77)	06:59			07:08		18:41 (T42)	06:24		19:38 (T41)	05:59
	17:17	26	16:52 (T77)	17:54	47	17:13 (T77)	18:27			20:00	25	19:06 (T42)	20:32	32	20:10 (T41)	21:00
7	07:57		16:24 (T77)	07:37		16:27 (T77)	06:58			07:06		18:43 (T42)	06:23		19:38 (T41)	05:59
	17:18	28	16:52 (T77)	17:55	46	17:13 (T77)	18:29			20:01	20	19:03 (T42)	20:33	33	20:11 (T41)	21:01
8	07:57		16:24 (T77)	07:36		16:28 (T77)	07:56		18:55 (T42)	07:05		18:48 (T42)	06:22		19:38 (T41)	05:59
	17:19	29	16:53 (T77)	17:56	45	17:13 (T77)	19:30	13	19:08 (T42)	20:02	11	18:59 (T42)	20:34	33	20:11 (T41)	21:02
9	07:57		16:24 (T77)	07:35		16:29 (T77)	07:54		18:51 (T42)	07:03			06:20		19:39 (T41)	05:59
	17:20	30	16:54 (T77)	17:57	43	17:12 (T77)	19:31	19	19:10 (T42)	20:03			20:35	31	20:10 (T41)	21:02
10	07:57		16:24 (T77)	07:34		16:30 (T77)	07:53		18:47 (T42)	07:01			06:19		19:38 (T41)	05:59
	17:21	32	16:56 (T77)	17:59	42	17:12 (T77)	19:32	23	19:10 (T42)	20:05			20:36	31	20:09 (T41)	21:03
11	07:57		16:24 (T77)	07:32		16:30 (T77)	07:51		18:45 (T42)	07:00			06:18		19:39 (T41)	05:58
	17:23	32	16:56 (T77)	18:00	40	17:10 (T77)	19:33	26	19:11 (T42)	20:06			20:37	29	20:08 (T41)	21:04
12	07:56		16:24 (T77)	07:31		07:51 (T76)	07:50		18:43 (T42)	06:58			06:17		19:40 (T41)	05:58
	17:24	34	16:58 (T77)	18:01	41	17:09 (T77)	19:34	30	19:13 (T42)	20:07			20:38	28	20:08 (T41)	21:04
13	07:56		16:24 (T77)	07:30		07:50 (T76)	07:48		18:41 (T42)	06:57			06:16		19:40 (T41)	05:58
	17:25	35	16:59 (T77)	18:02	42	17:08 (T77)	19:35	33	19:14 (T42)	20:08			20:39	27	20:07 (T41)	21:05
14	07:56		16:23 (T77)	07:29		07:48 (T76)	07:46		18:39 (T42)	06:55			06:15		19:41 (T41)	05:58
	17:26	37	17:00 (T77)	18:04	43	17:06 (T77)	19:36	36	19:15 (T42)	20:09			20:40	25	20:06 (T41)	21:05
15	07:55		16:23 (T77)	07:27		07:47 (T76)	07:45		18:39 (T42)	06:53			06:14		19:42 (T41)	05:58
	17:27	38	17:01 (T77)	18:05	42	17:04 (T77)	19:38	37	19:16 (T42)	20:10			20:42	23	20:05 (T41)	21:05
16	07:55		16:23 (T77)	07:26		07:46 (T76)	07:43		18:37 (T42)	06:52			06:13		19:44 (T41)	05:58
	17:28	39	17:02 (T77)	18:06	39	17:02 (T77)	19:39	40	19:17 (T42)	20:11			20:42	21	20:05 (T41)	21:06
17	07:54		16:23 (T77)	07:25		07:44 (T76)	07:41		18:36 (T42)	06:50			06:12		19:45 (T41)	05:58
	17:29	41	17:04 (T77)	18:07	34	16:58 (T77)	19:40	42	19:18 (T42)	20:12			20:43	19	20:04 (T41)	21:06
18	07:54		16:23 (T77)	07:23		07:43 (T76)	07:40		18:36 (T42)	06:49			06:11		19:47 (T41)	05:58
	17:30	42	17:05 (T77)	18:09	21	08:04 (T76)	19:41	44	19:20 (T42)	20:13			20:44	15	20:02 (T41)	21:07
19	07:53		16:23 (T77)	07:22		07:42 (T76)	07:38		18:35 (T42)	06:47			06:10		19:49 (T41)	05:58
	17:32	44	17:07 (T77)	18:10	23	08:05 (T76)	19:42	46	19:21 (T42)	20:14			20:45	10	19:59 (T41)	21:07
20	07:53		16:23 (T77)	07:20		07:40 (T76)	07:36		18:34 (T42)	06:46			06:09			05:59
	17:33	44	17:07 (T77)	18:11	25	08:05 (T76)	19:43	47	19:21 (T42)	20:15			20:46			21:07
21	07:52		16:22 (T77)	07:19		07:39 (T76)	07:35		18:34 (T42)	06:44			06:09			05:59
	17:34	46	17:08 (T77)	18:12	27	08:06 (T76)	19:44	49	19:23 (T42)	20:16			20:47			21:08
22	07:52		16:23 (T77)	07:18		07:37 (T76)	07:33		18:33 (T42)	06:43		19:50 (T41)	06:08			05:59
	17:35	47	17:10 (T77)	18:13	28	08:05 (T76)	19:45	50	19:23 (T42)	20:17	6	19:56 (T41)	20:48			21:08
23	07:51		16:23 (T77)	07:16		07:36 (T76)	07:31		18:32 (T42)	06:41		19:47 (T41)	06:07			05:59
	17:36	48	17:11 (T77)	18:15	30	08:06 (T76)	19:46	50	19:22 (T42)	20:18	10	19:57 (T41)	20:49			21:08
24	07:50		16:22 (T77)	07:15		07:34 (T76)	07:30		18:33 (T42)	06:40		19:45 (T41)	06:06			05:59
	17:38	50	17:12 (T77)	18:16	31	08:05 (T76)	19:47	50	19:23 (T42)	20:19	13	19:58 (T41)	20:50			21:08
25	07:49		16:22 (T77)	07:13		07:33 (T76)	07:28		18:32 (T42)	06:38		19:44 (T41)	06:06			06:00
	17:39	50	17:12 (T77)	18:17	32	08:05 (T76)	19:48	50	19:22 (T42)	20:21	15	19:59 (T41)	20:51			21:08
26	07:49		16:22 (T77)	07:12		07:33 (T76)	07:26		18:32 (T42)	06:37		19:42 (T41)	06:05			06:00
	17:40	51	17:13 (T77)	18:18	31	08:04 (T76)	19:50	49	19:21 (T42)	20:22	17	19:59 (T41)	20:52			21:08
27	07:48		16:23 (T77)	07:10		07:34 (T76)	07:24		18:32 (T42)	06:36		19:41 (T41)	06:04			06:00
	17:41	51	17:14 (T77)	18:19	30	08:04 (T76)	19:51	48	19:20 (T42)	20:23	20	20:01 (T41)	20:53			21:08
28	07:47		16:23 (T77)	07:09		07:34 (T76)	07:23		18:33 (T42)	06:34		19:40 (T41)	06:04			06:01
	17:42	51	17:14 (T77)	18:21	28	08:02 (T76)	19:52	47	19:20 (T42)	20:24	22	20:02 (T41)	20:54			21:09
29	07:46		16:23 (T77)				07:21		18:33 (T42)	06:33		19:39 (T41)	06:03			06:01
	17:44	51	17:14 (T77)				19:53	46	19:19 (T42)	20:25	23	20:02 (T41)	20:54			21:09
30	07:45		16:24 (T77)				07:19		18:33 (T42)	06:32		19:39 (T41)	06:02			06:02
	17:45	50	17:14 (T77)				19:54	44	19:17 (T42)	20:26	25	20:04 (T41)	20:55			21:08
31	07:44		16:24 (T77)				07:18		18:34 (T42)				06:02			
	17:46	51	17:15 (T77)				19:55	43	19:17 (T42)				20:56			
Potential sun hours	297			297			370			399			448			453
Total, worst case		1192			1058			1057			386			503		
Sun reduction		0.31			0.40			0.44			0.52			0.57		
Oper. time red.		1.00			1.00			1.00			1.00			1.00		
Wind dir. red.		0.73			0.67			0.64			0.62			0.57		
Total reduction		0.23			0.27			0.29			0.33			0.33		
Total, real		275			289			306			127			166		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 137 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7798)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26		19:50 (T41)	06:57			07:27		18:21 (T42)	07:02			15:59 (T77)	07:37		16:06 (T77)
	21:08		20:50	29	20:19 (T41)	20:07			19:15	31	18:52 (T42)	17:28	42		16:41 (T77)	17:04	32	16:38 (T77)
2	06:03		06:27		19:49 (T41)	06:58			07:29		18:22 (T42)	07:03			15:58 (T77)	07:38		16:07 (T77)
	21:08		20:49	30	20:19 (T41)	20:06			19:13	28	18:50 (T42)	17:27	44		16:42 (T77)	17:03	31	16:38 (T77)
3	06:03		06:28		19:49 (T41)	06:59			07:30		18:24 (T42)	07:04			15:57 (T77)	07:39		16:08 (T77)
	21:08		20:48	31	20:20 (T41)	20:04			19:11	25	18:49 (T42)	17:26	46		16:43 (T77)	17:03	31	16:39 (T77)
4	06:04		06:29		19:48 (T41)	07:00	18:45 (T42)		07:31		18:26 (T42)	07:06			15:57 (T77)	07:40		16:09 (T77)
	21:08		20:47	32	20:20 (T41)	20:02	11	18:56 (T42)	19:10	21	18:47 (T42)	17:24	46		16:43 (T77)	17:03	29	16:38 (T77)
5	06:04		06:30		19:48 (T41)	07:01		18:41 (T42)	07:32		18:30 (T42)	07:07			15:56 (T77)	07:41		16:10 (T77)
	21:08		20:46	33	20:21 (T41)	20:01	19	19:00 (T42)	19:08	16	18:46 (T42)	17:23	47		16:43 (T77)	17:03	28	16:38 (T77)
6	06:05		06:31		19:48 (T41)	07:02		18:37 (T42)	07:33		18:36 (T42)	07:08			15:56 (T77)	07:42		16:12 (T77)
	21:08		20:44	32	20:20 (T41)	19:57	25	19:02 (T42)	19:06	5	18:41 (T42)	17:22	48		16:44 (T77)	17:03	26	16:38 (T77)
7	06:05		06:32		19:47 (T41)	07:03		18:35 (T42)	07:34			07:09			15:55 (T77)	07:43		16:12 (T77)
	21:07		20:43	32	20:19 (T41)	19:56	29	19:04 (T42)	19:05			17:21	49		16:44 (T77)	17:03	25	16:37 (T77)
8	06:06		06:33		19:47 (T41)	07:04		18:33 (T42)	07:35			07:10			15:55 (T77)	07:44		16:13 (T77)
	21:07		20:42	31	20:18 (T41)	19:54	33	19:06 (T42)	19:03			17:20	50		16:45 (T77)	17:03	24	16:37 (T77)
9	06:07		06:34		19:47 (T41)	07:05		18:31 (T42)	07:36		08:16 (T76)	07:12			15:55 (T77)	07:45		16:14 (T77)
	21:07		20:41	30	20:17 (T41)	19:52	36	19:07 (T42)	19:01	13	08:29 (T76)	17:19	51		16:46 (T77)	17:03	23	16:37 (T77)
10	06:07		06:35		19:47 (T41)	07:06		18:28 (T42)	07:37		08:13 (T76)	07:13			15:55 (T77)	07:46		16:15 (T77)
	21:06		20:39	29	20:16 (T41)	19:51	39	19:07 (T42)	19:00	18	08:31 (T76)	17:18	51		16:46 (T77)	17:03	22	16:37 (T77)
11	06:08		06:36		19:47 (T41)	07:07		18:27 (T42)	07:38		08:11 (T76)	07:14			15:55 (T77)	07:46		16:16 (T77)
	21:06		20:38	27	20:14 (T41)	19:49	41	19:08 (T42)	18:58	22	08:33 (T76)	17:17	50		16:45 (T77)	17:03	21	16:37 (T77)
12	06:09		06:37		19:47 (T41)	07:08		18:25 (T42)	07:39		08:09 (T76)	07:15			15:54 (T77)	07:47		16:18 (T77)
	21:06		20:37	26	20:13 (T41)	19:47	43	19:08 (T42)	18:57	25	08:34 (T76)	17:16	51		16:45 (T77)	17:03	19	16:37 (T77)
13	06:10		06:38		19:47 (T41)	07:09		18:24 (T42)	07:40		08:08 (T76)	07:16			15:55 (T77)	07:48		16:19 (T77)
	21:05		20:36	25	20:12 (T41)	19:45	45	19:09 (T42)	18:55	27	08:35 (T76)	17:15	51		16:46 (T77)	17:03	19	16:38 (T77)
14	06:10		06:39		19:48 (T41)	07:10		18:23 (T42)	07:41		08:06 (T76)	07:18			15:55 (T77)	07:49		16:19 (T77)
	21:05		20:34	23	20:11 (T41)	19:44	46	19:09 (T42)	18:54	29	08:35 (T76)	17:14	51		16:46 (T77)	17:03	18	16:37 (T77)
15	06:11		06:40		19:48 (T41)	07:11		18:22 (T42)	07:42		08:06 (T76)	07:19			15:55 (T77)	07:50		16:20 (T77)
	21:04		20:33	21	20:09 (T41)	19:42	47	19:09 (T42)	18:52	31	08:37 (T76)	17:13	51		16:46 (T77)	17:03	17	16:37 (T77)
16	06:12		06:41		19:48 (T41)	07:12		18:21 (T42)	07:44		08:06 (T76)	07:20			15:55 (T77)	07:50		16:22 (T77)
	21:03		20:31	19	20:07 (T41)	19:40	48	19:09 (T42)	18:50	31	08:37 (T76)	17:12	51		16:46 (T77)	17:04	16	16:38 (T77)
17	06:13		06:42		19:49 (T41)	07:13		18:20 (T42)	07:45		08:05 (T76)	07:21			15:56 (T77)	07:51		16:22 (T77)
	21:03		20:30	17	20:06 (T41)	19:39	49	19:09 (T42)	18:49	32	08:37 (T76)	17:11	50		16:46 (T77)	17:04	16	16:38 (T77)
18	06:14		06:43		19:50 (T41)	07:14		18:20 (T42)	07:46		08:06 (T76)	07:22			15:56 (T77)	07:52		16:23 (T77)
	21:02		20:29	14	20:04 (T41)	19:37	49	19:09 (T42)	18:47	31	08:37 (T76)	17:11	50		16:46 (T77)	17:04	15	16:38 (T77)
19	06:14		06:44		19:51 (T41)	07:15		18:19 (T42)	07:47		08:07 (T76)	07:23			15:57 (T77)	07:52		16:24 (T77)
	21:02		20:27	12	20:03 (T41)	19:35	50	19:09 (T42)	18:46	29	08:36 (T76)	17:10	48		16:45 (T77)	17:05	15	16:39 (T77)
20	06:15		06:45		19:53 (T41)	07:16		18:19 (T42)	07:48		08:08 (T76)	07:25			15:58 (T77)	07:53		16:24 (T77)
	21:01		20:26	9	20:02 (T41)	19:33	50	19:09 (T42)	18:44	28	08:36 (T76)	17:09	47		16:45 (T77)	17:05	15	16:39 (T77)
21	06:16		06:46		19:55 (T41)	07:17		18:18 (T42)	07:49		08:10 (T76)	07:26			15:58 (T77)	07:53		16:25 (T77)
	21:00		20:24	5	20:00 (T41)	19:32	50	19:08 (T42)	18:43	26	08:36 (T76)	17:08	46		16:44 (T77)	17:05	15	16:40 (T77)
22	06:17		06:47			07:18		18:18 (T42)	07:50		08:11 (T76)	07:27			15:59 (T77)	07:54		16:25 (T77)
	20:59		20:23			19:30	50	19:08 (T42)	18:41	25	08:36 (T76)	17:08	44		16:43 (T77)	17:06	15	16:40 (T77)
23	06:18		06:48			07:19		18:18 (T42)	07:51		08:12 (T76)	07:28			15:59 (T77)	07:54		16:26 (T77)
	20:59		20:21			19:28	48	19:06 (T42)	18:40	23	08:35 (T76)	17:07	44		16:43 (T77)	17:07	15	16:41 (T77)
24	06:19		06:49		20:01 (T41)	07:20		18:18 (T42)	07:53		08:13 (T76)	07:29			16:00 (T77)	07:55		16:26 (T77)
	20:58	7	20:20		20:08 (T41)	19:27	46	19:04 (T42)	18:39	28	17:24 (T77)	17:07	42		16:42 (T77)	17:07	15	16:41 (T77)
25	06:20		06:50		19:58 (T41)	07:21		18:18 (T42)	07:54		08:15 (T76)	07:30			16:01 (T77)	07:55		16:26 (T77)
	20:57	13	20:18		20:11 (T41)	19:25	45	19:03 (T42)	18:37	37	17:30 (T77)	17:06	41		16:42 (T77)	17:08	15	16:41 (T77)
26	06:21		06:51		19:57 (T41)	07:22		18:18 (T42)	07:55		08:16 (T76)	07:32			16:02 (T77)	07:56		16:27 (T77)
	20:56	16	20:17		20:13 (T41)	19:23	43	19:01 (T42)	18:36	40	17:33 (T77)	17:06	39		16:41 (T77)	17:08	15	16:42 (T77)
27	06:22		06:52		19:55 (T41)	07:23		18:18 (T42)	07:56		08:17 (T76)	07:33			16:02 (T77)	07:56		16:27 (T77)
	20:55	20	20:15		20:15 (T41)	19:22	41	18:59 (T42)	18:34	43	17:35 (T77)	17:05	39		16:41 (T77)	17:09	16	16:43 (T77)
28	06:22		06:53		19:54 (T41)	07:24		18:19 (T42)	07:57		08:18 (T76)	07:34			16:03 (T77)	07:56		16:26 (T77)
	20:54	22	20:14		20:16 (T41)	19:20	38	18:57 (T42)	18:33	43	17:36 (T77)	17:05	37		16:40 (T77)	17:10	17	16:43 (T77)
29	06:23		06:54		19:52 (T41)	07:25		18:19 (T42)	07:58		08:19 (T76)	07:35			16:04 (T77)	07:57		16:26 (T77)
	20:53	24	20:12		20:16 (T41)	19:18	37	18:56 (T42)	18:32	43	17:37 (T77)	17:04	35		16:39 (T77)	17:10	18	16:44 (T77)
30	06:24		06:55		19:51 (T41)	07:26		18:20 (T42)	08:00		08:21 (T76)	07:36			16:05 (T77)	07:57		16:27 (T77)
	20:52	26	20:10		20:17 (T41)	19:16	34	18:54 (T42)	18:30	41	17:39 (T77)	17:04	34		16:39 (T77)	17:11	18	16:45 (T77)
31	06:25		06:56		19:51 (T41)				08:01		17:00 (T77)					07:57		16:27 (T77)
	20:51	27	20:09		20:18 (T41)				18:29	40	17:40 (T77)					17:12	19	16:46 (T77)
Potential sun hours	460		429			375			345			297				287		
Total, worst case		155		507			1092			831			1375				620	
Sun reduction		0.66		0.61			0.59			0.48			0.30				0.22	
Oper. time red.		1.00		1.00			1.00			1.00			1.00				1.00	
Wind dir. red.		0.57		0.57			0.65			0.62			0.73				0.73	
Total reduction		0.38		0.35			0.39			0.30			0.22				0.16	
Total, real		59		179			429			253			307				101	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 145 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7805)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		06:55 (T36)	06:01	19:33 (T35)	06:02	19:45 (T35)	06:26	19:34 (T35)	06:57	07:27	07:02	07:37
	17:13	17:47	18:22	19:56		20:27	72	20:05 (T35)	20:57 34	20:07 (T35)	21:09 22	20:07 (T35)	20:50 49	20:23 (T35)	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:14		06:29		06:56 (T36)	06:01	19:34 (T35)	06:02	19:45 (T35)	06:27	07:17 (T36)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	73	20:06 (T35)	20:58 33	20:07 (T35)	21:08 23	20:08 (T35)	20:49 59	20:23 (T35)	20:06	19:13	17:27	17:03
3	07:57	07:41	07:04	07:13		06:28		06:55 (T36)	06:00	19:34 (T35)	06:03	19:45 (T35)	06:28	07:14 (T36)	06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58		20:29	73	20:06 (T35)	20:58 32	20:06 (T35)	21:08 24	20:09 (T35)	20:48 65	20:23 (T35)	20:04	19:11	17:25	17:03
4	07:58	07:40	07:02	07:11		06:26		06:56 (T36)	06:00	19:35 (T35)	06:04	19:44 (T35)	06:29	07:12 (T36)	07:00	07:31	07:06	07:40
	17:15	17:51	18:25	19:59		20:30	75	20:08 (T35)	20:59 31	20:06 (T35)	21:08 25	20:09 (T35)	20:47 68	20:22 (T35)	20:02	19:10	17:24	17:03
5	07:58	07:39	07:01	07:09		06:25		06:57 (T36)	06:00	19:36 (T35)	06:04	19:44 (T35)	06:30	07:10 (T36)	07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00		20:31	74	20:09 (T35)	21:00 30	20:06 (T35)	21:08 26	20:10 (T35)	20:46 70	20:21 (T35)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08		06:24		06:58 (T36)	05:59	19:36 (T35)	06:05	19:43 (T35)	06:31	07:09 (T36)	07:02	07:33	07:08	07:42
	17:17	17:54	18:27	20:00		20:32	73	20:10 (T35)	21:01 29	20:05 (T35)	21:08 27	20:10 (T35)	20:44 72	20:20 (T35)	19:57	19:06	17:22	17:03
7	07:57	07:37	06:58	07:06		06:23		07:00 (T36)	05:59	19:37 (T35)	06:05	19:43 (T35)	06:32	07:08 (T36)	07:03	07:34	07:09	07:43
	17:18	17:55	18:29	20:01		20:33	71	20:11 (T35)	21:01 27	20:04 (T35)	21:07 29	20:12 (T35)	20:43 72	20:19 (T35)	19:56	19:05	17:21	17:02
8	07:57	07:36	07:56	07:05		06:21		07:01 (T36)	05:59	19:38 (T35)	06:06	19:42 (T35)	06:33	07:07 (T36)	07:04	07:35	07:10	07:44
	17:19	17:56	19:30	20:02		20:34	69	20:12 (T35)	21:02 26	20:04 (T35)	21:07 30	20:12 (T35)	20:42 73	20:18 (T35)	19:54	19:03	17:20	17:02
9	07:57	07:35	07:54	07:03		06:20		07:02 (T36)	05:59	19:39 (T35)	06:07	19:42 (T35)	06:34	07:06 (T36)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03		20:35	67	20:12 (T35)	21:02 25	20:04 (T35)	21:07 31	20:13 (T35)	20:41 73	20:17 (T35)	19:52	19:01	17:19	17:02
10	07:57	07:34	07:53	07:01		06:19		07:04 (T36)	05:58	19:39 (T35)	06:07	19:41 (T35)	06:35	07:05 (T36)	07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:05		20:36	63	20:12 (T35)	21:03 24	20:03 (T35)	21:06 33	20:14 (T35)	20:40 73	20:16 (T35)	19:51	19:00	17:18	17:02
11	07:57	07:32	07:51	07:00		06:18		07:08 (T36)	05:58	19:40 (T35)	06:08	19:40 (T35)	06:36	07:04 (T36)	07:07	07:38	07:14	07:47
	17:22	18:00	19:33	20:06		20:38	55	20:12 (T35)	21:04 22	20:02 (T35)	21:06 34	20:14 (T35)	20:38 74	20:15 (T35)	19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58	07:17 (T36)	06:17		19:23 (T35)	05:58	19:41 (T35)	06:09	19:40 (T35)	06:37	07:03 (T36)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:07 4	07:21 (T36)	20:39	49	20:12 (T35)	21:04 21	20:02 (T35)	21:06 35	20:15 (T35)	20:37 72	20:13 (T35)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:56	07:16 (T36)	06:16		19:23 (T35)	05:58	19:42 (T35)	06:09	19:40 (T35)	06:38	07:03 (T36)	07:09	07:40	07:16	07:48
	17:25	18:02	19:35	20:08 9	07:25 (T36)	20:40	49	20:12 (T35)	21:05 20	20:02 (T35)	21:05 36	20:16 (T35)	20:36 72	20:12 (T35)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55	07:14 (T36)	06:15		19:24 (T35)	05:58	19:42 (T35)	06:10	19:40 (T35)	06:39	07:01 (T36)	07:10	07:41	07:18	07:49
	17:26	18:04	19:36	20:09 13	07:27 (T36)	20:41	48	20:12 (T35)	21:05 20	20:02 (T35)	21:05 37	20:17 (T35)	20:34 71	20:10 (T35)	19:44	18:53	17:14	17:03
15	07:55	07:27	07:45	06:53	07:12 (T36)	06:14		19:24 (T35)	05:58	19:43 (T35)	06:11	19:39 (T35)	06:40	07:01 (T36)	07:11	07:42	07:19	07:50
	17:27	18:05	19:38	20:10 16	07:28 (T36)	20:42	48	20:12 (T35)	21:06 18	20:01 (T35)	21:04 38	20:17 (T35)	20:33 69	20:09 (T35)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52	07:11 (T36)	06:13		19:24 (T35)	05:58	19:44 (T35)	06:12	19:38 (T35)	06:41	07:02 (T36)	07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11 19	07:30 (T36)	20:43	48	20:12 (T35)	21:06 17	20:01 (T35)	21:04 40	20:18 (T35)	20:31 65	20:07 (T35)	19:40	18:50	17:12	17:03
17	07:54	07:25	07:41	06:50	07:09 (T36)	06:12		19:25 (T35)	05:58	19:44 (T35)	06:13	19:38 (T35)	06:42	07:03 (T36)	07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12 21	07:30 (T36)	20:44	47	20:12 (T35)	21:06 17	20:01 (T35)	21:03 41	20:19 (T35)	20:30 62	20:06 (T35)	19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49	07:08 (T36)	06:11		19:25 (T35)	05:58	19:45 (T35)	06:13	19:38 (T35)	06:43	07:04 (T36)	07:14	07:46	07:22	07:52
	17:30	18:09	19:41	20:13 24	07:32 (T36)	20:45	47	20:12 (T35)	21:07 16	20:01 (T35)	21:02 41	20:19 (T35)	20:29 58	20:05 (T35)	19:37	18:47	17:11	17:04
19	07:53	07:22	07:38	06:47	07:06 (T36)	06:10		19:25 (T35)	05:58	19:46 (T35)	06:14	19:38 (T35)	06:44	07:05 (T36)	07:15	07:47	07:24	07:52
	17:31	18:10	19:42	20:14 26	07:32 (T36)	20:45	47	20:12 (T35)	21:07 15	20:01 (T35)	21:02 42	20:20 (T35)	20:27 52	20:03 (T35)	19:35	18:46	17:10	17:04
20	07:53	07:20	07:36	06:46	07:05 (T36)	06:09		19:25 (T35)	05:58	19:46 (T35)	06:15	19:37 (T35)	06:45	07:06 (T36)	07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15 28	07:33 (T36)	20:46	46	20:11 (T35)	21:07 15	20:01 (T35)	21:01 43	20:20 (T35)	20:26 48	20:02 (T35)	19:33	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44	07:03 (T36)	06:08		19:26 (T35)	05:59	19:46 (T35)	06:16	19:36 (T35)	06:46	07:07 (T36)	07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16 29	07:32 (T36)	20:47	45	20:11 (T35)	21:08 15	20:01 (T35)	21:00 44	20:20 (T35)	20:24 40	20:00 (T35)	19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43	07:02 (T36)	06:08		19:27 (T35)	05:59	19:46 (T35)	06:17	19:36 (T35)	06:47	07:08 (T36)	07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:17 42	19:56 (T35)	20:48	44	20:11 (T35)	21:08 15	20:01 (T35)	20:59 45	20:21 (T35)	20:23 29	07:37 (T36)	19:30	18:41	17:08	17:06
23	07:51	07:16	07:31	06:41	07:01 (T36)	06:07		19:27 (T35)	05:59	19:46 (T35)	06:18	19:36 (T35)	06:48	07:09 (T36)	07:19	07:51	07:28	07:54
	17:36	18:15	19:46	20:18 48	19:57 (T35)	20:49	43	20:10 (T35)	21:08 15	20:01 (T35)	20:59 45	20:21 (T35)	20:21 27	07:36 (T36)	19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:40	06:59 (T36)	06:06		19:27 (T35)	05:59	19:47 (T35)	06:19	19:36 (T35)	06:49	07:10 (T36)	07:20	07:53	07:29	07:55
	17:37	18:16	19:47	20:20 54	19:58 (T35)	20:50	43	20:10 (T35)	21:08 16	20:03 (T35)	20:58 46	20:22 (T35)	20:20 25	07:35 (T36)	19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:38	06:58 (T36)	06:05		19:28 (T35)	06:00	19:46 (T35)	06:20	19:36 (T35)	06:50	07:11 (T36)	07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:21 58	19:59 (T35)	20:51	42	20:10 (T35)	21:08 17	20:03 (T35)	20:57 46	20:22 (T35)	20:18 23	07:34 (T36)	19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:56 (T36)	06:05		19:29 (T35)	06:00	19:46 (T35)	06:20	19:36 (T35)	06:51	07:12 (T36)	07:22	07:55	07:32	07:56
	17:40	18:18	19:50	20:22 62	19:59 (T35)	20:52	40	20:09 (T35)	21:08 17	20:03 (T35)	20:56 47	20:23 (T35)	20:17 21	07:33 (T36)	19:23	18:36	17:06	17:08
27	07:48	07:10	07:24	06:36	06:55 (T36)	06:04		19:29 (T35)	06:00	19:46 (T35)	06:21	19:34 (T35)	06:52	07:13 (T36)	07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23 66	20:01 (T35)	20:53	40	20:09 (T35)	21:09 18	20:04 (T35)	20:55 48	20:22 (T35)	20:15 19	07:32 (T36)	19:21	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34	06:54 (T36)	06:03		19:30 (T35)	06:01	19:46 (T35)	06:22	19:34 (T35)	06:53	07:14 (T36)	07:24	07:57	07:34	07:56
	17:42	18:20	19:52	20:24 69	20:02 (T35)	20:54	39	20:09 (T35)	21:09 18	20:04 (T35)	20:54 48	20:22 (T35)	20:14 16	07:30 (T36)	19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:54 (T36)	06:03		19:30 (T35)	06:01	19:46 (T35)	06:23	19:34 (T35)	06:54	07:15 (T36)	07:25	07:58	07:35	07:57
	17:44		19:53	20:25 70	20:02 (T35)	20:55	38	20:08 (T35)	21:09 20	20:06 (T35)	20:53 49	20:23 (T35)	20:12 13	07:28 (T36)	19:18	18:32	17:04	17:10
30	07:45		07:19	06:31	06:54 (T36)	06:02		19:31 (T35)	06:01	19:45 (T35)	06:24	19:34 (T35)	06:55	07:16 (T36)	07:26	08:00	07:36	07:57
	17:45		19:54	20:26 73	20:04 (T35)	20:55	37	20:08 (T35)	21:09 21	20:06 (T35)	20:52 49	20:23 (T35)	20:10 9	07:25 (T36)	19:16	18:30	17:04	17:11
31	07:44		07:18			06:02		19:32 (T35)			06:25	19:34 (T35)	06:56	07:17 (T36)		08:01		07:57
	17:46		19:55			20:56	35	20:07 (T35)			20:51 49	20:23 (T35)	20:09 4	07:21 (T36)		18:29		17:12
Potential sun hours	297	297	370	399		449		453		460		429		375	345	297	287	
Total, worst case					731		1640		644		1173		1543					
Sun reduction					0.52		0.57		0.64		0.66		0.61					
Oper. time red.					1.00		1.00		1.00		1.00		1.00					
Wind dir. red.					0.64		0.58		0.57		0.57		0.62					
Total reduction					0.33		0.33		0.36		0.37		0.38					
Total, real					243		546		234		439		583					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 197 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7850)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		15:49 (T11)	07:44		16:09 (T11)	07:07		07:44 (T10)	07:16		07:40 (T9)	06:30		07:04 (T8)	06:01		06:23 (T7)
	17:13	54	16:43 (T11)	17:47	37	16:46 (T11)	18:22	43	08:27 (T10)	19:56	43	08:23 (T9)	20:27	86	08:33 (T9)	20:57	46	08:08 (T9)
2	07:58		15:50 (T11)	07:43		16:11 (T11)	07:06		07:44 (T10)	07:14		07:37 (T9)	06:29		07:14 (T9)	06:01		06:22 (T7)
	17:14	54	16:44 (T11)	17:49	33	16:44 (T11)	18:23	42	08:26 (T10)	19:57	48	08:25 (T9)	20:28	78	08:32 (T9)	20:58	47	08:07 (T9)
3	07:58		15:50 (T11)	07:42		16:12 (T11)	07:04		07:46 (T10)	07:13		07:35 (T9)	06:27		07:13 (T9)	06:00		06:22 (T7)
	17:14	54	16:44 (T11)	17:50	31	16:43 (T11)	18:24	39	08:25 (T10)	19:58	52	08:27 (T9)	20:29	78	08:31 (T9)	20:59	45	08:06 (T9)
4	07:58		15:50 (T11)	07:41		08:02 (T10)	07:03		07:46 (T10)	07:11		07:33 (T9)	06:26		07:14 (T9)	06:00		06:22 (T7)
	17:15	55	16:45 (T11)	17:51	35	16:41 (T11)	18:25	37	08:23 (T10)	19:59	55	08:28 (T9)	20:30	77	08:31 (T9)	21:00	43	08:05 (T9)
5	07:58		15:51 (T11)	07:40		08:00 (T10)	07:01		07:47 (T10)	07:09		07:31 (T9)	06:25		07:14 (T9)	06:00		06:21 (T7)
	17:16	54	16:45 (T11)	17:52	38	16:39 (T11)	18:26	34	08:21 (T10)	20:00	58	08:29 (T9)	20:32	76	08:30 (T9)	21:00	41	08:03 (T9)
6	07:58		15:51 (T11)	07:39		07:59 (T10)	06:59		07:49 (T10)	07:08		07:29 (T9)	06:24		07:15 (T9)	05:59		06:21 (T7)
	17:17	55	16:46 (T11)	17:54	35	16:36 (T11)	18:27	30	08:19 (T10)	20:00	62	08:31 (T9)	20:33	75	08:30 (T9)	21:01	39	08:02 (T9)
7	07:58		15:52 (T11)	07:37		07:58 (T10)	06:58		07:51 (T10)	07:06		07:27 (T9)	06:23		07:15 (T9)	05:59		06:21 (T7)
	17:18	55	16:47 (T11)	17:55	23	08:21 (T10)	18:29	26	08:17 (T10)	20:02	65	08:32 (T9)	20:34	74	08:29 (T9)	21:02	37	08:01 (T9)
8	07:58		15:53 (T11)	07:36		07:56 (T10)	07:56		08:54 (T10)	07:05		07:27 (T9)	06:21		07:15 (T9)	05:59		06:21 (T7)
	17:19	54	16:47 (T11)	17:56	26	08:22 (T10)	19:30	20	09:14 (T10)	20:03	66	08:33 (T9)	20:35	73	08:28 (T9)	21:02	33	07:59 (T9)
9	07:57		15:52 (T11)	07:35		07:55 (T10)	07:55		08:57 (T10)	07:03		07:25 (T9)	06:20		07:15 (T9)	05:58		06:21 (T7)
	17:20	55	16:47 (T11)	17:57	29	08:24 (T10)	19:31	12	09:09 (T10)	20:04	68	08:33 (T9)	20:36	72	08:27 (T9)	21:03	27	07:56 (T9)
10	07:57		15:53 (T11)	07:34		07:54 (T10)	07:53			07:01		07:23 (T9)	06:19		07:16 (T9)	05:58		06:20 (T7)
	17:21	55	16:48 (T11)	17:59	31	08:25 (T10)	19:32			20:05	71	08:34 (T9)	20:37	71	08:27 (T9)	21:03	23	06:43 (T7)
11	07:57		15:54 (T11)	07:33		07:53 (T10)	07:51			07:00		07:23 (T9)	06:18		07:16 (T9)	05:58		06:20 (T7)
	17:22	54	16:48 (T11)	18:00	34	08:27 (T10)	19:33			20:06	72	08:35 (T9)	20:38	70	08:26 (T9)	21:04	24	06:44 (T7)
12	07:57		15:53 (T11)	07:31		07:51 (T10)	07:50			06:58		07:21 (T9)	06:17		07:17 (T9)	05:58		06:20 (T7)
	17:23	55	16:48 (T11)	18:01	36	08:27 (T10)	19:34			20:07	74	08:35 (T9)	20:39	68	08:25 (T9)	21:05	24	06:44 (T7)
13	07:56		15:54 (T11)	07:30		07:50 (T10)	07:48			06:57		07:21 (T9)	06:16		07:17 (T9)	05:58		06:20 (T7)
	17:24	55	16:49 (T11)	18:02	38	08:28 (T10)	19:35			20:08	75	08:36 (T9)	20:40	68	08:25 (T9)	21:05	25	06:45 (T7)
14	07:56		15:55 (T11)	07:29		07:49 (T10)	07:46			06:55		07:14 (T8)	06:15		07:18 (T9)	05:58		06:20 (T7)
	17:26	55	16:50 (T11)	18:04	40	08:29 (T10)	19:37			20:09	80	08:36 (T9)	20:41	66	08:24 (T9)	21:05	25	06:45 (T7)
15	07:56		15:55 (T11)	07:28		07:47 (T10)	07:45			06:53		07:12 (T8)	06:14		07:19 (T9)	05:58		06:20 (T7)
	17:27	54	16:49 (T11)	18:05	42	08:29 (T10)	19:38			20:10	83	08:35 (T9)	20:42	64	08:23 (T9)	21:06	25	06:45 (T7)
16	07:55		15:56 (T11)	07:26		07:46 (T10)	07:43			06:52		07:11 (T8)	06:13		07:19 (T9)	05:58		06:20 (T7)
	17:28	54	16:50 (T11)	18:06	44	08:30 (T10)	19:39			20:11	85	08:36 (T9)	20:43	63	08:22 (T9)	21:06	26	06:46 (T7)
17	07:55		15:56 (T11)	07:25		07:45 (T10)	07:41			06:50		07:09 (T8)	06:12		07:21 (T9)	05:58		06:20 (T7)
	17:29	54	16:50 (T11)	18:07	46	08:31 (T10)	19:40			20:12	87	08:36 (T9)	20:44	61	08:22 (T9)	21:07	26	06:46 (T7)
18	07:54		15:57 (T11)	07:24		07:43 (T10)	07:40			06:49		07:08 (T8)	06:11		07:21 (T9)	05:58		06:20 (T7)
	17:30	54	16:51 (T11)	18:09	48	08:31 (T10)	19:41			20:13	88	08:36 (T9)	20:45	60	08:21 (T9)	21:07	26	06:46 (T7)
19	07:54		15:57 (T11)	07:22		07:43 (T10)	07:38			06:47		07:06 (T8)	06:10		07:22 (T9)	05:58		06:21 (T7)
	17:31	53	16:50 (T11)	18:10	48	08:31 (T10)	19:42			20:14	90	08:36 (T9)	20:46	58	08:20 (T9)	21:07	26	06:47 (T7)
20	07:53		15:57 (T11)	07:21		07:42 (T10)	07:36			06:46		07:05 (T8)	06:09		07:23 (T9)	05:58		06:21 (T7)
	17:32	53	16:50 (T11)	18:11	49	08:31 (T10)	19:43			20:15	91	08:36 (T9)	20:47	56	08:19 (T9)	21:08	26	06:47 (T7)
21	07:53		15:59 (T11)	07:19		07:42 (T10)	07:35			06:44		07:03 (T8)	06:08		07:23 (T9)	05:58		06:21 (T7)
	17:34	52	16:51 (T11)	18:12	49	08:31 (T10)	19:44			20:17	92	08:35 (T9)	20:48	55	08:18 (T9)	21:08	26	06:47 (T7)
22	07:52		15:59 (T11)	07:18		07:43 (T10)	07:33			06:43		07:02 (T8)	06:08		07:25 (T9)	05:59		06:21 (T7)
	17:35	51	16:50 (T11)	18:13	48	08:31 (T10)	19:45			20:18	94	08:36 (T9)	20:49	53	08:18 (T9)	21:08	26	06:47 (T7)
23	07:51		16:00 (T11)	07:16		07:42 (T10)	07:31			06:41		07:01 (T8)	06:07		07:26 (T9)	05:59		06:21 (T7)
	17:36	50	16:50 (T11)	18:15	49	08:31 (T10)	19:46			20:19	95	08:36 (T9)	20:50	51	08:17 (T9)	21:08	26	06:47 (T7)
24	07:51		16:00 (T11)	07:15		07:43 (T10)	07:30			06:40		06:59 (T8)	06:06		07:26 (T9)	05:59		06:22 (T7)
	17:37	50	16:50 (T11)	18:16	48	08:31 (T10)	19:47			20:20	96	08:35 (T9)	20:51	50	08:16 (T9)	21:09	26	06:48 (T7)
25	07:50		16:02 (T11)	07:13		07:42 (T10)	07:28			06:38		06:58 (T8)	06:05		07:28 (T9)	05:59		06:22 (T7)
	17:39	48	16:50 (T11)	18:17	48	08:30 (T10)	19:49			20:21	97	08:35 (T9)	20:51	48	08:16 (T9)	21:09	26	06:48 (T7)
26	07:49		16:02 (T11)	07:12		07:42 (T10)	07:26			06:37		06:56 (T8)	06:05		07:29 (T9)	06:00		06:22 (T7)
	17:40	48	16:50 (T11)	18:18	47	08:29 (T10)	19:50			20:22	98	08:34 (T9)	20:52	45	08:14 (T9)	21:09	26	06:48 (T7)
27	07:48		16:03 (T11)	07:10		07:43 (T10)	07:25			06:36		06:57 (T8)	06:04		07:29 (T9)	06:00		06:23 (T7)
	17:41	46	16:49 (T11)	18:19	46	08:29 (T10)	19:51			20:23	97	08:34 (T9)	20:53	44	08:13 (T9)	21:09	26	06:49 (T7)
28	07:47		16:04 (T11)	07:09		07:43 (T10)	07:23			06:34		06:59 (T8)	06:03		06:25 (T7)	06:00		06:23 (T7)
	17:42	45	16:49 (T11)	18:21	44	08:27 (T10)	19:52			20:24	95	08:34 (T9)	20:54	47	08:13 (T9)	21:09	25	06:48 (T7)
29	07:47		16:05 (T11)				07:21		07:51 (T9)	06:33		06:59 (T8)	06:03		06:24 (T7)	06:01		06:24 (T7)
	17:44	43	16:48 (T11)				19:53	22	08:13 (T9)	20:25	94	08:33 (T9)	20:55	47	08:11 (T9)	21:09	25	06:49 (T7)
30	07:46		16:06 (T11)				07:19		07:46 (T9)	06:31		07:01 (T8)	06:02		06:24 (T7)	06:01		06:24 (T7)
	17:45	41	16:47 (T11)				19:54	31	08:17 (T9)	20:26	92	08:33 (T9)	20:56	49	08:11 (T9)	21:09	24	06:48 (T7)
31	07:45		16:07 (T11)				07:18		07:43 (T9)				06:02		06:23 (T7)			
	17:46	39	16:46 (T11)				19:55	38	08:21 (T9)				20:57	48	08:09 (T9)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1599			1122			374			2363			1931			890	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.74			0.58			0.58			0.65			0.65			0.71	
Total reduction		0.23			0.24			0.26			0.34			0.38			0.46	
Total, real		370			264			96			810			725			408	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 197 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7850)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		06:24 (T7)	06:26		07:27 (T9)	06:57		07:22 (T9)	07:28			07:02		07:24 (T10)	07:37		15:36 (T11)
	21:09	24	06:48 (T7)	20:50	69	08:36 (T9)	20:07	72	08:34 (T9)	19:15			17:28	31	07:55 (T10)	17:03	54	16:30 (T11)
2	06:02		06:25 (T7)	06:27		07:27 (T9)	06:58		07:22 (T9)	07:29			07:03		07:25 (T10)	07:38		15:36 (T11)
	21:09	23	06:48 (T7)	20:49	70	08:37 (T9)	20:06	71	08:33 (T9)	19:13			17:27	28	07:53 (T10)	17:03	55	16:31 (T11)
3	06:03		06:25 (T7)	06:28		07:26 (T9)	06:59		07:23 (T9)	07:30			07:05		07:26 (T10)	07:39		15:36 (T11)
	21:09	23	06:48 (T7)	20:48	72	08:38 (T9)	20:04	68	08:31 (T9)	19:11			17:25	25	07:51 (T10)	17:03	55	16:31 (T11)
4	06:03		06:26 (T7)	06:29		07:26 (T9)	07:00		07:24 (T9)	07:31		08:39 (T10)	17:06		07:27 (T10)	07:40		15:37 (T11)
	21:09	31	08:03 (T9)	20:47	72	08:38 (T9)	20:02	66	08:30 (T9)	19:10	4	08:43 (T10)	17:24	22	07:49 (T10)	17:03	54	16:31 (T11)
5	06:04		06:27 (T7)	06:30		07:25 (T9)	07:01		07:24 (T9)	07:32		08:32 (T10)	07:07		07:29 (T10)	07:41		15:37 (T11)
	21:08	35	08:06 (T9)	20:46	74	08:39 (T9)	20:01	65	08:29 (T9)	19:08	17	08:49 (T10)	17:23	34	16:06 (T11)	17:03	55	16:32 (T11)
6	06:05		06:27 (T7)	06:31		07:25 (T9)	07:02		07:25 (T9)	07:33		08:29 (T10)	07:08		07:30 (T10)	07:42		15:37 (T11)
	21:08	38	08:07 (T9)	20:45	74	08:39 (T9)	19:57	62	08:27 (T9)	19:06	23	08:52 (T10)	17:22	37	16:09 (T11)	17:02	55	16:32 (T11)
7	06:05		06:28 (T7)	06:32		07:24 (T9)	07:03		07:27 (T9)	07:34		08:26 (T10)	07:09		07:33 (T10)	07:43		15:38 (T11)
	21:08	41	08:10 (T9)	20:44	76	08:40 (T9)	19:56	58	08:25 (T9)	19:05	28	08:54 (T10)	17:21	34	16:11 (T11)	17:02	54	16:32 (T11)
8	06:06		06:28 (T7)	06:33		07:24 (T9)	07:04		07:28 (T9)	07:35		08:24 (T10)	07:11		15:43 (T11)	07:44		15:39 (T11)
	21:08	43	08:11 (T9)	20:42	76	08:40 (T9)	19:54	55	08:23 (T9)	19:03	32	08:56 (T10)	17:20	31	16:14 (T11)	17:02	54	16:33 (T11)
9	06:06		06:29 (T7)	06:34		07:23 (T9)	07:05		07:29 (T9)	07:36		08:22 (T10)	07:12		15:41 (T11)	07:45		15:39 (T11)
	21:07	44	08:13 (T9)	20:41	78	08:41 (T9)	19:52	52	08:21 (T9)	19:02	35	08:57 (T10)	17:19	34	16:15 (T11)	17:02	54	16:33 (T11)
10	06:07		06:30 (T7)	06:35		07:23 (T9)	07:06		07:31 (T9)	07:37		08:20 (T10)	07:13		15:40 (T11)	07:46		15:40 (T11)
	21:07	45	08:14 (T9)	20:40	78	08:41 (T9)	19:51	48	08:19 (T9)	19:00	38	08:58 (T10)	17:18	37	16:17 (T11)	17:02	54	16:34 (T11)
11	06:08		06:30 (T7)	06:36		07:23 (T9)	07:07		07:32 (T9)	07:38		08:19 (T10)	07:14		15:38 (T11)	07:47		15:40 (T11)
	21:06	46	08:15 (T9)	20:39	78	08:41 (T9)	19:49	44	08:16 (T9)	18:58	40	08:59 (T10)	17:17	39	16:17 (T11)	17:02	54	16:34 (T11)
12	06:09		06:31 (T7)	06:37		07:12 (T8)	07:08		07:34 (T9)	07:39		08:17 (T10)	07:16		15:38 (T11)	07:48		15:40 (T11)
	21:06	47	08:17 (T9)	20:37	87	08:41 (T9)	19:47	39	08:13 (T9)	18:57	42	08:59 (T10)	17:16	41	16:19 (T11)	17:03	54	16:34 (T11)
13	06:09		06:32 (T7)	06:38		07:09 (T8)	07:09		07:37 (T9)	07:40		08:17 (T10)	07:17		15:37 (T11)	07:49		15:41 (T11)
	21:05	48	08:18 (T9)	20:36	93	08:42 (T9)	19:46	32	08:09 (T9)	18:55	44	09:01 (T10)	17:15	43	16:20 (T11)	17:03	53	16:34 (T11)
14	06:10		06:33 (T7)	06:39		07:06 (T8)	07:10		07:41 (T9)	07:42		08:16 (T10)	07:18		15:36 (T11)	07:49		15:42 (T11)
	21:05	49	08:20 (T9)	20:35	95	08:41 (T9)	19:44	23	08:04 (T9)	18:54	45	09:01 (T10)	17:14	45	16:21 (T11)	17:03	53	16:35 (T11)
15	06:11		06:33 (T7)	06:40		07:05 (T8)	07:11		07:48 (T9)	07:43		08:15 (T10)	07:19		15:36 (T11)	07:50		15:42 (T11)
	21:04	47	08:20 (T9)	20:33	96	08:41 (T9)	19:42	8	07:56 (T9)	18:52	46	09:01 (T10)	17:13	46	16:22 (T11)	17:03	54	16:36 (T11)
16	06:12		06:34 (T7)	06:41		07:04 (T8)	07:12			07:44		08:14 (T10)	07:20		15:35 (T11)	07:51		15:42 (T11)
	21:04	46	08:22 (T9)	20:32	97	08:41 (T9)	19:40			18:50	48	09:02 (T10)	17:12	48	16:23 (T11)	17:03	53	16:35 (T11)
17	06:12		07:38 (T9)	06:42		07:03 (T8)	07:13			07:45		08:14 (T10)	07:21		15:35 (T11)	07:51		15:43 (T11)
	21:03	45	08:23 (T9)	20:30	98	08:41 (T9)	19:39			18:49	48	09:02 (T10)	17:11	48	16:23 (T11)	17:04	53	16:36 (T11)
18	06:13		07:38 (T9)	06:43		07:04 (T8)	07:14			07:46		08:13 (T10)	07:23		15:34 (T11)	07:52		15:44 (T11)
	21:03	46	08:24 (T9)	20:29	97	08:41 (T9)	19:37			18:47	48	09:01 (T10)	17:10	50	16:24 (T11)	17:04	53	16:37 (T11)
19	06:14		07:37 (T9)	06:44		07:05 (T8)	07:15			07:47		08:14 (T10)	07:24		15:35 (T11)	07:53		15:44 (T11)
	21:02	49	08:26 (T9)	20:27	96	08:41 (T9)	19:35			18:46	48	09:02 (T10)	17:10	50	16:25 (T11)	17:04	53	16:37 (T11)
20	06:15		07:36 (T9)	06:45		07:06 (T8)	07:16			07:48		08:13 (T10)	07:25		15:34 (T11)	07:53		15:45 (T11)
	21:01	50	08:26 (T9)	20:26	95	08:41 (T9)	19:34			18:44	49	09:02 (T10)	17:09	51	16:25 (T11)	17:05	53	16:38 (T11)
21	06:16		07:35 (T9)	06:46		07:07 (T8)	07:17			07:49		08:13 (T10)	07:26		15:34 (T11)	07:54		15:45 (T11)
	21:00	52	08:27 (T9)	20:25	93	08:40 (T9)	19:32			18:43	49	09:02 (T10)	17:08	52	16:26 (T11)	17:05	53	16:38 (T11)
22	06:17		07:34 (T9)	06:47		07:08 (T8)	07:18			07:51		08:13 (T10)	07:27		15:33 (T11)	07:54		15:46 (T11)
	21:00	54	08:28 (T9)	20:23	92	08:40 (T9)	19:30			18:41	48	09:01 (T10)	17:08	53	16:26 (T11)	17:06	53	16:39 (T11)
23	06:18		07:34 (T9)	06:48		07:09 (T8)	07:19			07:52		08:13 (T10)	07:29		15:34 (T11)	07:55		15:46 (T11)
	20:59	55	08:29 (T9)	20:22	91	08:40 (T9)	19:28			18:40	48	09:01 (T10)	17:07	53	16:27 (T11)	17:06	53	16:39 (T11)
24	06:19		07:33 (T9)	06:49		07:10 (T8)	07:20			07:53		08:14 (T10)	07:30		15:34 (T11)	07:55		15:46 (T11)
	20:58	57	08:30 (T9)	20:20	89	08:39 (T9)	19:27			18:39	47	09:01 (T10)	17:06	54	16:28 (T11)	17:07	53	16:39 (T11)
25	06:19		07:32 (T9)	06:50		07:11 (T8)	07:21			07:54		08:15 (T10)	07:31		15:34 (T11)	07:56		15:47 (T11)
	20:57	59	08:31 (T9)	20:18	88	08:39 (T9)	19:25			18:37	45	09:00 (T10)	17:06	54	16:28 (T11)	17:07	53	16:40 (T11)
26	06:20		07:32 (T9)	06:51		07:12 (T8)	07:22			07:55		08:16 (T10)	07:32		15:34 (T11)	07:56		15:47 (T11)
	20:56	60	08:32 (T9)	20:17	86	08:38 (T9)	19:23			18:36	44	09:00 (T10)	17:05	54	16:28 (T11)	17:08	53	16:40 (T11)
27	06:21		07:30 (T9)	06:52		07:13 (T8)	07:23			07:56		08:17 (T10)	07:33		15:34 (T11)	07:56		15:47 (T11)
	20:55	62	08:32 (T9)	20:15	85	08:38 (T9)	19:22			18:34	42	08:59 (T10)	17:05	54	16:28 (T11)	17:09	53	16:40 (T11)
28	06:22		07:30 (T9)	06:53		07:14 (T8)	07:25			07:58		08:19 (T10)	07:34		15:35 (T11)	07:57		15:48 (T11)
	20:54	63	08:33 (T9)	20:14	83	08:37 (T9)	19:20			18:33	40	08:59 (T10)	17:05	55	16:30 (T11)	17:09	54	16:42 (T11)
29	06:23		07:29 (T9)	06:54		07:15 (T8)	07:26			07:59		08:20 (T10)	07:35		15:35 (T11)	07:57		15:48 (T11)
	20:54	65	08:34 (T9)	20:12	79	08:36 (T9)	19:18			18:32	38	08:58 (T10)	17:04	55	16:30 (T11)	17:10	54	16:42 (T11)
30	06:24		07:28 (T9)	06:55		07:21 (T9)	07:27			08:00		08:21 (T10)	07:36		15:35 (T11)	07:57		15:49 (T11)
	20:53	67	08:35 (T9)	20:11	75	08:36 (T9)	19:16			18:30	36	08:57 (T10)	17:04	55	16:30 (T11)	17:11	53	16:42 (T11)
31	06:25		07:28 (T9)	06:56		07:21 (T9)				08:01		08:22 (T10)				07:57		15:49 (T11)
	20:51	68	08:36 (T9)	20:09	74	08:35 (T9)				18:29	33	08:55 (T10)				17:12	54	16:43 (T11)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		1482			2606			763			1105			1313			1663	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.66			0.65			0.65			0.56			0.72			0.74	
Total reduction		0.44			0.40			0.39			0.27			0.22			0.16	
Total, real		656			1048			296			298			286			273	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 228 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7878)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		07:43	08:04 (T44)	07:07		07:16	07:37 (T77)	06:30	06:50 (T42)	06:02	06:39 (T42)
	17:13		17:48	24 08:28 (T44)	18:22		19:56	37 08:14 (T77)	20:27	18 07:08 (T42)	20:57	31 07:10 (T42)
2	07:57		07:42	08:03 (T44)	07:06		07:15	07:37 (T77)	06:29	06:49 (T42)	06:01	06:40 (T42)
	17:14		17:49	25 08:28 (T44)	18:23		19:57	36 08:13 (T77)	20:28	20 07:09 (T42)	20:58	30 07:10 (T42)
3	07:57		07:41	08:02 (T44)	07:04		07:13	07:38 (T77)	06:28	06:47 (T42)	06:01	06:40 (T42)
	17:15		17:50	27 08:29 (T44)	18:24		19:58	35 08:13 (T77)	20:29	23 07:10 (T42)	20:58	29 07:09 (T42)
4	07:58		07:40	08:01 (T44)	07:03		07:11	07:38 (T77)	06:26	06:46 (T42)	06:00	06:41 (T42)
	17:16		17:51	28 08:29 (T44)	18:25		19:59	33 08:11 (T77)	20:30	25 07:11 (T42)	20:59	28 07:09 (T42)
5	07:57		07:39	08:00 (T44)	07:01		07:10	07:40 (T77)	06:25	06:45 (T42)	06:00	06:43 (T42)
	17:17		17:53	29 08:29 (T44)	18:26		20:00	30 08:10 (T77)	20:31	27 07:12 (T42)	21:00	26 07:09 (T42)
6	07:57		07:38	07:58 (T44)	06:59		07:08	07:40 (T77)	06:24	06:44 (T42)	06:00	06:43 (T42)
	17:18		17:54	30 08:28 (T44)	18:28		20:00	29 08:09 (T77)	20:32	28 07:12 (T42)	21:01	25 07:08 (T42)
7	07:57		07:37	07:58 (T44)	06:58		07:06	07:41 (T77)	06:23	06:43 (T42)	05:59	06:43 (T42)
	17:19		17:55	30 08:28 (T44)	18:29		20:01	26 08:07 (T77)	20:33	30 07:13 (T42)	21:01	25 07:08 (T42)
8	07:57		07:36	07:59 (T44)	07:56		07:05	07:43 (T77)	06:22	06:42 (T42)	05:59	06:44 (T42)
	17:20		17:56	28 08:27 (T44)	19:30		20:02	22 08:05 (T77)	20:34	32 07:14 (T42)	21:02	24 07:08 (T42)
9	07:57		07:35	08:00 (T44)	07:55		07:03	07:44 (T77)	06:20	06:41 (T42)	05:59	06:45 (T42)
	17:21		17:58	27 08:27 (T44)	19:31		20:04	18 08:02 (T77)	20:35	33 07:14 (T42)	21:02	22 07:07 (T42)
10	07:57		07:34	08:01 (T44)	07:53		07:01	07:47 (T77)	06:19	06:40 (T42)	05:59	06:46 (T42)
	17:22		17:59	25 08:26 (T44)	19:32		20:05	11 07:58 (T77)	20:36	34 07:14 (T42)	21:03	21 07:07 (T42)
11	07:57		07:32	08:01 (T44)	07:51		07:00		06:18	06:38 (T42)	05:58	06:47 (T42)
	17:23		18:00	24 08:25 (T44)	19:33		20:06		20:38	36 07:14 (T42)	21:04	20 07:07 (T42)
12	07:56		07:31	08:03 (T44)	07:50		06:58		06:17	06:37 (T42)	05:58	06:48 (T42)
	17:24		18:01	21 08:24 (T44)	19:34		20:07		20:39	37 07:14 (T42)	21:04	19 07:07 (T42)
13	07:56		07:30	08:05 (T44)	07:48		06:57		06:16	06:36 (T42)	05:58	06:48 (T42)
	17:25		18:03	17 08:22 (T44)	19:35		20:08		20:40	38 07:14 (T42)	21:05	17 07:05 (T42)
14	07:56		07:29	08:08 (T44)	07:46		06:55		06:15	06:36 (T42)	05:58	06:48 (T42)
	17:26		18:04	12 08:20 (T44)	19:37		20:09		20:41	39 07:15 (T42)	21:05	17 07:05 (T42)
15	07:55		07:27		07:45		06:53		06:14	06:35 (T42)	05:58	06:49 (T42)
	17:27		18:05		19:38		20:10		20:42	40 07:15 (T42)	21:06	16 07:05 (T42)
16	07:55		07:26		07:43		06:52		06:13	06:34 (T42)	05:58	06:51 (T42)
	17:28		18:06		19:39		20:11		20:43	41 07:15 (T42)	21:06	15 07:06 (T42)
17	07:54		07:25		07:41		06:50		06:12	06:33 (T42)	05:58	06:51 (T42)
	17:29		18:07		19:40		20:12		20:44	41 07:14 (T42)	21:06	14 07:05 (T42)
18	07:54		07:23		07:40	07:59 (T77)	06:49		06:11	06:33 (T42)	05:58	06:51 (T42)
	17:30		18:09		19:41	8 08:07 (T77)	20:13		20:45	41 07:14 (T42)	21:07	14 07:05 (T42)
19	07:53		07:22		07:38	07:57 (T77)	06:47		06:10	06:33 (T42)	05:58	06:52 (T42)
	17:32		18:10		19:42	13 08:10 (T77)	20:14		20:45	41 07:14 (T42)	21:07	13 07:05 (T42)
20	07:53		07:21		07:36	07:55 (T77)	06:46		06:09	06:33 (T42)	05:59	06:52 (T42)
	17:33		18:11		19:43	16 08:11 (T77)	20:15		20:46	40 07:13 (T42)	21:07	13 07:05 (T42)
21	07:52	08:13 (T44)	07:19		07:35	07:54 (T77)	06:44		06:09	06:34 (T42)	05:59	06:52 (T42)
	17:34	3 08:16 (T44)	18:12		19:44	19 08:13 (T77)	20:16		20:47	40 07:14 (T42)	21:08	13 07:05 (T42)
22	07:52	08:13 (T44)	07:18		07:33	07:52 (T77)	06:43		06:08	06:35 (T42)	05:59	06:52 (T42)
	17:35	5 08:18 (T44)	18:14		19:45	22 08:14 (T77)	20:17		20:48	39 07:14 (T42)	21:08	13 07:05 (T42)
23	07:51	08:12 (T44)	07:16		07:31	07:50 (T77)	06:41		06:07	06:35 (T42)	05:59	06:53 (T42)
	17:36	8 08:20 (T44)	18:15		19:46	25 08:15 (T77)	20:18		20:49	38 07:13 (T42)	21:08	13 07:06 (T42)
24	07:50	08:11 (T44)	07:15		07:30	07:49 (T77)	06:40		06:06	06:35 (T42)	05:59	06:53 (T42)
	17:38	10 08:21 (T44)	18:16		19:47	27 08:16 (T77)	20:20		20:50	37 07:12 (T42)	21:08	13 07:06 (T42)
25	07:50	08:10 (T44)	07:13		07:28	07:47 (T77)	06:39		06:06	06:36 (T42)	06:00	06:52 (T42)
	17:39	12 08:22 (T44)	18:17		19:49	29 08:16 (T77)	20:21		20:51	37 07:13 (T42)	21:08	14 07:06 (T42)
26	07:49	08:09 (T44)	07:12		07:26	07:45 (T77)	06:37		06:05	06:36 (T42)	06:00	06:53 (T42)
	17:40	14 08:23 (T44)	18:18		19:50	31 08:16 (T77)	20:22		20:52	36 07:12 (T42)	21:08	15 07:08 (T42)
27	07:48	08:09 (T44)	07:10		07:25	07:44 (T77)	06:36		06:04	06:37 (T42)	06:00	06:52 (T42)
	17:41	16 08:25 (T44)	18:19		19:51	32 08:16 (T77)	20:23		20:53	35 07:12 (T42)	21:09	16 07:08 (T42)
28	07:47	08:08 (T44)	07:09		07:23	07:42 (T77)	06:34	06:54 (T42)	06:04	06:37 (T42)	06:01	06:52 (T42)
	17:43	18 08:26 (T44)	18:21		19:52	34 08:16 (T77)	20:24	7 07:01 (T42)	20:54	35 07:12 (T42)	21:09	16 07:08 (T42)
29	07:46	08:07 (T44)			07:21	07:40 (T77)	06:33	06:53 (T42)	06:03	06:38 (T42)	06:01	06:52 (T42)
	17:44	19 08:26 (T44)			19:53	35 08:15 (T77)	20:25	12 07:05 (T42)	20:54	34 07:12 (T42)	21:09	17 07:09 (T42)
30	07:45	08:06 (T44)			07:20	07:38 (T77)	06:32	06:51 (T42)	06:03	06:38 (T42)	06:02	06:51 (T42)
	17:45	21 08:27 (T44)			19:54	37 08:15 (T77)	20:26	15 07:06 (T42)	20:55	33 07:11 (T42)	21:09	19 07:10 (T42)
31	07:44	08:05 (T44)			07:18	07:38 (T77)			06:02	06:39 (T42)		
	17:46	23 08:28 (T44)			19:55	37 08:15 (T77)			20:56	32 07:11 (T42)		
Potential sun hours	297		297		370		399		448		453	
Total, worst case		149		347		365		311		1060		568
Sun reduction		0.31		0.40		0.44		0.52		0.57		0.64
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.54		0.54		0.63		0.63		0.70		0.70
Total reduction		0.16		0.21		0.27		0.32		0.39		0.44
Total, real		24		73		99		101		415		250

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 228 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7878)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02	06:51 (T42)	06:26	06:48 (T42)	06:57		07:28		07:02	07:30 (T44)	07:37	
	21:09	20 07:11 (T42)	20:50	36 07:24 (T42)	20:07		19:15		17:28	25 07:55 (T44)	17:04	
2	06:03	06:51 (T42)	06:27	06:49 (T42)	06:58	07:46 (T77)	07:29		07:03	07:30 (T44)	07:38	
	21:08	20 07:11 (T42)	20:49	35 07:24 (T42)	20:06	11 07:57 (T77)	19:13		17:27	27 07:57 (T44)	17:03	
3	06:03	06:51 (T42)	06:28	06:50 (T42)	06:59	07:42 (T77)	07:30		07:04	07:29 (T44)	07:39	
	21:08	21 07:12 (T42)	20:48	34 07:24 (T42)	20:04	18 08:00 (T77)	19:11		17:26	28 07:57 (T44)	17:03	
4	06:04	06:50 (T42)	06:29	06:51 (T42)	07:00	07:40 (T77)	07:31		07:06	07:28 (T44)	07:40	
	21:08	22 07:12 (T42)	20:47	32 07:23 (T42)	20:02	22 08:02 (T77)	19:10		17:24	30 07:58 (T44)	17:03	
5	06:04	06:50 (T42)	06:30	06:52 (T42)	07:01	07:38 (T77)	07:32		07:07	07:28 (T44)	07:41	
	21:08	24 07:14 (T42)	20:46	31 07:23 (T42)	20:01	26 08:04 (T77)	19:08		17:23	30 07:58 (T44)	17:03	
6	06:05	06:49 (T42)	06:31	06:53 (T42)	07:02	07:36 (T77)	07:33		07:08	07:30 (T44)	07:42	
	21:08	25 07:14 (T42)	20:44	29 07:22 (T42)	19:57	29 08:05 (T77)	19:06		17:22	29 07:59 (T44)	17:03	
7	06:06	06:49 (T42)	06:32	06:54 (T42)	07:03	07:35 (T77)	07:34		07:09	07:31 (T44)	07:43	
	21:07	26 07:15 (T42)	20:43	28 07:22 (T42)	19:56	31 08:06 (T77)	19:05		17:21	28 07:59 (T44)	17:03	
8	06:06	06:49 (T42)	06:33	06:55 (T42)	07:04	07:33 (T77)	07:35		07:10	07:32 (T44)	07:44	
	21:07	27 07:16 (T42)	20:42	26 07:21 (T42)	19:54	33 08:06 (T77)	19:03		17:20	26 07:58 (T44)	17:03	
9	06:07	06:48 (T42)	06:34	06:56 (T42)	07:05	07:32 (T77)	07:36		07:12	07:34 (T44)	07:45	
	21:07	28 07:16 (T42)	20:41	24 07:20 (T42)	19:52	35 08:07 (T77)	19:02		17:19	25 07:59 (T44)	17:03	
10	06:08	06:48 (T42)	06:35	06:57 (T42)	07:06	07:31 (T77)	07:37		07:13	07:35 (T44)	07:46	
	21:06	29 07:17 (T42)	20:40	22 07:19 (T42)	19:51	36 08:07 (T77)	19:00		17:18	24 07:59 (T44)	17:03	
11	06:08	06:48 (T42)	06:36	06:58 (T42)	07:07	07:31 (T77)	07:38		07:14	07:36 (T44)	07:47	
	21:06	30 07:18 (T42)	20:38	20 07:18 (T42)	19:49	36 08:07 (T77)	18:58		17:17	22 07:58 (T44)	17:03	
12	06:09	06:47 (T42)	06:37	06:59 (T42)	07:08	07:29 (T77)	07:39		07:15	07:37 (T44)	07:47	
	21:06	31 07:18 (T42)	20:37	17 07:16 (T42)	19:47	37 08:06 (T77)	18:57		17:16	21 07:58 (T44)	17:03	
13	06:10	06:47 (T42)	06:38	07:00 (T42)	07:09	07:29 (T77)	07:40		07:16	07:39 (T44)	07:48	
	21:05	32 07:19 (T42)	20:36	14 07:14 (T42)	19:46	37 08:06 (T77)	18:55		17:15	19 07:58 (T44)	17:03	
14	06:10	06:47 (T42)	06:39	07:01 (T42)	07:10	07:30 (T77)	07:41		07:18	07:40 (T44)	07:49	
	21:05	33 07:20 (T42)	20:34	11 07:12 (T42)	19:44	36 08:06 (T77)	18:54		17:14	18 07:58 (T44)	17:03	
15	06:11	06:47 (T42)	06:40	07:02 (T42)	07:11	07:31 (T77)	07:43		07:19	07:41 (T44)	07:50	
	21:04	34 07:21 (T42)	20:33	6 07:08 (T42)	19:42	34 08:05 (T77)	18:52		17:13	16 07:57 (T44)	17:03	
16	06:12	06:45 (T42)	06:41		07:12	07:32 (T77)	07:44		07:20	07:43 (T44)	07:50	
	21:03	36 07:21 (T42)	20:32		19:40	33 08:05 (T77)	18:50		17:12	14 07:57 (T44)	17:04	
17	06:13	06:45 (T42)	06:42		07:13	07:33 (T77)	07:45		07:21	07:44 (T44)	07:51	
	21:03	36 07:21 (T42)	20:30		19:39	31 08:04 (T77)	18:49		17:12	12 07:56 (T44)	17:04	
18	06:14	06:45 (T42)	06:43		07:14	07:34 (T77)	07:46		07:22	07:45 (T44)	07:52	
	21:02	37 07:22 (T42)	20:29		19:37	29 08:03 (T77)	18:47		17:11	10 07:55 (T44)	17:04	
19	06:14	06:45 (T42)	06:44		07:15	07:35 (T77)	07:47		07:24	07:46 (T44)	07:52	
	21:02	38 07:23 (T42)	20:27		19:35	27 08:02 (T77)	18:46		17:10	8 07:54 (T44)	17:05	
20	06:15	06:45 (T42)	06:45		07:16	07:36 (T77)	07:48		07:25	07:48 (T44)	07:53	
	21:01	38 07:23 (T42)	20:26		19:34	25 08:01 (T77)	18:44		17:09	6 07:54 (T44)	17:05	
21	06:16	06:44 (T42)	06:46		07:17	07:37 (T77)	07:49		07:26	07:49 (T44)	07:53	
	21:00	39 07:23 (T42)	20:24		19:32	23 08:00 (T77)	18:43		17:09	3 07:52 (T44)	17:06	
22	06:17	06:44 (T42)	06:47		07:18	07:38 (T77)	07:50		07:27		07:54	
	20:59	39 07:23 (T42)	20:23		19:30	20 07:58 (T77)	18:42		17:08		17:06	
23	06:18	06:44 (T42)	06:48		07:19	07:39 (T77)	07:52		07:28		07:54	
	20:59	40 07:24 (T42)	20:21		19:28	17 07:56 (T77)	18:40		17:07		17:07	
24	06:19	06:44 (T42)	06:49		07:20	07:40 (T77)	07:53		07:29		07:55	
	20:58	40 07:24 (T42)	20:20		19:27	14 07:54 (T77)	18:39		17:07		17:07	
25	06:20	06:44 (T42)	06:50		07:21	07:41 (T77)	07:54		07:30		07:55	
	20:57	41 07:25 (T42)	20:18		19:25	10 07:51 (T77)	18:37		17:06		17:08	
26	06:21	06:44 (T42)	06:51		07:22	07:42 (T77)	07:55		07:32		07:56	
	20:56	41 07:25 (T42)	20:17		19:23	3 07:45 (T77)	18:36		17:06		17:08	
27	06:22	06:44 (T42)	06:52		07:23		07:56	08:41 (T44)	07:33		07:56	
	20:55	41 07:25 (T42)	20:15		19:22		18:35	4 08:45 (T44)	17:05		17:09	
28	06:23	06:45 (T42)	06:53		07:24		07:57	08:36 (T44)	07:34		07:56	
	20:54	40 07:25 (T42)	20:14		19:20		18:33	13 08:49 (T44)	17:05		17:10	
29	06:23	06:45 (T42)	06:54		07:25		07:58	08:34 (T44)	07:35		07:57	
	20:53	39 07:24 (T42)	20:12		19:18		18:32	18 08:52 (T44)	17:04		17:10	
30	06:24	06:46 (T42)	06:55		07:27		08:00	08:33 (T44)	07:36		07:57	
	20:52	38 07:24 (T42)	20:10		19:16		18:31	21 08:54 (T44)	17:04		17:11	
31	06:25	06:47 (T42)	06:56				08:01	08:31 (T44)			07:57	
	20:51	37 07:24 (T42)	20:09				18:29	24 08:55 (T44)			17:12	
Potential sun hours	460		429		375		345		297		287	
Total, worst case		1022		365		653		80		421		
Sun reduction		0.66		0.61		0.59		0.48		0.30		
Oper. time red.		1.00		1.00		1.00		1.00		1.00		
Wind dir. red.		0.70		0.70		0.63		0.54		0.54		
Total reduction		0.45		0.42		0.36		0.25		0.16		
Total, real		464		153		237		20		67		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 232 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7882)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April		May		June	
1	07:57	07:43		07:07	07:36 (T58)	07:16		06:30		06:59 (T54)	06:02
	17:13	17:48		18:22	15 07:51 (T58)	19:56		20:27	119	19:45 (T56)	20:57
2	07:57	07:42		07:06	07:38 (T58)	07:15	19:07 (T56)	06:29		07:00 (T54)	06:01
	17:14	17:49		18:23	9 07:47 (T58)	19:57	18 19:25 (T56)	20:28	117	19:45 (T56)	20:57
3	07:57	07:41		07:04		07:13	19:03 (T56)	06:28		07:02 (T54)	06:01
	17:15	17:50		18:24		19:58	27 19:30 (T56)	20:29	112	19:44 (T56)	20:58
4	07:57	07:40		07:02		07:11	18:59 (T56)	06:27		07:04 (T54)	06:00
	17:16	17:51		18:25		19:59	34 19:33 (T56)	20:30	107	19:43 (T56)	20:59
5	07:57	07:39		07:01		07:10	18:57 (T56)	06:25		07:16 (T55)	06:00
	17:17	17:53		18:26		20:00	39 19:36 (T56)	20:31	93	19:43 (T56)	21:00
6	07:57	07:38		06:59		07:08	18:54 (T56)	06:24		07:17 (T55)	06:00
	17:18	17:54		18:28		20:00	43 19:37 (T56)	20:32	90	19:42 (T56)	21:00
7	07:57	07:37		06:58		07:06	07:29 (T55)	06:23		07:19 (T55)	05:59
	17:19	17:55		18:29		20:01	61 19:38 (T56)	20:33	85	19:42 (T56)	21:01
8	07:57	07:36		07:56		07:05	07:26 (T55)	06:22		07:21 (T55)	05:59
	17:20	17:56		19:30		20:02	71 19:40 (T56)	20:34	80	19:42 (T56)	21:02
9	07:57	07:35		07:55		07:03	07:23 (T55)	06:21		07:25 (T55)	05:59
	17:21	17:58		19:31		20:03	78 19:41 (T56)	20:35	71	19:41 (T56)	21:02
10	07:57	07:34		07:53		07:01	07:20 (T55)	06:19		18:40 (T56)	05:59
	17:22	17:59		19:32		20:05	85 19:41 (T56)	20:36	61	19:41 (T56)	21:03
11	07:56	07:32		07:51		07:00	07:19 (T55)	06:18		18:41 (T56)	05:59
	17:23	18:00		19:33		20:06	90 19:43 (T56)	20:37	59	19:40 (T56)	21:03
12	07:56	07:31		07:50		06:58	07:17 (T55)	06:17		18:41 (T56)	05:59
	17:24	18:01		19:34		20:07	95 19:43 (T56)	20:38	58	19:39 (T56)	21:04
13	07:56	07:30		07:48		06:57	07:16 (T55)	06:16		18:42 (T56)	05:58
	17:25	18:03		19:35		20:08	98 19:44 (T56)	20:39	57	19:39 (T56)	21:04
14	07:56	07:29	07:48 (T58)	07:46		06:55	07:14 (T55)	06:15		18:43 (T56)	05:58
	17:26	18:04	2 07:50 (T58)	19:37		20:09	103 19:45 (T56)	20:40	55	19:38 (T56)	21:05
15	07:55	07:27	07:47 (T58)	07:45		06:54	07:13 (T54)	06:14		18:44 (T56)	05:58
	17:27	18:05	5 07:52 (T58)	19:38		20:10	107 19:46 (T56)	20:41	53	19:37 (T56)	21:05
16	07:55	07:26	07:46 (T58)	07:43		06:52	07:11 (T54)	06:13		18:44 (T56)	05:58
	17:28	18:06	8 07:54 (T58)	19:39		20:11	108 19:45 (T56)	20:42	52	19:36 (T56)	21:06
17	07:54	07:25	07:44 (T58)	07:41		06:50	07:10 (T54)	06:12		18:45 (T56)	05:58
	17:29	18:08	11 07:55 (T58)	19:40		20:12	112 19:46 (T56)	20:43	50	19:35 (T56)	21:06
18	07:54	07:23	07:43 (T58)	07:40		06:49	07:08 (T54)	06:11		18:46 (T56)	05:59
	17:31	18:09	13 07:56 (T58)	19:41		20:13	115 19:46 (T56)	20:44	48	19:34 (T56)	21:06
19	07:53	07:22	07:42 (T58)	07:38		06:47	07:07 (T54)	06:10		18:47 (T56)	05:59
	17:32	18:10	15 07:57 (T58)	19:42		20:14	117 19:47 (T56)	20:45	46	19:33 (T56)	21:07
20	07:53	07:20	07:40 (T58)	07:36		06:46	07:05 (T54)	06:10		18:48 (T56)	05:59
	17:33	18:11	17 07:57 (T58)	19:43		20:15	119 19:46 (T56)	20:46	44	19:32 (T56)	21:07
21	07:52	07:19	07:39 (T58)	07:35		06:44	07:04 (T54)	06:09		18:50 (T56)	05:59
	17:34	18:12	18 07:57 (T58)	19:44		20:16	121 19:47 (T56)	20:47	42	19:32 (T56)	21:07
22	07:51	07:18	07:37 (T58)	07:33		06:43	07:02 (T54)	06:08		18:51 (T56)	05:59
	17:35	18:14	20 07:57 (T58)	19:45		20:17	122 19:46 (T56)	20:48	39	19:30 (T56)	21:08
23	07:51	07:16	07:36 (T58)	07:31		06:41	07:01 (T54)	06:07		18:52 (T56)	05:59
	17:37	18:15	21 07:57 (T58)	19:46		20:18	124 19:47 (T56)	20:49	37	19:29 (T56)	21:08
24	07:50	07:15	07:34 (T58)	07:30		06:40	06:59 (T54)	06:06		18:54 (T56)	06:00
	17:38	18:16	22 07:56 (T58)	19:47		20:19	125 19:46 (T56)	20:50	35	19:29 (T56)	21:08
25	07:49	07:13	07:33 (T58)	07:28		06:39	06:58 (T54)	06:06		18:55 (T56)	06:00
	17:39	18:17	23 07:56 (T58)	19:48		20:21	125 19:46 (T56)	20:51	32	19:27 (T56)	21:08
26	07:49	07:12	07:32 (T58)	07:26		06:37	06:57 (T54)	06:05		18:56 (T56)	06:00
	17:40	18:18	23 07:55 (T58)	19:50		20:22	126 19:46 (T56)	20:52	29	19:25 (T56)	21:08
27	07:48	07:10	07:33 (T58)	07:25		06:36	06:56 (T54)	06:04		18:58 (T56)	06:01
	17:41	18:19	21 07:54 (T58)	19:51		20:23	127 19:46 (T56)	20:53	26	19:24 (T56)	21:08
28	07:47	07:09	07:34 (T58)	07:23		06:34	06:56 (T54)	06:04		19:00 (T56)	06:01
	17:43	18:21	18 07:52 (T58)	19:52		20:24	125 19:46 (T56)	20:53	22	19:22 (T56)	21:08
29	07:46			07:21		06:33	06:57 (T54)	06:03		19:02 (T56)	06:01
	17:44			19:53		20:25	124 19:46 (T56)	20:54	19	19:21 (T56)	21:08
30	07:45			07:20		06:32	06:57 (T54)	06:03		19:05 (T56)	06:02
	17:45			19:54		20:26	122 19:45 (T56)	20:55	13	19:18 (T56)	21:08
31	07:44			07:18				06:02		19:10 (T56)	
	17:46			19:55				20:56	4	19:14 (T56)	
Potential sun hours	297	297		370		399		448			452
Total, worst case			237		24		2761		1755		
Sun reduction			0.40		0.44		0.52		0.57		
Oper. time red.			1.00		1.00		1.00		1.00		
Wind dir. red.			0.56		0.56		0.62		0.60		
Total reduction			0.23		0.25		0.32		0.34		
Total, real			54		6		892		604		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 232 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7882)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November	December
1	06:02			06:27		18:51 (T56)	06:57		07:18 (T55)	07:28			07:02	07:37
	21:08			20:50	58	19:49 (T56)	20:07	90	19:42 (T56)	19:15			17:28	07:04
2	06:03			06:27		18:50 (T56)	06:58		07:19 (T55)	07:29			07:03	07:38
	21:08			20:49	60	19:50 (T56)	20:06	84	19:40 (T56)	19:13			17:27	07:04
3	06:03			06:28		18:49 (T56)	06:59		07:21 (T55)	07:30			07:04	07:39
	21:08			20:48	61	19:50 (T56)	20:04	78	19:39 (T56)	19:11			17:26	07:03
4	06:04			06:29		07:33 (T55)	07:00		07:23 (T55)	07:31			07:05	07:40
	21:08			20:47	74	19:51 (T56)	20:02	71	19:37 (T56)	19:10			17:25	07:03
5	06:05			06:30		07:30 (T55)	07:01		07:26 (T55)	07:32			07:07	07:41
	21:08			20:46	81	19:51 (T56)	20:01	61	19:35 (T56)	19:08			17:23	07:03
6	06:05			06:31		07:28 (T55)	07:02		18:50 (T56)	07:33			07:08	07:42
	21:07			20:44	87	19:52 (T56)	19:57	43	19:33 (T56)	19:07			17:22	07:03
7	06:06			06:32		07:26 (T55)	07:03		18:51 (T56)	07:34			07:09	07:43
	21:07			20:43	91	19:52 (T56)	19:56	40	19:31 (T56)	19:05			17:21	07:03
8	06:06			06:33		07:18 (T54)	07:04		18:54 (T56)	07:35			07:10	07:44
	21:07			20:42	97	19:53 (T56)	19:54	34	19:28 (T56)	19:03			17:20	07:03
9	06:07			06:34		07:12 (T54)	07:05		18:56 (T56)	07:36			07:11	07:45
	21:07			20:41	110	19:53 (T56)	19:52	29	19:25 (T56)	19:02			17:19	07:03
10	06:08			06:35		07:10 (T54)	07:06		19:00 (T56)	07:37			07:13	07:45
	21:06			20:39	114	19:53 (T56)	19:51	20	19:20 (T56)	19:00			17:18	07:03
11	06:08			06:36		07:08 (T54)	07:07			07:38		08:16 (T58)	07:14	07:46
	21:06			20:38	117	19:53 (T56)	19:49			18:58	1	08:17 (T58)	17:17	07:03
12	06:09			06:37		07:07 (T54)	07:08			07:39		08:10 (T58)	07:15	07:47
	21:05			20:37	119	19:53 (T56)	19:47			18:57	12	08:22 (T58)	17:16	07:03
13	06:10		19:15 (T56)	06:38		07:06 (T54)	07:09			07:40		08:08 (T58)	07:16	07:48
	21:05	10	19:25 (T56)	20:36	121	19:53 (T56)	19:45			18:55	16	08:24 (T58)	17:15	07:03
14	06:11		19:12 (T56)	06:39		07:05 (T54)	07:10			07:41		08:06 (T58)	07:17	07:49
	21:04	16	19:28 (T56)	20:34	124	19:54 (T56)	19:44			18:54	19	08:25 (T58)	17:14	07:03
15	06:11		19:10 (T56)	06:40		07:04 (T54)	07:11			07:42		08:05 (T58)	07:19	07:49
	21:04	21	19:31 (T56)	20:33	125	19:53 (T56)	19:42			18:52	22	08:27 (T58)	17:13	07:04
16	06:12		19:08 (T56)	06:41		07:03 (T54)	07:12			07:44		08:04 (T58)	07:20	07:50
	21:03	25	19:33 (T56)	20:31	127	19:53 (T56)	19:40			18:51	24	08:28 (T58)	17:12	07:04
17	06:13		19:06 (T56)	06:42		07:04 (T54)	07:13			07:45		08:05 (T58)	07:21	07:51
	21:03	28	19:34 (T56)	20:30	126	19:53 (T56)	19:39			18:49	23	08:28 (T58)	17:12	07:04
18	06:14		19:05 (T56)	06:43		07:05 (T54)	07:14			07:46		08:06 (T58)	07:22	07:51
	21:02	31	19:36 (T56)	20:29	126	19:53 (T56)	19:37			18:48	22	08:28 (T58)	17:11	07:05
19	06:15		19:04 (T56)	06:44		07:06 (T54)	07:15			07:47		08:07 (T58)	07:23	07:52
	21:01	33	19:37 (T56)	20:27	125	19:53 (T56)	19:35			18:46	21	08:28 (T58)	17:10	07:05
20	06:15		19:03 (T56)	06:45		07:06 (T54)	07:16			07:48		08:08 (T58)	07:25	07:53
	21:01	36	19:39 (T56)	20:26	123	19:51 (T56)	19:34			18:45	19	08:27 (T58)	17:09	07:05
21	06:16		19:02 (T56)	06:46		07:07 (T54)	07:17			07:49		08:10 (T58)	07:26	07:53
	21:00	38	19:40 (T56)	20:24	122	19:51 (T56)	19:32			18:43	18	08:28 (T58)	17:09	07:06
22	06:17		19:00 (T56)	06:47		07:08 (T54)	07:18			07:50		08:11 (T58)	07:27	07:54
	20:59	40	19:40 (T56)	20:23	121	19:51 (T56)	19:30			18:42	16	08:27 (T58)	17:08	07:06
23	06:18		18:59 (T56)	06:48		07:09 (T54)	07:19			07:51		08:12 (T58)	07:28	07:54
	20:58	43	19:42 (T56)	20:21	118	19:50 (T56)	19:28			18:40	14	08:26 (T58)	17:07	07:07
24	06:19		18:58 (T56)	06:49		07:10 (T54)	07:20			07:53		08:13 (T58)	07:29	07:55
	20:58	45	19:43 (T56)	20:20	116	19:49 (T56)	19:27			18:39	12	08:25 (T58)	17:07	07:07
25	06:20		18:57 (T56)	06:50		07:11 (T54)	07:21			07:54		08:14 (T58)	07:30	07:55
	20:57	47	19:44 (T56)	20:18	115	19:49 (T56)	19:25			18:37	10	08:24 (T58)	17:06	07:08
26	06:21		18:56 (T56)	06:51		07:12 (T54)	07:22			07:55		08:16 (T58)	07:31	07:55
	20:56	49	19:45 (T56)	20:17	112	19:48 (T56)	19:23			18:36	7	08:23 (T58)	17:06	07:09
27	06:22		18:55 (T56)	06:52		07:13 (T54)	07:23			07:56		08:17 (T58)	07:33	07:56
	20:55	51	19:46 (T56)	20:15	109	19:47 (T56)	19:22			18:35	4	08:21 (T58)	17:05	07:09
28	06:23		18:55 (T56)	06:53		07:14 (T54)	07:24			07:57			07:34	07:56
	20:54	52	19:47 (T56)	20:14	105	19:46 (T56)	19:20			18:33			17:05	07:10
29	06:24		18:54 (T56)	06:54		07:15 (T55)	07:25			07:58			07:35	07:56
	20:53	54	19:48 (T56)	20:12	102	19:45 (T56)	19:18			18:32			17:05	07:11
30	06:25		18:53 (T56)	06:55		07:16 (T55)	07:27			08:00			07:36	07:57
	20:52	56	19:49 (T56)	20:10	98	19:44 (T56)	19:17			18:31			17:04	07:11
31	06:26		18:51 (T56)	06:56		07:17 (T55)				08:01				07:57
	20:51	57	19:48 (T56)	20:09	95	19:43 (T56)				18:29				17:12
Potential sun hours	459			428			375			345			297	287
Total, worst case		732			3279			550			260			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.59			0.62			0.61			0.56			
Total reduction		0.39			0.38			0.36			0.27			
Total, real		286			1242			197			70			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 255 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7903)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:44	07:07	07:16		06:30		06:52 (T39)	06:02	06:58 (T39)	06:02	07:11 (T39)	06:26	06:59 (T39)	06:57	07:28	07:02	07:37
	17:13	17:48	18:22	19:56		20:27	46	07:38 (T39)	20:57 34	07:32 (T39)	21:09 20	07:31 (T39)	20:50 50	07:49 (T39)	20:07	19:15	17:28	17:04
2	07:58	07:43	07:06	07:15		06:29		06:52 (T39)	06:01	06:59 (T39)	06:03	07:10 (T39)	06:27	06:59 (T39)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	47	07:39 (T39)	20:58 33	07:32 (T39)	21:09 22	07:32 (T39)	20:49 51	07:50 (T39)	20:06	19:13	17:27	17:04
3	07:58	07:42	07:04	07:13		06:28		06:51 (T39)	06:01	06:59 (T39)	06:03	07:10 (T39)	06:28	06:59 (T39)	06:59	07:30	07:05	07:39
	17:15	17:50	18:24	19:58		20:29	48	07:39 (T39)	20:59 31	07:30 (T39)	21:08 23	07:33 (T39)	20:48 51	07:50 (T39)	20:04	19:12	17:26	17:03
4	07:58	07:41	07:03	07:11		06:26		06:50 (T39)	06:00	07:00 (T39)	06:04	07:09 (T39)	06:29	06:59 (T39)	07:00	07:31	07:06	07:40
	17:16	17:51	18:25	19:59		20:30	49	07:39 (T39)	20:59 30	07:30 (T39)	21:08 24	07:33 (T39)	20:47 51	07:50 (T39)	20:02	19:10	17:24	17:03
5	07:58	07:40	07:01	07:10		06:25		06:50 (T39)	06:00	07:02 (T39)	06:04	07:09 (T39)	06:30	06:59 (T39)	07:01	07:32	07:07	07:41
	17:17	17:53	18:26	20:00		20:31	49	07:39 (T39)	21:00 28	07:30 (T39)	21:08 25	07:34 (T39)	20:46 50	07:49 (T39)	20:01	19:08	17:23	17:03
6	07:58	07:38	06:59	07:08		06:24		06:50 (T39)	06:00	07:02 (T39)	06:05	07:08 (T39)	06:31	06:59 (T39)	07:02	07:33	07:08	07:42
	17:18	17:54	18:28	20:00		20:32	50	07:40 (T39)	21:01 27	07:29 (T39)	21:08 27	07:35 (T39)	20:45 50	07:49 (T39)	19:57	19:07	17:22	17:03
7	07:58	07:37	06:58	07:06		06:23		06:49 (T39)	05:59	07:03 (T39)	06:06	07:08 (T39)	06:32	06:59 (T39)	07:03	07:34	07:09	07:43
	17:19	17:55	18:29	20:02		20:34	51	07:40 (T39)	21:01 26	07:29 (T39)	21:08 28	07:36 (T39)	20:43 50	07:49 (T39)	19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05		06:22		06:49 (T39)	05:59	07:04 (T39)	06:06	07:08 (T39)	06:33	07:00 (T39)	07:04	07:35	07:11	07:44
	17:20	17:56	19:30	20:03		20:35	51	07:40 (T39)	21:02 24	07:28 (T39)	21:07 29	07:37 (T39)	20:42 49	07:49 (T39)	19:54	19:03	17:20	17:03
9	07:57	07:35	07:55	07:03		06:20		06:49 (T39)	05:59	07:05 (T39)	06:07	07:07 (T39)	06:34	07:00 (T39)	07:05	07:36	07:12	07:45
	17:21	17:58	19:31	20:04		20:36	51	07:40 (T39)	21:03 23	07:28 (T39)	21:07 30	07:37 (T39)	20:41 48	07:48 (T39)	19:52	19:02	17:19	17:03
10	07:57	07:34	07:53	07:01		06:19		06:49 (T39)	05:59	07:06 (T39)	06:08	07:07 (T39)	06:35	07:00 (T39)	07:06	07:37	07:13	07:46
	17:22	17:59	19:32	20:05		20:37	51	07:40 (T39)	21:03 22	07:28 (T39)	21:07 32	07:39 (T39)	20:40 48	07:48 (T39)	19:51	19:00	17:18	17:03
11	07:57	07:33	07:51	07:00		06:18		06:49 (T39)	05:58	07:07 (T39)	06:08	07:07 (T39)	06:36	07:01 (T39)	07:07	07:38	07:14	07:47
	17:23	18:00	19:33	20:06		20:38	51	07:40 (T39)	21:04 20	07:27 (T39)	21:06 33	07:40 (T39)	20:38 46	07:47 (T39)	19:49	18:58	17:17	17:03
12	07:57	07:31	07:50	06:58		06:17		06:49 (T39)	05:58	07:08 (T39)	06:09	07:05 (T39)	06:37	07:01 (T39)	07:08	07:39	07:15	07:48
	17:24	18:01	19:34	20:07		20:39	51	07:40 (T39)	21:04 19	07:27 (T39)	21:06 35	07:40 (T39)	20:37 46	07:47 (T39)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57		06:16		06:49 (T39)	05:58	07:08 (T39)	06:10	07:05 (T39)	06:38	07:02 (T39)	07:09	07:40	07:17	07:48
	17:25	18:03	19:36	20:08		20:40	51	07:40 (T39)	21:05 18	07:26 (T39)	21:05 36	07:41 (T39)	20:36 44	07:46 (T39)	19:46	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55		06:15		06:50 (T39)	05:58	07:08 (T39)	06:10	07:05 (T39)	06:39	07:02 (T39)	07:10	07:42	07:18	07:49
	17:26	18:04	19:37	20:09		20:41	49	07:39 (T39)	21:05 17	07:25 (T39)	21:05 37	07:42 (T39)	20:34 43	07:45 (T39)	19:44	18:54	17:14	17:03
15	07:56	07:28	07:45	06:54		06:14		06:50 (T39)	05:58	07:09 (T39)	06:11	07:05 (T39)	06:40	07:03 (T39)	07:11	07:43	07:19	07:50
	17:27	18:05	19:38	20:10		20:42	49	07:39 (T39)	21:06 16	07:25 (T39)	21:04 38	07:43 (T39)	20:33 41	07:44 (T39)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52		06:13		06:50 (T39)	05:58	07:11 (T39)	06:12	07:04 (T39)	06:41	07:04 (T39)	07:12	07:44	07:20	07:51
	17:28	18:06	19:39	20:11		20:43	49	07:39 (T39)	21:06 14	07:25 (T39)	21:04 39	07:43 (T39)	20:32 39	07:43 (T39)	19:41	18:51	17:12	17:04
17	07:55	07:25	07:41	06:50		06:12		06:50 (T39)	05:58	07:11 (T39)	06:13	07:03 (T39)	06:42	07:05 (T39)	07:13	07:45	07:21	07:51
	17:29	18:08	19:40	20:12		20:44	48	07:38 (T39)	21:07 14	07:25 (T39)	21:03 41	07:44 (T39)	20:30 37	07:42 (T39)	19:39	18:49	17:12	17:04
18	07:54	07:23	07:40	06:49		06:11		06:50 (T39)	05:58	07:12 (T39)	06:14	07:03 (T39)	06:43	07:06 (T39)	07:14	07:46	07:23	07:52
	17:30	18:09	19:41	20:13		20:45	48	07:38 (T39)	21:07 13	07:25 (T39)	21:02 41	07:44 (T39)	20:29 34	07:40 (T39)	19:37	18:48	17:11	17:04
19	07:54	07:22	07:38	06:47		06:10		06:50 (T39)	05:58	07:12 (T39)	06:14	07:03 (T39)	06:44	07:07 (T39)	07:15	07:47	07:24	07:52
	17:32	18:10	19:42	20:14		20:46	47	07:37 (T39)	21:07 13	07:25 (T39)	21:02 42	07:45 (T39)	20:27 31	07:38 (T39)	19:35	18:46	17:10	17:05
20	07:53	07:21	07:36	06:46	07:16 (T39)	06:09		06:50 (T39)	05:59	07:13 (T39)	06:15	07:03 (T39)	06:45	07:08 (T39)	07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15	2 07:18 (T39)	20:47	47	07:37 (T39)	21:08 11	07:24 (T39)	21:01 43	07:46 (T39)	20:26 27	07:35 (T39)	19:34	18:45	17:09	17:05
21	07:52	07:19	07:35	06:44	07:09 (T39)	06:09		06:52 (T39)	05:59	07:13 (T39)	06:16	07:01 (T39)	06:46	07:10 (T39)	07:17	07:49	07:26	07:54
	17:34	18:12	19:44	20:16	17 07:26 (T39)	20:48	45	07:37 (T39)	21:08 11	07:24 (T39)	21:00 45	07:46 (T39)	20:24 23	07:33 (T39)	19:32	18:43	17:09	17:06
22	07:52	07:18	07:33	06:43	07:05 (T39)	06:08		06:52 (T39)	05:59	07:13 (T39)	06:17	07:01 (T39)	06:47	07:13 (T39)	07:18	07:51	07:27	07:54
	17:35	18:14	19:45	20:18	23 07:28 (T39)	20:49	45	07:37 (T39)	21:08 11	07:24 (T39)	21:00 45	07:46 (T39)	20:23 16	07:29 (T39)	19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:41	07:03 (T39)	06:07		06:52 (T39)	05:59	07:13 (T39)	06:18	07:01 (T39)	06:48		07:19	07:52	07:28	07:55
	17:36	18:15	19:46	20:19	28 07:31 (T39)	20:49	44	07:36 (T39)	21:08 13	07:26 (T39)	20:59 46	07:47 (T39)	20:21		19:29	18:40	17:07	17:07
24	07:50	07:15	07:30	06:40	07:00 (T39)	06:06		06:52 (T39)	05:59	07:13 (T39)	06:19	07:01 (T39)	06:49		07:20	07:53	07:30	07:55
	17:38	18:16	19:48	20:20	32 07:32 (T39)	20:50	43	07:35 (T39)	21:08 13	07:26 (T39)	20:58 47	07:48 (T39)	20:20		19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:39	06:59 (T39)	06:06		06:53 (T39)	06:00	07:13 (T39)	06:20	07:01 (T39)	06:50		07:21	07:54	07:31	07:55
	17:39	18:17	19:49	20:21	35 07:34 (T39)	20:51	42	07:35 (T39)	21:09 13	07:26 (T39)	20:57 47	07:48 (T39)	20:18		19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:58 (T39)	06:05		06:54 (T39)	06:00	07:13 (T39)	06:21	07:01 (T39)	06:51		07:23	07:55	07:32	07:56
	17:40	18:18	19:50	20:22	37 07:35 (T39)	20:52	41	07:35 (T39)	21:09 14	07:27 (T39)	20:56 48	07:49 (T39)	20:17		19:23	18:36	17:06	17:08
27	07:48	07:10	07:25	06:36	06:56 (T39)	06:04		06:55 (T39)	06:00	07:12 (T39)	06:22	07:00 (T39)	06:52		07:24	07:56	07:33	07:56
	17:41	18:20	19:51	20:23	39 07:35 (T39)	20:53	40	07:35 (T39)	21:09 16	07:28 (T39)	20:55 49	07:49 (T39)	20:15		19:22	18:35	17:05	17:09
28	07:47	07:09	07:23	06:34	06:55 (T39)	06:04		06:55 (T39)	06:01	07:12 (T39)	06:23	07:00 (T39)	06:53		07:25	07:57	07:34	07:57
	17:43	18:21	19:52	20:24	42 07:37 (T39)	20:54	39	07:34 (T39)	21:09 16	07:28 (T39)	20:54 49	07:49 (T39)	20:14		19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:54 (T39)	06:03		06:56 (T39)	06:01	07:12 (T39)	06:24	07:00 (T39)	06:54		07:26	07:59	07:35	07:57
	17:44		19:53	20:25	44 07:38 (T39)	20:55	38	07:34 (T39)	21:09 17	07:29 (T39)	20:53 50	07:50 (T39)	20:12		19:18	18:32	17:04	17:10
30	07:46		07:20	06:32	06:53 (T39)	06:03		06:57 (T39)	06:02	07:11 (T39)	06:24	06:59 (T39)	06:55		07:27	08:00	07:36	07:57
	17:45		19:54	20:26	44 07:37 (T39)	20:56	36	07:33 (T39)	21:09 19	07:30 (T39)	20:52 50	07:49 (T39)	20:11		19:17	18:31	17:04	17:11
31	07:45		07:18			06:02		06:58 (T39)			06:25	06:59 (T39)	06:56			08:01		07:57
	17:46		19:55			20:56	35	07:33 (T39)			20:51 50	07:49 (T39)	20:09			18:29		17:12
Potential sun hours	297	297	370	399		449		453		460		429		375	345	297	287	
Total, worst case				343		1431		576		1171		925						
Sun reduction				0.52		0.57		0.64		0.66		0.61						
Oper. time red.				1.00		1.00		1.00		1.00		1.00						
Wind dir. red.				0.68		0.68		0.68		0.68		0.68						
Total reduction				0.35		0.39		0.44		0.45		0.42						
Total, real				122		557		252		527		385						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 275 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7918)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April	May			June		
1	07:58		08:45 (T38)	07:44		09:01 (T38)	07:07		07:27 (T37)	07:16	06:30			06:02		06:23 (T87)
	17:13	67	09:52 (T38)	17:48	53	09:54 (T38)	18:22	23	07:50 (T37)	19:56	20:27			20:57	41	07:04 (T34)
2	07:58		08:45 (T38)	07:43		09:02 (T38)	07:06		07:25 (T37)	07:15	06:29			06:01		06:23 (T87)
	17:14	67	09:52 (T38)	17:49	51	09:53 (T38)	18:23	26	07:51 (T37)	19:57	20:28			20:58	42	07:05 (T34)
3	07:58		08:45 (T38)	07:42		09:03 (T38)	07:04		07:24 (T37)	07:13	06:28			06:01		06:22 (T87)
	17:15	68	09:53 (T38)	17:50	49	09:52 (T38)	18:24	28	07:52 (T37)	19:58	20:29			20:59	43	07:05 (T34)
4	07:58		08:46 (T38)	07:41		09:04 (T38)	07:03		07:22 (T37)	07:11	06:27			06:00		06:22 (T87)
	17:16	67	09:53 (T38)	17:51	47	09:51 (T38)	18:25	29	07:51 (T37)	19:59	20:30			20:59	44	07:06 (T34)
5	07:58		08:46 (T38)	07:40		09:06 (T38)	07:01		07:21 (T37)	07:10	06:25			06:00		06:22 (T87)
	17:17	68	09:54 (T38)	17:53	44	09:50 (T38)	18:27	31	07:52 (T37)	20:01	20:32			21:00	45	07:07 (T34)
6	07:58		08:47 (T38)	07:39		09:07 (T38)	07:00		07:20 (T37)	07:08	06:24			06:00		06:22 (T87)
	17:18	67	09:54 (T38)	17:54	42	09:49 (T38)	18:28	32	07:52 (T37)	20:01	20:33			21:01	46	07:08 (T34)
7	07:58		08:47 (T38)	07:37		09:09 (T38)	06:58		07:19 (T37)	07:06	06:23			05:59		06:21 (T87)
	17:19	68	09:55 (T38)	17:55	38	09:47 (T38)	18:29	32	07:51 (T37)	20:02	20:34			21:02	47	07:08 (T34)
8	07:58		08:48 (T38)	07:36		09:10 (T38)	07:56		08:20 (T37)	07:05	06:22			05:59		06:21 (T87)
	17:20	68	09:56 (T38)	17:56	34	09:44 (T38)	19:30	31	08:51 (T37)	20:03	20:35			21:02	48	07:09 (T34)
9	07:57		08:47 (T38)	07:35		09:13 (T38)	07:55		08:20 (T37)	07:03	06:21			05:59		06:21 (T87)
	17:21	68	09:55 (T38)	17:58	29	09:42 (T38)	19:31	30	08:50 (T37)	20:04	20:36			21:03	49	07:10 (T34)
10	07:57		08:48 (T38)	07:34		09:16 (T38)	07:53		08:20 (T37)	07:02	06:19			05:59		06:21 (T87)
	17:22	68	09:56 (T38)	17:59	23	09:39 (T38)	19:32	29	08:49 (T37)	20:05	20:37			21:03	49	07:10 (T34)
11	07:57		08:49 (T38)	07:33		09:21 (T38)	07:52		08:21 (T37)	07:00	06:18			05:59		06:21 (T87)
	17:23	68	09:57 (T38)	18:00	13	09:34 (T38)	19:33	27	08:48 (T37)	20:06	20:38			21:04	50	07:11 (T34)
12	07:57		08:49 (T38)	07:31			07:50		08:21 (T37)	06:58	06:17			05:58		06:21 (T87)
	17:24	67	09:56 (T38)	18:01			19:34	26	08:47 (T37)	20:07	20:39			21:04	51	07:12 (T34)
13	07:56		08:49 (T38)	07:30			07:48		08:22 (T37)	06:57	06:16			05:58		06:21 (T87)
	17:25	68	09:57 (T38)	18:03			19:36	23	08:45 (T37)	20:08	20:40			21:05	51	07:12 (T34)
14	07:56		08:50 (T38)	07:29			07:47		08:24 (T37)	06:55	06:15		06:36 (T87)	05:58		06:21 (T87)
	17:26	68	09:58 (T38)	18:04			19:37	19	08:43 (T37)	20:09	20:41	4	06:40 (T87)	21:05	51	07:12 (T34)
15	07:56		08:50 (T38)	07:28			07:45		08:26 (T37)	06:54	06:14		06:35 (T87)	05:58		06:21 (T87)
	17:27	68	09:58 (T38)	18:05			19:38	14	08:40 (T37)	20:10	20:42	8	06:43 (T87)	21:06	52	07:13 (T34)
16	07:55		08:51 (T38)	07:26			07:43		08:30 (T37)	06:52	06:13		06:34 (T87)	05:58		06:21 (T87)
	17:28	67	09:58 (T38)	18:06			19:39	5	08:35 (T37)	20:11	20:43	10	06:44 (T87)	21:06	52	07:13 (T34)
17	07:55		08:51 (T38)	07:25			07:42			06:51	06:12		06:33 (T87)	05:58		06:21 (T87)
	17:29	67	09:58 (T38)	18:08			19:40			20:12	20:44	13	06:46 (T87)	21:07	52	07:13 (T34)
18	07:54		08:52 (T38)	07:24			07:40			06:49	06:11		06:32 (T87)	05:58		06:21 (T87)
	17:31	67	09:59 (T38)	18:09			19:41			20:13	20:45	15	06:47 (T87)	21:07	53	07:14 (T34)
19	07:54		08:52 (T38)	07:22			07:38			06:47	06:10		06:31 (T87)	05:59		06:21 (T87)
	17:32	66	09:58 (T38)	18:10			19:42			20:14	20:46	17	06:48 (T87)	21:07	53	07:14 (T34)
20	07:53		08:52 (T38)	07:21			07:37			06:46	06:10		06:30 (T87)	05:59		06:21 (T87)
	17:33	66	09:58 (T38)	18:11			19:43			20:16	20:47	18	06:48 (T87)	21:08	53	07:14 (T34)
21	07:53		08:53 (T38)	07:19			07:35			06:44	06:09		06:30 (T87)	05:59		06:21 (T87)
	17:34	66	09:59 (T38)	18:12			19:44			20:17	20:48	20	06:50 (T87)	21:08	53	07:14 (T34)
22	07:52		08:54 (T38)	07:18			07:33			06:43	06:08		06:29 (T87)	05:59		06:22 (T87)
	17:35	65	09:59 (T38)	18:14			19:45			20:18	20:49	21	06:50 (T87)	21:08	53	07:15 (T34)
23	07:51		08:54 (T38)	07:16			07:31			06:42	06:07		06:28 (T87)	05:59		06:22 (T87)
	17:36	64	09:58 (T38)	18:15			19:47			20:19	20:50	23	06:51 (T87)	21:08	53	07:15 (T34)
24	07:51		08:54 (T38)	07:15		07:35 (T37)	07:30			06:40	06:06		06:28 (T87)	06:00		06:22 (T87)
	17:38	64	09:58 (T38)	18:16	6	07:41 (T37)	19:48			20:20	20:50	24	06:52 (T87)	21:09	53	07:15 (T34)
25	07:50		08:56 (T38)	07:14		07:33 (T37)	07:28			06:39	06:06		06:27 (T87)	06:00		06:22 (T87)
	17:39	62	09:58 (T38)	18:17	12	07:45 (T37)	19:49			20:21	20:51	26	06:53 (T34)	21:09	52	07:14 (T34)
26	07:49		08:56 (T38)	07:12		07:32 (T37)	07:26			06:37	06:05		06:26 (T87)	06:00		06:23 (T87)
	17:40	62	09:58 (T38)	18:18	15	07:47 (T37)	19:50			20:22	20:52	29	06:55 (T34)	21:09	52	07:15 (T34)
27	07:48		08:57 (T38)	07:11		07:30 (T37)	07:25			06:36	06:04		06:26 (T87)	06:01		06:23 (T87)
	17:41	60	09:57 (T38)	18:20	18	07:48 (T37)	19:51			20:23	20:53	32	06:58 (T34)	21:09	52	07:15 (T34)
28	07:47		08:57 (T38)	07:09		07:28 (T37)	07:23			06:34	06:04		06:25 (T87)	06:01		06:23 (T87)
	17:43	60	09:57 (T38)	18:21	21	07:49 (T37)	19:52			20:24	20:54	34	06:59 (T34)	21:09	52	07:15 (T34)
29	07:47		08:58 (T38)				07:21			06:33	06:03		06:25 (T87)	06:01		06:24 (T87)
	17:44	58	09:56 (T38)				19:53			20:25	20:55	36	07:01 (T34)	21:09	51	07:15 (T34)
30	07:46		08:59 (T38)				07:20			06:32	06:03		06:24 (T87)	06:02		06:24 (T87)
	17:45	57	09:56 (T38)				19:54			20:26	20:56	38	07:02 (T34)	21:09	51	07:15 (T34)
31	07:45		09:00 (T38)				07:18				06:02		06:24 (T87)			
	17:46	55	09:55 (T38)				19:55				20:56	39	07:03 (T34)			
Potential sun hours	297			297			370			399	449			453		
Total, worst case		2021			495			405				407			1494	
Sun reduction		0.31			0.40			0.44				0.57			0.64	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.53			0.53			0.57				0.72			0.72	
Total reduction		0.16			0.20			0.24				0.39			0.44	
Total, real		314			100			97				158			652	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 275 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7918)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		06:25 (T87)	06:26			06:58			07:28		08:01 (T37)	07:02		08:45 (T38)	07:37		08:31 (T38)
	21:09	50	07:15 (T34)	20:50			20:07			19:15	25	08:26 (T37)	17:28	24	09:09 (T38)	17:04	68	09:39 (T38)
2	06:03		06:25 (T87)	06:27			06:59			07:29		08:00 (T37)	07:04		08:42 (T38)	07:38		08:31 (T38)
	21:09	50	07:15 (T34)	20:49			20:06			19:13	27	08:27 (T37)	17:27	30	09:12 (T38)	17:04	68	09:39 (T38)
3	06:03		06:26 (T87)	06:28			07:00			07:30		07:59 (T37)	07:05		08:40 (T38)	07:39		08:32 (T38)
	21:09	49	07:15 (T34)	20:48			20:04			19:12	28	08:27 (T37)	17:26	34	09:14 (T38)	17:03	67	09:39 (T38)
4	06:04		06:26 (T87)	06:29			07:01			07:31		07:58 (T37)	07:06		08:38 (T38)	07:40		08:32 (T38)
	21:08	48	07:14 (T34)	20:47			20:03			19:10	29	08:27 (T37)	17:25	38	09:16 (T38)	17:03	68	09:40 (T38)
5	06:04		06:27 (T87)	06:30			07:02			07:32		07:57 (T37)	07:07		08:37 (T38)	07:41		08:32 (T38)
	21:08	48	07:15 (T34)	20:46			20:01			19:08	30	08:27 (T37)	17:23	42	09:19 (T38)	17:03	68	09:40 (T38)
6	06:05		06:28 (T87)	06:31			07:03			07:33		07:56 (T37)	07:08		08:35 (T38)	07:42		08:33 (T38)
	21:08	47	07:15 (T34)	20:45			19:58			19:07	31	08:27 (T37)	17:22	45	09:20 (T38)	17:03	67	09:40 (T38)
7	06:06		06:28 (T87)	06:32			07:04			07:34		07:56 (T37)	07:09		08:34 (T38)	07:43		08:33 (T38)
	21:08	46	07:14 (T34)	20:44			19:56			19:05	31	08:27 (T37)	17:21	47	09:21 (T38)	17:03	68	09:41 (T38)
8	06:06		06:29 (T87)	06:33			07:05			07:35		07:55 (T37)	07:11		08:34 (T38)	07:44		08:34 (T38)
	21:07	45	07:14 (T34)	20:42			19:54			19:03	32	08:27 (T37)	17:20	49	09:23 (T38)	17:03	67	09:41 (T38)
9	06:07		06:29 (T87)	06:34			07:06			07:36		07:56 (T37)	07:12		08:33 (T38)	07:45		08:34 (T38)
	21:07	44	07:13 (T34)	20:41			19:53			19:02	30	08:26 (T37)	17:19	51	09:24 (T38)	17:03	68	09:42 (T38)
10	06:08		06:30 (T87)	06:35			07:07			07:37		07:57 (T37)	07:13		08:32 (T38)	07:46		08:35 (T38)
	21:07	43	07:13 (T34)	20:40			19:51			19:00	29	08:26 (T37)	17:18	53	09:25 (T38)	17:03	67	09:42 (T38)
11	06:08		06:31 (T87)	06:36			07:08			07:38		07:58 (T37)	07:14		08:31 (T38)	07:47		08:35 (T38)
	21:06	41	07:12 (T34)	20:39			19:49			18:59	27	08:25 (T37)	17:17	55	09:26 (T38)	17:03	67	09:42 (T38)
12	06:09		06:31 (T87)	06:37			07:09			07:39		08:00 (T37)	07:16		08:31 (T38)	07:48		08:35 (T38)
	21:06	40	07:11 (T34)	20:37			19:47			18:57	25	08:25 (T37)	17:16	57	09:28 (T38)	17:03	67	09:42 (T38)
13	06:10		06:32 (T87)	06:38			07:10			07:41		08:01 (T37)	07:17		08:30 (T38)	07:48		08:36 (T38)
	21:05	38	07:10 (T34)	20:36			19:46			18:55	23	08:24 (T37)	17:15	58	09:28 (T38)	17:03	67	09:43 (T38)
14	06:11		06:33 (T87)	06:39			07:11			07:42		08:02 (T37)	07:18		08:29 (T38)	07:49		08:37 (T38)
	21:05	37	07:10 (T34)	20:35			19:44			18:54	20	08:22 (T37)	17:14	60	09:29 (T38)	17:03	67	09:44 (T38)
15	06:11		06:34 (T87)	06:40			07:12			07:43		08:03 (T37)	07:19		08:30 (T38)	07:50		08:37 (T38)
	21:04	35	07:09 (T34)	20:33			19:42			18:52	17	08:20 (T37)	17:13	60	09:30 (T38)	17:03	66	09:43 (T38)
16	06:12		06:34 (T87)	06:41			07:13			07:44		08:04 (T37)	07:20		08:29 (T38)	07:51		08:37 (T38)
	21:04	33	07:07 (T34)	20:32			19:41			18:51	14	08:18 (T37)	17:12	62	09:31 (T38)	17:04	67	09:44 (T38)
17	06:13		06:35 (T87)	06:42			07:14			07:45		08:05 (T37)	07:21		08:29 (T38)	07:51		08:38 (T38)
	21:03	30	07:05 (T34)	20:30			19:39			18:49	10	08:15 (T37)	17:12	62	09:31 (T38)	17:04	67	09:45 (T38)
18	06:14		06:36 (T87)	06:43			07:15			07:46			07:23		08:28 (T38)	07:52		08:38 (T38)
	21:03	27	07:03 (T34)	20:29			19:37			18:48			17:11	64	09:32 (T38)	17:04	67	09:45 (T38)
19	06:15		06:37 (T87)	06:44			07:16			07:47			07:24		08:29 (T38)	07:53		08:39 (T38)
	21:02	25	07:02 (T87)	20:28			19:35			18:46			17:10	64	09:33 (T38)	17:05	67	09:46 (T38)
20	06:15		06:38 (T87)	06:45			07:17			07:48			07:25		08:29 (T38)	07:53		08:40 (T38)
	21:01	23	07:01 (T87)	20:26			19:34			18:45			17:09	65	09:34 (T38)	17:05	66	09:46 (T38)
21	06:16		06:39 (T87)	06:46			07:18			07:49			07:26		08:28 (T38)	07:54		08:40 (T38)
	21:00	22	07:01 (T87)	20:25			19:32			18:43			17:09	66	09:34 (T38)	17:06	66	09:46 (T38)
22	06:17		06:39 (T87)	06:47			07:19			07:51			07:27		08:28 (T38)	07:54		08:41 (T38)
	21:00	21	07:00 (T87)	20:23			19:30			18:42			17:08	66	09:34 (T38)	17:06	66	09:47 (T38)
23	06:18		06:40 (T87)	06:48			07:20			07:52			07:29		08:29 (T38)	07:55		08:41 (T38)
	20:59	19	06:59 (T87)	20:22			19:29			18:40			17:07	66	09:35 (T38)	17:07	66	09:47 (T38)
24	06:19		06:41 (T87)	06:49			07:21			07:53			07:30		08:29 (T38)	07:55		08:41 (T38)
	20:58	18	06:59 (T87)	20:20			19:27			18:39			17:07	67	09:36 (T38)	17:07	67	09:48 (T38)
25	06:20		06:42 (T87)	06:50			07:22			07:54			07:31		08:29 (T38)	07:56		08:42 (T38)
	20:57	16	06:58 (T87)	20:19			19:25			18:37			17:06	67	09:36 (T38)	17:08	67	09:49 (T38)
26	06:21		06:43 (T87)	06:51			07:23			07:55			07:32		08:29 (T38)	07:56		08:42 (T38)
	20:56	14	06:57 (T87)	20:17			19:23			18:36			17:06	67	09:36 (T38)	17:08	67	09:49 (T38)
27	06:22		06:44 (T87)	06:52			07:24			07:56			07:33		08:29 (T38)	07:56		08:42 (T38)
	20:55	12	06:56 (T87)	20:15			19:22			18:35			17:05	68	09:37 (T38)	17:09	67	09:49 (T38)
28	06:23		06:45 (T87)	06:53			07:25		08:09 (T37)	07:58			07:34		08:29 (T38)	07:57		08:43 (T38)
	20:54	9	06:54 (T87)	20:14			19:20	12	08:21 (T37)	18:33			17:05	68	09:37 (T38)	17:10	67	09:50 (T38)
29	06:24		06:46 (T87)	06:54			07:26		08:05 (T37)	07:59			07:35		08:30 (T38)	07:57		08:44 (T38)
	20:53	6	06:52 (T87)	20:12			19:18	18	08:23 (T37)	18:32			17:05	68	09:38 (T38)	17:11	67	09:51 (T38)
30	06:25		06:47 (T87)	06:56			07:27		08:03 (T37)	08:00			07:36		08:31 (T38)	07:57		08:44 (T38)
	20:53	1	06:48 (T87)	20:11			19:17	22	08:25 (T37)	18:31			17:04	67	09:38 (T38)	17:11	67	09:51 (T38)
31	06:25			06:57						08:01		09:49 (T38)				07:57		08:44 (T38)
	20:51			20:09						18:29	15	10:04 (T38)				17:12	67	09:51 (T38)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		937						52			443			1690			2078	
Sun reduction		0.66						0.59			0.48			0.30			0.22	
Oper. time red.		1.00						1.00			1.00			1.00			1.00	
Wind dir. red.		0.72						0.57			0.57			0.53			0.53	
Total reduction		0.45						0.32			0.26			0.15			0.11	
Total, real		421						17			115			254			229	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 277 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7919)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		06:53 (T49)	06:02	06:38 (T49)	06:02	06:44 (T49)	06:26	06:53 (T49)	06:57	07:28	07:02	07:37
	17:13	17:48	18:22	19:56		20:27	67	08:00 (T49)	20:57 95	08:13 (T49)	21:08 96	08:20 (T49)	20:50 85	08:18 (T49)	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:15		06:29		06:52 (T49)	06:01	06:39 (T49)	06:03	06:44 (T49)	06:27	06:54 (T49)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	69	08:01 (T49)	20:58 95	08:14 (T49)	21:08 95	08:19 (T49)	20:49 84	08:18 (T49)	20:06	19:13	17:27	17:04
3	07:57	07:41	07:04	07:13		06:28		06:51 (T49)	06:01	06:38 (T49)	06:03	06:45 (T49)	06:28	06:54 (T49)	06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58		20:29	71	08:02 (T49)	20:58 95	08:13 (T49)	21:08 95	08:20 (T49)	20:48 83	08:17 (T49)	20:04	19:11	17:26	17:03
4	07:57	07:40	07:03	07:11		06:27		06:49 (T49)	06:00	06:39 (T49)	06:04	06:44 (T49)	06:29	06:55 (T49)	07:00	07:31	07:06	07:40
	17:16	17:51	18:25	19:59		20:30	74	08:03 (T49)	20:59 95	08:14 (T49)	21:08 96	08:20 (T49)	20:47 81	08:16 (T49)	20:02	19:10	17:25	17:03
5	07:57	07:39	07:01	07:10		06:25		06:48 (T49)	06:00	06:39 (T49)	06:04	06:45 (T49)	06:30	06:56 (T49)	07:01	07:32	07:07	07:41
	17:17	17:53	18:26	20:00		20:31	76	08:04 (T49)	21:00 95	08:14 (T49)	21:08 95	08:20 (T49)	20:46 80	08:16 (T49)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08		06:24		06:47 (T49)	06:00	06:39 (T49)	06:05	06:46 (T49)	06:31	06:56 (T49)	07:02	07:33	07:08	07:42
	17:18	17:54	18:28	20:00		20:32	78	08:05 (T49)	21:00 96	08:15 (T49)	21:08 95	08:21 (T49)	20:44 79	08:15 (T49)	19:57	19:06	17:22	17:03
7	07:57	07:37	06:58	07:06		06:23		06:46 (T49)	05:59	06:39 (T49)	06:06	06:45 (T49)	06:32	06:57 (T49)	07:03	07:34	07:09	07:43
	17:19	17:55	18:29	20:01		20:33	80	08:06 (T49)	21:01 95	08:14 (T49)	21:07 96	08:21 (T49)	20:43 77	08:14 (T49)	19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05		06:22		06:46 (T49)	05:59	06:39 (T49)	06:06	06:46 (T49)	06:33	06:58 (T49)	07:04	07:35	07:10	07:44
	17:20	17:56	19:30	20:02		20:34	80	08:06 (T49)	21:02 96	08:15 (T49)	21:07 95	08:21 (T49)	20:42 75	08:13 (T49)	19:54	19:03	17:20	17:03
9	07:57	07:35	07:55	07:03		06:21		06:45 (T49)	05:59	06:40 (T49)	06:07	06:45 (T49)	06:34	06:59 (T49)	07:05	07:36	07:12	07:45
	17:21	17:58	19:31	20:03		20:35	82	08:07 (T49)	21:02 95	08:15 (T49)	21:07 96	08:21 (T49)	20:41 73	08:12 (T49)	19:52	19:02	17:19	17:03
10	07:57	07:34	07:53	07:01		06:19		06:44 (T49)	05:59	06:40 (T49)	06:08	06:46 (T49)	06:35	07:00 (T49)	07:06	07:37	07:13	07:46
	17:22	17:59	19:32	20:05		20:36	84	08:08 (T49)	21:03 95	08:15 (T49)	21:06 95	08:21 (T49)	20:39 71	08:11 (T49)	19:51	19:00	17:18	17:03
11	07:57	07:32	07:51	07:00		06:18		06:44 (T49)	05:59	06:40 (T49)	06:08	06:46 (T49)	06:36	07:01 (T49)	07:07	07:38	07:14	07:46
	17:23	18:00	19:33	20:06		20:37	84	08:08 (T49)	21:03 96	08:16 (T49)	21:06 96	08:22 (T49)	20:38 69	08:10 (T49)	19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58		06:17		06:43 (T49)	05:59	06:40 (T49)	06:09	06:47 (T49)	06:37	07:02 (T49)	07:08	07:39	07:15	07:47
	17:24	18:01	19:34	20:07		20:38	86	08:09 (T49)	21:04 96	08:16 (T49)	21:05 95	08:22 (T49)	20:37 66	08:08 (T49)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57		06:16		06:42 (T49)	05:58	06:41 (T49)	06:10	06:47 (T49)	06:38	07:04 (T49)	07:09	07:40	07:16	07:48
	17:25	18:03	19:35	20:08		20:39	87	08:09 (T49)	21:04 95	08:16 (T49)	21:05 94	08:21 (T49)	20:36 63	08:07 (T49)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55		06:15		06:42 (T49)	05:58	06:41 (T49)	06:11	06:47 (T49)	06:39	07:05 (T49)	07:10	07:41	07:18	07:49
	17:26	18:04	19:37	20:09		20:40	88	08:10 (T49)	21:05 95	08:16 (T49)	21:04 95	08:22 (T49)	20:34 60	08:05 (T49)	19:44	18:54	17:14	17:03
15	07:55	07:27	07:45	06:54		06:14		06:41 (T49)	05:58	06:41 (T49)	06:11	06:47 (T49)	06:40	07:07 (T49)	07:11	07:42	07:19	07:49
	17:27	18:05	19:38	20:10		20:41	89	08:10 (T49)	21:05 95	08:16 (T49)	21:04 95	08:22 (T49)	20:33 56	08:03 (T49)	19:42	18:52	17:13	17:04
16	07:55	07:26	07:43	06:52		06:13		06:41 (T49)	05:58	06:41 (T49)	06:12	06:48 (T49)	06:41	07:08 (T49)	07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11		20:42	89	08:10 (T49)	21:06 96	08:17 (T49)	21:03 94	08:22 (T49)	20:31 53	08:01 (T49)	19:40	18:51	17:12	17:04
17	07:54	07:25	07:41	06:50		06:12		06:40 (T49)	05:58	06:41 (T49)	06:13	06:47 (T49)	06:42	07:10 (T49)	07:13	07:45	07:21	07:51
	17:29	18:08	19:40	20:12		20:43	90	08:10 (T49)	21:06 96	08:17 (T49)	21:03 95	08:22 (T49)	20:30 49	07:59 (T49)	19:39	18:49	17:12	17:04
18	07:54	07:23	07:40	06:49		06:11		06:40 (T49)	05:58	06:41 (T49)	06:14	06:48 (T49)	06:43	07:13 (T49)	07:14	07:46	07:22	07:52
	17:31	18:09	19:41	20:13		20:44	91	08:11 (T49)	21:07 96	08:17 (T49)	21:02 94	08:22 (T49)	20:29 43	07:56 (T49)	19:37	18:47	17:11	17:04
19	07:53	07:22	07:38	06:47		06:10		06:39 (T49)	05:59	06:42 (T49)	06:15	06:48 (T49)	06:44	07:15 (T49)	07:15	07:47	07:23	07:52
	17:32	18:10	19:42	20:14		20:45	92	08:11 (T49)	21:07 95	08:17 (T49)	21:01 94	08:22 (T49)	20:27 38	07:53 (T49)	19:35	18:46	17:10	17:05
20	07:53	07:20	07:36	06:46		06:10		06:39 (T49)	05:59	06:42 (T49)	06:15	06:49 (T49)	06:45	07:18 (T49)	07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15		20:46	92	08:11 (T49)	21:07 95	08:17 (T49)	21:01 93	08:22 (T49)	20:26 30	07:48 (T49)	19:34	18:45	17:09	17:05
21	07:52	07:19	07:35	06:44		06:09		06:39 (T49)	05:59	06:42 (T49)	06:16	06:49 (T49)	06:46	07:23 (T49)	07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16		20:47	93	08:12 (T49)	21:07 95	08:17 (T49)	21:00 93	08:22 (T49)	20:24 20	07:43 (T49)	19:32	18:43	17:09	17:06
22	07:52	07:18	07:33	06:43	07:17 (T49)	06:08		06:39 (T49)	05:59	06:43 (T49)	06:17	06:49 (T49)	06:47		07:18	07:50	07:27	07:54
	17:35	18:14	19:45	20:17	22 07:39 (T49)	20:48	93	08:12 (T49)	21:08 95	08:18 (T49)	20:59 92	08:21 (T49)	20:23		19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:41	07:12 (T49)	06:07		06:39 (T49)	05:59	06:43 (T49)	06:18	06:49 (T49)	06:48		07:19	07:51	07:28	07:54
	17:36	18:15	19:46	20:18	32 07:44 (T49)	20:49	93	08:12 (T49)	21:08 95	08:18 (T49)	20:58 92	08:21 (T49)	20:21		19:28	18:40	17:07	17:07
24	07:50	07:15	07:30	06:40	07:08 (T49)	06:06		06:39 (T49)	06:00	06:42 (T49)	06:19	06:50 (T49)	06:49		07:20	07:53	07:29	07:55
	17:38	18:16	19:47	20:19	39 07:47 (T49)	20:50	94	08:13 (T49)	21:08 96	08:18 (T49)	20:58 91	08:21 (T49)	20:20		19:27	18:39	17:07	17:07
25	07:49	07:13	07:28	06:39	07:05 (T49)	06:06		06:39 (T49)	06:00	06:42 (T49)	06:20	06:50 (T49)	06:50		07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:21	45 07:50 (T49)	20:51	93	08:12 (T49)	21:08 96	08:18 (T49)	20:57 91	08:21 (T49)	20:18		19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	07:03 (T49)	06:05		06:38 (T49)	06:00	06:43 (T49)	06:21	06:51 (T49)	06:51		07:22	07:55	07:31	07:56
	17:40	18:18	19:50	20:22	49 07:52 (T49)	20:52	94	08:12 (T49)	21:08 96	08:19 (T49)	20:56 90	08:21 (T49)	20:17		19:23	18:36	17:06	17:09
27	07:48	07:10	07:25	06:36	07:00 (T49)	06:04		06:39 (T49)	06:01	06:43 (T49)	06:22	06:51 (T49)	06:52		07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23	54 07:54 (T49)	20:53	94	08:13 (T49)	21:08 95	08:18 (T49)	20:55 90	08:21 (T49)	20:15		19:22	18:35	17:05	17:09
28	07:47	07:09	07:23	06:34	06:59 (T49)	06:04		06:38 (T49)	06:01	06:44 (T49)	06:23	06:52 (T49)	06:53		07:24	07:57	07:34	07:56
	17:43	18:21	19:52	20:24	57 07:56 (T49)	20:54	95	08:13 (T49)	21:08 95	08:19 (T49)	20:54 89	08:21 (T49)	20:14		19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:57 (T49)	06:03		06:39 (T49)	06:01	06:44 (T49)	06:24	06:52 (T49)	06:54		07:25	07:58	07:35	07:56
	17:44		19:53	20:25	61 07:58 (T49)	20:54	94	08:13 (T49)	21:08 95	08:19 (T49)	20:53 88	08:20 (T49)	20:12		19:18	18:32	17:05	17:11
30	07:45		07:20	06:32	06:55 (T49)	06:03		06:38 (T49)	06:02	06:44 (T49)	06:25	06:53 (T49)	06:55		07:27	08:00	07:36	07:57
	17:45		19:54	20:26	63 07:58 (T49)	20:55	95	08:13 (T49)	21:08 95	08:19 (T49)	20:52 87	08:20 (T49)	20:10		19:17	18:31	17:04	17:11
31	07:44		07:18			06:02		06:39 (T49)			06:26	06:52 (T49)	06:56			08:01		07:57
	17:46		19:55			20:56	95	08:14 (T49)			20:51 87	08:19 (T49)	20:09			18:29		17:12
Potential sun hours	297	297	370	399		448		452		459		428		375	345	297	287	
Total, worst case				422		2682		2860		2889		1335						
Sun reduction				0.52		0.57		0.64		0.66		0.61						
Oper. time red.				1.00		1.00		1.00		1.00		1.00						
Wind dir. red.				0.69		0.69		0.69		0.69		0.69						
Total reduction				0.36		0.40		0.44		0.46		0.42						
Total, real				152		1060		1269		1322		565						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 319 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7948)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June
1	07:57	07:43	07:07			07:16		18:39 (T79)	06:30		18:26 (T79)	06:02
	17:13	17:48	18:22			19:56	55	19:34 (T62)	20:27	69	19:35 (T79)	20:56
2	07:57	07:42	07:05			07:14		18:37 (T79)	06:29		18:27 (T79)	06:01
	17:14	17:49	18:23			19:57	58	19:35 (T62)	20:28	68	19:35 (T79)	20:57
3	07:57	07:41	07:04			07:13		18:36 (T79)	06:28		18:27 (T79)	06:01
	17:15	17:50	18:24			19:58	61	19:37 (T62)	20:29	66	19:33 (T79)	20:58
4	07:57	07:40	07:02			07:11		18:34 (T79)	06:26		18:27 (T79)	06:00
	17:16	17:51	18:25			19:59	63	19:37 (T62)	20:30	66	19:33 (T79)	20:59
5	07:57	07:39	07:01			07:09		18:33 (T79)	06:25		18:28 (T79)	06:00
	17:17	17:53	18:26			20:00	64	19:37 (T62)	20:31	64	19:32 (T79)	20:59
6	07:57	07:38	06:59			07:08		18:32 (T79)	06:24		18:29 (T79)	06:00
	17:18	17:54	18:27			20:00	66	19:38 (T62)	20:32	62	19:31 (T79)	21:00
7	07:57	07:37	06:58			07:06		18:30 (T79)	06:23		18:30 (T79)	05:59
	17:19	17:55	18:29			20:01	69	19:39 (T79)	20:33	61	19:31 (T79)	21:01
8	07:57	07:36	07:56			07:05		18:29 (T79)	06:22		18:31 (T79)	05:59
	17:20	17:56	19:30			20:02	70	19:39 (T79)	20:34	59	19:30 (T79)	21:01
9	07:57	07:34	07:54			07:03		18:29 (T79)	06:20		18:32 (T79)	05:59
	17:21	17:58	19:31			20:03	71	19:40 (T79)	20:35	57	19:29 (T79)	21:02
10	07:56	07:33	07:53			07:01		18:27 (T79)	06:19		18:32 (T79)	05:59
	17:22	17:59	19:32			20:04	73	19:40 (T79)	20:36	55	19:27 (T79)	21:03
11	07:56	07:32	07:51			07:00		18:27 (T79)	06:18		18:33 (T79)	05:59
	17:23	18:00	19:33			20:05	73	19:40 (T79)	20:37	53	19:26 (T79)	21:03
12	07:56	07:31	07:49			06:58		18:26 (T79)	06:17		18:34 (T79)	05:58
	17:24	18:01	19:34			20:06	74	19:40 (T79)	20:38	51	19:25 (T79)	21:04
13	07:56	07:30	07:48			06:57		18:26 (T79)	06:16		18:35 (T79)	05:58
	17:25	18:02	19:35			20:07	75	19:41 (T79)	20:39	49	19:24 (T79)	21:04
14	07:55	07:28	07:46			06:55		18:25 (T79)	06:15		18:37 (T79)	05:58
	17:26	18:04	19:36			20:09	76	19:41 (T79)	20:40	46	19:23 (T79)	21:05
15	07:55	07:27	07:44			06:53		18:24 (T79)	06:14		18:39 (T79)	05:58
	17:27	18:05	19:37			20:10	76	19:40 (T79)	20:41	43	19:22 (T79)	21:05
16	07:54	07:26	07:43			06:52		18:24 (T79)	06:13		18:40 (T79)	05:58
	17:28	18:06	19:39			20:11	77	19:41 (T79)	20:42	41	19:21 (T79)	21:05
17	07:54	07:24	07:41			06:50		18:24 (T79)	06:12		18:42 (T79)	05:58
	17:29	18:07	19:40			20:12	76	19:40 (T79)	20:43	37	19:19 (T79)	21:06
18	07:54	07:23	07:39			06:49		18:24 (T79)	06:11		18:43 (T79)	05:58
	17:30	18:09	19:41			20:13	76	19:40 (T79)	20:44	35	19:18 (T79)	21:06
19	07:53	07:22	07:38			06:47		18:23 (T79)	06:10		18:45 (T79)	05:59
	17:32	18:10	19:42			20:14	77	19:40 (T79)	20:45	31	19:16 (T79)	21:07
20	07:52	07:20	07:36			06:46		18:24 (T79)	06:09		18:47 (T79)	05:59
	17:33	18:11	19:43			20:15	76	19:40 (T79)	20:46	27	19:14 (T79)	21:07
21	07:52	07:19	07:34			06:44		18:23 (T79)	06:09		18:50 (T79)	05:59
	17:34	18:12	19:44			20:16	76	19:39 (T79)	20:47	22	19:12 (T79)	21:07
22	07:51	07:17	07:33			06:43		18:23 (T79)	06:08		18:52 (T79)	05:59
	17:35	18:13	19:45			20:17	76	19:39 (T79)	20:48	17	19:09 (T79)	21:07
23	07:51	07:16	07:31			06:41		18:24 (T79)	06:07		18:57 (T79)	05:59
	17:36	18:15	19:46			20:18	75	19:39 (T79)	20:49	8	19:05 (T79)	21:08
24	07:50	07:14	07:29			06:40		18:23 (T79)	06:06			06:00
	17:38	18:16	19:47			20:19	75	19:38 (T79)	20:50			21:08
25	07:49	07:13	07:28		19:04 (T79)	06:38		18:24 (T79)	06:06			06:00
	17:39	18:17	19:48	10	19:14 (T79)	20:20	74	19:38 (T79)	20:51			21:08
26	07:48	07:11	07:26		18:56 (T79)	06:37		18:24 (T79)	06:05			06:00
	17:40	18:18	19:49	24	19:20 (T79)	20:21	73	19:37 (T79)	20:51			21:08
27	07:48	07:10	07:24		18:52 (T79)	06:36		18:24 (T79)	06:04			06:01
	17:41	18:19	19:50	36	19:28 (T62)	20:22	73	19:37 (T79)	20:52			21:08
28	07:47	07:08	07:23		18:49 (T79)	06:34		18:25 (T79)	06:04			06:01
	17:43	18:20	19:51	41	19:30 (T62)	20:23	72	19:37 (T79)	20:53			21:08
29	07:46		07:21		18:46 (T79)	06:33		18:24 (T79)	06:03			06:01
	17:44		19:53	45	19:31 (T62)	20:25	72	19:36 (T79)	20:54			21:08
30	07:45		07:19		18:43 (T79)	06:32		18:25 (T79)	06:03			06:02
	17:45		19:54	49	19:32 (T62)	20:26	70	19:35 (T79)	20:55			21:08
31	07:44		07:18		18:41 (T79)				06:02			
	17:46		19:55	53	19:34 (T62)				20:56			
Potential sun hours	297	297	370			399			448			452
Total, worst case				258			2142			1087		
Sun reduction				0.44			0.52			0.57		
Oper. time red.				1.00			1.00			1.00		
Wind dir. red.				0.61			0.61			0.61		
Total reduction				0.27			0.32			0.35		
Total, real				69			681			378		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 319 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7948)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November	December
1	06:02			06:26		18:44 (T79)	06:57		18:26 (T79)	07:27	07:02	07:37
	21:08			20:50	52	19:36 (T79)	20:07	73	19:39 (T79)	19:15	17:28	17:04
2	06:03			06:27		18:43 (T79)	06:58		18:26 (T79)	07:28	07:03	07:38
	21:08			20:49	54	19:37 (T79)	20:05	73	19:39 (T79)	19:13	17:27	17:04
3	06:03			06:28		18:42 (T79)	06:59		18:27 (T79)	07:29	07:04	07:39
	21:08			20:48	56	19:38 (T79)	20:04	71	19:38 (T79)	19:11	17:26	17:03
4	06:04			06:29		18:41 (T79)	07:00		18:27 (T79)	07:30	07:05	07:40
	21:08			20:46	58	19:39 (T79)	20:02	70	19:37 (T79)	19:10	17:24	17:03
5	06:04			06:30		18:40 (T79)	07:01		18:27 (T79)	07:31	07:06	07:41
	21:07			20:45	60	19:40 (T79)	20:00	69	19:36 (T79)	19:08	17:23	17:03
6	06:05			06:31		18:39 (T79)	07:02		18:28 (T79)	07:33	07:08	07:42
	21:07			20:44	62	19:41 (T79)	19:57	67	19:35 (T79)	19:06	17:22	17:03
7	06:06			06:32		18:39 (T79)	07:03		18:29 (T79)	07:34	07:09	07:43
	21:07			20:43	62	19:41 (T79)	19:55	64	19:33 (T62)	19:05	17:21	17:03
8	06:06			06:33		18:38 (T79)	07:04		18:28 (T79)	07:35	07:10	07:43
	21:07			20:42	64	19:42 (T79)	19:54	63	19:31 (T62)	19:03	17:20	17:03
9	06:07			06:34		18:37 (T79)	07:05		18:29 (T79)	07:36	07:11	07:44
	21:06			20:40	65	19:42 (T79)	19:52	61	19:30 (T62)	19:01	17:19	17:03
10	06:08			06:35		18:36 (T79)	07:06		18:30 (T79)	07:37	07:12	07:45
	21:06			20:39	67	19:43 (T79)	19:50	58	19:28 (T62)	19:00	17:18	17:03
11	06:08			06:36		18:35 (T79)	07:07		18:31 (T79)	07:38	07:14	07:46
	21:06			20:38	68	19:43 (T79)	19:49	56	19:27 (T62)	18:58	17:17	17:03
12	06:09			06:37		18:34 (T79)	07:08		18:32 (T79)	07:39	07:15	07:47
	21:05			20:37	70	19:44 (T79)	19:47	53	19:25 (T62)	18:57	17:16	17:03
13	06:10			06:38		18:34 (T79)	07:09		18:34 (T79)	07:40	07:16	07:48
	21:05			20:35	70	19:44 (T79)	19:45	49	19:23 (T62)	18:55	17:15	17:03
14	06:11			06:39		18:33 (T79)	07:10		18:36 (T79)	07:41	07:17	07:48
	21:04			20:34	71	19:44 (T79)	19:44	46	19:22 (T62)	18:53	17:14	17:03
15	06:11			06:40		18:32 (T79)	07:11		18:38 (T79)	07:42	07:18	07:49
	21:04			20:33	73	19:45 (T79)	19:42	42	19:20 (T62)	18:52	17:13	17:03
16	06:12			06:41		18:31 (T79)	07:12		18:40 (T79)	07:43	07:20	07:50
	21:03			20:31	73	19:44 (T79)	19:40	38	19:18 (T62)	18:50	17:12	17:04
17	06:13			06:42		18:30 (T79)	07:13		18:44 (T79)	07:44	07:21	07:51
	21:02			20:30	74	19:44 (T79)	19:38	29	19:13 (T62)	18:49	17:12	17:04
18	06:14			06:43		18:30 (T79)	07:14		18:49 (T79)	07:46	07:22	07:51
	21:02			20:28	74	19:44 (T79)	19:37	14	19:03 (T79)	18:47	17:11	17:04
19	06:15			06:44		18:29 (T79)	07:15			07:47	07:23	07:52
	21:01			20:27	75	19:44 (T79)	19:35			18:46	17:10	17:05
20	06:15			06:45		18:29 (T79)	07:16			07:48	07:24	07:52
	21:00			20:25	75	19:44 (T79)	19:33			18:44	17:09	17:05
21	06:16		19:04 (T79)	06:46		18:28 (T79)	07:17			07:49	07:25	07:53
	21:00	13	19:17 (T79)	20:24	76	19:44 (T79)	19:32			18:43	17:09	17:06
22	06:17		19:01 (T79)	06:47		18:28 (T79)	07:18			07:50	07:27	07:53
	20:59	19	19:20 (T79)	20:22	76	19:44 (T79)	19:30			18:41	17:08	17:06
23	06:18		18:58 (T79)	06:48		18:27 (T79)	07:19			07:51	07:28	07:54
	20:58	25	19:23 (T79)	20:21	77	19:44 (T79)	19:28			18:40	17:07	17:07
24	06:19		18:56 (T79)	06:49		18:27 (T79)	07:20			07:52	07:29	07:54
	20:57	29	19:25 (T79)	20:19	77	19:44 (T79)	19:26			18:39	17:07	17:07
25	06:20		18:55 (T79)	06:50		18:27 (T79)	07:21			07:53	07:30	07:55
	20:56	32	19:27 (T79)	20:18	76	19:43 (T79)	19:25			18:37	17:06	17:08
26	06:21		18:53 (T79)	06:51		18:27 (T79)	07:22			07:55	07:31	07:55
	20:56	36	19:29 (T79)	20:16	76	19:43 (T79)	19:23			18:36	17:06	17:08
27	06:22		18:52 (T79)	06:52		18:26 (T79)	07:23			07:56	07:32	07:56
	20:55	39	19:31 (T79)	20:15	76	19:42 (T79)	19:21			18:34	17:05	17:09
28	06:23		18:50 (T79)	06:53		18:26 (T79)	07:24			07:57	07:33	07:56
	20:54	42	19:32 (T79)	20:13	76	19:42 (T79)	19:20			18:33	17:05	17:10
29	06:23		18:48 (T79)	06:54		18:26 (T79)	07:25			07:58	07:34	07:56
	20:53	44	19:32 (T79)	20:12	75	19:41 (T79)	19:18			18:32	17:04	17:11
30	06:24		18:47 (T79)	06:55		18:26 (T79)	07:26			07:59	07:36	07:56
	20:52	47	19:34 (T79)	20:10	75	19:41 (T79)	19:16			18:31	17:04	17:11
31	06:25		18:46 (T79)	06:56		18:26 (T79)				08:00		07:57
	20:51	49	19:35 (T79)	20:09	74	19:40 (T79)				18:29		17:12
Potential sun hours	459			428			375			345	298	288
Total, worst case		375			2157			996				
Sun reduction		0.66			0.61			0.59				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.61			0.61			0.61				
Total reduction		0.40			0.37			0.36				
Total, real		151			804			360				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 328 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7956)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May		June		July		August		September	October	November	December
1	07:57	07:44	07:07	07:16	06:30		06:02		06:28 (T43)		06:34 (T43)		06:48 (T43)	06:58	07:28	07:02	07:37
	17:13	17:48	18:22	19:56	20:27		20:57	62	07:30 (T43)	62	07:36 (T43)	43	07:31 (T43)	20:07	19:15	17:28	17:04
2	07:58	07:43	07:06	07:15	06:29		06:01		06:28 (T43)		06:33 (T43)		06:49 (T43)	06:59	07:29	07:03	07:38
	17:14	17:49	18:23	19:57	20:28		20:58	62	07:30 (T43)	63	07:36 (T43)	41	07:30 (T43)	20:06	19:13	17:27	17:04
3	07:58	07:42	07:04	07:13	06:28		06:01		06:28 (T43)		06:34 (T43)		06:50 (T43)	07:00	07:30	07:05	07:39
	17:15	17:50	18:24	19:58	20:29	5	07:01 (T43)	63	07:31 (T43)	62	07:36 (T43)	38	07:28 (T43)	20:04	19:12	17:26	17:03
4	07:58	07:41	07:03	07:11	06:27		06:49 (T43)	63	06:28 (T43)		06:35 (T43)		06:51 (T43)	07:01	07:31	07:06	07:40
	17:16	17:52	18:25	19:59	20:30	18	07:07 (T43)	62	07:30 (T43)	62	07:37 (T43)	36	07:27 (T43)	20:03	19:10	17:25	17:03
5	07:58	07:40	07:01	07:10	06:25		06:46 (T43)	63	06:28 (T43)		06:34 (T43)		06:52 (T43)	07:02	07:32	07:07	07:41
	17:17	17:53	18:27	20:01	20:31	24	07:10 (T43)	62	07:31 (T43)	63	07:37 (T43)	34	07:26 (T43)	20:01	19:08	17:23	17:03
6	07:58	07:38	07:00	07:08	06:24		06:44 (T43)	63	06:29 (T43)		06:35 (T43)		06:53 (T43)	07:03	07:33	07:08	07:42
	17:18	17:54	18:28	20:01	20:33	29	07:13 (T43)	62	07:31 (T43)	62	07:37 (T43)	31	07:24 (T43)	19:58	19:07	17:22	17:03
7	07:58	07:37	06:58	07:06	06:23		06:43 (T43)	63	06:28 (T43)		06:35 (T43)		06:54 (T43)	07:04	07:34	07:09	07:43
	17:19	17:55	18:29	20:02	20:34	32	07:15 (T43)	63	07:31 (T43)	62	07:37 (T43)	28	07:22 (T43)	19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05	06:22		06:42 (T43)	63	06:29 (T43)		06:35 (T43)		06:56 (T43)	07:05	07:35	07:11	07:44
	17:20	17:57	19:30	20:03	20:35	35	07:17 (T43)	62	07:31 (T43)	62	07:37 (T43)	23	07:19 (T43)	19:54	19:03	17:20	17:03
9	07:57	07:35	07:55	07:03	06:21		06:41 (T43)	63	06:29 (T43)		06:36 (T43)		07:00 (T43)	07:06	07:36	07:12	07:45
	17:21	17:58	19:31	20:04	20:36	37	07:18 (T43)	62	07:31 (T43)	62	07:38 (T43)	15	07:15 (T43)	19:53	19:02	17:19	17:03
10	07:57	07:34	07:53	07:02	06:20		06:40 (T43)	63	06:29 (T43)		06:35 (T43)			07:07	07:37	07:13	07:46
	17:22	17:59	19:32	20:05	20:37	39	07:19 (T43)	63	07:32 (T43)	62	07:37 (T43)			19:51	19:00	17:18	17:03
11	07:57	07:33	07:51	07:00	06:18		06:39 (T43)	63	06:29 (T43)		06:36 (T43)			07:08	07:38	07:14	07:47
	17:23	18:00	19:33	20:06	20:38	41	07:20 (T43)	63	07:32 (T43)	62	07:38 (T43)			19:49	18:59	17:17	17:03
12	07:57	07:31	07:50	06:58	06:17		06:38 (T43)	63	06:30 (T43)		06:36 (T43)			07:09	07:39	07:15	07:48
	17:24	18:02	19:35	20:07	20:39	43	07:21 (T43)	63	07:32 (T43)	62	07:38 (T43)			19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57	06:16		06:37 (T43)	63	06:30 (T43)		06:36 (T43)			07:10	07:41	07:17	07:48
	17:25	18:03	19:36	20:08	20:40	45	07:22 (T43)	62	07:32 (T43)	62	07:38 (T43)			19:46	18:55	17:15	17:03
14	07:56	07:29	07:47	06:55	06:15		06:36 (T43)	63	06:30 (T43)		06:36 (T43)			07:11	07:42	07:18	07:49
	17:26	18:04	19:37	20:09	20:41	47	07:23 (T43)	63	07:33 (T43)	62	07:38 (T43)			19:44	18:54	17:14	17:03
15	07:56	07:28	07:45	06:54	06:14		06:35 (T43)	63	06:30 (T43)		06:37 (T43)			07:12	07:43	07:19	07:50
	17:27	18:05	19:38	20:10	20:42	49	07:24 (T43)	63	07:33 (T43)	61	07:38 (T43)			19:42	18:52	17:13	17:04
16	07:55	07:26	07:43	06:52	06:13		06:34 (T43)	63	06:31 (T43)		06:37 (T43)			07:13	07:44	07:20	07:51
	17:28	18:06	19:39	20:11	20:43	50	07:24 (T43)	62	07:33 (T43)	61	07:38 (T43)			19:41	18:51	17:13	17:04
17	07:55	07:25	07:42	06:51	06:12		06:33 (T43)	63	06:31 (T43)		06:37 (T43)			07:14	07:45	07:21	07:51
	17:29	18:08	19:40	20:12	20:44	52	07:25 (T43)	62	07:33 (T43)	61	07:38 (T43)			19:39	18:49	17:12	17:04
18	07:54	07:24	07:40	06:49	06:11		06:32 (T43)	63	06:31 (T43)		06:37 (T43)			07:15	07:46	07:23	07:52
	17:31	18:09	19:41	20:13	20:45	53	07:25 (T43)	62	07:33 (T43)	61	07:38 (T43)			19:37	18:48	17:11	17:05
19	07:54	07:22	07:38	06:48	06:11		06:31 (T43)	63	06:31 (T43)		06:38 (T43)			07:16	07:47	07:24	07:52
	17:32	18:10	19:42	20:14	20:46	55	07:26 (T43)	62	07:33 (T43)	60	07:38 (T43)			19:35	18:46	17:10	17:05
20	07:53	07:21	07:37	06:46	06:10		06:31 (T43)	63	06:31 (T43)		06:38 (T43)			07:17	07:48	07:25	07:53
	17:33	18:11	19:43	20:15	20:47	56	07:27 (T43)	62	07:33 (T43)	60	07:38 (T43)			19:34	18:45	17:09	17:05
21	07:52	07:19	07:35	06:45	06:09		06:30 (T43)	63	06:31 (T43)		06:39 (T43)			07:18	07:49	07:26	07:54
	17:34	18:13	19:44	20:17	20:48	57	07:27 (T43)	62	07:33 (T43)	59	07:38 (T43)			19:32	18:43	17:09	17:06
22	07:52	07:18	07:33	06:43	06:08		06:29 (T43)	63	06:32 (T43)		06:39 (T43)			07:19	07:51	07:27	07:54
	17:35	18:14	19:45	20:18	20:49	58	07:27 (T43)	62	07:34 (T43)	58	07:37 (T43)			19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:42	06:07		06:28 (T43)	63	06:32 (T43)		06:40 (T43)			07:20	07:52	07:28	07:55
	17:37	18:15	19:47	20:19	20:49	59	07:27 (T43)	62	07:34 (T43)	56	07:36 (T43)			19:29	18:40	17:08	17:07
24	07:50	07:15	07:30	06:40	06:07		06:29 (T43)	63	06:32 (T43)		06:41 (T43)			07:21	07:53	07:30	07:55
	17:38	18:16	19:48	20:20	20:50	59	07:28 (T43)	62	07:34 (T43)	55	07:36 (T43)			19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:39	06:06		06:28 (T43)	63	06:33 (T43)		06:42 (T43)			07:22	07:54	07:31	07:55
	17:39	18:17	19:49	20:21	20:51	60	07:28 (T43)	62	07:35 (T43)	54	07:36 (T43)			19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:05		06:28 (T43)	63	06:33 (T43)		06:43 (T43)			07:23	07:55	07:32	07:56
	17:40	18:18	19:50	20:22	20:52	60	07:28 (T43)	62	07:35 (T43)	53	07:36 (T43)			19:23	18:36	17:06	17:09
27	07:48	07:10	07:25	06:36	06:04		06:28 (T43)	63	06:33 (T43)		06:44 (T43)			07:24	07:56	07:33	07:56
	17:41	18:20	19:51	20:23	20:53	61	07:29 (T43)	62	07:35 (T43)	51	07:35 (T43)			19:22	18:35	17:05	17:09
28	07:47	07:09	07:23	06:35	06:04		06:28 (T43)	63	06:33 (T43)		06:45 (T43)			07:25	07:58	07:34	07:57
	17:43	18:21	19:52	20:24	20:54	61	07:29 (T43)	63	07:36 (T43)	50	07:35 (T43)			19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:03		06:28 (T43)	63	06:33 (T43)		06:46 (T43)			07:26	07:59	07:35	07:57
	17:44		19:53	20:25	20:55	62	07:30 (T43)	63	07:36 (T43)	48	07:34 (T43)			19:18	18:32	17:05	17:11
30	07:46		07:20	06:32	06:03		06:28 (T43)	62	06:33 (T43)		06:47 (T43)			07:27	08:00	07:36	07:57
	17:45		19:54	20:26	20:56	61	07:29 (T43)	62	07:35 (T43)	46	07:33 (T43)			19:17	18:31	17:04	17:11
31	07:45		07:18		06:02		06:28 (T43)				06:48 (T43)				08:01		07:57
	17:46		19:55		20:56	62	07:30 (T43)				07:33 (T43)				18:30		17:12
Potential sun hours	297	297	370	399	448		453		460		429		375	345	297	287	
Total, worst case						1370		1869		1809		289					
Sun reduction						0.57		0.64		0.66		0.61					
Oper. time red.						1.00		1.00		1.00		1.00					
Wind dir. red.						0.71		0.71		0.71		0.71					
Total reduction						0.40		0.45		0.47		0.43					
Total, real						552		846		845		125					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 332 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7960)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June
1	07:57	15:59 (T5)	07:43	16:06 (T5)	07:07	17:20 (T4)	07:16	19:20 (T3)	06:30		06:01
	17:12 47	16:46 (T5)	17:47 59	17:05 (T5)	18:21 4	17:24 (T4)	19:56 14	19:34 (T3)	20:27		20:57
2	07:57	16:00 (T5)	07:42	16:06 (T5)	07:05		07:14	19:18 (T3)	06:28		06:00
	17:13 47	16:47 (T5)	17:48 59	17:05 (T5)	18:22		19:57 17	19:35 (T3)	20:28		20:58
3	07:57	16:00 (T5)	07:41	16:07 (T5)	07:04		07:12	19:16 (T3)	06:27		06:00
	17:14 48	16:48 (T5)	17:49 58	17:05 (T5)	18:24		19:58 20	19:36 (T3)	20:29		20:58
4	07:57	16:00 (T5)	07:40	16:08 (T5)	07:02		07:11	19:16 (T3)	06:26		05:59
	17:15 49	16:49 (T5)	17:51 63	17:27 (T4)	18:25		19:59 21	19:37 (T3)	20:30		20:59
5	07:57	16:00 (T5)	07:39	16:07 (T5)	07:01		07:09	19:14 (T3)	06:24		05:59
	17:16 50	16:50 (T5)	17:52 68	17:27 (T4)	18:26		20:00 24	19:38 (T3)	20:31		21:00
6	07:57	16:00 (T5)	07:38	16:08 (T5)	06:59		07:07	19:13 (T3)	06:23		05:59
	17:17 51	16:51 (T5)	17:53 71	17:29 (T4)	18:27		20:00 26	19:39 (T3)	20:32		21:01
7	07:57	16:00 (T5)	07:37	16:09 (T5)	06:57		07:06	19:13 (T3)	06:22		05:58
	17:18 51	16:51 (T5)	17:54 72	17:31 (T4)	18:28		20:01 28	19:41 (T3)	20:33		21:01
8	07:57	16:00 (T5)	07:36	16:11 (T5)	07:56		07:04	19:13 (T3)	06:21		05:58
	17:19 52	16:52 (T5)	17:56 72	17:32 (T4)	19:29		20:02 28	19:41 (T3)	20:34		21:02
9	07:57	16:00 (T5)	07:35	16:12 (T5)	07:54		07:02	19:12 (T3)	06:20		05:58
	17:20 54	16:54 (T5)	17:57 73	17:34 (T4)	19:30		20:03 30	19:42 (T3)	20:35		21:02
10	07:57	16:01 (T5)	07:33	16:12 (T5)	07:53		07:01	19:13 (T3)	06:19		05:58
	17:21 54	16:55 (T5)	17:58 74	17:34 (T4)	19:32		20:04 29	19:42 (T3)	20:36		21:03
11	07:57	16:00 (T5)	07:32	16:14 (T5)	07:51		06:59	19:12 (T3)	06:17		05:58
	17:22 55	16:55 (T5)	17:59 73	17:36 (T4)	19:33		20:05 29	19:41 (T3)	20:37		21:04
12	07:56	16:01 (T5)	07:31	16:15 (T5)	07:49		06:58	19:13 (T3)	06:16		05:57
	17:23 56	16:57 (T5)	18:01 73	17:37 (T4)	19:34		20:06 27	19:40 (T3)	20:38		21:04
13	07:56	16:01 (T5)	07:30	16:17 (T5)	07:48		06:56	19:13 (T3)	06:15		05:57
	17:24 57	16:58 (T5)	18:02 72	17:39 (T4)	19:35		20:07 26	19:39 (T3)	20:39		21:05
14	07:56	16:01 (T5)	07:28	16:18 (T5)	07:46		06:54	19:14 (T3)	06:14		05:57
	17:25 58	16:59 (T5)	18:03 71	17:40 (T4)	19:36		20:09 24	19:38 (T3)	20:40		21:05
15	07:55	16:01 (T5)	07:27	16:21 (T5)	07:44		06:53	19:15 (T3)	06:13		05:57
	17:26 59	17:00 (T5)	18:04 67	17:41 (T4)	19:37		20:10 21	19:36 (T3)	20:41		21:06
16	07:55	16:01 (T5)	07:26	16:24 (T5)	07:43		06:51	19:16 (T3)	06:12		05:57
	17:27 59	17:00 (T5)	18:06 63	17:42 (T4)	19:38		20:11 18	19:34 (T3)	20:42		21:06
17	07:54	16:01 (T5)	07:24	16:26 (T5)	07:41		06:50	19:18 (T3)	06:11		05:57
	17:28 60	17:01 (T5)	18:07 56	17:41 (T4)	19:39		20:12 14	19:32 (T3)	20:43		21:06
18	07:54	16:01 (T5)	07:23	16:32 (T5)	07:39		06:48	19:21 (T3)	06:10		05:57
	17:30 60	17:01 (T5)	18:08 47	17:42 (T4)	19:40		20:13 7	19:28 (T3)	20:44		21:07
19	07:53	16:02 (T5)	07:22	17:06 (T4)	07:38		06:47		06:10		05:58
	17:31 60	17:02 (T5)	18:09 35	17:41 (T4)	19:42		20:14		20:45		21:07
20	07:53	16:02 (T5)	07:20	17:06 (T4)	07:36		06:45		06:09		05:58
	17:32 60	17:02 (T5)	18:10 35	17:41 (T4)	19:43		20:15		20:46		21:07
21	07:52	16:01 (T5)	07:19	17:07 (T4)	07:34		06:44		06:08		05:58
	17:33 61	17:02 (T5)	18:12 34	17:41 (T4)	19:44		20:16		20:47		21:08
22	07:52	16:02 (T5)	07:17	17:07 (T4)	07:33		06:42		06:07		05:58
	17:34 62	17:04 (T5)	18:13 33	17:40 (T4)	19:45		20:17		20:48		21:08
23	07:51	16:02 (T5)	07:16	17:08 (T4)	07:31		06:41		06:06		05:58
	17:36 62	17:04 (T5)	18:14 31	17:39 (T4)	19:46		20:18		20:49		21:08
24	07:50	16:02 (T5)	07:14	17:09 (T4)	07:29		06:39		06:05		05:59
	17:37 62	17:04 (T5)	18:15 29	17:38 (T4)	19:47		20:19		20:50		21:08
25	07:49	16:02 (T5)	07:13	17:10 (T4)	07:27		06:38		06:05		05:59
	17:38 62	17:04 (T5)	18:16 27	17:37 (T4)	19:48		20:20		20:51		21:08
26	07:49	16:03 (T5)	07:11	17:11 (T4)	07:26		06:36		06:04		05:59
	17:39 61	17:04 (T5)	18:18 24	17:35 (T4)	19:49		20:21		20:52		21:08
27	07:48	16:04 (T5)	07:10	17:12 (T4)	07:24		06:35		06:03		06:00
	17:41 61	17:05 (T5)	18:19 20	17:32 (T4)	19:50		20:23		20:53		21:09
28	07:47	16:04 (T5)	07:08	17:15 (T4)	07:22		06:34		06:03		06:00
	17:42 61	17:05 (T5)	18:20 15	17:30 (T4)	19:51		20:24		20:54		21:09
29	07:46	16:04 (T5)			07:21		06:32		06:02		06:00
	17:43 61	17:05 (T5)			19:52		20:25		20:54		21:09
30	07:45	16:05 (T5)			07:19	19:26 (T3)	06:31		06:02		06:01
	17:44 60	17:05 (T5)			19:53 6	19:32 (T3)	20:26		20:55		21:09
31	07:44	16:05 (T5)			07:17	19:22 (T3)			06:01		
	17:46 60	17:05 (T5)			19:55 11	19:33 (T3)			20:56		
Potential sun hours	297		297		370		399		449		453
Total, worst case	1760		1474		21		403				
Sun reduction	0.31		0.40		0.44		0.52				
Oper. time red.	1.00		1.00		1.00		1.00				
Wind dir. red.	0.73		0.72		0.63		0.61				
Total reduction	0.23		0.29		0.28		0.32				
Total, real	403		430		6		129				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 332 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7960)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August		September		October		November		December	
1	06:01	06:26		06:57		19:11 (T3)	07:27		07:02		15:42 (T5)	07:37		15:42 (T5)
	21:08	20:50		20:07	29	19:40 (T3)	19:14		17:27	74	17:04 (T4)	17:03	55	16:37 (T5)
2	06:02	06:27		06:58		19:11 (T3)	07:28		07:03		15:40 (T5)	07:38		15:44 (T5)
	21:08	20:49		20:05	29	19:40 (T3)	19:13		17:26	73	17:02 (T4)	17:03	54	16:38 (T5)
3	06:02	06:28		06:59		19:10 (T3)	07:29		07:04		15:40 (T5)	07:39		15:44 (T5)
	21:08	20:48		20:04	30	19:40 (T3)	19:11		17:25	73	17:02 (T4)	17:02	54	16:38 (T5)
4	06:03	06:29		07:00		19:10 (T3)	07:30		07:05		15:39 (T5)	07:40		15:45 (T5)
	21:08	20:47		20:02	28	19:38 (T3)	19:09		17:24	71	17:00 (T4)	17:02	52	16:37 (T5)
5	06:03	06:30		07:01		19:09 (T3)	07:31		07:07		15:38 (T5)	07:41		15:46 (T5)
	21:08	20:46		20:00	28	19:37 (T3)	19:08		17:23	71	16:59 (T4)	17:02	51	16:37 (T5)
6	06:04	06:31		07:02		19:09 (T3)	07:32		07:08		15:38 (T5)	07:42		15:46 (T5)
	21:08	20:44		19:57	26	19:35 (T3)	19:06		17:21	68	16:58 (T4)	17:02	51	16:37 (T5)
7	06:05	06:31		07:03		19:09 (T3)	07:33		07:09		15:37 (T5)	07:43		15:47 (T5)
	21:07	20:43		19:55	24	19:33 (T3)	19:04		17:20	63	16:56 (T4)	17:02	50	16:37 (T5)
8	06:05	06:32		07:04		19:10 (T3)	07:35		07:10		15:37 (T5)	07:44		15:47 (T5)
	21:07	20:42		19:54	22	19:32 (T3)	19:03		17:19	58	16:35 (T5)	17:02	49	16:36 (T5)
9	06:06	06:34		07:05		19:10 (T3)	07:36		07:11		15:36 (T5)	07:45		15:48 (T5)
	21:07	20:41		19:52	20	19:30 (T3)	19:01		17:18	59	16:35 (T5)	17:02	48	16:36 (T5)
10	06:07	06:35		07:06		19:11 (T3)	07:37		07:13		15:36 (T5)	07:46		15:49 (T5)
	21:06	20:39		19:50	17	19:28 (T3)	18:59		17:17	60	16:36 (T5)	17:02	47	16:36 (T5)
11	06:07	06:36		07:07		19:12 (T3)	07:38		07:14		15:36 (T5)	07:46		15:49 (T5)
	21:06	20:38		19:49	15	19:27 (T3)	18:58		17:16	60	16:36 (T5)	17:02	47	16:36 (T5)
12	06:08	06:37		07:08		19:14 (T3)	07:39		07:15		15:36 (T5)	07:47		15:50 (T5)
	21:06	20:37		19:47	11	19:25 (T3)	18:56		17:15	60	16:36 (T5)	17:02	46	16:36 (T5)
13	06:09	06:38		07:09		19:16 (T3)	07:40	17:51 (T4)	07:16		15:36 (T5)	07:48		15:51 (T5)
	21:05	20:35		19:45	7	19:23 (T3)	18:55	10 18:01 (T4)	17:14	61	16:37 (T5)	17:02	46	16:37 (T5)
14	06:10	06:39		07:10			07:41	17:47 (T4)	07:17		15:36 (T5)	07:49		15:51 (T5)
	21:05	20:34		19:43			18:53	17 18:04 (T4)	17:13	61	16:37 (T5)	17:02	45	16:36 (T5)
15	06:10	06:40		07:11			07:42	17:44 (T4)	07:19		15:36 (T5)	07:50		15:52 (T5)
	21:04	20:33		19:42			18:51	22 18:06 (T4)	17:12	61	16:37 (T5)	17:03	44	16:36 (T5)
16	06:11	06:41		07:12			07:43	17:43 (T4)	07:20		15:36 (T5)	07:50		15:53 (T5)
	21:03	20:31		19:40			18:50	25 18:08 (T4)	17:12	61	16:37 (T5)	17:03	44	16:37 (T5)
17	06:12	06:42		07:13			07:44	17:41 (T4)	07:21		15:36 (T5)	07:51		15:53 (T5)
	21:03	20:30		19:38			18:48	28 18:09 (T4)	17:11	62	16:38 (T5)	17:03	44	16:37 (T5)
18	06:13	06:43		07:14			07:46	17:40 (T4)	07:22		15:36 (T5)	07:52		15:54 (T5)
	21:02	20:28		19:37			18:47	30 18:10 (T4)	17:10	62	16:38 (T5)	17:03	43	16:37 (T5)
19	06:14	06:44		07:15			07:47	17:38 (T4)	07:23		15:36 (T5)	07:52		15:55 (T5)
	21:02	20:27		19:35			18:45	32 18:10 (T4)	17:09	62	16:38 (T5)	17:04	43	16:38 (T5)
20	06:14	06:45		07:16			07:48	17:37 (T4)	07:25		15:37 (T5)	07:53		15:55 (T5)
	21:01	20:26		19:33			18:44	33 18:10 (T4)	17:08	62	16:39 (T5)	17:04	43	16:38 (T5)
21	06:15	06:46		07:17			07:49	17:37 (T4)	07:26		15:38 (T5)	07:53		15:56 (T5)
	21:00	20:24		19:31			18:42	35 18:12 (T4)	17:08	60	16:38 (T5)	17:05	43	16:39 (T5)
22	06:16	06:47		07:18			07:50	17:37 (T4)	07:27		15:38 (T5)	07:54		15:56 (T5)
	20:59	20:23		19:30			18:41	35 18:12 (T4)	17:07	60	16:38 (T5)	17:05	43	16:39 (T5)
23	06:17	06:48		07:19			07:51	17:36 (T4)	07:28		15:38 (T5)	07:54		15:57 (T5)
	20:59	20:21		19:28			18:39	35 18:11 (T4)	17:07	60	16:38 (T5)	17:06	43	16:40 (T5)
24	06:18	06:49		07:20			07:52	17:00 (T5)	07:29		15:38 (T5)	07:55		15:57 (T5)
	20:58	20:20		19:26			18:38	49 18:11 (T4)	17:06	60	16:38 (T5)	17:06	43	16:40 (T5)
25	06:19	06:50	19:24 (T3)	07:21			07:54	16:55 (T5)	07:30		15:39 (T5)	07:55		15:57 (T5)
	20:57	20:18	9 19:33 (T3)	19:25			18:37	59 18:11 (T4)	17:05	60	16:39 (T5)	17:07	43	16:40 (T5)
26	06:20	06:51	19:21 (T3)	07:22			07:55	16:53 (T5)	07:32		15:40 (T5)	07:56		15:58 (T5)
	20:56	20:16	14 19:35 (T3)	19:23			18:35	63 18:11 (T4)	17:05	59	16:39 (T5)	17:07	43	16:41 (T5)
27	06:21	06:52	19:18 (T3)	07:23			07:56	16:50 (T5)	07:33		15:40 (T5)	07:56		15:58 (T5)
	20:55	20:15	19 19:37 (T3)	19:21			18:34	68 18:11 (T4)	17:04	59	16:39 (T5)	17:08	44	16:42 (T5)
28	06:22	06:53	19:17 (T3)	07:24			07:57	16:48 (T5)	07:34		15:41 (T5)	07:56		15:58 (T5)
	20:54	20:13	21 19:38 (T3)	19:19			18:33	70 18:09 (T4)	17:04	58	16:39 (T5)	17:09	44	16:42 (T5)
29	06:23	06:54	19:14 (T3)	07:25			07:58	16:46 (T5)	07:35		15:41 (T5)	07:57		15:58 (T5)
	20:53	20:12	24 19:38 (T3)	19:18			18:31	72 18:08 (T4)	17:04	57	16:38 (T5)	17:10	45	16:43 (T5)
30	06:24	06:55	19:13 (T3)	07:26			07:59	16:45 (T5)	07:36		15:42 (T5)	07:57		15:59 (T5)
	20:52	20:10	26 19:39 (T3)	19:16			18:30	73 18:07 (T4)	17:03	56	16:38 (T5)	17:10	45	16:44 (T5)
31	06:25	06:56	19:12 (T3)				08:01	16:43 (T5)				07:57		15:59 (T5)
	20:51	20:09	27 19:39 (T3)				18:29	74 18:05 (T4)				17:11	46	16:45 (T5)
Potential sun hours	460	429		375			345		297			287		
Total, worst case			140		286			830		1871			1438	
Sun reduction			0.61		0.59			0.48		0.30			0.22	
Oper. time red.			1.00		1.00			1.00		1.00			1.00	
Wind dir. red.			0.61		0.61			0.72		0.73			0.73	
Total reduction			0.37		0.36			0.35		0.22			0.16	
Total, real			52		104			289		414			234	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 344 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7972)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:57 / 17:12	07:43 / 17:47	07:07 / 18:21	07:16 / 19:56	06:30 / 20:27 31	06:49 (T5) / 07:20 (T5) / 20:57	06:01 / 06:29 (T4) / 07:12 (T4) / 21:09	06:01 / 06:36 (T4) / 07:18 (T4) / 21:09	06:26 / 06:48 (T4) / 07:23 (T5) / 20:50 35	06:57 / 07:27 / 20:07	07:02 / 19:14	07:37 / 17:27 / 17:03
2	07:57 / 17:13	07:42 / 17:48	07:05 / 18:22	07:14 / 19:57	06:28 / 20:28 31	06:48 (T5) / 07:19 (T5) / 20:58	06:00 / 06:29 (T4) / 07:13 (T4) / 21:08	06:02 / 06:36 (T4) / 07:18 (T4) / 20:49	06:27 / 06:49 (T4) / 07:24 (T5) / 20:05 35	06:58 / 07:28 / 19:13	07:03 / 17:26	07:38 / 17:03
3	07:57 / 17:14	07:41 / 17:49	07:04 / 18:24	07:12 / 19:58	06:27 / 20:29 32	06:47 (T5) / 07:19 (T5) / 20:58	06:00 / 06:30 (T4) / 07:13 (T4) / 21:08	06:02 / 06:36 (T4) / 07:19 (T4) / 20:48	06:28 / 06:50 (T4) / 07:25 (T5) / 20:04 35	06:59 / 07:29 / 19:11	07:04 / 17:25	07:39 / 17:02
4	07:58 / 17:15	07:40 / 17:51	07:02 / 18:25	07:11 / 19:59	06:26 / 20:30 32	06:47 (T5) / 07:19 (T5) / 20:59	05:59 / 06:30 (T4) / 07:13 (T4) / 21:08	06:03 / 06:37 (T4) / 07:19 (T4) / 20:47	06:29 / 06:50 (T4) / 07:25 (T5) / 20:02 35	07:00 / 07:30 / 19:09	07:05 / 17:24	07:40 / 17:02
5	07:58 / 17:16	07:39 / 17:52	07:01 / 18:26	07:09 / 20:00	06:25 / 20:31 32	06:46 (T5) / 07:18 (T5) / 21:00	05:59 / 06:30 (T4) / 07:13 (T4) / 21:08	06:04 / 06:36 (T4) / 07:19 (T4) / 20:46	06:30 / 06:52 (T4) / 07:26 (T5) / 20:00 34	07:01 / 07:31 / 19:08	07:07 / 17:23	07:41 / 17:02
6	07:57 / 17:17	07:38 / 17:53	06:59 / 18:27	07:07 / 20:00	06:23 / 20:32 30	06:47 (T5) / 07:17 (T5) / 21:01	05:59 / 06:31 (T4) / 07:14 (T4) / 21:08	06:04 / 06:37 (T4) / 07:20 (T4) / 20:44	06:31 / 06:55 (T4) / 07:27 (T5) / 19:57 32	07:02 / 07:32 / 19:06	07:08 / 17:21	07:42 / 17:02
7	07:57 / 17:18	07:37 / 17:54	06:57 / 18:28	07:06 / 20:01	06:22 / 20:33 33	06:44 (T4) / 07:17 (T5) / 21:01	05:58 / 06:30 (T4) / 07:13 (T4) / 21:07	06:05 / 06:36 (T4) / 07:19 (T4) / 20:43	06:32 / 06:57 (T5) / 07:27 (T5) / 19:55 30	07:03 / 07:34 / 19:04	07:09 / 17:20	07:43 / 17:02
8	07:57 / 17:19	07:36 / 17:56	07:56 / 19:29	07:04 / 20:02	06:21 / 20:34 35	06:41 (T4) / 07:16 (T5) / 21:02	05:58 / 06:31 (T4) / 07:13 (T4) / 21:07	06:05 / 06:37 (T4) / 07:20 (T4) / 20:42	06:33 / 06:56 (T5) / 07:28 (T5) / 19:54 32	07:04 / 07:35 / 19:03	07:10 / 17:19	07:44 / 17:02
9	07:57 / 17:20	07:35 / 17:57	07:54 / 19:31	07:03 / 20:03	06:20 / 20:35 35	06:40 (T4) / 07:15 (T5) / 21:02	05:58 / 06:31 (T4) / 07:13 (T4) / 21:07	06:06 / 06:37 (T4) / 07:21 (T4) / 20:41	06:34 / 06:56 (T5) / 07:28 (T5) / 19:52 32	07:05 / 07:36 / 19:01	07:12 / 17:18	07:45 / 17:02
10	07:57 / 17:21	07:34 / 17:58	07:53 / 19:32	07:01 / 20:04	06:19 / 20:36 35	06:39 (T4) / 07:14 (T5) / 21:03	05:58 / 06:31 (T4) / 07:14 (T4) / 21:06	06:07 / 06:37 (T4) / 07:20 (T4) / 20:39	06:35 / 06:56 (T5) / 07:28 (T5) / 19:50 32	07:06 / 07:37 / 18:59	07:13 / 17:17	07:46 / 17:02
11	07:57 / 17:22	07:32 / 17:59	07:51 / 19:33	06:59 / 20:05	06:18 / 20:37 35	06:38 (T4) / 07:13 (T5) / 21:04	05:58 / 06:32 (T4) / 07:14 (T4) / 21:06	06:07 / 06:37 (T4) / 07:21 (T4) / 20:38	06:36 / 06:57 (T5) / 07:28 (T5) / 19:49 31	07:07 / 07:38 / 18:58	07:14 / 17:16	07:47 / 17:02
12	07:56 / 17:23	07:31 / 18:01	07:49 / 19:34	06:58 / 20:06	06:16 / 20:38 35	06:37 (T4) / 07:12 (T5) / 21:04	05:58 / 06:32 (T4) / 07:14 (T4) / 21:06	06:08 / 06:38 (T4) / 07:21 (T4) / 20:37	06:37 / 06:58 (T5) / 07:28 (T5) / 19:47 30	07:08 / 07:39 / 18:56	07:15 / 17:15	07:47 / 17:02
13	07:56 / 17:24	07:30 / 18:02	07:48 / 19:35	06:56 / 20:08	06:15 / 20:39 34	06:36 (T4) / 07:10 (T5) / 21:05	05:57 / 06:33 (T4) / 07:14 (T4) / 21:05	06:09 / 06:37 (T4) / 07:21 (T4) / 20:36	06:38 / 06:59 (T5) / 07:28 (T5) / 19:45 29	07:09 / 07:40 / 18:55	07:16 / 17:14	07:48 / 17:02
14	07:56 / 17:25	07:28 / 18:03	07:46 / 19:36	06:55 / 20:09	06:14 / 20:41 32	06:35 (T4) / 07:07 (T4) / 21:05	05:57 / 06:33 (T4) / 07:14 (T4) / 21:05	06:10 / 06:37 (T4) / 07:21 (T4) / 20:34	06:37 / 06:59 (T5) / 07:28 (T5) / 19:44 28	07:10 / 07:41 / 18:53	07:18 / 17:13	07:49 / 17:02
15	07:55 / 17:26	07:27 / 18:04	07:44 / 19:37	06:53 / 20:10	06:13 / 20:42 34	06:34 (T4) / 07:08 (T4) / 21:06	05:57 / 06:33 (T4) / 07:15 (T4) / 21:04	06:10 / 06:38 (T4) / 07:21 (T4) / 20:33	06:40 / 07:01 (T5) / 07:28 (T5) / 19:42 27	07:11 / 07:42 / 18:52	07:19 / 17:12	07:50 / 17:03
16	07:55 / 17:27	07:26 / 18:06	07:43 / 19:38	06:51 / 20:11	06:12 / 20:43 36	06:33 (T4) / 07:09 (T4) / 21:06	05:57 / 06:33 (T4) / 07:15 (T4) / 21:03	06:11 / 06:38 (T4) / 07:22 (T4) / 20:31	06:41 / 07:02 (T5) / 07:27 (T5) / 19:40 25	07:12 / 07:43 / 18:50	07:20 / 17:12	07:50 / 17:03
17	07:54 / 17:29	07:25 / 18:07	07:41 / 19:39	06:50 / 20:12	06:11 / 20:44 37	06:32 (T4) / 07:09 (T4) / 21:06	05:57 / 06:34 (T4) / 07:15 (T4) / 21:03	06:12 / 06:38 (T4) / 07:21 (T4) / 20:30	06:42 / 07:03 (T5) / 07:27 (T5) / 19:38 24	07:13 / 07:44 / 18:48	07:21 / 17:11	07:51 / 17:03
18	07:54 / 17:30	07:23 / 18:08	07:39 / 19:41	06:48 / 20:13 3	07:07 (T5) / 07:10 (T5) / 20:44	06:10 / 06:31 (T4) / 07:09 (T4) / 21:07	05:58 / 06:34 (T4) / 07:15 (T4) / 21:02	06:13 / 06:38 (T4) / 07:21 (T4) / 20:29	06:43 / 07:04 (T5) / 07:26 (T5) / 19:37 22	07:14 / 07:46 / 18:47	07:22 / 17:10	07:52 / 17:04
19	07:53 / 17:31	07:22 / 18:09	07:38 / 19:42	06:47 / 20:14 8	07:06 (T5) / 07:14 (T5) / 20:45	06:10 / 06:30 (T4) / 07:10 (T4) / 21:07	05:58 / 06:34 (T4) / 07:15 (T4) / 21:02	06:14 / 06:38 (T4) / 07:21 (T4) / 20:27	06:44 / 07:05 (T5) / 07:25 (T5) / 19:35 20	07:15 / 07:47 / 18:45	07:23 / 17:09	07:52 / 17:04
20	07:53 / 17:32	07:20 / 18:11	07:36 / 19:43	06:45 / 20:15 11	07:05 (T5) / 07:16 (T5) / 20:46	06:09 / 06:30 (T4) / 07:11 (T4) / 21:07	05:58 / 06:34 (T4) / 07:15 (T4) / 21:01	06:15 / 06:39 (T4) / 07:21 (T4) / 20:26	06:45 / 07:06 (T5) / 07:24 (T5) / 19:33 18	07:16 / 07:48 / 18:44	07:25 / 17:09	07:53 / 17:04
21	07:52 / 17:33	07:19 / 18:12	07:34 / 19:44	06:44 / 20:16 14	07:03 (T5) / 07:17 (T5) / 20:47	06:08 / 06:29 (T4) / 07:11 (T4) / 21:08	05:58 / 06:34 (T4) / 07:15 (T4) / 21:00	06:15 / 06:39 (T4) / 07:21 (T4) / 20:24	06:46 / 07:07 (T5) / 07:23 (T5) / 19:31 16	07:17 / 07:49 / 18:42	07:26 / 17:08	07:53 / 17:05
22	07:52 / 17:34	07:17 / 18:13	07:33 / 19:45	06:42 / 20:17 16	07:02 (T5) / 07:18 (T5) / 20:48	06:07 / 06:29 (T4) / 07:11 (T4) / 21:08	05:58 / 06:35 (T4) / 07:16 (T4) / 20:59	06:16 / 06:40 (T4) / 07:21 (T4) / 20:23	06:47 / 07:08 (T5) / 07:21 (T5) / 19:30 13	07:18 / 07:50 / 18:41	07:27 / 17:07	07:54 / 17:05
23	07:51 / 17:36	07:16 / 18:14	07:31 / 19:46	06:41 / 20:18 18	07:00 (T5) / 07:18 (T5) / 20:49	06:06 / 06:28 (T4) / 07:11 (T4) / 21:08	05:58 / 06:35 (T4) / 07:16 (T4) / 20:59	06:17 / 06:39 (T4) / 07:21 (T4) / 20:21	06:48 / 07:09 (T5) / 07:19 (T5) / 19:28 10	07:19 / 07:51 / 18:40	07:28 / 17:07	07:54 / 17:06
24	07:50 / 17:37	07:15 / 18:15	07:29 / 19:47	06:39 / 20:19 20	06:59 (T5) / 07:19 (T5) / 20:50	06:06 / 06:29 (T4) / 07:12 (T4) / 21:08	05:59 / 06:35 (T4) / 07:16 (T4) / 20:58	06:18 / 06:40 (T4) / 07:20 (T4) / 20:20	06:49 / 07:10 (T5) / 07:17 (T5) / 19:26 7	07:20 / 07:52 / 18:38	07:29 / 17:06	07:55 / 17:06
25	07:49 / 17:38	07:13 / 18:17	07:28 / 19:48	06:38 / 20:20 22	06:57 (T5) / 07:19 (T5) / 20:51	06:05 / 06:29 (T4) / 07:12 (T4) / 21:08	05:59 / 06:36 (T4) / 07:17 (T4) / 20:57	06:19 / 06:41 (T4) / 07:20 (T4) / 20:18	06:50 / 07:11 (T5) / 07:13 (T5) / 19:25 2	07:21 / 07:54 / 18:37	07:30 / 17:05	07:55 / 17:07
26	07:49 / 17:39	07:12 / 18:18	07:26 / 19:49	06:36 / 20:22 24	06:56 (T5) / 07:20 (T5) / 20:52	06:04 / 06:28 (T4) / 07:12 (T4) / 21:09	05:59 / 06:35 (T4) / 07:17 (T4) / 20:56	06:20 / 06:42 (T4) / 07:20 (T4) / 20:17	06:51 / 07:22 / 19:23	07:55 / 18:35	07:32 / 17:05	07:56 / 17:08
27	07:48 / 17:41	07:10 / 18:19	07:24 / 19:50	06:35 / 20:23 26	06:55 (T5) / 07:21 (T5) / 20:53	06:04 / 06:29 (T4) / 07:12 (T4) / 21:09	06:00 / 06:35 (T4) / 07:17 (T4) / 20:55	06:21 / 06:43 (T4) / 07:19 (T4) / 20:15	06:52 / 07:23 / 19:21	07:56 / 18:34	07:33 / 17:05	07:56 / 17:08
28	07:47 / 17:42	07:08 / 18:20	07:22 / 19:51	06:34 / 20:24 27	06:53 (T5) / 07:20 (T5) / 20:54	06:03 / 06:28 (T4) / 07:12 (T4) / 21:09	06:00 / 06:36 (T4) / 07:17 (T4) / 20:54	06:22 / 06:44 (T4) / 07:19 (T4) / 20:13	06:53 / 07:24 / 19:19	07:57 / 18:33	07:34 / 17:04	07:56 / 17:09
29	07:46 / 17:43		07:21 / 19:52	06:32 / 20:25 28	06:52 (T5) / 07:20 (T5) / 20:55	06:02 / 06:29 (T4) / 07:13 (T4) / 21:09	06:00 / 06:36 (T4) / 07:17 (T4) / 20:53	06:23 / 06:45 (T4) / 07:18 (T4) / 20:12	06:54 / 07:25 / 19:18	07:58 / 18:31	07:35 / 17:04	07:57 / 17:10
30	07:45 / 17:44		07:19 / 19:54	06:31 / 20:26 29	06:51 (T5) / 07:20 (T5) / 20:55	06:02 / 06:29 (T4) / 07:12 (T4) / 21:09	06:01 / 06:36 (T4) / 06:24 / 20:52	06:24 / 06:46 (T4) / 07:19 (T5) / 20:10	06:55 / 07:26 / 19:16	08:00 / 18:30	07:36 / 17:03	07:57 / 17:10
31	07:44 / 17:46		07:17 / 19:55		06:01 / 20:56 44	06:29 (T4) / 07:13 (T4)		06:25 / 20:51 34	06:47 (T4) / 07:21 (T5) / 20:09	06:56 /		08:01 / 18:29		07:57 / 17:11
Potential sun hours	297	297	370	399	449	453	460	429	375	345	297	287
Total, worst case				246	1163	1256	1273	634				
Sun reduction				0.52	0.57	0.64	0.66	0.61				
Oper. time red.				1.00	1.00	1.00	1.00	1.00				
Wind dir. red.				0.68	0.70	0.71	0.71	0.68				
Total reduction				0.35	0.40	0.45	0.47	0.42				
Total, real				87	464	569	594	265				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 360 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7986)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February			March			April			May			June
1	07:58	07:44			07:07		07:27 (T86)	07:16		07:35 (T84)	06:30		07:24 (T84)	06:01
	17:12	17:47			18:21	21	07:48 (T86)	19:56	136	19:24 (T85)	20:27	70	08:34 (T84)	20:57
2	07:58	07:43			07:06		07:25 (T86)	07:14		07:33 (T84)	06:29		07:24 (T84)	06:00
	17:13	17:48			18:23	24	07:49 (T86)	19:57	137	19:23 (T85)	20:28	69	08:33 (T84)	20:58
3	07:58	07:42			07:04		07:23 (T86)	07:13		07:32 (T84)	06:27		07:25 (T84)	06:00
	17:14	17:50			18:24	26	07:49 (T86)	19:58	140	19:23 (T85)	20:29	67	08:32 (T84)	20:59
4	07:58	07:41			07:02		07:22 (T86)	07:11		07:31 (T84)	06:26		07:25 (T84)	06:00
	17:15	17:51			18:25	29	07:51 (T86)	19:59	140	19:22 (T85)	20:30	66	08:31 (T84)	20:59
5	07:58	07:39			07:01		07:20 (T86)	07:09		07:29 (T84)	06:25		07:26 (T84)	05:59
	17:16	17:52			18:26	31	07:51 (T86)	20:00	142	19:22 (T85)	20:31	64	08:30 (T84)	21:00
6	07:58	07:38			06:59		07:19 (T86)	07:08		07:29 (T84)	06:24		07:27 (T84)	05:59
	17:17	17:53			18:27	33	07:52 (T86)	20:00	143	19:22 (T85)	20:32	62	08:29 (T84)	21:01
7	07:58	07:37			06:58		07:17 (T86)	07:06		07:28 (T84)	06:22		07:27 (T84)	05:59
	17:18	17:55			18:28	34	07:51 (T86)	20:01	143	19:21 (T85)	20:33	61	08:28 (T84)	21:01
8	07:57	07:36			07:56		08:15 (T86)	07:04		07:26 (T84)	06:21		07:28 (T84)	05:58
	17:19	17:56			19:30	36	08:51 (T86)	20:02	143	19:19 (T85)	20:35	59	08:27 (T84)	21:02
9	07:57	07:35			07:54		08:14 (T86)	07:03		07:26 (T84)	06:20		07:29 (T84)	05:58
	17:20	17:57			19:31	38	08:52 (T86)	20:03	142	19:19 (T85)	20:36	56	08:25 (T84)	21:03
10	07:57	07:34			07:53		08:12 (T86)	07:01		07:25 (T84)	06:19		07:30 (T84)	05:58
	17:21	17:58			19:32	49	19:00 (T85)	20:05	142	19:18 (T85)	20:37	54	08:24 (T84)	21:03
11	07:57	07:33			07:51		08:10 (T86)	07:00		07:25 (T84)	06:18		07:31 (T84)	05:58
	17:22	18:00			19:33	63	19:06 (T85)	20:06	142	19:18 (T85)	20:38	52	08:23 (T84)	21:04
12	07:57	07:31			07:50		08:11 (T86)	06:58		07:24 (T84)	06:17		07:32 (T84)	05:58
	17:23	18:01			19:34	71	19:10 (T85)	20:07	140	19:16 (T85)	20:39	50	08:22 (T84)	21:04
13	07:56	07:30			07:48		08:11 (T86)	06:56		07:23 (T84)	06:16		07:34 (T84)	05:58
	17:24	18:02			19:35	75	19:12 (T85)	20:08	139	19:15 (T85)	20:40	47	08:21 (T84)	21:05
14	07:56	07:29			07:46		08:10 (T86)	06:55		07:23 (T84)	06:15		07:35 (T84)	05:58
	17:25	18:03			19:36	79	19:14 (T85)	20:09	137	19:14 (T85)	20:41	44	08:19 (T84)	21:05
15	07:56	07:27			07:45		08:12 (T86)	06:53		07:22 (T84)	06:14		07:36 (T84)	05:58
	17:26	18:05			19:37	81	19:16 (T85)	20:10	135	19:12 (T85)	20:42	41	08:17 (T84)	21:06
16	07:55	07:26			07:43		08:12 (T86)	06:52		07:23 (T84)	06:13		07:38 (T84)	05:58
	17:28	18:06			19:39	83	19:17 (T85)	20:11	132	19:12 (T85)	20:43	38	08:16 (T84)	21:06
17	07:55	07:25			07:41		08:12 (T86)	06:50		07:22 (T84)	06:12		07:39 (T84)	05:58
	17:29	18:07			19:40	84	19:18 (T85)	20:12	131	19:10 (T85)	20:44	35	08:14 (T84)	21:07
18	07:54	07:23			07:40		08:14 (T86)	06:49		07:22 (T84)	06:11		07:41 (T84)	05:58
	17:30	18:08			19:41	84	19:20 (T85)	20:13	128	19:09 (T85)	20:45	31	08:12 (T84)	21:07
19	07:54	07:22			07:38		08:15 (T86)	06:47		07:21 (T84)	06:10		07:44 (T84)	05:58
	17:31	18:10			19:42	84	19:21 (T85)	20:14	124	19:06 (T85)	20:46	26	08:10 (T84)	21:07
20	07:53	07:21			07:36		08:16 (T86)	06:45		07:22 (T84)	06:09		07:47 (T84)	05:58
	17:32	18:11			19:43	83	19:21 (T85)	20:15	120	19:05 (T85)	20:47	21	08:08 (T84)	21:08
21	07:52	07:19			07:34		08:19 (T86)	06:44		07:21 (T84)	06:08		07:50 (T84)	05:58
	17:33	18:12			19:44	80	19:23 (T85)	20:16	116	19:02 (T85)	20:48	14	08:04 (T84)	21:08
22	07:52	07:18			07:33		08:01 (T84)	06:42		07:22 (T84)	06:07			05:58
	17:35	18:13			19:45	94	19:23 (T85)	20:17	110	19:00 (T85)	20:49			21:08
23	07:51	07:16			07:31		07:56 (T84)	06:41		07:21 (T84)	06:07			05:59
	17:36	18:14			19:46	94	19:23 (T85)	20:19	105	18:57 (T85)	20:49			21:08
24	07:50	07:15			07:29		07:51 (T84)	06:40		07:22 (T84)	06:06			05:59
	17:37	18:16			19:47	102	19:23 (T85)	20:20	95	18:53 (T85)	20:50			21:09
25	07:50	07:13		07:33 (T86)	07:28		07:49 (T84)	06:38		07:22 (T84)	06:05			05:59
	17:38	18:17	5	07:38 (T86)	19:48	109	19:24 (T85)	20:21	78	18:45 (T85)	20:51			21:09
26	07:49	07:12		07:31 (T86)	07:26		07:46 (T84)	06:37		07:22 (T84)	06:04			06:00
	17:40	18:18	11	07:42 (T86)	19:49	114	19:24 (T85)	20:22	76	08:38 (T84)	20:52			21:09
27	07:48	07:10		07:30 (T86)	07:24		07:43 (T84)	06:35		07:22 (T84)	06:04			06:00
	17:41	18:19	15	07:45 (T86)	19:51	120	19:24 (T85)	20:23	75	08:37 (T84)	20:53			21:09
28	07:47	07:09		07:28 (T86)	07:23		07:42 (T84)	06:34		07:22 (T84)	06:03			06:00
	17:42	18:20	18	07:46 (T86)	19:52	124	19:25 (T85)	20:24	74	08:36 (T84)	20:54			21:09
29	07:46				07:21		07:40 (T84)	06:33		07:23 (T84)	06:02			06:01
	17:43				19:53	127	19:24 (T85)	20:25	72	08:35 (T84)	20:55			21:09
30	07:45				07:19		07:38 (T84)	06:31		07:23 (T84)	06:02			06:01
	17:45				19:54	131	19:24 (T85)	20:26	72	08:35 (T84)	20:56			21:09
31	07:45				07:18		07:37 (T84)				06:01			
	17:46				19:55	133	19:24 (T85)				20:56			
Potential sun hours	297	297			370			399			449			453
Total, worst case			49			2336			3609			1027		
Sun reduction			0.40			0.44			0.52			0.57		
Oper. time red.			1.00			1.00			1.00			1.00		
Wind dir. red.			0.57			0.62			0.64			0.64		
Total reduction			0.23			0.27			0.33			0.36		
Total, real			11			640			1203			374		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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US-SYRACUSE, NY 13202
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 360 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7986)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November	December
1	06:02			06:26		07:43 (T84)	06:57		07:24 (T84)	07:27		07:50 (T86)	07:02	07:37
	21:09			20:50	50	08:33 (T84)	20:07	142	19:17 (T85)	19:15	72	18:50 (T85)	17:28	17:03
2	06:02			06:27		07:42 (T84)	06:58		07:24 (T84)	07:28		07:49 (T86)	07:03	07:38
	21:09			20:49	52	08:34 (T84)	20:06	142	19:17 (T85)	19:13	66	18:46 (T85)	17:26	17:03
3	06:03			06:28		07:40 (T84)	06:59		07:24 (T84)	07:30		07:49 (T86)	07:05	07:39
	21:09			20:48	55	08:35 (T84)	20:04	142	19:17 (T85)	19:11	57	18:41 (T85)	17:25	17:03
4	06:03			06:29		07:39 (T84)	07:00		07:24 (T84)	07:31		07:50 (T86)	07:06	07:40
	21:08			20:47	58	08:37 (T84)	20:02	144	19:18 (T85)	19:10	38	08:28 (T86)	17:24	17:02
5	06:04			06:30		07:38 (T84)	07:01		07:25 (T84)	07:32		07:52 (T86)	07:07	07:41
	21:08			20:46	60	08:38 (T84)	20:01	143	19:18 (T85)	19:08	37	08:29 (T86)	17:23	17:02
6	06:04			06:31		07:37 (T84)	07:02		07:24 (T84)	07:33		07:53 (T86)	07:08	07:42
	21:08			20:45	62	08:39 (T84)	19:57	143	19:17 (T85)	19:06	35	08:28 (T86)	17:22	17:02
7	06:05			06:32		07:37 (T84)	07:03		07:24 (T84)	07:34		07:54 (T86)	07:09	07:43
	21:08			20:43	62	08:39 (T84)	19:56	142	19:17 (T85)	19:05	34	08:28 (T86)	17:21	17:02
8	06:06			06:33		07:35 (T84)	07:04		07:25 (T84)	07:35		07:55 (T86)	07:11	07:44
	21:07			20:42	64	08:39 (T84)	19:54	141	19:17 (T85)	19:03	32	08:27 (T86)	17:19	17:02
9	06:06			06:34		07:34 (T84)	07:05		07:25 (T84)	07:36		07:56 (T86)	07:12	07:45
	21:07			20:41	66	08:40 (T84)	19:52	140	19:16 (T85)	19:01	30	08:26 (T86)	17:18	17:02
10	06:07			06:35		07:33 (T84)	07:06		07:26 (T84)	07:37		07:57 (T86)	07:13	07:46
	21:07			20:40	68	08:41 (T84)	19:51	138	19:16 (T85)	19:00	28	08:25 (T86)	17:17	17:02
11	06:08			06:36		07:32 (T84)	07:07		07:27 (T84)	07:38		07:58 (T86)	07:14	07:47
	21:06			20:38	70	08:42 (T84)	19:49	136	19:16 (T85)	18:58	25	08:23 (T86)	17:16	17:02
12	06:08			06:37		07:32 (T84)	07:08		07:28 (T84)	07:39		07:59 (T86)	07:15	07:48
	21:06			20:37	70	08:42 (T84)	19:47	133	19:15 (T85)	18:56	23	08:22 (T86)	17:15	17:02
13	06:09			06:38		07:31 (T84)	07:09		07:29 (T84)	07:40		08:00 (T86)	07:17	07:48
	21:05			20:36	72	08:43 (T84)	19:45	130	19:15 (T85)	18:55	20	08:20 (T86)	17:14	17:02
14	06:10			06:39		07:30 (T84)	07:10		07:30 (T84)	07:41		08:02 (T86)	07:18	07:49
	21:05			20:34	73	08:43 (T84)	19:44	128	19:14 (T85)	18:53	17	08:19 (T86)	17:14	17:03
15	06:11			06:40		07:30 (T84)	07:11		07:31 (T84)	07:42		08:03 (T86)	07:19	07:50
	21:04			20:33	74	08:44 (T84)	19:42	125	19:14 (T85)	18:52	14	08:17 (T86)	17:13	17:03
16	06:11			06:41		07:29 (T84)	07:12		07:32 (T84)	07:44		08:04 (T86)	07:20	07:51
	21:04			20:32	75	08:44 (T84)	19:40	120	19:13 (T85)	18:50	9	08:13 (T86)	17:12	17:03
17	06:12			06:42		07:28 (T84)	07:13		07:34 (T84)	07:45			07:21	07:51
	21:03			20:30	77	08:45 (T84)	19:39	115	19:12 (T85)	18:49			17:11	17:03
18	06:13			06:43		07:28 (T84)	07:14		07:36 (T84)	07:46			07:23	07:52
	21:02			20:29	85	18:54 (T85)	19:37	111	19:12 (T85)	18:47			17:10	17:04
19	06:14			06:44		07:27 (T84)	07:15		07:38 (T84)	07:47			07:24	07:53
	21:02			20:27	98	19:00 (T85)	19:35	104	19:11 (T85)	18:46			17:09	17:04
20	06:15			06:45		07:27 (T84)	07:16		07:41 (T84)	07:48			07:25	07:53
	21:01			20:26	105	19:03 (T85)	19:33	97	19:10 (T85)	18:44			17:09	17:05
21	06:16			06:46		07:26 (T84)	07:17		07:45 (T84)	07:49			07:26	07:54
	21:00			20:24	112	19:05 (T85)	19:32	94	19:09 (T85)	18:43			17:08	17:05
22	06:17		08:03 (T84)	06:47		07:26 (T84)	07:18		07:53 (T84)	07:50			07:27	07:54
	21:00	9	08:12 (T84)	20:23	116	19:07 (T85)	19:30	84	19:07 (T85)	18:41			17:07	17:05
23	06:17		07:59 (T84)	06:48		07:26 (T84)	07:19		08:01 (T86)	07:52			07:28	07:55
	20:59	17	08:16 (T84)	20:21	120	19:09 (T85)	19:28	81	19:06 (T85)	18:40			17:07	17:06
24	06:18		07:56 (T84)	06:49		07:25 (T84)	07:20		07:59 (T86)	07:53			07:30	07:55
	20:58	24	08:20 (T84)	20:20	124	19:10 (T85)	19:27	83	19:04 (T85)	18:38			17:06	17:07
25	06:19		07:53 (T84)	06:50		07:25 (T84)	07:21		07:57 (T86)	07:54			07:31	07:56
	20:57	28	08:21 (T84)	20:18	128	19:12 (T85)	19:25	84	19:03 (T85)	18:37			17:06	17:07
26	06:20		07:51 (T84)	06:51		07:25 (T84)	07:22		07:55 (T86)	07:55			07:32	07:56
	20:56	32	08:23 (T84)	20:17	131	19:13 (T85)	19:23	84	19:01 (T85)	18:36			17:05	17:08
27	06:21		07:49 (T84)	06:52		07:24 (T84)	07:23		07:54 (T86)	07:56			07:33	07:56
	20:55	36	08:25 (T84)	20:15	133	19:14 (T85)	19:21	83	18:59 (T85)	18:34			17:05	17:08
28	06:22		07:48 (T84)	06:53		07:24 (T84)	07:24		07:52 (T86)	07:57			07:34	07:57
	20:54	39	08:27 (T84)	20:14	135	19:14 (T85)	19:20	82	18:57 (T85)	18:33			17:04	17:09
29	06:23		07:46 (T84)	06:54		07:24 (T84)	07:25		07:51 (T86)	07:59			07:35	07:57
	20:53	43	08:29 (T84)	20:12	137	19:15 (T85)	19:18	80	18:55 (T85)	18:31			17:04	17:10
30	06:24		07:45 (T84)	06:55		07:24 (T84)	07:26		07:50 (T86)	08:00			07:36	07:57
	20:52	45	08:30 (T84)	20:10	139	19:16 (T85)	19:16	78	18:53 (T85)	18:30			17:04	17:11
31	06:25		07:44 (T84)	06:56		07:24 (T84)				08:01				07:57
	20:51	48	08:32 (T84)	20:09	140	19:16 (T85)				18:29				17:11
Potential sun hours	460			429			375			345			297	287
Total, worst case		321			2811			3449			537			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.64			0.64			0.64			0.58			
Total reduction		0.42			0.39			0.38			0.28			
Total, real		135			1098			1296			150			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 382 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8004)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February	March			April			May			June		
1	07:57		15:19 (T44)	07:43	07:07			07:16		07:35 (T76)	06:30		18:45 (T77)	06:01		19:55 (T42)
	17:13	37	15:56 (T44)	17:47	18:22			19:56	82	19:34 (T77)	20:27	28	19:13 (T77)	20:57	37	20:32 (T42)
2	07:57		15:20 (T44)	07:42	07:06			07:14		07:33 (T76)	06:29		18:48 (T77)	06:01		19:55 (T42)
	17:14	36	15:56 (T44)	17:49	18:23			19:57	85	19:34 (T77)	20:28	23	19:11 (T77)	20:58	38	20:33 (T42)
3	07:57		15:21 (T44)	07:41	07:04			07:13		07:32 (T76)	06:28		18:51 (T77)	06:01		19:54 (T42)
	17:15	35	15:56 (T44)	17:50	18:24			19:58	87	19:35 (T77)	20:29	15	19:06 (T77)	20:58	39	20:33 (T42)
4	07:57		15:22 (T44)	07:40	07:02			07:11		07:30 (T76)	06:26			06:00		19:55 (T42)
	17:16	34	15:56 (T44)	17:51	18:25			19:59	90	19:35 (T77)	20:30			20:59	39	20:34 (T42)
5	07:57		15:23 (T44)	07:39	07:01			07:09		07:28 (T76)	06:25			06:00		19:55 (T42)
	17:17	33	15:56 (T44)	17:52	18:26			20:00	92	19:35 (T77)	20:31			21:00	40	20:35 (T42)
6	07:57		15:25 (T44)	07:38	06:59			07:08		07:27 (T76)	06:24			06:00		19:54 (T42)
	17:17	31	15:56 (T44)	17:54	18:27			20:00	93	19:35 (T77)	20:32			21:00	41	20:35 (T42)
7	07:57		15:25 (T44)	07:37	06:58			07:06		07:27 (T76)	06:23			05:59		19:54 (T42)
	17:18	29	15:54 (T44)	17:55	18:29			20:01	93	19:35 (T77)	20:33			21:01	42	20:36 (T42)
8	07:57		15:27 (T44)	07:36	07:56			07:05		07:28 (T76)	06:22			05:59		19:54 (T42)
	17:19	27	15:54 (T44)	17:56	19:30			20:02	93	19:36 (T77)	20:34			21:02	43	20:37 (T42)
9	07:57		15:29 (T44)	07:35	07:54			07:03		07:28 (T76)	06:20			05:59		19:54 (T42)
	17:20	25	15:54 (T44)	17:58	19:31			20:03	91	19:35 (T77)	20:35			21:02	44	20:38 (T42)
10	07:57		15:31 (T44)	07:34	07:53			07:01		07:28 (T76)	06:19			05:59		19:55 (T42)
	17:21	22	15:53 (T44)	17:59	19:32			20:05	88	19:34 (T77)	20:36			21:03	43	20:38 (T42)
11	07:57		15:33 (T44)	07:32	07:51			07:00		07:29 (T76)	06:18			05:58		19:55 (T42)
	17:23	18	15:51 (T44)	18:00	19:33			20:06	87	19:35 (T77)	20:37			21:03	44	20:39 (T42)
12	07:56		15:36 (T44)	07:31	07:50			06:58		07:30 (T76)	06:17			05:58		19:54 (T42)
	17:24	13	15:49 (T44)	18:01	19:34			20:07	83	19:34 (T77)	20:38			21:04	45	20:39 (T42)
13	07:56		15:41 (T44)	07:30	07:48			06:57		07:33 (T76)	06:16			05:58		19:54 (T42)
	17:25	4	15:45 (T44)	18:02	19:35			20:08	78	19:34 (T77)	20:39			21:05	45	20:39 (T42)
14	07:56			07:29	07:46			06:55		07:36 (T76)	06:15			05:58		19:54 (T42)
	17:26			18:04	19:36			20:09	70	19:33 (T77)	20:40			21:05	45	20:39 (T42)
15	07:55			07:27	07:45			06:53		18:30 (T77)	06:14			05:58		19:54 (T42)
	17:27			18:05	19:38			20:10	62	19:32 (T77)	20:41			21:05	46	20:40 (T42)
16	07:55			07:26	07:43			06:52		18:31 (T77)	06:13			05:58		19:54 (T42)
	17:28			18:06	19:39			20:11	61	19:32 (T77)	20:42			21:06	46	20:40 (T42)
17	07:54			07:25	07:41			06:50		18:31 (T77)	06:12			05:58		19:55 (T42)
	17:29			18:07	19:40			20:12	60	19:31 (T77)	20:43			21:06	46	20:41 (T42)
18	07:54			07:23	07:40			06:49		18:32 (T77)	06:11			05:58		19:55 (T42)
	17:30			18:09	19:41			20:13	59	19:31 (T77)	20:44			21:07	47	20:42 (T42)
19	07:53			07:22	07:38			06:47		18:32 (T77)	06:10		20:09 (T42)	05:58		19:55 (T42)
	17:32			18:10	19:42			20:14	57	19:29 (T77)	20:45	13	20:22 (T42)	21:07	47	20:42 (T42)
20	07:53			07:20	07:36			06:46		18:32 (T77)	06:09		20:06 (T42)	05:59		19:55 (T42)
	17:33			18:11	19:43			20:15	57	19:29 (T77)	20:46	17	20:23 (T42)	21:07	47	20:42 (T42)
21	07:52			07:19	07:35		19:03 (T77)	06:44		18:34 (T77)	06:09		20:04 (T42)	05:59		19:56 (T42)
	17:34			18:12	19:44	13	19:16 (T77)	20:16	55	19:29 (T77)	20:47	19	20:23 (T42)	21:08	46	20:42 (T42)
22	07:52			07:18	07:33		18:57 (T77)	06:43		18:34 (T77)	06:08		20:03 (T42)	05:59		19:56 (T42)
	17:35			18:13	19:45	23	19:20 (T77)	20:17	53	19:27 (T77)	20:48	22	20:25 (T42)	21:08	46	20:42 (T42)
23	07:51			07:16	07:31		18:53 (T77)	06:41		18:35 (T77)	06:07		20:01 (T42)	05:59		19:56 (T42)
	17:36			18:15	19:46	30	19:23 (T77)	20:18	51	19:26 (T77)	20:49	24	20:25 (T42)	21:08	47	20:43 (T42)
24	07:50			07:15	07:30		18:50 (T77)	06:40		18:35 (T77)	06:06		20:00 (T42)	05:59		19:56 (T42)
	17:38			18:16	19:47	36	19:26 (T77)	20:19	50	19:25 (T77)	20:50	26	20:26 (T42)	21:08	47	20:43 (T42)
25	07:49			07:13	07:28		07:47 (T76)	06:38		18:36 (T77)	06:06		19:59 (T42)	06:00		19:56 (T42)
	17:39			18:17	19:48	43	19:27 (T77)	20:21	48	19:24 (T77)	20:51	28	20:27 (T42)	21:08	47	20:43 (T42)
26	07:49			07:12	07:26		07:45 (T76)	06:37		18:37 (T77)	06:05		19:58 (T42)	06:00		19:57 (T42)
	17:40			18:18	19:50	52	19:28 (T77)	20:22	45	19:22 (T77)	20:52	30	20:28 (T42)	21:08	46	20:43 (T42)
27	07:48			07:10	07:24		07:43 (T76)	06:36		18:38 (T77)	06:04		19:58 (T42)	06:00		19:57 (T42)
	17:41			18:19	19:51	58	19:29 (T77)	20:23	43	19:21 (T77)	20:53	31	20:29 (T42)	21:08	46	20:43 (T42)
28	07:47			07:09	07:23		07:42 (T76)	06:34		18:40 (T77)	06:04		19:57 (T42)	06:01		19:57 (T42)
	17:42			18:21	19:52	63	19:30 (T77)	20:24	39	19:19 (T77)	20:54	32	20:29 (T42)	21:09	46	20:43 (T42)
29	07:46				07:21		07:40 (T76)	06:33		18:41 (T77)	06:03		19:56 (T42)	06:01		19:58 (T42)
	17:44				19:53	69	19:31 (T77)	20:25	36	19:17 (T77)	20:54	34	20:30 (T42)	21:09	45	20:43 (T42)
30	07:45				07:19		07:38 (T76)	06:32		18:43 (T77)	06:02		19:56 (T42)	06:02		19:58 (T42)
	17:45				19:54	74	19:32 (T77)	20:26	32	19:15 (T77)	20:55	35	20:31 (T42)	21:08	45	20:43 (T42)
31	07:44				07:18		07:37 (T76)				06:02		19:55 (T42)			
	17:46				19:55	78	19:34 (T77)				20:56	36	20:31 (T42)			
Potential sun hours	297			297	370			399			448			453		
Total, worst case		344				539			2020			413			1325	
Sun reduction		0.31				0.44			0.52			0.57			0.64	
Oper. time red.		1.00				1.00			1.00			1.00			1.00	
Wind dir. red.		0.74				0.63			0.63			0.55			0.54	
Total reduction		0.24				0.28			0.33			0.32			0.35	
Total, real		81				152			675			133			467	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 382 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8004)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		19:59 (T42)	06:26			06:57			07:28 (T76)	07:27			07:02				07:37		15:15 (T44)
	21:08	44	20:43 (T42)	20:50			20:07	87		19:34 (T77)	19:15			17:28				17:04	18	15:33 (T44)
2	06:03		19:59 (T42)	06:27			06:58			07:27 (T76)	07:29			07:03				07:38		15:13 (T44)
	21:08	44	20:43 (T42)	20:49			20:06	88		19:33 (T77)	19:13			17:27				17:03	22	15:35 (T44)
3	06:03		19:59 (T42)	06:28			06:59			07:26 (T76)	07:30			07:04				07:39		15:12 (T44)
	21:08	44	20:43 (T42)	20:48			20:04	91		19:33 (T77)	19:11			17:26				17:03	25	15:37 (T44)
4	06:04		19:59 (T42)	06:29			07:00			07:25 (T76)	07:31			07:06				07:40		15:12 (T44)
	21:08	43	20:42 (T42)	20:47			20:02	93		19:33 (T77)	19:10			17:24				17:03	27	15:39 (T44)
5	06:04		20:00 (T42)	06:30			07:01			07:24 (T76)	07:32			07:07				07:41		15:11 (T44)
	21:08	42	20:42 (T42)	20:46			20:01	93		19:32 (T77)	19:08			17:23				17:03	29	15:40 (T44)
6	06:05		20:00 (T42)	06:31			07:02			07:23 (T76)	07:33			07:08				07:42		15:10 (T44)
	21:08	42	20:42 (T42)	20:44			19:57	93		19:31 (T77)	19:06			17:22				17:03	31	15:41 (T44)
7	06:05		20:01 (T42)	06:32			07:03			07:24 (T76)	07:34			07:09				07:43		15:10 (T44)
	21:07	41	20:42 (T42)	20:43			19:56	92		19:31 (T77)	19:05			17:21				17:03	32	15:42 (T44)
8	06:06		20:02 (T42)	06:33			07:04			07:25 (T76)	07:35			07:10				07:44		15:09 (T44)
	21:07	40	20:42 (T42)	20:42			19:54	90		19:30 (T77)	19:03			17:20				17:03	34	15:43 (T44)
9	06:07		20:02 (T42)	06:34		19:05 (T77)	07:05			07:26 (T76)	07:36			07:12				07:45		15:09 (T44)
	21:07	39	20:41 (T42)	20:41	7	19:12 (T77)	19:52	88		19:29 (T77)	19:02			17:19				17:03	35	15:44 (T44)
10	06:07		20:02 (T42)	06:35		18:59 (T77)	07:06			07:26 (T76)	07:37			07:13				07:46		15:09 (T44)
	21:06	39	20:41 (T42)	20:39	18	19:17 (T77)	19:51	85		19:27 (T77)	19:00			17:18				17:03	36	15:45 (T44)
11	06:08		20:03 (T42)	06:36		18:56 (T77)	07:07			07:27 (T76)	07:38			07:14				07:46		15:09 (T44)
	21:06	38	20:41 (T42)	20:38	24	19:20 (T77)	19:49	81		19:26 (T77)	18:58			17:17				17:03	37	15:46 (T44)
12	06:09		20:03 (T42)	06:37		18:53 (T77)	07:08			07:28 (T76)	07:39			07:15				07:47		15:09 (T44)
	21:06	37	20:40 (T42)	20:37	30	19:23 (T77)	19:47	79		19:25 (T77)	18:57			17:16				17:03	38	15:47 (T44)
13	06:10		20:04 (T42)	06:38		18:51 (T77)	07:09			07:29 (T76)	07:40			07:16				07:48		15:10 (T44)
	21:05	36	20:40 (T42)	20:36	34	19:25 (T77)	19:45	74		19:23 (T77)	18:55			17:15				17:03	38	15:48 (T44)
14	06:10		20:05 (T42)	06:39		18:49 (T77)	07:10			07:30 (T76)	07:41			07:18				07:49		15:09 (T44)
	21:05	34	20:39 (T42)	20:34	37	19:26 (T77)	19:44	70		19:22 (T77)	18:54			17:14				17:03	39	15:48 (T44)
15	06:11		20:06 (T42)	06:40		18:47 (T77)	07:11			07:31 (T76)	07:42			07:19				07:50		15:09 (T44)
	21:04	33	20:39 (T42)	20:33	41	19:28 (T77)	19:42	65		19:20 (T77)	18:52			17:13				17:03	40	15:49 (T44)
16	06:12		20:06 (T42)	06:41		18:45 (T77)	07:12			07:32 (T76)	07:44			07:20				07:50		15:10 (T44)
	21:03	32	20:38 (T42)	20:31	43	19:28 (T77)	19:40	59		19:18 (T77)	18:50			17:12				17:04	40	15:50 (T44)
17	06:13		20:07 (T42)	06:42		18:43 (T77)	07:13			07:33 (T76)	07:45			07:21				07:51		15:10 (T44)
	21:03	30	20:37 (T42)	20:30	46	19:29 (T77)	19:39	54		19:17 (T77)	18:49			17:11				17:04	40	15:50 (T44)
18	06:14		20:08 (T42)	06:43		18:42 (T77)	07:14			07:34 (T76)	07:46			07:22				07:52		15:10 (T44)
	21:02	29	20:37 (T42)	20:29	48	19:30 (T77)	19:37	46		19:15 (T77)	18:47			17:11				17:04	41	15:51 (T44)
19	06:14		20:10 (T42)	06:44		18:41 (T77)	07:15			18:36 (T77)	07:47			07:23				07:52		15:11 (T44)
	21:01	27	20:37 (T42)	20:27	50	19:31 (T77)	19:35	37		19:13 (T77)	18:46			17:10				17:05	41	15:52 (T44)
20	06:15		20:11 (T42)	06:45		18:39 (T77)	07:16			18:38 (T77)	07:48			07:25				07:53		15:11 (T44)
	21:01	25	20:36 (T42)	20:26	52	19:31 (T77)	19:33	32		19:10 (T77)	18:44			17:09				17:05	41	15:52 (T44)
21	06:16		20:11 (T42)	06:46		18:38 (T77)	07:17			18:41 (T77)	07:49			07:26				07:53		15:12 (T44)
	21:00	24	20:35 (T42)	20:24	54	19:32 (T77)	19:32	26		19:07 (T77)	18:43			17:09				17:06	41	15:53 (T44)
22	06:17		20:13 (T42)	06:47		18:37 (T77)	07:18			18:45 (T77)	07:50			07:27				07:54		15:12 (T44)
	20:59	21	20:34 (T42)	20:23	56	19:33 (T77)	19:30	17		19:02 (T77)	18:41			17:08				17:06	41	15:53 (T44)
23	06:18		20:15 (T42)	06:48		18:36 (T77)	07:19				07:51			07:28				07:54		15:13 (T44)
	20:59	18	20:33 (T42)	20:21	57	19:33 (T77)	19:28				18:40			17:07				17:07	41	15:54 (T44)
24	06:19		20:18 (T42)	06:49		18:35 (T77)	07:20				07:53			07:29				07:55		15:13 (T44)
	20:58	15	20:33 (T42)	20:20	58	19:33 (T77)	19:27				18:39			17:07				17:07	41	15:54 (T44)
25	06:20		20:22 (T42)	06:50		18:34 (T77)	07:21				07:54			07:30				07:55		15:13 (T44)
	20:57	9	20:31 (T42)	20:18	60	19:34 (T77)	19:25				18:37			17:06				17:08	41	15:54 (T44)
26	06:21			06:51		18:34 (T77)	07:22				07:55			07:32				07:56		15:14 (T44)
	20:56			20:17	60	19:34 (T77)	19:23				18:36			17:06				17:08	41	15:55 (T44)
27	06:22			06:52		18:33 (T77)	07:23				07:56			07:33				07:56		15:15 (T44)
	20:55			20:15	61	19:34 (T77)	19:22				18:34			17:05				17:09	40	15:55 (T44)
28	06:22			06:53		18:32 (T77)	07:24				07:57			07:34				07:56		15:15 (T44)
	20:54			20:14	62	19:34 (T77)	19:20				18:33			17:05				17:10	40	15:55 (T44)
29	06:23			06:54		07:36 (T76)	07:25				07:58			07:35		15:22 (T44)		07:57		15:16 (T44)
	20:53			20:12	71	19:34 (T77)	19:18				18:32			17:04	3	15:25 (T44)		17:10	39	15:55 (T44)
30	06:24			06:55		07:33 (T76)	07:26				08:00			07:36		15:17 (T44)		07:57		15:17 (T44)
	20:52			20:10	78	19:34 (T77)	19:16				18:31			17:04	13	15:30 (T44)		17:11	39	15:56 (T44)
31	06:25			06:56		07:30 (T76)					08:01							07:57		15:18 (T44)
	20:51			20:09	84	19:34 (T77)					18:29							17:12	38	15:56 (T44)
Potential sun hours	460			429			375				345	297			287					
Total, worst case		826			1131			1540					16				1126			
Sun reduction		0.66			0.61			0.59					0.30				0.22			
Oper. time red.		1.00			1.00			1.00					1.00				1.00			
Wind dir. red.		0.54			0.62			0.63					0.74				0.74			
Total reduction		0.36			0.39			0.38					0.23				0.17			
Total, real		300			442			585					4				189			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 385 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8007)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June
1	07:57		07:43		16:43 (T5)	07:07	16:36 (T5)	07:16		06:30	19:32 (T3) 06:01
	17:12		17:47	40	17:23 (T5)	18:21 83	17:59 (T4)	19:56		20:27 13	19:45 (T3) 20:57
2	07:57		07:42		16:42 (T5)	07:05	16:37 (T5)	07:14		06:28	19:36 (T3) 06:00
	17:13		17:48	42	17:24 (T5)	18:22 83	18:00 (T4)	19:57		20:28 5	19:41 (T3) 20:58
3	07:57		07:41		16:41 (T5)	07:04	16:37 (T5)	07:12		06:27	06:00
	17:14		17:49	45	17:26 (T5)	18:24 83	18:00 (T4)	19:58		20:29	20:58
4	07:57		07:40		16:40 (T5)	07:02	16:39 (T5)	07:11		06:26	05:59
	17:15		17:51	47	17:27 (T5)	18:25 81	18:00 (T4)	19:59		20:30	20:59
5	07:57		07:39		16:38 (T5)	07:01	16:40 (T5)	07:09		06:24	05:59
	17:16		17:52	50	17:28 (T5)	18:26 80	18:00 (T4)	20:00		20:31	21:00
6	07:57		07:38		16:38 (T5)	06:59	16:40 (T5)	07:07		06:23	05:59
	17:17		17:53	51	17:29 (T5)	18:27 79	17:59 (T4)	20:00		20:32	21:00
7	07:57		07:37		16:37 (T5)	06:57	16:43 (T5)	07:06		06:22	05:58
	17:18		17:54	54	17:31 (T5)	18:28 76	17:59 (T4)	20:01		20:33	21:01
8	07:57		07:36		16:37 (T5)	07:56	17:44 (T5)	07:04		06:21	05:58
	17:19		17:56	55	17:32 (T5)	19:29 73	18:58 (T4)	20:02		20:34	21:02
9	07:57		07:35		16:36 (T5)	07:54	17:45 (T5)	07:02		06:20	05:58
	17:20		17:57	58	17:34 (T5)	19:30 68	18:57 (T4)	20:03		20:35	21:02
10	07:57		07:33		16:35 (T5)	07:53	17:48 (T5)	07:01		06:19	05:58
	17:21		17:58	59	17:34 (T5)	19:32 61	18:56 (T4)	20:04		20:36	21:03
11	07:57		07:32		16:35 (T5)	07:51	17:51 (T5)	06:59	19:40 (T3)	06:17	05:58
	17:22		17:59	60	17:35 (T5)	19:33 53	18:55 (T4)	20:05 4	19:44 (T3)	20:37	21:04
12	07:56		07:31		16:34 (T5)	07:49	17:56 (T5)	06:58	19:36 (T3)	06:16	05:57
	17:23		18:01	62	17:36 (T5)	19:34 40	18:53 (T4)	20:06 10	19:46 (T3)	20:38	21:04
13	07:56		07:30		16:34 (T5)	07:48	18:29 (T4)	06:56	19:33 (T3)	06:15	05:57
	17:24		18:02	63	17:37 (T5)	19:35 23	18:52 (T4)	20:07 13	19:46 (T3)	20:39	21:05
14	07:56		07:28		16:33 (T5)	07:46	18:30 (T4)	06:54	19:32 (T3)	06:14	05:57
	17:25		18:03	63	17:36 (T5)	19:36 19	18:49 (T4)	20:09 16	19:48 (T3)	20:40	21:05
15	07:55		07:27		16:33 (T5)	07:44	18:33 (T4)	06:53	19:30 (T3)	06:13	05:57
	17:26		18:04	64	17:37 (T5)	19:37 12	18:45 (T4)	20:10 18	19:48 (T3)	20:41	21:06
16	07:55		07:26		16:34 (T5)	07:43		06:51	19:29 (T3)	06:12	05:57
	17:27		18:06	64	17:38 (T5)	19:38		20:11 20	19:49 (T3)	20:42	21:06
17	07:54		07:24		16:33 (T5)	07:41		06:50	19:28 (T3)	06:11	05:57
	17:28		18:07	64	17:37 (T5)	19:39		20:12 23	19:51 (T3)	20:43	21:06
18	07:54		07:23		16:33 (T5)	07:39		06:48	19:27 (T3)	06:10	05:57
	17:30		18:08	65	17:38 (T5)	19:40		20:13 24	19:51 (T3)	20:44	21:07
19	07:53		07:22		16:32 (T5)	07:38		06:47	19:27 (T3)	06:10	05:58
	17:31		18:09	65	17:37 (T5)	19:42		20:14 26	19:53 (T3)	20:45	21:07
20	07:53		07:20		16:33 (T5)	07:36		06:45	19:26 (T3)	06:09	05:58
	17:32		18:10	64	17:37 (T5)	19:43		20:15 27	19:53 (T3)	20:46	21:07
21	07:52		07:19		16:33 (T5)	07:34		06:44	19:26 (T3)	06:08	05:58
	17:33		18:12	77	17:50 (T4)	19:44		20:16 29	19:55 (T3)	20:47	21:08
22	07:52		07:17		16:33 (T5)	07:33		06:42	19:26 (T3)	06:07	05:58
	17:34		18:13	78	17:51 (T4)	19:45		20:17 30	19:56 (T3)	20:48	21:08
23	07:51		07:16		16:34 (T5)	07:31		06:41	19:26 (T3)	06:06	05:58
	17:36		18:14	78	17:52 (T4)	19:46		20:18 29	19:55 (T3)	20:49	21:08
24	07:50		07:14		16:33 (T5)	07:29		06:39	19:26 (T3)	06:05	05:59
	17:37		18:15	80	17:53 (T4)	19:47		20:19 29	19:55 (T3)	20:50	21:08
25	07:49		07:13		16:34 (T5)	07:27		06:38	19:26 (T3)	06:05	05:59
	17:38		18:16	81	17:55 (T4)	19:48		20:20 27	19:53 (T3)	20:51	21:08
26	07:49	16:54 (T5)	07:11		16:34 (T5)	07:26		06:36	19:27 (T3)	06:04	05:59
	17:39 16	17:10 (T5)	18:18	82	17:56 (T4)	19:49		20:21 26	19:53 (T3)	20:52	21:08
27	07:48	16:52 (T5)	07:10		16:34 (T5)	07:24		06:35	19:28 (T3)	06:03	06:00
	17:41 23	17:15 (T5)	18:19	82	17:56 (T4)	19:50		20:23 24	19:52 (T3)	20:53	21:09
28	07:47	16:50 (T5)	07:08		16:35 (T5)	07:22		06:34	19:28 (T3)	06:03	06:00
	17:42 27	17:17 (T5)	18:20	83	17:58 (T4)	19:51		20:24 22	19:50 (T3)	20:54	21:09
29	07:46	16:48 (T5)				07:21		06:32	19:29 (T3)	06:02	06:00
	17:43 31	17:19 (T5)				19:52		20:25 20	19:49 (T3)	20:54	21:09
30	07:45	16:46 (T5)				07:19		06:31	19:31 (T3)	06:02	06:01
	17:44 34	17:20 (T5)				19:53		20:26 17	19:48 (T3)	20:55	21:09
31	07:44	16:44 (T5)				07:17				06:01	
	17:46 37	17:21 (T5)				19:55				20:56	
Potential sun hours	297		297		370		399		449		453
Total, worst case	168		1776		914		434		18		
Sun reduction	0.31		0.40		0.44		0.52		0.57		
Oper. time red.	1.00		1.00		1.00		1.00		1.00		
Wind dir. red.	0.72		0.71		0.70		0.57		0.57		
Total reduction	0.22		0.29		0.31		0.30		0.33		
Total, real	38		510		283		131		6		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 385 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8007)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August		September		October		November		December
1	06:01	06:26		06:57	19:39 (T3)	07:27	17:39 (T5)	07:02	16:05 (T5)	07:37
	21:08	20:50		20:07	4 19:43 (T3)	19:14	31 18:32 (T4)	17:27	59 17:04 (T5)	17:03
2	06:02	06:27		06:58		07:28	17:32 (T5)	07:03	16:05 (T5)	07:38
	21:08	20:49		20:05		19:13	48 18:33 (T4)	17:26	57 17:02 (T5)	17:03
3	06:02	06:28		06:59		07:29	17:27 (T5)	07:04	16:07 (T5)	07:39
	21:08	20:48		20:04		19:11	59 18:34 (T4)	17:25	55 17:02 (T5)	17:02
4	06:03	06:29		07:00		07:30	17:24 (T5)	07:05	16:07 (T5)	07:40
	21:08	20:47		20:02		19:09	65 18:34 (T4)	17:24	53 17:00 (T5)	17:02
5	06:03	06:30		07:01		07:31	17:21 (T5)	07:07	16:08 (T5)	07:41
	21:08	20:46		20:00		19:08	71 18:34 (T4)	17:23	51 16:59 (T5)	17:02
6	06:04	06:31		07:02		07:32	17:19 (T5)	07:08	16:09 (T5)	07:42
	21:08	20:44		19:57		19:06	76 18:35 (T4)	17:21	49 16:58 (T5)	17:02
7	06:05	06:32		07:03		07:33	17:17 (T5)	07:09	16:10 (T5)	07:43
	21:07	20:43		19:55		19:04	78 18:35 (T4)	17:20	47 16:57 (T5)	17:02
8	06:05	06:33		07:04		07:35	17:16 (T5)	07:10	16:11 (T5)	07:44
	21:07	20:42		19:54		19:03	79 18:35 (T4)	17:19	44 16:55 (T5)	17:02
9	06:06	06:34		07:05		07:36	17:14 (T5)	07:11	16:12 (T5)	07:45
	21:07	20:41		19:52		19:01	81 18:35 (T4)	17:18	42 16:54 (T5)	17:02
10	06:07	06:35		07:06		07:37	17:13 (T5)	07:13	16:14 (T5)	07:46
	21:06	20:39		19:50		18:59	82 18:35 (T4)	17:17	40 16:54 (T5)	17:02
11	06:07	06:36	19:44 (T3)	07:07		07:38	17:11 (T5)	07:14	16:15 (T5)	07:46
	21:06	20:38	8 19:52 (T3)	19:49		18:58	83 18:34 (T4)	17:16	37 16:52 (T5)	17:02
12	06:08	06:37	19:40 (T3)	07:08		07:39	17:10 (T5)	07:15	16:17 (T5)	07:47
	21:06	20:37	14 19:54 (T3)	19:47		18:56	84 18:34 (T4)	17:15	34 16:51 (T5)	17:02
13	06:09	06:38	19:38 (T3)	07:09		07:40	17:09 (T5)	07:16	16:20 (T5)	07:48
	21:05	20:35	18 19:56 (T3)	19:45		18:55	83 18:32 (T4)	17:14	31 16:51 (T5)	17:02
14	06:10	06:39	19:37 (T3)	07:10		07:41	17:07 (T5)	07:17	16:22 (T5)	07:49
	21:05	20:34	20 19:57 (T3)	19:43		18:53	83 18:30 (T4)	17:13	27 16:49 (T5)	17:02
15	06:10	06:40	19:36 (T3)	07:11		07:42	17:06 (T5)	07:19	16:24 (T5)	07:50
	21:04	20:33	22 19:58 (T3)	19:42		18:51	82 18:28 (T4)	17:12	23 16:47 (T5)	17:03
16	06:11	06:41	19:34 (T3)	07:12		07:43	17:06 (T5)	07:20	16:27 (T5)	07:50
	21:03	20:31	25 19:59 (T3)	19:40		18:50	82 18:28 (T4)	17:12	16 16:43 (T5)	17:03
17	06:12	06:42	19:33 (T3)	07:13		07:44	17:06 (T5)	07:21		07:51
	21:03	20:30	27 20:00 (T3)	19:38		18:48	80 18:26 (T4)	17:11		17:03
18	06:13	06:43	19:33 (T3)	07:14		07:46	17:05 (T5)	07:22		07:52
	21:02	20:28	27 20:00 (T3)	19:37		18:47	79 18:24 (T4)	17:10		17:03
19	06:14	06:44	19:32 (T3)	07:15		07:47	17:04 (T5)	07:23		07:52
	21:02	20:27	28 20:00 (T3)	19:35		18:45	78 18:22 (T4)	17:09		17:04
20	06:14	06:45	19:32 (T3)	07:16		07:48	17:03 (T5)	07:25		07:53
	21:01	20:26	28 20:00 (T3)	19:33		18:44	78 18:21 (T4)	17:08		17:04
21	06:15	06:46	19:31 (T3)	07:17		07:49	17:03 (T5)	07:26		07:53
	21:00	20:24	29 20:00 (T3)	19:31		18:42	76 18:19 (T4)	17:08		17:05
22	06:16	06:47	19:31 (T3)	07:18		07:50	17:03 (T5)	07:27		07:54
	20:59	20:23	28 19:59 (T3)	19:30		18:41	65 18:08 (T5)	17:07		17:05
23	06:17	06:48	19:31 (T3)	07:19		07:51	17:03 (T5)	07:28		07:54
	20:58	20:21	27 19:58 (T3)	19:28		18:39	65 18:08 (T5)	17:07		17:06
24	06:18	06:49	19:31 (T3)	07:20		07:52	17:03 (T5)	07:29		07:55
	20:58	20:20	25 19:56 (T3)	19:26		18:38	64 18:07 (T5)	17:06		17:06
25	06:19	06:50	19:31 (T3)	07:21		07:54	17:02 (T5)	07:30		07:55
	20:57	20:18	24 19:55 (T3)	19:25		18:37	65 18:07 (T5)	17:05		17:07
26	06:20	06:51	19:31 (T3)	07:22		07:55	17:03 (T5)	07:32		07:56
	20:56	20:16	22 19:53 (T3)	19:23		18:35	64 18:07 (T5)	17:05		17:07
27	06:21	06:52	19:31 (T3)	07:23		07:56	17:03 (T5)	07:33		07:56
	20:55	20:15	21 19:52 (T3)	19:21		18:34	64 18:07 (T5)	17:04		17:08
28	06:22	06:53	19:32 (T3)	07:24	18:16 (T4)	07:57	17:03 (T5)	07:34		07:56
	20:54	20:13	18 19:50 (T3)	19:19	9 18:25 (T4)	18:33	63 18:06 (T5)	17:04		17:09
29	06:23	06:54	19:32 (T3)	07:25	18:12 (T4)	07:58	17:03 (T5)	07:35		07:57
	20:53	20:12	16 19:48 (T3)	19:18	16 18:28 (T4)	18:31	62 18:05 (T5)	17:04		17:10
30	06:24	06:55	19:33 (T3)	07:26	18:09 (T4)	07:59	17:04 (T5)	07:36		07:57
	20:52	20:10	13 19:46 (T3)	19:16	21 18:30 (T4)	18:30	61 18:05 (T5)	17:03		17:10
31	06:25	06:56	19:35 (T3)			08:01	17:04 (T5)			07:57
	20:51	20:09	10 19:45 (T3)			18:29	61 18:05 (T5)			17:11
Potential sun hours	460	429		375		345		297		287
Total, worst case			450		50		2192		665	
Sun reduction			0.61		0.59		0.48		0.30	
Oper. time red.			1.00		1.00		1.00		1.00	
Wind dir. red.			0.57		0.67		0.71		0.72	
Total reduction			0.35		0.40		0.34		0.22	
Total, real			159		20		749		144	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 390 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8012)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57			07:43		08:06 (T4)	07:07		07:50 (T5)	07:16			06:30		07:09 (T3)	06:01		07:21 (T3)
	17:12			17:47	43	08:49 (T4)	18:21	9	07:59 (T5)	19:56			20:27	75	08:24 (T3)	20:57	49	08:10 (T3)
2	07:57			07:42		08:06 (T4)	07:05			07:14			06:28		07:09 (T3)	06:00		07:22 (T3)
	17:13			17:48	43	08:49 (T4)	18:22			19:57			20:28	75	08:24 (T3)	20:58	48	08:10 (T3)
3	07:57			07:41		08:06 (T4)	07:04			07:12			06:27		07:10 (T3)	06:00		07:23 (T3)
	17:14			17:49	43	08:49 (T4)	18:24			19:58			20:29	74	08:24 (T3)	20:58	47	08:10 (T3)
4	07:58			07:40		08:07 (T4)	07:02			07:11			06:26		07:10 (T3)	05:59		07:23 (T3)
	17:15			17:51	43	08:50 (T4)	18:25			19:59			20:30	74	08:24 (T3)	20:59	46	08:09 (T3)
5	07:58			07:39		08:07 (T4)	07:01			07:09			06:25		07:09 (T3)	05:59		07:24 (T3)
	17:16			17:52	43	08:50 (T4)	18:26			20:00			20:31	74	08:23 (T3)	21:00	45	08:09 (T3)
6	07:57			07:38		07:58 (T5)	06:59			07:07		07:52 (T3)	06:23		07:09 (T3)	05:59		07:25 (T3)
	17:17			17:53	46	08:49 (T4)	18:27			20:00	2	07:54 (T3)	20:32	74	08:23 (T3)	21:01	44	08:09 (T3)
7	07:57			07:37		07:57 (T5)	06:57			07:06		07:43 (T3)	06:22		07:09 (T3)	05:58		07:25 (T3)
	17:18			17:54	50	08:49 (T4)	18:28			20:01	21	08:04 (T3)	20:33	73	08:22 (T3)	21:01	43	08:08 (T3)
8	07:57			07:36		07:56 (T5)	07:56			07:04		07:38 (T3)	06:21		07:09 (T3)	05:58		07:26 (T3)
	17:19			17:56	53	08:49 (T4)	19:29			20:02	29	08:07 (T3)	20:34	73	08:22 (T3)	21:02	42	08:08 (T3)
9	07:57			07:35		07:55 (T5)	07:54			07:03		07:35 (T3)	06:20		07:10 (T3)	05:58		07:27 (T3)
	17:20			17:57	54	08:49 (T4)	19:30			20:03	36	08:11 (T3)	20:35	72	08:22 (T3)	21:02	40	08:07 (T3)
10	07:57			07:34		07:54 (T5)	07:53			07:01		07:32 (T3)	06:19		07:10 (T3)	05:58		07:27 (T3)
	17:21			17:58	55	08:49 (T4)	19:32			20:04	41	08:13 (T3)	20:36	72	08:22 (T3)	21:03	40	08:07 (T3)
11	07:57			07:32		07:52 (T5)	07:51			06:59		07:29 (T3)	06:18		07:10 (T3)	05:58		07:28 (T3)
	17:22			17:59	56	08:48 (T4)	19:33			20:05	45	08:14 (T3)	20:37	71	08:21 (T3)	21:04	39	08:07 (T3)
12	07:56			07:31		07:51 (T5)	07:49			06:58		07:27 (T3)	06:16		07:10 (T3)	05:58		07:29 (T3)
	17:23			18:01	57	08:48 (T4)	19:34			20:06	49	08:16 (T3)	20:38	71	08:21 (T3)	21:04	38	08:07 (T3)
13	07:56			07:30		07:50 (T5)	07:48			06:56		07:25 (T3)	06:15		07:11 (T3)	05:57		07:29 (T3)
	17:24			18:02	57	08:47 (T4)	19:35			20:08	52	08:17 (T3)	20:40	69	08:20 (T3)	21:05	38	08:07 (T3)
14	07:56			07:29		07:48 (T5)	07:46			06:55		07:24 (T3)	06:14		07:11 (T3)	05:57		07:30 (T3)
	17:25			18:03	58	08:46 (T4)	19:36			20:09	55	08:19 (T3)	20:41	69	08:20 (T3)	21:05	37	08:07 (T3)
15	07:55			07:27		07:47 (T5)	07:44			06:53		07:22 (T3)	06:13		07:11 (T3)	05:57		07:31 (T3)
	17:26			18:04	58	08:45 (T4)	19:37			20:10	58	08:20 (T3)	20:42	68	08:19 (T3)	21:06	35	08:06 (T3)
16	07:55		08:20 (T4)	07:26		07:46 (T5)	07:43			06:51		07:21 (T3)	06:12		07:11 (T3)	05:57		07:31 (T3)
	17:27	6	08:26 (T4)	18:06	58	08:44 (T4)	19:38			20:11	60	08:21 (T3)	20:43	68	08:19 (T3)	21:06	35	08:06 (T3)
17	07:54		08:17 (T4)	07:25		07:44 (T5)	07:41			06:50		07:19 (T3)	06:11		07:12 (T3)	05:57		07:31 (T3)
	17:29	13	08:30 (T4)	18:07	58	08:42 (T4)	19:39			20:12	62	08:21 (T3)	20:44	66	08:18 (T3)	21:06	35	08:06 (T3)
18	07:54		08:15 (T4)	07:23		07:43 (T5)	07:39			06:48		07:18 (T3)	06:10		07:12 (T3)	05:58		07:32 (T3)
	17:30	18	08:33 (T4)	18:08	57	08:41 (T4)	19:41			20:13	63	08:21 (T3)	20:45	66	08:18 (T3)	21:07	34	08:06 (T3)
19	07:53		08:15 (T4)	07:22		07:41 (T5)	07:38			06:47		07:17 (T3)	06:10		07:12 (T3)	05:58		07:32 (T3)
	17:31	20	08:35 (T4)	18:09	53	08:38 (T4)	19:42			20:14	65	08:22 (T3)	20:45	65	08:17 (T3)	21:07	34	08:06 (T3)
20	07:53		08:14 (T4)	07:20		07:40 (T5)	07:36			06:45		07:16 (T3)	06:09		07:14 (T3)	05:58		07:32 (T3)
	17:32	23	08:37 (T4)	18:11	48	08:35 (T4)	19:43			20:15	67	08:23 (T3)	20:46	63	08:17 (T3)	21:07	34	08:06 (T3)
21	07:52		08:13 (T4)	07:19		07:40 (T5)	07:34			06:44		07:15 (T3)	06:08		07:14 (T3)	05:58		07:32 (T3)
	17:33	25	08:38 (T4)	18:12	33	08:13 (T5)	19:44			20:16	68	08:23 (T3)	20:47	62	08:16 (T3)	21:08	34	08:06 (T3)
22	07:52		08:13 (T4)	07:17		07:40 (T5)	07:33			06:42		07:15 (T3)	06:07		07:14 (T3)	05:58		07:33 (T3)
	17:34	27	08:40 (T4)	18:13	32	08:12 (T5)	19:45			20:17	69	08:24 (T3)	20:48	62	08:16 (T3)	21:08	34	08:07 (T3)
23	07:51		08:12 (T4)	07:16		07:41 (T5)	07:31			06:41		07:13 (T3)	06:06		07:14 (T3)	05:58		07:33 (T3)
	17:36	29	08:41 (T4)	18:14	31	08:12 (T5)	19:46			20:18	71	08:24 (T3)	20:49	61	08:15 (T3)	21:08	34	08:07 (T3)
24	07:50		08:11 (T4)	07:15		07:41 (T5)	07:29			06:39		07:13 (T3)	06:06		07:16 (T3)	05:59		07:33 (T3)
	17:37	31	08:42 (T4)	18:15	29	08:10 (T5)	19:47			20:19	71	08:24 (T3)	20:50	59	08:15 (T3)	21:08	34	08:07 (T3)
25	07:49		08:10 (T4)	07:13		07:43 (T5)	07:28			06:38		07:12 (T3)	06:05		07:16 (T3)	05:59		07:34 (T3)
	17:38	33	08:43 (T4)	18:17	26	08:09 (T5)	19:48			20:20	72	08:24 (T3)	20:51	58	08:14 (T3)	21:08	34	08:08 (T3)
26	07:49		08:09 (T4)	07:12		07:43 (T5)	07:26			06:36		07:12 (T3)	06:04		07:16 (T3)	05:59		07:33 (T3)
	17:39	35	08:44 (T4)	18:18	24	08:07 (T5)	19:49			20:22	72	08:24 (T3)	20:52	57	08:13 (T3)	21:09	35	08:08 (T3)
27	07:48		08:09 (T4)	07:10		07:45 (T5)	07:24			06:35		07:12 (T3)	06:03		07:18 (T3)	06:00		07:33 (T3)
	17:41	37	08:46 (T4)	18:19	21	08:06 (T5)	19:50			20:23	73	08:25 (T3)	20:53	55	08:13 (T3)	21:09	35	08:08 (T3)
28	07:47		08:08 (T4)	07:09		07:47 (T5)	07:22			06:34		07:10 (T3)	06:03		07:18 (T3)	06:00		07:33 (T3)
	17:42	38	08:46 (T4)	18:20	16	08:03 (T5)	19:51			20:24	74	08:24 (T3)	20:54	54	08:12 (T3)	21:09	36	08:09 (T3)
29	07:46		08:07 (T4)				07:21			06:32		07:10 (T3)	06:02		07:19 (T3)	06:00		07:33 (T3)
	17:43	40	08:47 (T4)				19:52			20:25	74	08:24 (T3)	20:55	53	08:12 (T3)	21:09	37	08:10 (T3)
30	07:45		08:07 (T4)				07:19			06:31		07:10 (T3)	06:02		07:19 (T3)	06:01		07:33 (T3)
	17:44	41	08:48 (T4)				19:54			20:26	74	08:24 (T3)	20:55	52	08:11 (T3)	21:09	38	08:11 (T3)
31	07:44		08:07 (T4)				07:17						06:01		07:20 (T3)			
	17:46	41	08:48 (T4)				19:55						20:56	51	08:11 (T3)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		457			1245			9			1423			2036			1154	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.53			0.54			0.56			0.66			0.66			0.66	
Total reduction		0.16			0.21			0.24			0.34			0.37			0.42	
Total, real		74			265			2			480			753			479	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 390 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8012)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December	
1	06:01		07:32 (T3)	06:26		07:21 (T3)	06:57		07:28 (T3)	07:27			07:02		07:23 (T5)	07:37	
	21:09	39	08:11 (T3)	20:50	71	08:32 (T3)	20:07	45	08:13 (T3)	19:14			17:27	55	08:18 (T4)	17:03	
2	06:02		07:32 (T3)	06:27		07:21 (T3)	06:58		07:30 (T3)	07:28			07:03		07:25 (T5)	07:38	
	21:08	39	08:11 (T3)	20:49	71	08:32 (T3)	20:05	41	08:11 (T3)	19:13			17:26	54	08:19 (T4)	17:03	
3	06:02		07:32 (T3)	06:28		07:19 (T3)	06:59		07:32 (T3)	07:29			07:04		07:26 (T5)	07:39	
	21:08	40	08:12 (T3)	20:48	72	08:31 (T3)	20:04	36	08:08 (T3)	19:11			17:25	52	08:19 (T4)	17:02	
4	06:03		07:32 (T3)	06:29		07:19 (T3)	07:00		07:35 (T3)	07:30			07:05		07:27 (T5)	07:40	
	21:08	41	08:13 (T3)	20:47	73	08:32 (T3)	20:02	30	08:05 (T3)	19:09			17:24	50	08:19 (T4)	17:02	
5	06:04		07:31 (T3)	06:30		07:19 (T3)	07:01		07:39 (T3)	07:31			07:07		07:28 (T5)	07:41	
	21:08	43	08:14 (T3)	20:46	73	08:32 (T3)	20:00	21	08:00 (T3)	19:08			17:23	45	08:19 (T4)	17:02	
6	06:04		07:31 (T3)	06:31		07:19 (T3)	07:02		07:47 (T3)	07:32			07:08		07:37 (T4)	07:42	
	21:08	44	08:15 (T3)	20:44	73	08:32 (T3)	19:57	4	07:51 (T3)	19:06			17:21	43	08:20 (T4)	17:02	
7	06:05		07:30 (T3)	06:32		07:19 (T3)	07:03			07:34			07:09		07:36 (T4)	07:43	
	21:07	45	08:15 (T3)	20:43	73	08:32 (T3)	19:55			19:04			17:20	44	08:20 (T4)	17:02	
8	06:05		07:30 (T3)	06:33		07:18 (T3)	07:04			07:35			07:10		07:36 (T4)	07:44	
	21:07	46	08:16 (T3)	20:42	74	08:32 (T3)	19:54			19:03			17:19	43	08:19 (T4)	17:02	
9	06:06		07:30 (T3)	06:34		07:18 (T3)	07:05			07:36			07:12		07:37 (T4)	07:45	
	21:07	47	08:17 (T3)	20:41	74	08:32 (T3)	19:52			19:01			17:18	43	08:20 (T4)	17:02	
10	06:07		07:29 (T3)	06:35		07:18 (T3)	07:06			07:37			07:13		07:37 (T4)	07:46	
	21:06	48	08:17 (T3)	20:39	74	08:32 (T3)	19:50			18:59			17:17	42	08:19 (T4)	17:02	
11	06:07		07:29 (T3)	06:36		07:18 (T3)	07:07			07:38			07:14		07:38 (T4)	07:47	
	21:06	49	08:18 (T3)	20:38	74	08:32 (T3)	19:49			18:58			17:16	41	08:19 (T4)	17:02	
12	06:08		07:29 (T3)	06:37		07:18 (T3)	07:08			07:39			07:15		07:38 (T4)	07:47	
	21:06	50	08:19 (T3)	20:37	74	08:32 (T3)	19:47			18:56			17:15	40	08:18 (T4)	17:02	
13	06:09		07:28 (T3)	06:38		07:18 (T3)	07:09			07:40		08:22 (T5)	07:16		07:39 (T4)	07:48	
	21:05	51	08:19 (T3)	20:36	74	08:32 (T3)	19:45			18:55	12	08:34 (T5)	17:14	40	08:19 (T4)	17:02	
14	06:10		07:28 (T3)	06:39		07:18 (T3)	07:10			07:41		08:19 (T5)	07:18		07:40 (T4)	07:49	
	21:05	52	08:20 (T3)	20:34	74	08:32 (T3)	19:44			18:53	18	08:37 (T5)	17:13	38	08:18 (T4)	17:02	
15	06:10		07:27 (T3)	06:40		07:18 (T3)	07:11			07:42		08:16 (T5)	07:19		07:41 (T4)	07:50	
	21:04	54	08:21 (T3)	20:33	74	08:32 (T3)	19:42			18:52	22	08:38 (T5)	17:12	36	08:17 (T4)	17:03	
16	06:11		07:27 (T3)	06:41		07:18 (T3)	07:12			07:43		08:15 (T5)	07:20		07:43 (T4)	07:50	
	21:04	55	08:22 (T3)	20:31	73	08:31 (T3)	19:40			18:50	25	08:40 (T5)	17:12	35	08:18 (T4)	17:03	
17	06:12		07:26 (T3)	06:42		07:18 (T3)	07:13			07:44		08:14 (T5)	07:21		07:44 (T4)	07:51	
	21:03	56	08:22 (T3)	20:30	73	08:31 (T3)	19:38			18:48	27	08:41 (T5)	17:11	33	08:17 (T4)	17:03	
18	06:13		07:26 (T3)	06:43		07:19 (T3)	07:14			07:46		08:12 (T5)	07:22		07:45 (T4)	07:52	
	21:02	57	08:23 (T3)	20:29	72	08:31 (T3)	19:37			18:47	30	08:42 (T5)	17:10	31	08:16 (T4)	17:04	
19	06:14		07:25 (T3)	06:44		07:19 (T3)	07:15			07:47		08:11 (T5)	07:24		07:46 (T4)	07:52	
	21:02	59	08:24 (T3)	20:27	71	08:30 (T3)	19:35			18:45	31	08:42 (T5)	17:09	29	08:15 (T4)	17:04	
20	06:15		07:25 (T3)	06:45		07:19 (T3)	07:16			07:48		08:10 (T5)	07:25		07:48 (T4)	07:53	
	21:01	60	08:25 (T3)	20:26	70	08:29 (T3)	19:33			18:44	33	08:43 (T5)	17:09	27	08:15 (T4)	17:04	
21	06:15		07:25 (T3)	06:46		07:20 (T3)	07:17			07:49		08:11 (T5)	07:26		07:49 (T4)	07:53	
	21:00	61	08:26 (T3)	20:24	69	08:29 (T3)	19:31			18:42	42	09:03 (T4)	17:08	25	08:14 (T4)	17:05	
22	06:16		07:25 (T3)	06:47		07:20 (T3)	07:18			07:50		08:11 (T5)	07:27		07:50 (T4)	07:54	
	20:59	62	08:27 (T3)	20:23	68	08:28 (T3)	19:30			18:41	50	09:07 (T4)	17:07	23	08:13 (T4)	17:05	
23	06:17		07:23 (T3)	06:48		07:20 (T3)	07:19			07:51		08:12 (T5)	07:28		07:51 (T4)	07:54	
	20:59	63	08:26 (T3)	20:21	67	08:27 (T3)	19:28			18:40	54	09:09 (T4)	17:07	20	08:11 (T4)	17:06	
24	06:18		07:23 (T3)	06:49		07:21 (T3)	07:20			07:52		08:13 (T5)	07:29		07:52 (T4)	07:55	
	20:58	64	08:27 (T3)	20:20	65	08:26 (T3)	19:26			18:38	57	09:11 (T4)	17:06	18	08:10 (T4)	17:06	
25	06:19		07:23 (T3)	06:50		07:22 (T3)	07:21			07:54		08:14 (T5)	07:30		07:55 (T4)	07:55	
	20:57	65	08:28 (T3)	20:18	63	08:25 (T3)	19:25			18:37	58	09:12 (T4)	17:05	14	08:09 (T4)	17:07	
26	06:20		07:22 (T3)	06:51		07:22 (T3)	07:22			07:55		08:16 (T5)	07:32		07:58 (T4)	07:56	
	20:56	66	08:28 (T3)	20:17	62	08:24 (T3)	19:23			18:35	58	09:14 (T4)	17:05	7	08:05 (T4)	17:08	
27	06:21		07:22 (T3)	06:52		07:23 (T3)	07:23			07:56		08:17 (T5)	07:33			07:56	
	20:55	67	08:29 (T3)	20:15	60	08:23 (T3)	19:21			18:34	58	09:15 (T4)	17:04			17:08	
28	06:22		07:22 (T3)	06:53		07:24 (T3)	07:24			07:57		08:18 (T5)	07:34			07:56	
	20:54	68	08:30 (T3)	20:13	57	08:21 (T3)	19:19			18:33	58	09:16 (T4)	17:04			17:09	
29	06:23		07:22 (T3)	06:54		07:25 (T3)	07:25			07:58		08:19 (T5)	07:35			07:57	
	20:53	68	08:30 (T3)	20:12	55	08:20 (T3)	19:18			18:31	57	09:16 (T4)	17:04			17:10	
30	06:24		07:21 (T3)	06:55		07:26 (T3)	07:26			08:00		08:21 (T5)	07:36			07:57	
	20:52	70	08:31 (T3)	20:10	52	08:18 (T3)	19:16			18:30	57	09:18 (T4)	17:03			17:10	
31	06:25		07:21 (T3)	06:56		07:26 (T3)				08:01		08:22 (T5)				07:57	
	20:51	70	08:31 (T3)	20:09	49	08:15 (T3)				18:29	56	09:18 (T4)				17:11	
Potential sun hours	460			429			375			345			297			287	
Total, worst case		1699			2124			177			803			928			
Sun reduction		0.66			0.61			0.59			0.48			0.30			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.66			0.66			0.66			0.55			0.53			
Total reduction		0.43			0.40			0.38			0.26			0.16			
Total, real		728			841			68			207			145			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 399 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8021)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April	May		June	
1	07:57	07:43		07:07		16:59 (T44)	07:16		06:01	06:31 (T76)
	17:13	17:47		18:22	58	17:57 (T44)	19:56		20:57	70 20:32 (T77)
2	07:57	07:42		07:06		16:58 (T44)	07:14		06:01	06:32 (T76)
	17:14	17:49		18:23	58	17:56 (T44)	19:57		20:58	70 20:33 (T77)
3	07:57	07:41		07:04		16:58 (T44)	07:13		06:01	06:31 (T76)
	17:15	17:50		18:24	58	17:56 (T44)	19:58		20:58	71 20:33 (T77)
4	07:57	07:40		07:02		16:58 (T44)	07:11		06:00	06:32 (T76)
	17:16	17:51		18:25	58	17:56 (T44)	19:59		20:59	70 20:34 (T77)
5	07:57	07:39		07:01		16:58 (T44)	07:09		06:00	06:33 (T76)
	17:17	17:52		18:26	58	17:56 (T44)	20:00		21:00	70 20:35 (T77)
6	07:57	07:38		06:59		16:58 (T44)	07:08		06:00	06:33 (T76)
	17:17	17:54		18:27	58	17:56 (T44)	20:00		21:00	70 20:35 (T77)
7	07:57	07:37		06:58		16:58 (T44)	07:06		05:59	06:34 (T76)
	17:18	17:55		18:29	57	17:55 (T44)	20:01		21:01	70 20:36 (T77)
8	07:57	07:36		07:56		17:58 (T44)	07:05		05:59	06:34 (T76)
	17:19	17:56		19:30	56	18:54 (T44)	20:02		21:02	71 20:37 (T77)
9	07:57	07:35		07:54		17:59 (T44)	07:03		05:59	06:35 (T76)
	17:20	17:57		19:31	55	18:54 (T44)	20:03		21:02	71 20:38 (T77)
10	07:57	07:34		07:53		17:58 (T44)	07:01		05:59	06:36 (T76)
	17:21	17:59		19:32	55	18:53 (T44)	20:05		21:03	70 20:38 (T77)
11	07:57	07:32		07:51		17:59 (T44)	07:00		05:58	06:36 (T76)
	17:23	18:00		19:33	53	18:52 (T44)	20:06		21:03	71 20:39 (T77)
12	07:56	07:31		07:50		18:00 (T44)	06:58		05:58	06:36 (T76)
	17:24	18:01		19:34	52	18:52 (T44)	20:07		21:04	69 20:38 (T77)
13	07:56	07:30	17:22 (T44)	07:48		18:00 (T44)	06:57		05:58	06:36 (T76)
	17:25	18:02	14 17:36 (T44)	19:35	50	18:50 (T44)	20:08		21:05	69 20:39 (T77)
14	07:56	07:29	17:17 (T44)	07:46		18:00 (T44)	06:55		05:58	06:37 (T76)
	17:26	18:04	22 17:39 (T44)	19:36	49	18:49 (T44)	20:09		21:05	68 20:39 (T77)
15	07:55	07:27	17:14 (T44)	07:45		18:02 (T44)	06:53		05:58	06:37 (T76)
	17:27	18:05	28 17:42 (T44)	19:38	46	18:48 (T44)	20:10		21:05	69 20:40 (T77)
16	07:55	07:26	17:13 (T44)	07:43		18:03 (T44)	06:52		05:58	06:38 (T76)
	17:28	18:06	31 17:44 (T44)	19:39	43	18:46 (T44)	20:11		21:06	68 20:40 (T77)
17	07:54	07:25	17:10 (T44)	07:41		18:04 (T44)	06:50		05:58	06:39 (T76)
	17:29	18:07	34 17:44 (T44)	19:40	40	18:44 (T44)	20:12		21:06	68 20:41 (T77)
18	07:54	07:23	17:09 (T44)	07:40		18:06 (T44)	06:49		05:58	06:39 (T76)
	17:30	18:09	37 17:46 (T44)	19:41	37	18:43 (T44)	20:13		21:07	69 20:42 (T77)
19	07:53	07:22	17:08 (T44)	07:38		18:07 (T44)	06:47		05:58	06:39 (T76)
	17:32	18:10	40 17:48 (T44)	19:42	34	18:41 (T44)	20:14		21:07	69 20:42 (T77)
20	07:53	07:20	17:06 (T44)	07:36		18:09 (T44)	06:46		05:59	06:40 (T76)
	17:33	18:11	42 17:48 (T44)	19:43	29	18:38 (T44)	20:15		21:07	68 20:42 (T77)
21	07:52	07:19	17:05 (T44)	07:35		18:12 (T44)	06:44		05:59	06:40 (T76)
	17:34	18:12	45 17:50 (T44)	19:44	23	18:35 (T44)	20:16		21:08	68 20:42 (T77)
22	07:52	07:18	17:03 (T44)	07:33		18:16 (T44)	06:43		05:59	06:40 (T76)
	17:35	18:13	48 17:51 (T44)	19:45	14	18:30 (T44)	20:17		21:08	68 20:42 (T77)
23	07:51	07:16	17:03 (T44)	07:31			06:41		05:59	06:40 (T76)
	17:36	18:15	50 17:53 (T44)	19:46			20:18		21:08	69 20:43 (T77)
24	07:50	07:15	17:01 (T44)	07:30			06:40		05:59	06:40 (T76)
	17:38	18:16	52 17:53 (T44)	19:47			20:19		21:08	69 20:43 (T77)
25	07:49	07:13	17:01 (T44)	07:28			06:38		06:00	06:40 (T76)
	17:39	18:17	54 17:55 (T44)	19:48			20:21		21:08	69 20:43 (T77)
26	07:49	07:12	17:00 (T44)	07:26			06:37		06:00	06:41 (T76)
	17:40	18:18	55 17:55 (T44)	19:50			20:22		21:08	68 20:43 (T77)
27	07:48	07:10	17:00 (T44)	07:24			06:36		06:00	06:40 (T76)
	17:41	18:19	56 17:56 (T44)	19:51			20:23		21:08	69 20:43 (T77)
28	07:47	07:09	16:59 (T44)	07:23			06:34		06:01	06:40 (T76)
	17:42	18:21	57 17:56 (T44)	19:52			20:24		21:08	69 20:43 (T77)
29	07:46			07:21			06:33		06:01	06:41 (T76)
	17:44			19:53			20:25		21:08	68 20:43 (T77)
30	07:45			07:19			06:32		06:02	06:40 (T76)
	17:45			19:54			20:26		21:08	70 20:43 (T77)
31	07:44			07:18						
	17:46			19:55						
Potential sun hours	297	297		370		399	448		453	
Total, worst case			665		1041			1178		2078
Sun reduction			0.40		0.44			0.57		0.64
Oper. time red.			1.00		1.00			1.00		1.00
Wind dir. red.			0.69		0.69			0.65		0.60
Total reduction			0.28		0.31			0.37		0.39
Total, real			185		319			439		804

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 399 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8021)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:02	06:41 (T76)	06:26	06:48 (T76)	06:57		07:27	17:39 (T44)	07:02	07:37
	21:08	70 20:43 (T77)	20:50	24 07:12 (T76)	20:07		19:15	51 18:30 (T44)	17:28	17:04
2	06:03	06:40 (T76)	06:27	06:49 (T76)	06:58		07:29	17:37 (T44)	07:03	07:38
	21:08	71 20:43 (T77)	20:49	22 07:11 (T76)	20:06		19:13	53 18:30 (T44)	17:27	17:03
3	06:03	06:40 (T76)	06:28	06:50 (T76)	06:59		07:30	17:36 (T44)	07:04	07:39
	21:08	71 20:43 (T77)	20:48	20 07:10 (T76)	20:04		19:11	55 18:31 (T44)	17:26	17:03
4	06:04	06:40 (T76)	06:29	06:51 (T76)	07:00		07:31	17:35 (T44)	07:06	07:40
	21:08	70 20:42 (T77)	20:47	18 07:09 (T76)	20:02		19:10	56 18:31 (T44)	17:24	17:03
5	06:04	06:40 (T76)	06:30	06:52 (T76)	07:01		07:32	17:36 (T44)	07:07	07:41
	21:08	69 20:42 (T77)	20:46	16 07:08 (T76)	20:01		19:08	56 18:32 (T44)	17:23	17:03
6	06:05	06:39 (T76)	06:31	06:53 (T76)	07:02		07:33	17:35 (T44)	07:08	07:42
	21:08	71 20:42 (T77)	20:44	14 07:07 (T76)	19:57		19:06	57 18:32 (T44)	17:22	17:03
7	06:05	06:39 (T76)	06:32	06:54 (T76)	07:03		07:34	17:34 (T44)	07:09	07:43
	21:07	71 20:42 (T77)	20:43	11 07:05 (T76)	19:56		19:05	57 18:31 (T44)	17:21	17:03
8	06:06	06:40 (T76)	06:33	06:55 (T76)	07:04		07:35	17:33 (T44)	07:10	07:44
	21:07	70 20:42 (T77)	20:42	8 07:03 (T76)	19:54		19:03	58 18:31 (T44)	17:20	17:03
9	06:07	06:39 (T76)	06:34	06:56 (T76)	07:05		07:36	17:33 (T44)	07:12	07:45
	21:07	70 20:41 (T77)	20:41	3 06:59 (T76)	19:52		19:01	58 18:31 (T44)	17:19	17:03
10	06:07	06:39 (T76)	06:35		07:06		07:37	17:32 (T44)	07:13	07:46
	21:06	71 20:41 (T77)	20:39		19:51		19:00	59 18:31 (T44)	17:18	17:03
11	06:08	06:39 (T76)	06:36		07:07		07:38	17:32 (T44)	07:14	07:46
	21:06	71 20:41 (T77)	20:38		19:49		18:58	58 18:30 (T44)	17:17	17:03
12	06:09	06:38 (T76)	06:37		07:08		07:39	17:32 (T44)	07:15	07:47
	21:05	70 20:40 (T77)	20:37		19:47		18:57	57 18:29 (T44)	17:16	17:03
13	06:10	06:38 (T76)	06:38		07:09		07:40	17:32 (T44)	07:16	07:48
	21:05	70 20:40 (T77)	20:36		19:45		18:55	57 18:29 (T44)	17:15	17:03
14	06:10	06:39 (T76)	06:39		07:10		07:41	17:32 (T44)	07:18	07:49
	21:05	69 20:39 (T77)	20:34		19:44		18:54	56 18:28 (T44)	17:14	17:03
15	06:11	06:39 (T76)	06:40		07:11		07:42	17:33 (T44)	07:19	07:50
	21:04	69 20:39 (T77)	20:33		19:42		18:52	55 18:28 (T44)	17:13	17:03
16	06:12	06:38 (T76)	06:41		07:12		07:44	17:33 (T44)	07:20	07:50
	21:03	68 20:38 (T77)	20:31		19:40		18:50	54 18:27 (T44)	17:12	17:04
17	06:13	06:38 (T76)	06:42		07:13		07:45	17:33 (T44)	07:21	07:51
	21:03	67 20:37 (T77)	20:30		19:39		18:49	53 18:26 (T44)	17:11	17:04
18	06:14	06:38 (T76)	06:43		07:14		07:46	17:33 (T44)	07:22	07:52
	21:02	66 20:37 (T77)	20:29		19:37		18:47	51 18:24 (T44)	17:11	17:04
19	06:14	06:38 (T76)	06:44		07:15		07:47	17:34 (T44)	07:23	07:52
	21:01	66 20:37 (T77)	20:27		19:35		18:46	49 18:23 (T44)	17:10	17:05
20	06:15	06:38 (T76)	06:45		07:16		07:48	17:34 (T44)	07:25	07:53
	21:01	64 20:36 (T77)	20:26		19:33		18:44	47 18:21 (T44)	17:09	17:05
21	06:16	06:38 (T76)	06:46		07:17	18:03 (T44)	07:49	17:36 (T44)	07:26	07:53
	21:00	62 20:35 (T77)	20:24		19:32	11 18:14 (T44)	18:43	44 18:20 (T44)	17:09	17:06
22	06:17	06:39 (T76)	06:47		07:18	17:58 (T44)	07:50	17:37 (T44)	07:27	07:54
	20:59	60 20:34 (T77)	20:23		19:30	21 18:19 (T44)	18:41	42 18:19 (T44)	17:08	17:06
23	06:18	06:40 (T76)	06:48		07:19	17:54 (T44)	07:51	17:38 (T44)	07:28	07:54
	20:58	56 20:33 (T77)	20:21		19:28	27 18:21 (T44)	18:40	39 18:17 (T44)	17:07	17:07
24	06:19	06:41 (T76)	06:49		07:20	17:51 (T44)	07:53	17:39 (T44)	07:29	07:55
	20:58	54 20:33 (T77)	20:20		19:27	32 18:23 (T44)	18:39	36 18:15 (T44)	17:07	17:07
25	06:20	06:42 (T76)	06:50		07:21	17:49 (T44)	07:54	17:41 (T44)	07:30	07:55
	20:57	50 20:32 (T77)	20:18		19:25	36 18:25 (T44)	18:37	34 18:15 (T44)	17:06	17:08
26	06:21	06:43 (T76)	06:51		07:22	17:47 (T44)	07:55	17:43 (T44)	07:32	07:56
	20:56	45 20:31 (T77)	20:17		19:23	39 18:26 (T44)	18:36	30 18:13 (T44)	17:06	17:08
27	06:22	06:44 (T76)	06:52		07:23	17:45 (T44)	07:56	17:45 (T44)	07:33	07:56
	20:55	41 20:31 (T77)	20:15		19:21	42 18:27 (T44)	18:34	26 18:11 (T44)	17:05	17:09
28	06:22	06:45 (T76)	06:53		07:24	17:43 (T44)	07:57	17:48 (T44)	07:34	07:56
	20:54	29 07:14 (T76)	20:14		19:20	45 18:28 (T44)	18:33	20 18:08 (T44)	17:05	17:10
29	06:23	06:45 (T76)	06:54		07:25	17:41 (T44)	07:58	17:52 (T44)	07:35	07:57
	20:53	28 07:13 (T76)	20:12		19:18	48 18:29 (T44)	18:32	11 18:03 (T44)	17:04	17:10
30	06:24	06:46 (T76)	06:55		07:26	17:40 (T44)	08:00		07:36	07:57
	20:52	27 07:13 (T76)	20:10		19:16	50 18:30 (T44)	18:31		17:04	17:11
31	06:25	06:47 (T76)	06:56				08:01			07:57
	20:51	25 07:12 (T76)	20:09				18:29			17:12
Potential sun hours	460		429		375		345		297	287
Total, worst case		1861		136		351		1379		
Sun reduction		0.66		0.61		0.59		0.48		
Oper. time red.		1.00		1.00		1.00		1.00		
Wind dir. red.		0.63		0.71		0.69		0.69		
Total reduction		0.42		0.43		0.41		0.33		
Total, real		775		59		144		462		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 404 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8026)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		08:35 (T71)	07:43	07:07		07:16		07:35 (T68)	06:30	07:02 (T67)	06:02
	17:13	44	09:19 (T71)	17:48	18:22		19:56	117	19:16 (T69)	20:27	93	18:41 (T69)	20:57
2	07:57		08:36 (T71)	07:42	07:06		07:15		07:34 (T68)	06:29		07:04 (T67)	06:01
	17:14	43	09:19 (T71)	17:49	18:23		19:57	120	19:16 (T69)	20:28	82	18:37 (T69)	20:57
3	07:57		08:36 (T71)	07:41	07:04		07:13		07:32 (T68)	06:28		07:06 (T67)	06:01
	17:15	44	09:20 (T71)	17:50	18:24		19:58	125	19:16 (T69)	20:29	64	18:29 (T69)	20:58
4	07:57		08:37 (T71)	07:40	07:02		07:11		07:30 (T68)	06:27		07:16 (T68)	06:01
	17:16	43	09:20 (T71)	17:51	18:25	20	17:49 (T69)	127	19:15 (T69)	20:30	49	08:05 (T68)	20:59
5	07:57		08:38 (T71)	07:39	07:01		17:23 (T69)		07:29 (T68)	06:25		07:16 (T68)	06:00
	17:17	42	09:20 (T71)	17:53	18:26	31	17:54 (T69)	129	19:15 (T69)	20:31	48	08:04 (T68)	20:59
6	07:57		08:39 (T71)	07:38	06:59		17:20 (T69)		07:27 (T68)	06:24		07:18 (T68)	06:00
	17:18	41	09:20 (T71)	17:54	18:28	38	17:58 (T69)	132	19:14 (T69)	20:32	45	08:03 (T68)	21:00
7	07:57		08:40 (T71)	07:37	06:58		17:16 (T69)		07:25 (T68)	06:23		07:19 (T68)	06:00
	17:19	41	09:21 (T71)	17:55	18:29	44	18:00 (T69)	133	19:13 (T69)	20:33	43	08:02 (T68)	21:01
8	07:57		08:41 (T71)	07:36	07:56		18:13 (T69)		07:24 (T68)	06:22		07:20 (T68)	05:59
	17:20	40	09:21 (T71)	17:57	19:30	49	19:02 (T69)	135	19:13 (T69)	20:34	41	08:01 (T68)	21:01
9	07:57		08:42 (T71)	07:35	07:54		18:11 (T69)		07:22 (T68)	06:21		07:21 (T68)	05:59
	17:21	39	09:21 (T71)	17:58	19:31	54	19:05 (T69)	136	19:12 (T69)	20:35	39	08:00 (T68)	21:02
10	07:57		08:42 (T71)	07:33	07:53		18:08 (T69)		07:20 (T68)	06:20		07:23 (T68)	05:59
	17:22	38	09:20 (T71)	17:59	19:32	58	19:06 (T69)	137	19:11 (T69)	20:36	35	07:58 (T68)	21:03
11	07:56		08:43 (T71)	07:32	07:51		18:06 (T69)		07:19 (T68)	06:18		07:24 (T68)	05:59
	17:23	37	09:20 (T71)	18:00	19:33	61	19:07 (T69)	138	19:11 (T69)	20:37	33	07:57 (T68)	21:03
12	07:56		08:44 (T71)	07:31	07:50		18:05 (T69)		07:17 (T68)	06:17		07:26 (T68)	05:59
	17:24	36	09:20 (T71)	18:01	19:34	64	19:09 (T69)	139	19:10 (T69)	20:38	29	07:55 (T68)	21:04
13	07:56		08:45 (T71)	07:30	07:48		18:03 (T69)		07:16 (T68)	06:16		07:28 (T68)	05:59
	17:25	35	09:20 (T71)	18:03	19:35	67	19:10 (T69)	140	19:10 (T69)	20:39	25	07:53 (T68)	21:04
14	07:55		08:46 (T71)	07:28	07:46		18:01 (T69)		07:14 (T67)	06:15		07:30 (T68)	05:59
	17:26	34	09:20 (T71)	18:04	19:37	70	19:11 (T69)	139	19:08 (T69)	20:40	20	07:50 (T68)	21:05
15	07:55		08:47 (T71)	07:27	07:45		18:00 (T69)		07:13 (T67)	06:14		07:33 (T68)	05:59
	17:27	32	09:19 (T71)	18:05	19:38	73	19:13 (T69)	140	19:08 (T69)	20:41	13	07:46 (T68)	21:05
16	07:55		08:48 (T71)	07:26	07:43		17:58 (T69)		07:11 (T67)	06:13			05:59
	17:28	30	09:18 (T71)	18:06	19:39	75	19:13 (T69)	139	19:06 (T69)	20:42			21:06
17	07:54		08:49 (T71)	07:25	07:41		17:57 (T69)		07:10 (T67)	06:12			05:59
	17:30	28	09:17 (T71)	18:08	19:40	77	19:14 (T69)	139	19:06 (T69)	20:43			21:06
18	07:54		08:51 (T71)	07:23	07:40		17:56 (T69)		07:08 (T67)	06:11			05:59
	17:31	26	09:17 (T71)	18:09	19:41	79	19:15 (T69)	138	19:04 (T69)	20:44			21:06
19	07:53		08:53 (T71)	07:22	07:38		17:55 (T69)		07:07 (T67)	06:11			05:59
	17:32	22	09:15 (T71)	18:10	19:42	80	19:15 (T69)	137	19:03 (T69)	20:45			21:07
20	07:53		08:56 (T71)	07:20	07:36		17:53 (T69)		07:05 (T67)	06:10			05:59
	17:33	18	09:14 (T71)	18:11	19:43	82	19:15 (T69)	137	19:02 (T69)	20:46			21:07
21	07:52		08:58 (T71)	07:19	07:35		17:53 (T69)		07:04 (T67)	06:09			05:59
	17:34	14	09:12 (T71)	18:12	19:44	83	19:16 (T69)	136	19:01 (T69)	20:47			21:07
22	07:51		09:03 (T71)	07:18	07:33		17:52 (T69)		07:02 (T67)	06:08			05:59
	17:35	3	09:06 (T71)	18:14	19:45	84	19:16 (T69)	134	18:59 (T69)	20:48			21:07
23	07:51			07:16	07:31		17:51 (T69)		07:01 (T67)	06:07			06:00
	17:37			18:15	19:46	85	19:16 (T69)	133	18:58 (T69)	20:49			21:08
24	07:50			07:15	07:30		17:51 (T69)		06:59 (T67)	06:07			06:00
	17:38			18:16	19:47	86	19:17 (T69)	131	18:56 (T69)	20:50			21:08
25	07:49			07:13	07:28		17:50 (T69)		06:58 (T67)	06:06			06:00
	17:39			18:17	19:48	87	19:17 (T69)	128	18:54 (T69)	20:51			21:08
26	07:48			07:12	07:26		17:49 (T69)		06:58 (T67)	06:05			06:00
	17:40			18:18	19:50	88	19:17 (T69)	124	18:53 (T69)	20:52			21:08
27	07:48			07:10	07:25		17:49 (T69)		06:58 (T67)	06:05			06:01
	17:42			18:20	19:51	89	19:18 (T69)	120	18:51 (T69)	20:52			21:08
28	07:47			07:09	07:23		17:49 (T69)		06:59 (T67)	06:04			06:01
	17:43			18:21	19:52	88	19:17 (T69)	115	18:49 (T69)	20:53			21:08
29	07:46				07:21		17:48 (T69)		07:00 (T67)	06:03			06:02
	17:44				19:53	89	19:17 (T69)	108	18:47 (T69)	20:54			21:08
30	07:45				07:20		07:47 (T68)	06:32	07:00 (T67)	06:03			06:02
	17:45				19:54	96	19:17 (T69)	20:26	103	18:44 (T69)	20:55		21:08
31	07:44				07:18		07:39 (T68)				06:02		
	17:46				19:55	110	19:17 (T69)				20:56		
Potential sun hours	297			297	370			399			448		452
Total, worst case		730				2007			3909			659	
Sun reduction		0.31				0.44			0.52			0.57	
Oper. time red.		1.00				1.00			1.00			1.00	
Wind dir. red.		0.53				0.66			0.66			0.65	
Total reduction		0.16				0.28			0.34			0.37	
Total, real		118				570			1313			242	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 404 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8026)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:03		06:27		06:57		07:28		07:02		07:37	
	21:08		20:50	30	20:07	138	19:15	66	17:28		17:04	37
2	06:03		06:28		06:58		07:29		07:03		07:38	
	21:08		20:49	34	20:05	137	19:13	63	17:27		17:04	38
3	06:04		06:29		06:59		07:30		07:04		07:39	
	21:08		20:48	36	20:04	136	19:11	60	17:26		17:04	39
4	06:04		06:30		07:00		07:31		07:05		07:40	
	21:08		20:47	40	20:02	135	19:10	55	17:25		17:03	40
5	06:05		06:31		07:01		07:32		07:07		07:41	
	21:08		20:45	42	20:01	133	19:08	51	17:23		17:03	41
6	06:05		06:31		07:02		07:33		07:08		07:42	
	21:07		20:44	44	19:57	132	19:07	46	17:22		17:03	41
7	06:06		06:32		07:03		07:34		07:09		07:43	
	21:07		20:43	46	19:56	129	19:05	41	17:21		17:03	42
8	06:07		06:33		07:04		07:35		07:10		07:44	
	21:07		20:42	48	19:54	127	19:03	34	17:20		17:03	43
9	06:07		06:34		07:05		07:36		07:11		07:44	
	21:06		20:41	54	19:52	125	19:02	26	17:19		17:03	44
10	06:08		06:35		07:06		07:37		07:13		07:45	
	21:06		20:39	73	19:51	122	19:00	11	17:18		17:03	43
11	06:09		06:36		07:07		07:38		07:14		07:46	
	21:06		20:38	86	19:49	118	18:58		17:17		17:03	44
12	06:09		06:37		07:08		07:39		07:15		07:47	
	21:05		20:37	96	19:47	111	18:57		17:16		17:03	44
13	06:10		06:38		07:09		07:40		07:16		07:48	
	21:05		20:35	104	19:45	100	18:55		17:15		17:03	45
14	06:11		06:39		07:10		07:41		07:17		07:49	
	21:04		20:34	109	19:44	89	18:54		17:14		17:04	44
15	06:12		06:40		07:11		07:42		07:19		07:49	
	21:04		20:33	115	19:42	88	18:52		17:13		17:04	44
16	06:12		06:41		07:12		07:44		07:20		07:50	
	21:03		20:31	121	19:40	88	18:51		17:13		17:04	45
17	06:13		06:42		07:13		07:45		07:21		07:51	
	21:03		20:30	125	19:39	88	18:49		17:12		17:04	45
18	06:14		06:43		07:14		07:46		07:22		07:51	
	21:02		20:28	129	19:37	88	18:48		17:11		17:05	45
19	06:15		06:44		07:15		07:47		07:23		07:52	
	21:01		20:27	131	19:35	87	18:46		17:10		17:05	45
20	06:16		06:45		07:16		07:48		07:24	08:38 (T71)	07:53	
	21:01		20:26	133	19:34	86	18:45		17:10	3 08:41 (T71)	17:05	46
21	06:16		06:46		07:17		07:49		07:26	08:33 (T71)	07:53	
	21:00		20:24	135	19:32	85	18:43		17:09	14 08:47 (T71)	17:06	46
22	06:17		06:47		07:18		07:50		07:27	08:32 (T71)	07:54	
	20:59		20:23	136	19:30	84	18:42		17:08	18 08:50 (T71)	17:06	46
23	06:18		06:48		07:19		07:51		07:28	08:30 (T71)	07:54	
	20:58		20:21	137	19:28	82	18:40		17:08	22 08:52 (T71)	17:07	46
24	06:19		06:49		07:20		07:53		07:29	08:28 (T71)	07:55	
	20:57		20:20	137	19:27	81	18:39		17:07	26 08:54 (T71)	17:07	45
25	06:20		06:50		07:21		07:54		07:30	08:27 (T71)	07:55	
	20:57		20:18	138	19:25	80	18:37		17:06	28 08:55 (T71)	17:08	45
26	06:21		06:51		07:22		07:55		07:31	08:26 (T71)	07:55	
	20:56		20:17	140	19:23	77	18:36		17:06	30 08:56 (T71)	17:09	45
27	06:22		06:52		07:23		07:56		07:32	08:27 (T71)	07:56	
	20:55		20:15	139	19:22	76	18:35		17:06	32 08:59 (T71)	17:09	45
28	06:23	07:47 (T68)	06:53		07:24		07:57		07:34	08:26 (T71)	07:56	
	20:54	7 07:54 (T68)	20:13	140	19:20	74	18:33		17:05	34 09:00 (T71)	17:10	45
29	06:24	07:42 (T68)	06:54		07:25		07:58		07:35	08:26 (T71)	07:56	
	20:53	17 07:59 (T68)	20:12	139	19:18	71	18:32		17:05	35 09:01 (T71)	17:11	44
30	06:25	07:40 (T68)	06:55		07:26		07:59		07:36	08:25 (T71)	07:56	
	20:52	22 08:02 (T68)	20:10	139	19:17	68	18:31		17:04	36 09:01 (T71)	17:12	45
31	06:26	07:38 (T68)	06:56		07:17 (T68)		08:01				07:57	
	20:51	26 08:04 (T68)	20:09	139	19:10 (T69)		18:29				17:12	44
Potential sun hours	459		428		375		345		298		288	
Total, worst case		72		3115		3035		453		278		1351
Sun reduction		0.66		0.61		0.59		0.48		0.30		0.22
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.65		0.66		0.66		0.66		0.53		0.53
Total reduction		0.42		0.39		0.38		0.31		0.16		0.11
Total, real		31		1228		1156		140		43		155

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 422 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8041)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		08:20 (T77)	07:44		08:04 (T42)	07:07			07:16		08:02 (T41)	06:30			06:01		06:23 (T40)
	17:13	27	08:47 (T77)	17:48	24	08:28 (T42)	18:22			19:56	44	08:46 (T41)	20:27			20:57	40	07:03 (T40)
2	07:57		08:20 (T77)	07:43		08:03 (T42)	07:06		07:31 (T41)	07:15		08:03 (T41)	06:29			06:01		06:23 (T40)
	17:14	28	08:48 (T77)	17:49	26	08:29 (T42)	18:23	5	07:36 (T41)	19:57	41	08:44 (T41)	20:28			20:58	41	07:04 (T40)
3	07:57		08:20 (T77)	07:42		08:02 (T42)	07:04		07:24 (T41)	07:13		08:05 (T41)	06:28			06:01		06:22 (T40)
	17:15	28	08:48 (T77)	17:50	27	08:29 (T42)	18:24	19	07:43 (T41)	19:58	37	08:42 (T41)	20:29			20:58	42	07:04 (T40)
4	07:58		08:20 (T77)	07:40		08:01 (T42)	07:03		07:22 (T41)	07:11		08:06 (T41)	06:26			06:00		06:22 (T40)
	17:16	28	08:48 (T77)	17:51	29	08:30 (T42)	18:25	24	07:46 (T41)	19:59	34	08:40 (T41)	20:30			20:59	43	07:05 (T40)
5	07:58		08:20 (T77)	07:39		08:00 (T42)	07:01		07:20 (T41)	07:10		08:09 (T41)	06:25			06:00		06:22 (T40)
	17:17	29	08:49 (T77)	17:53	30	08:30 (T42)	18:26	28	07:48 (T41)	20:00	29	08:38 (T41)	20:31			21:00	44	07:06 (T40)
6	07:57		08:21 (T77)	07:38		07:58 (T42)	06:59		07:19 (T41)	07:08		08:11 (T41)	06:24			06:00		06:21 (T40)
	17:18	28	08:49 (T77)	17:54	31	08:29 (T42)	18:28	32	07:51 (T41)	20:00	23	08:34 (T41)	20:32			21:01	45	07:06 (T40)
7	07:57		08:21 (T77)	07:37		07:57 (T42)	06:58		07:17 (T41)	07:06		08:14 (T41)	06:23			05:59		06:21 (T40)
	17:18	27	08:48 (T77)	17:55	33	08:30 (T42)	18:29	35	07:52 (T41)	20:01	16	08:30 (T41)	20:33			21:01	45	07:06 (T40)
8	07:57		08:22 (T77)	07:36		07:56 (T42)	07:56		08:15 (T41)	07:05			06:22			05:59		06:21 (T40)
	17:19	27	08:49 (T77)	17:56	34	08:30 (T42)	19:30	38	08:53 (T41)	20:02			20:34			21:02	46	07:07 (T40)
9	07:57		08:23 (T77)	07:35		07:56 (T42)	07:55		08:14 (T41)	07:03			06:20			05:59		06:21 (T40)
	17:20	26	08:49 (T77)	17:58	34	08:30 (T42)	19:31	41	08:55 (T41)	20:04			20:35			21:02	47	07:08 (T40)
10	07:57		08:24 (T77)	07:34		07:57 (T42)	07:53		08:12 (T41)	07:01			06:19			05:59		06:21 (T40)
	17:22	25	08:49 (T77)	17:59	32	08:29 (T42)	19:32	43	08:55 (T41)	20:05			20:37			21:03	47	07:08 (T40)
11	07:57		08:24 (T77)	07:32		07:56 (T42)	07:51		08:11 (T41)	07:00			06:18			05:58		06:21 (T40)
	17:23	25	08:49 (T77)	18:00	32	08:28 (T42)	19:33	46	08:57 (T41)	20:06			20:38			21:04	47	07:08 (T40)
12	07:56		08:25 (T77)	07:31		07:57 (T42)	07:50		08:09 (T41)	06:58			06:17			05:58		06:21 (T40)
	17:24	24	08:49 (T77)	18:01	31	08:28 (T42)	19:34	48	08:57 (T41)	20:07			20:39			21:04	48	07:09 (T40)
13	07:56		08:26 (T77)	07:30		07:59 (T42)	07:48		08:07 (T41)	06:57			06:16			05:58		06:20 (T40)
	17:25	23	08:49 (T77)	18:03	28	08:27 (T42)	19:35	50	08:57 (T41)	20:08			20:40			21:05	48	07:08 (T40)
14	07:56		08:27 (T77)	07:29		08:00 (T42)	07:46		08:06 (T41)	06:55			06:15			05:58		06:20 (T40)
	17:26	21	08:48 (T77)	18:04	27	08:27 (T42)	19:37	52	08:58 (T41)	20:09			20:41			21:05	49	07:09 (T40)
15	07:55		08:28 (T77)	07:27		08:01 (T42)	07:45		08:04 (T41)	06:53			06:14			05:58		06:20 (T40)
	17:27	20	08:48 (T77)	18:05	24	08:25 (T42)	19:38	54	08:58 (T41)	20:10			20:42			21:06	49	07:09 (T40)
16	07:55		08:29 (T77)	07:26		08:03 (T42)	07:43		08:02 (T41)	06:52			06:13			05:58		06:21 (T40)
	17:28	18	08:47 (T77)	18:06	20	08:23 (T42)	19:39	56	08:58 (T41)	20:11			20:43			21:06	49	07:10 (T40)
17	07:55		08:31 (T77)	07:25		08:04 (T42)	07:41		08:01 (T41)	06:50			06:12			05:58		06:21 (T40)
	17:29	16	08:47 (T77)	18:07	16	08:20 (T42)	19:40	56	08:57 (T41)	20:12			20:44			21:06	49	07:10 (T40)
18	07:54		08:33 (T77)	07:23		08:08 (T42)	07:40		08:01 (T41)	06:49			06:11		06:33 (T40)	05:58		06:21 (T40)
	17:30	12	08:45 (T77)	18:09	9	08:17 (T42)	19:41	57	08:58 (T41)	20:13			20:45	12	06:45 (T40)	21:07	50	07:11 (T40)
19	07:53		08:36 (T77)	07:22			07:38		08:00 (T41)	06:47			06:10		06:31 (T40)	05:58		06:21 (T40)
	17:32	7	08:43 (T77)	18:10			19:42	57	08:57 (T41)	20:14			20:46	18	06:49 (T40)	21:07	50	07:11 (T40)
20	07:53			07:21			07:36		07:59 (T41)	06:46			06:09		06:30 (T40)	05:59		06:21 (T40)
	17:33			18:11			19:43	58	08:57 (T41)	20:15			20:46	21	06:51 (T40)	21:07	50	07:11 (T40)
21	07:52			07:19			07:35		08:00 (T41)	06:44			06:09		06:30 (T40)	05:59		06:21 (T40)
	17:34			18:12			19:44	57	08:57 (T41)	20:16			20:47	23	06:53 (T40)	21:08	50	07:11 (T40)
22	07:52		08:13 (T42)	07:18			07:33		07:59 (T41)	06:43			06:08		06:29 (T40)	05:59		06:21 (T40)
	17:35	2	08:15 (T42)	18:14			19:45	57	08:56 (T41)	20:17			20:48	26	06:55 (T40)	21:08	50	07:11 (T40)
23	07:51		08:12 (T42)	07:16			07:31		07:59 (T41)	06:41			06:07		06:28 (T40)	05:59		06:22 (T40)
	17:36	5	08:17 (T42)	18:15			19:46	56	08:55 (T41)	20:18			20:49	28	06:56 (T40)	21:08	50	07:12 (T40)
24	07:50		08:11 (T42)	07:15			07:30		08:00 (T41)	06:40			06:06		06:27 (T40)	05:59		06:22 (T40)
	17:38	8	08:19 (T42)	18:16			19:47	55	08:55 (T41)	20:20			20:50	30	06:57 (T40)	21:08	50	07:12 (T40)
25	07:50		08:10 (T42)	07:13			07:28		07:59 (T41)	06:39			06:06		06:27 (T40)	06:00		06:22 (T40)
	17:39	11	08:21 (T42)	18:17			19:49	55	08:54 (T41)	20:21			20:51	31	06:58 (T40)	21:08	49	07:11 (T40)
26	07:49		08:09 (T42)	07:12			07:26		07:59 (T41)	06:37			06:05		06:26 (T40)	06:00		06:23 (T40)
	17:40	13	08:22 (T42)	18:18			19:50	54	08:53 (T41)	20:22			20:52	33	06:59 (T40)	21:08	49	07:12 (T40)
27	07:48		08:09 (T42)	07:10			07:25		08:00 (T41)	06:36			06:04		06:26 (T40)	06:00		06:23 (T40)
	17:41	15	08:24 (T42)	18:19			19:51	53	08:53 (T41)	20:23			20:53	34	07:00 (T40)	21:09	49	07:12 (T40)
28	07:47		08:08 (T42)	07:09			07:23		08:00 (T41)	06:34			06:04		06:25 (T40)	06:01		06:23 (T40)
	17:43	17	08:25 (T42)	18:21			19:52	51	08:51 (T41)	20:24			20:54	36	07:01 (T40)	21:09	49	07:12 (T40)
29	07:46		08:07 (T42)				07:21		08:00 (T41)	06:33			06:03		06:25 (T40)	06:01		06:24 (T40)
	17:44	19	08:26 (T42)				19:53	50	08:50 (T41)	20:25			20:55	37	07:02 (T40)	21:09	48	07:12 (T40)
30	07:45		08:06 (T42)				07:20		08:01 (T41)	06:32			06:02		06:24 (T40)	06:02		06:24 (T40)
	17:45	21	08:27 (T42)				19:54	48	08:49 (T41)	20:26			20:55	38	07:02 (T40)	21:09	48	07:12 (T40)
31	07:44		08:05 (T42)				07:18		08:02 (T41)				06:02		06:24 (T40)			
	17:46	23	08:28 (T42)				19:55	46	08:48 (T41)				20:56	39	07:03 (T40)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		573			487			1381			224			406			1421	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.53			0.54			0.59			0.59			0.72			0.72	
Total reduction		0.16			0.21			0.25			0.30			0.40			0.45	
Total, real		91			102			345			66			162			635	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 422 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8041)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August		September			October			November			December		
1	06:02		06:25 (T40)	06:26		06:57			07:28		07:47 (T41)	07:02		07:25 (T42)	07:37		08:06 (T77)
	21:09	48	07:13 (T40)	20:50		20:07			19:15	49	08:36 (T41)	17:28	33	07:58 (T42)	17:04	25	08:31 (T77)
2	06:03		06:25 (T40)	06:27		06:58			07:29		07:48 (T41)	07:03		07:26 (T42)	07:38		08:07 (T77)
	21:08	47	07:12 (T40)	20:49		20:06			19:13	46	08:34 (T41)	17:27	33	07:59 (T42)	17:03	25	08:32 (T77)
3	06:03		06:26 (T40)	06:28		06:59			07:30		07:49 (T41)	07:04		07:26 (T42)	07:39		08:07 (T77)
	21:08	47	07:13 (T40)	20:48		20:04			19:11	44	08:33 (T41)	17:26	33	07:59 (T42)	17:03	26	08:33 (T77)
4	06:04		06:26 (T40)	06:29		07:00			07:31		07:51 (T41)	07:06		07:27 (T42)	07:40		08:07 (T77)
	21:08	46	07:12 (T40)	20:47		20:02			19:10	42	08:33 (T41)	17:24	32	07:59 (T42)	17:03	27	08:34 (T77)
5	06:04		06:27 (T40)	06:30		07:01		08:11 (T41)	07:32		07:52 (T41)	07:07		07:28 (T42)	07:41		08:07 (T77)
	21:08	46	07:13 (T40)	20:46		20:01	16	08:27 (T41)	19:08	39	08:31 (T41)	17:23	31	07:59 (T42)	17:03	27	08:34 (T77)
6	06:05		06:27 (T40)	06:31		07:02		08:07 (T41)	07:33		07:53 (T41)	07:08		07:30 (T42)	07:42		08:07 (T77)
	21:08	45	07:12 (T40)	20:45		19:57	23	08:30 (T41)	19:06	36	08:29 (T41)	17:22	30	08:00 (T42)	17:03	28	08:35 (T77)
7	06:06		06:28 (T40)	06:32		07:03		08:04 (T41)	07:34		07:54 (T41)	07:09		07:31 (T42)	07:43		08:07 (T77)
	21:07	44	07:12 (T40)	20:43		19:56	29	08:33 (T41)	19:05	33	08:27 (T41)	17:21	29	08:00 (T42)	17:03	29	08:36 (T77)
8	06:06		06:29 (T40)	06:33		07:04		08:01 (T41)	07:35		07:55 (T41)	07:10		07:32 (T42)	07:44		08:07 (T77)
	21:07	43	07:12 (T40)	20:42		19:54	34	08:35 (T41)	19:03	30	08:25 (T41)	17:20	27	07:59 (T42)	17:03	28	08:35 (T77)
9	06:07		06:29 (T40)	06:34		07:05		07:59 (T41)	07:36		07:56 (T41)	07:12		07:34 (T42)	07:45		08:08 (T77)
	21:07	43	07:12 (T40)	20:41		19:52	37	08:36 (T41)	19:02	26	08:22 (T41)	17:19	26	08:00 (T42)	17:03	28	08:36 (T77)
10	06:08		06:30 (T40)	06:35		07:06		07:57 (T41)	07:37		07:57 (T41)	07:13		07:35 (T42)	07:46		08:09 (T77)
	21:06	42	07:12 (T40)	20:40		19:51	41	08:38 (T41)	19:00	22	08:19 (T41)	17:18	24	07:59 (T42)	17:03	28	08:37 (T77)
11	06:08		06:31 (T40)	06:36		07:07		07:56 (T41)	07:38		08:00 (T41)	07:14		07:36 (T42)	07:47		08:10 (T77)
	21:06	41	07:12 (T40)	20:38		19:49	43	08:39 (T41)	18:58	14	08:14 (T41)	17:17	23	07:59 (T42)	17:03	27	08:37 (T77)
12	06:09		06:31 (T40)	06:37		07:08		07:53 (T41)	07:39			07:15		07:37 (T42)	07:47		08:11 (T77)
	21:06	40	07:11 (T40)	20:37		19:47	46	08:39 (T41)	18:57			17:16	21	07:58 (T42)	17:03	27	08:38 (T77)
13	06:10		06:32 (T40)	06:38		07:09		07:52 (T41)	07:40			07:16		07:39 (T42)	07:48		08:12 (T77)
	21:05	39	07:11 (T40)	20:36		19:46	47	08:39 (T41)	18:55			17:15	19	07:58 (T42)	17:03	27	08:39 (T77)
14	06:10		06:33 (T40)	06:39		07:10		07:51 (T41)	07:41			07:18		07:40 (T42)	07:49		08:12 (T77)
	21:05	38	07:11 (T40)	20:34		19:44	49	08:40 (T41)	18:54			17:14	17	07:57 (T42)	17:03	26	08:38 (T77)
15	06:11		06:34 (T40)	06:40		07:11		07:49 (T41)	07:43			07:19		07:41 (T42)	07:50		08:13 (T77)
	21:04	36	07:10 (T40)	20:33		19:42	52	08:41 (T41)	18:52			17:13	15	07:56 (T42)	17:03	26	08:39 (T77)
16	06:12		06:34 (T40)	06:41		07:12		07:48 (T41)	07:44			07:20		07:43 (T42)	07:50		08:14 (T77)
	21:04	35	07:09 (T40)	20:32		19:40	53	08:41 (T41)	18:50			17:12	13	07:56 (T42)	17:04	26	08:40 (T77)
17	06:13		06:35 (T40)	06:42		07:13		07:47 (T41)	07:45			07:21		07:44 (T42)	07:51		08:14 (T77)
	21:03	34	07:09 (T40)	20:30		19:39	54	08:41 (T41)	18:49			17:11	11	07:55 (T42)	17:04	26	08:40 (T77)
18	06:14		06:36 (T40)	06:43		07:14		07:47 (T41)	07:46			07:22		07:45 (T42)	07:52		08:15 (T77)
	21:02	32	07:08 (T40)	20:29		19:37	55	08:42 (T41)	18:47			17:11	8	07:53 (T42)	17:04	26	08:41 (T77)
19	06:14		06:37 (T40)	06:44		07:15		07:46 (T41)	07:47			07:24		07:46 (T42)	07:52		08:16 (T77)
	21:02	30	07:07 (T40)	20:27		19:35	56	08:42 (T41)	18:46			17:10	5	07:51 (T42)	17:05	26	08:42 (T77)
20	06:15		06:38 (T40)	06:45		07:16		07:45 (T41)	07:48			07:25		07:48 (T42)	07:53		08:16 (T77)
	21:01	29	07:07 (T40)	20:26		19:34	57	08:42 (T41)	18:44			17:09	2	07:50 (T42)	17:05	25	08:41 (T77)
21	06:16		06:38 (T40)	06:46		07:17		07:45 (T41)	07:49			07:26			07:53		08:17 (T77)
	21:00	27	07:05 (T40)	20:24		19:32	57	08:42 (T41)	18:43			17:09			17:06	25	08:42 (T77)
22	06:17		06:39 (T40)	06:47		07:18		07:44 (T41)	07:50			07:27			07:54		08:17 (T77)
	20:59	25	07:04 (T40)	20:23		19:30	57	08:41 (T41)	18:42			17:08			17:06	25	08:42 (T77)
23	06:18		06:40 (T40)	06:48		07:19		07:44 (T41)	07:52			07:28		08:12 (T77)	07:54		08:18 (T77)
	20:59	22	07:02 (T40)	20:21		19:28	57	08:41 (T41)	18:40			17:07	7	08:19 (T77)	17:07	25	08:43 (T77)
24	06:19		06:41 (T40)	06:49		07:20		07:43 (T41)	07:53		08:36 (T42)	07:29		08:10 (T77)	07:55		08:18 (T77)
	20:58	19	07:00 (T40)	20:20		19:27	58	08:41 (T41)	18:39	12	08:48 (T42)	17:07	12	08:22 (T77)	17:07	25	08:43 (T77)
25	06:20		06:42 (T40)	06:50		07:21		07:43 (T41)	07:54		08:34 (T42)	07:31		08:09 (T77)	07:55		08:18 (T77)
	20:57	16	06:58 (T40)	20:18		19:25	57	08:40 (T41)	18:37	18	08:52 (T42)	17:06	16	08:25 (T77)	17:08	26	08:44 (T77)
26	06:21		06:46 (T40)	06:51		07:22		07:43 (T41)	07:55		08:32 (T42)	07:32		08:08 (T77)	07:56		08:19 (T77)
	20:56	8	06:54 (T40)	20:17		19:23	57	08:40 (T41)	18:36	21	08:53 (T42)	17:06	18	08:26 (T77)	17:08	26	08:45 (T77)
27	06:22			06:52		07:23		07:43 (T41)	07:56		08:30 (T42)	07:33		08:07 (T77)	07:56		08:19 (T77)
	20:55			20:15		19:22	56	08:39 (T41)	18:35	25	08:55 (T42)	17:05	20	08:27 (T77)	17:09	26	08:45 (T77)
28	06:23			06:53		07:24		07:44 (T41)	07:57		08:28 (T42)	07:34		08:07 (T77)	07:56		08:19 (T77)
	20:54			20:14		19:20	54	08:38 (T41)	18:33	28	08:56 (T42)	17:05	21	08:28 (T77)	17:10	26	08:45 (T77)
29	06:23			06:54		07:26		07:45 (T41)	07:59		08:28 (T42)	07:35		08:06 (T77)	07:57		08:19 (T77)
	20:53			20:12		19:18	53	08:38 (T41)	18:32	29	08:57 (T42)	17:04	23	08:29 (T77)	17:10	26	08:45 (T77)
30	06:24			06:55		07:27		07:46 (T41)	08:00		08:27 (T42)	07:36		08:06 (T77)	07:57		08:20 (T77)
	20:52			20:10		19:16	51	08:37 (T41)	18:31	31	08:58 (T42)	17:04	24	08:30 (T77)	17:11	27	08:47 (T77)
31	06:25			06:56					08:01		08:26 (T42)				07:57		08:20 (T77)
	20:51			20:09					18:29	32	08:58 (T42)				17:12	27	08:47 (T77)
Potential sun hours	460			429		375			345			297			287		
Total, worst case		922					1249			577			573			817	
Sun reduction		0.66					0.59			0.48			0.30			0.22	
Oper. time red.		1.00					1.00			1.00			1.00			1.00	
Wind dir. red.		0.72					0.59			0.57			0.54			0.52	
Total reduction		0.46					0.34			0.27			0.16			0.11	
Total, real		425					419			153			89			91	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 423 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8042)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June	
1	07:57		15:54 (T77)	07:43		16:14 (T77)	07:07		17:29 (T42)	07:16			06:30		19:30 (T41)	06:01	
	17:13	51	16:45 (T77)	17:47	34	16:48 (T77)	18:22	31	18:00 (T42)	19:56			20:27	34	20:04 (T41)	20:57	
2	07:57		15:55 (T77)	07:42		16:16 (T77)	07:06		17:27 (T42)	07:14			06:29		19:30 (T41)	06:01	
	17:14	51	16:46 (T77)	17:49	30	16:46 (T77)	18:23	34	18:01 (T42)	19:57			20:28	34	20:04 (T41)	20:58	
3	07:57		15:55 (T77)	07:41		16:18 (T77)	07:04		17:25 (T42)	07:13			06:28		19:30 (T41)	06:01	
	17:15	51	16:46 (T77)	17:50	27	16:45 (T77)	18:24	37	18:02 (T42)	19:58			20:29	33	20:03 (T41)	20:58	
4	07:57		15:56 (T77)	07:40		16:20 (T77)	07:02		17:25 (T42)	07:11			06:26		19:30 (T41)	06:00	
	17:16	51	16:47 (T77)	17:51	23	16:43 (T77)	18:25	39	18:04 (T42)	19:59			20:30	32	20:02 (T41)	20:59	
5	07:57		15:56 (T77)	07:39		16:23 (T77)	07:01		17:23 (T42)	07:09			06:25		19:31 (T41)	06:00	
	17:17	52	16:48 (T77)	17:52	17	16:40 (T77)	18:26	41	18:04 (T42)	20:00			20:31	31	20:02 (T41)	21:00	
6	07:57		15:56 (T77)	07:38		16:28 (T77)	06:59		17:23 (T42)	07:08			06:24		19:32 (T41)	05:59	
	17:17	52	16:48 (T77)	17:54	7	16:35 (T77)	18:27	43	18:06 (T42)	20:00			20:32	29	20:01 (T41)	21:00	
7	07:57		15:56 (T77)	07:37		07:57 (T76)	06:58		17:21 (T42)	07:06			06:23		19:33 (T41)	05:59	
	17:18	52	16:48 (T77)	17:55	3	08:00 (T76)	18:29	46	18:07 (T42)	20:01			20:33	27	20:00 (T41)	21:01	
8	07:57		15:57 (T77)	07:36		07:56 (T76)	07:56		18:20 (T42)	07:05			06:22		19:34 (T41)	05:59	
	17:19	52	16:49 (T77)	17:56	7	08:03 (T76)	19:30	48	19:08 (T42)	20:02			20:34	25	19:59 (T41)	21:02	
9	07:57		15:57 (T77)	07:35		07:55 (T76)	07:54		18:20 (T42)	07:03			06:20		19:35 (T41)	05:59	
	17:20	52	16:49 (T77)	17:57	10	08:05 (T76)	19:31	50	19:10 (T42)	20:03			20:35	23	19:58 (T41)	21:02	
10	07:57		15:58 (T77)	07:34		07:54 (T76)	07:53		18:19 (T42)	07:01			06:19		19:35 (T41)	05:59	
	17:21	52	16:50 (T77)	17:59	13	08:07 (T76)	19:32	51	19:10 (T42)	20:05			20:36	21	19:56 (T41)	21:03	
11	07:57		15:58 (T77)	07:32		07:52 (T76)	07:51		18:18 (T42)	07:00			06:18		19:37 (T41)	05:58	
	17:23	52	16:50 (T77)	18:00	15	08:07 (T76)	19:33	52	19:10 (T42)	20:06			20:37	17	19:54 (T41)	21:04	
12	07:56		15:58 (T77)	07:31		07:51 (T76)	07:50		18:19 (T42)	06:58			06:17		19:39 (T41)	05:58	
	17:24	52	16:50 (T77)	18:01	18	08:09 (T76)	19:34	52	19:11 (T42)	20:07			20:38	13	19:52 (T41)	21:04	
13	07:56		15:59 (T77)	07:30		07:50 (T76)	07:48		18:18 (T42)	06:57			06:16		19:44 (T41)	05:58	
	17:25	52	16:51 (T77)	18:02	20	08:10 (T76)	19:35	52	19:10 (T42)	20:08			20:39	3	19:47 (T41)	21:05	
14	07:56		15:59 (T77)	07:29		07:48 (T76)	07:46		18:17 (T42)	06:55			06:15			05:58	
	17:26	52	16:51 (T77)	18:04	22	08:10 (T76)	19:36	53	19:10 (T42)	20:09			20:41			21:05	
15	07:55		16:00 (T77)	07:27		07:47 (T76)	07:45		18:18 (T42)	06:53			06:14			05:58	
	17:27	52	16:52 (T77)	18:05	23	08:10 (T76)	19:38	52	19:10 (T42)	20:10			20:42			21:05	
16	07:55		16:00 (T77)	07:26		07:46 (T76)	07:43		18:18 (T42)	06:52		19:43 (T41)	06:13			05:58	
	17:28	51	16:51 (T77)	18:06	25	08:11 (T76)	19:39	51	19:09 (T42)	20:11	7	19:50 (T41)	20:42			21:06	
17	07:54		16:01 (T77)	07:25		07:44 (T76)	07:41		18:18 (T42)	06:50		19:40 (T41)	06:12			05:58	
	17:29	51	16:52 (T77)	18:07	26	08:10 (T76)	19:40	50	19:08 (T42)	20:12	10	19:50 (T41)	20:43			21:06	
18	07:54		16:01 (T77)	07:23		07:43 (T76)	07:40		18:18 (T42)	06:49		19:38 (T41)	06:11			05:58	
	17:30	51	16:52 (T77)	18:09	28	08:11 (T76)	19:41	50	19:08 (T42)	20:13	14	19:52 (T41)	20:44			21:07	
19	07:53		16:02 (T77)	07:22		07:42 (T76)	07:38		18:18 (T42)	06:47		19:36 (T41)	06:10			05:58	
	17:32	51	16:53 (T77)	18:10	29	08:11 (T76)	19:42	49	19:07 (T42)	20:14	16	19:52 (T41)	20:45			21:07	
20	07:53		16:02 (T77)	07:20		07:40 (T76)	07:36		18:18 (T42)	06:46		19:35 (T41)	06:09			05:59	
	17:33	50	16:52 (T77)	18:11	30	08:10 (T76)	19:43	48	19:06 (T42)	20:15	19	19:54 (T41)	20:46			21:07	
21	07:52		16:03 (T77)	07:19		07:41 (T76)	07:35		18:20 (T42)	06:44		19:34 (T41)	06:09			05:59	
	17:34	49	16:52 (T77)	18:12	29	08:10 (T76)	19:44	45	19:05 (T42)	20:16	21	19:55 (T41)	20:47			21:08	
22	07:52		16:04 (T77)	07:18		07:41 (T76)	07:33		18:20 (T42)	06:43		19:32 (T41)	06:08			05:59	
	17:35	49	16:53 (T77)	18:13	28	08:09 (T76)	19:45	44	19:04 (T42)	20:17	24	19:56 (T41)	20:48			21:08	
23	07:51		16:04 (T77)	07:16		07:42 (T76)	07:31		18:21 (T42)	06:41		19:32 (T41)	06:07			05:59	
	17:36	48	16:52 (T77)	18:15	26	08:08 (T76)	19:46	41	19:02 (T42)	20:18	25	19:57 (T41)	20:49			21:08	
24	07:50		16:05 (T77)	07:15		07:42 (T76)	07:30		18:22 (T42)	06:40		19:31 (T41)	06:06			05:59	
	17:38	47	16:52 (T77)	18:16	25	08:07 (T76)	19:47	39	19:01 (T42)	20:19	27	19:58 (T41)	20:50			21:08	
25	07:49		16:05 (T77)	07:13		07:44 (T76)	07:28		18:23 (T42)	06:38		19:31 (T41)	06:06			06:00	
	17:39	47	16:52 (T77)	18:17	37	17:55 (T42)	19:48	36	18:59 (T42)	20:21	28	19:59 (T41)	20:51			21:08	
26	07:49		16:06 (T77)	07:12		07:45 (T76)	07:26		18:24 (T42)	06:37		19:30 (T41)	06:05			06:00	
	17:40	45	16:51 (T77)	18:18	38	17:56 (T42)	19:50	33	18:57 (T42)	20:22	29	19:59 (T41)	20:52			21:08	
27	07:48		16:08 (T77)	07:10		07:48 (T76)	07:24		18:26 (T42)	06:36		19:30 (T41)	06:04			06:00	
	17:41	44	16:52 (T77)	18:19	38	17:58 (T42)	19:51	28	18:54 (T42)	20:23	31	20:01 (T41)	20:53			21:08	
28	07:47		16:09 (T77)	07:09		07:53 (T76)	07:23		18:29 (T42)	06:34		19:30 (T41)	06:04			06:01	
	17:42	42	16:51 (T77)	18:21	30	17:59 (T42)	19:52	23	18:52 (T42)	20:24	32	20:02 (T41)	20:54			21:09	
29	07:46		16:10 (T77)				07:21		18:32 (T42)	06:33		19:29 (T41)	06:03			06:01	
	17:44	40	16:50 (T77)				19:53	16	18:48 (T42)	20:25	33	20:02 (T41)	20:54			21:09	
30	07:45		16:11 (T77)				07:19			06:32		19:29 (T41)	06:02			06:02	
	17:45	39	16:50 (T77)				19:54			20:26	35	20:04 (T41)	20:55			21:09	
31	07:44		16:12 (T77)				07:18						06:02				
	17:46	37	16:49 (T77)				19:55						20:56				
Potential sun hours	297			297			370			399			448			453	
Total, worst case		1517			658			1234			351			322			
Sun reduction		0.31			0.40			0.44			0.52			0.57			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.74			0.61			0.67			0.57			0.57			
Total reduction		0.23			0.25			0.30			0.30			0.33			
Total, real		356			165			371			107			108			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 423 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8042)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26	19:49 (T41)	06:57		07:27	17:57 (T42)	07:02	07:23 (T76)	07:37	15:40 (T77)
	21:08		20:50 14	20:03 (T41)	20:07		19:15 52	18:49 (T42)	17:28 12	07:35 (T76)	17:04 52	16:32 (T77)
2	06:03		06:27	19:47 (T41)	06:58		07:29	17:57 (T42)	07:03	07:25 (T76)	07:38	15:40 (T77)
	21:08		20:49 18	20:05 (T41)	20:06		19:13 52	18:49 (T42)	17:27 10	07:35 (T76)	17:03 52	16:32 (T77)
3	06:03		06:28	19:46 (T41)	06:59		07:30	17:57 (T42)	07:04	07:26 (T76)	07:39	15:41 (T77)
	21:08		20:48 21	20:07 (T41)	20:04		19:11 51	18:48 (T42)	17:26 7	07:33 (T76)	17:03 52	16:33 (T77)
4	06:04		06:29	19:44 (T41)	07:00		07:31	17:57 (T42)	07:06	07:27 (T76)	07:40	15:42 (T77)
	21:08		20:47 24	20:08 (T41)	20:02		19:10 50	18:47 (T42)	17:24 2	07:29 (T76)	17:03 52	16:34 (T77)
5	06:04		06:30	19:43 (T41)	07:01		07:32	17:58 (T42)	07:07	15:56 (T77)	07:41	15:42 (T77)
	21:08		20:46 26	20:09 (T41)	20:01		19:08 48	18:46 (T42)	17:23 9	16:05 (T77)	17:03 52	16:34 (T77)
6	06:05		06:31	19:42 (T41)	07:02		07:33	17:58 (T42)	07:08	15:53 (T77)	07:42	15:43 (T77)
	21:08		20:44 28	20:10 (T41)	19:57		19:06 46	18:44 (T42)	17:22 18	16:11 (T77)	17:03 51	16:34 (T77)
7	06:05		06:32	19:41 (T41)	07:03		07:34	17:58 (T42)	07:09	15:50 (T77)	07:43	15:42 (T77)
	21:07		20:43 30	20:11 (T41)	19:56		19:05 45	18:43 (T42)	17:21 23	16:13 (T77)	17:03 52	16:34 (T77)
8	06:06		06:33	19:40 (T41)	07:04		07:35	17:58 (T42)	07:10	15:47 (T77)	07:44	15:43 (T77)
	21:07		20:42 31	20:11 (T41)	19:54		19:03 43	18:41 (T42)	17:20 28	16:15 (T77)	17:03 51	16:34 (T77)
9	06:07		06:34	19:40 (T41)	07:05		07:36	17:59 (T42)	07:12	15:46 (T77)	07:45	15:43 (T77)
	21:07		20:41 32	20:12 (T41)	19:52		19:01 40	18:39 (T42)	17:19 31	16:17 (T77)	17:03 52	16:35 (T77)
10	06:07		06:35	19:39 (T41)	07:06		07:37	17:59 (T42)	07:13	15:45 (T77)	07:46	15:44 (T77)
	21:06		20:39 33	20:12 (T41)	19:51		19:00 38	18:37 (T42)	17:18 34	16:19 (T77)	17:03 51	16:35 (T77)
11	06:08		06:36	19:39 (T41)	07:07		07:38	18:00 (T42)	07:14	15:43 (T77)	07:46	15:44 (T77)
	21:06		20:38 34	20:13 (T41)	19:49		18:58 36	18:36 (T42)	17:17 37	16:20 (T77)	17:03 51	16:35 (T77)
12	06:09		06:37	19:38 (T41)	07:08		07:39	18:01 (T42)	07:15	15:42 (T77)	07:47	15:45 (T77)
	21:06		20:37 35	20:13 (T41)	19:47		18:57 33	18:34 (T42)	17:16 39	16:21 (T77)	17:03 51	16:36 (T77)
13	06:10		06:38	19:38 (T41)	07:09		07:40	18:02 (T42)	07:16	15:42 (T77)	07:48	15:46 (T77)
	21:05		20:36 34	20:12 (T41)	19:45		18:55 30	18:32 (T42)	17:15 40	16:22 (T77)	17:03 51	16:37 (T77)
14	06:10		06:39	19:38 (T41)	07:10	18:23 (T42)	07:41	08:22 (T76)	07:18	15:41 (T77)	07:49	15:46 (T77)
	21:05		20:34 33	20:11 (T41)	19:44 14	18:37 (T42)	18:54 35	18:30 (T42)	17:14 42	16:23 (T77)	17:03 50	16:36 (T77)
15	06:11		06:40	19:37 (T41)	07:11	18:19 (T42)	07:42	08:19 (T76)	07:19	15:40 (T77)	07:50	15:46 (T77)
	21:04		20:33 32	20:09 (T41)	19:42 22	18:41 (T42)	18:52 39	18:30 (T42)	17:13 44	16:24 (T77)	17:03 51	16:37 (T77)
16	06:12		06:41	19:36 (T41)	07:12	18:16 (T42)	07:44	08:17 (T76)	07:20	15:39 (T77)	07:50	15:47 (T77)
	21:03		20:31 31	20:07 (T41)	19:40 27	18:43 (T42)	18:50 37	18:28 (T42)	17:12 45	16:24 (T77)	17:04 51	16:38 (T77)
17	06:13		06:42	19:36 (T41)	07:13	18:13 (T42)	07:45	08:15 (T76)	07:21	15:39 (T77)	07:51	15:47 (T77)
	21:03		20:30 30	20:06 (T41)	19:39 32	18:45 (T42)	18:49 33	18:24 (T42)	17:11 47	16:26 (T77)	17:04 50	16:37 (T77)
18	06:14		06:43	19:36 (T41)	07:14	18:11 (T42)	07:46	08:13 (T76)	07:22	15:39 (T77)	07:52	15:48 (T77)
	21:02		20:29 28	20:04 (T41)	19:37 35	18:46 (T42)	18:47 26	08:39 (T76)	17:11 47	16:26 (T77)	17:04 50	16:38 (T77)
19	06:14		06:44	19:37 (T41)	07:15	18:09 (T42)	07:47	08:12 (T76)	07:23	15:38 (T77)	07:52	15:49 (T77)
	21:02		20:27 26	20:03 (T41)	19:35 38	18:47 (T42)	18:46 27	08:39 (T76)	17:10 48	16:26 (T77)	17:05 50	16:39 (T77)
20	06:15		06:45	19:37 (T41)	07:16	18:07 (T42)	07:48	08:11 (T76)	07:25	15:39 (T77)	07:53	15:49 (T77)
	21:01		20:26 25	20:02 (T41)	19:33 41	18:48 (T42)	18:44 28	08:39 (T76)	17:09 49	16:28 (T77)	17:05 50	16:39 (T77)
21	06:16		06:46	19:37 (T41)	07:17	18:06 (T42)	07:49	08:11 (T76)	07:26	15:39 (T77)	07:53	15:50 (T77)
	21:00		20:24 23	20:00 (T41)	19:32 43	18:49 (T42)	18:43 30	08:41 (T76)	17:08 49	16:28 (T77)	17:05 50	16:40 (T77)
22	06:17		06:47	19:38 (T41)	07:18	18:04 (T42)	07:50	08:11 (T76)	07:27	15:38 (T77)	07:54	15:50 (T77)
	20:59		20:23 21	19:59 (T41)	19:30 46	18:50 (T42)	18:41 30	08:41 (T76)	17:08 50	16:28 (T77)	17:06 50	16:40 (T77)
23	06:18		06:48	19:39 (T41)	07:19	18:03 (T42)	07:51	08:12 (T76)	07:28	15:38 (T77)	07:54	15:51 (T77)
	20:59		20:21 18	19:57 (T41)	19:28 47	18:50 (T42)	18:40 29	08:41 (T76)	17:07 51	16:29 (T77)	17:07 50	16:41 (T77)
24	06:19		06:49	19:40 (T41)	07:20	18:02 (T42)	07:53	08:13 (T76)	07:29	15:38 (T77)	07:55	15:51 (T77)
	20:58		20:20 16	19:56 (T41)	19:27 48	18:50 (T42)	18:39 27	08:40 (T76)	17:07 51	16:29 (T77)	17:07 50	16:41 (T77)
25	06:20		06:50	19:41 (T41)	07:21	18:01 (T42)	07:54	08:15 (T76)	07:30	15:39 (T77)	07:55	15:51 (T77)
	20:57		20:18 13	19:54 (T41)	19:25 49	18:50 (T42)	18:37 26	08:41 (T76)	17:06 51	16:30 (T77)	17:08 50	16:41 (T77)
26	06:21		06:51	19:43 (T41)	07:22	18:00 (T42)	07:55	08:16 (T76)	07:32	15:39 (T77)	07:56	15:52 (T77)
	20:56		20:17 10	19:53 (T41)	19:23 50	18:50 (T42)	18:36 25	08:41 (T76)	17:06 51	16:30 (T77)	17:08 50	16:42 (T77)
27	06:22		06:52	19:46 (T41)	07:23	17:59 (T42)	07:56	08:17 (T76)	07:33	15:39 (T77)	07:56	15:52 (T77)
	20:55		20:15 5	19:51 (T41)	19:22 51	18:50 (T42)	18:34 23	08:40 (T76)	17:05 52	16:31 (T77)	17:09 51	16:43 (T77)
28	06:22		06:53		07:24	17:59 (T42)	07:57	08:18 (T76)	07:34	15:39 (T77)	07:56	15:52 (T77)
	20:54		20:14		19:20 51	18:50 (T42)	18:33 21	08:39 (T76)	17:05 52	16:31 (T77)	17:10 51	16:43 (T77)
29	06:23		06:54		07:25	17:58 (T42)	07:58	08:19 (T76)	07:35	15:39 (T77)	07:57	15:53 (T77)
	20:53		20:12		19:18 52	18:50 (T42)	18:32 19	08:38 (T76)	17:04 52	16:31 (T77)	17:10 50	16:43 (T77)
30	06:24		06:55		07:26	17:58 (T42)	08:00	08:21 (T76)	07:36	15:39 (T77)	07:57	15:54 (T77)
	20:52		20:10		19:16 52	18:50 (T42)	18:30 17	08:38 (T76)	17:04 52	16:31 (T77)	17:11 50	16:44 (T77)
31	06:25	19:52 (T41)	06:56				08:01	08:22 (T76)			07:57	15:54 (T77)
	20:51 8	20:00 (T41)	20:09				18:29 15	08:37 (T76)			17:12 51	16:45 (T77)
Potential sun hours	460		429		375		345		297		287	
Total, worst case	8		671		698		1051		1123		1575	
Sun reduction	0.66		0.61		0.59		0.48		0.30		0.22	
Oper. time red.	1.00		1.00		1.00		1.00		1.00		1.00	
Wind dir. red.	0.57		0.57		0.67		0.62		0.73		0.74	
Total reduction	0.39		0.36		0.40		0.31		0.23		0.17	
Total, real	3		240		282		323		253		262	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 427 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8046)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		09:10 (T12)	07:44		08:09 (T13)	07:07			07:16		18:35 (T11)	06:30		06:50 (T10)	06:01		06:23 (T8)
	17:13	51	10:01 (T12)	17:47	35	08:44 (T13)	18:22			19:56	56	19:31 (T11)	20:27	57	07:47 (T10)	20:57	47	07:39 (T10)
2	07:58		09:11 (T12)	07:43		08:09 (T13)	07:06			07:14		18:34 (T11)	06:29		06:50 (T10)	06:01		06:22 (T8)
	17:14	50	10:01 (T12)	17:49	35	08:44 (T13)	18:23			19:57	57	19:31 (T11)	20:28	57	07:47 (T10)	20:58	47	07:38 (T10)
3	07:58		09:12 (T12)	07:42		08:10 (T13)	07:04			07:13		18:35 (T11)	06:27		06:49 (T10)	06:00		06:22 (T8)
	17:14	49	10:01 (T12)	17:50	34	08:44 (T13)	18:24			19:58	56	19:31 (T11)	20:29	58	07:47 (T10)	20:59	47	07:38 (T10)
4	07:58		09:13 (T12)	07:41		08:11 (T13)	07:03			07:11		18:34 (T11)	06:26		06:49 (T10)	06:00		06:22 (T8)
	17:15	48	10:01 (T12)	17:51	32	08:43 (T13)	18:25			19:59	57	19:31 (T11)	20:30	58	07:47 (T10)	21:00	47	07:38 (T10)
5	07:58		09:14 (T12)	07:40		08:12 (T13)	07:01			07:09		18:34 (T11)	06:25		06:49 (T10)	06:00		06:21 (T8)
	17:16	47	10:01 (T12)	17:52	31	08:43 (T13)	18:26			20:00	56	19:30 (T11)	20:32	58	07:47 (T10)	21:00	47	07:37 (T10)
6	07:58		08:20 (T13)	07:39		08:13 (T13)	06:59			07:08		18:34 (T11)	06:24		06:49 (T10)	05:59		06:21 (T8)
	17:17	49	10:01 (T12)	17:54	29	08:42 (T13)	18:27			20:00	56	19:30 (T11)	20:33	58	07:47 (T10)	21:01	46	07:36 (T10)
7	07:58		08:20 (T13)	07:37		08:14 (T13)	06:58			07:06		18:34 (T11)	06:23		06:49 (T10)	05:59		06:21 (T8)
	17:18	50	10:01 (T12)	17:55	27	08:41 (T13)	18:29			20:01	55	19:29 (T11)	20:34	58	07:47 (T10)	21:02	45	07:36 (T10)
8	07:58		08:20 (T13)	07:36		08:15 (T13)	07:56			07:05		18:35 (T11)	06:21		06:48 (T10)	05:59		06:21 (T8)
	17:19	51	10:01 (T12)	17:56	24	08:39 (T13)	19:30			20:03	54	19:29 (T11)	20:35	58	07:46 (T10)	21:02	45	07:36 (T10)
9	07:57		08:19 (T13)	07:35		08:17 (T13)	07:55			07:03		18:34 (T11)	06:20		06:48 (T10)	05:58		06:21 (T8)
	17:20	52	10:00 (T12)	17:57	21	08:38 (T13)	19:31			20:04	54	19:28 (T11)	20:36	58	07:46 (T10)	21:03	45	07:36 (T10)
10	07:57		08:19 (T13)	07:34		08:19 (T13)	07:53			07:01		18:34 (T11)	06:19		06:48 (T10)	05:58		06:20 (T8)
	17:21	52	10:00 (T12)	17:59	17	08:36 (T13)	19:32			20:05	53	19:27 (T11)	20:37	58	07:46 (T10)	21:03	45	07:35 (T10)
11	07:57		08:19 (T13)	07:33		08:23 (T13)	07:51			07:00		18:35 (T11)	06:18		06:48 (T10)	05:58		06:20 (T8)
	17:22	53	10:00 (T12)	18:00	9	08:32 (T13)	19:33			20:06	52	19:27 (T11)	20:38	58	07:46 (T10)	21:04	44	07:35 (T10)
12	07:57		08:18 (T13)	07:31			07:50			06:58		18:35 (T11)	06:17		06:48 (T10)	05:58		06:20 (T8)
	17:23	51	09:58 (T12)	18:01			19:34			20:07	50	19:25 (T11)	20:39	58	07:46 (T10)	21:04	43	07:34 (T10)
13	07:56		08:18 (T13)	07:30			07:48			06:57		18:37 (T11)	06:16		06:48 (T10)	05:58		06:20 (T8)
	17:24	51	09:58 (T12)	18:02			19:35			20:08	48	19:25 (T11)	20:40	58	07:46 (T10)	21:05	42	07:34 (T10)
14	07:56		08:18 (T13)	07:29			07:46			06:55		18:37 (T11)	06:15		06:48 (T10)	05:58		06:20 (T8)
	17:26	50	09:58 (T12)	18:04			19:37			20:09	46	19:23 (T11)	20:41	57	07:45 (T10)	21:05	42	07:34 (T10)
15	07:56		08:17 (T13)	07:28			07:45			06:53		18:37 (T11)	06:14		06:48 (T10)	05:58		06:20 (T8)
	17:27	49	09:56 (T12)	18:05			19:38			20:10	44	19:21 (T11)	20:42	57	07:45 (T10)	21:06	42	07:34 (T10)
16	07:55		08:17 (T13)	07:26			07:43			06:52		07:16 (T10)	06:13		06:48 (T10)	05:58		06:20 (T8)
	17:28	47	09:55 (T12)	18:06			19:39			20:11	52	19:20 (T11)	20:43	57	07:45 (T10)	21:06	42	07:34 (T10)
17	07:55		08:16 (T13)	07:25			07:41		18:59 (T11)	06:50		07:10 (T10)	06:12		06:50 (T10)	05:58		06:20 (T8)
	17:29	45	09:53 (T12)	18:07			19:40	19	19:18 (T11)	20:12	59	19:18 (T11)	20:44	55	07:45 (T10)	21:07	41	07:34 (T10)
18	07:54		08:16 (T13)	07:24			07:40		18:55 (T11)	06:49		07:08 (T10)	06:11		06:50 (T10)	05:58		06:20 (T8)
	17:30	41	09:51 (T12)	18:09			19:41	25	19:20 (T11)	20:13	63	19:17 (T11)	20:45	55	07:45 (T10)	21:07	40	07:33 (T10)
19	07:54		08:15 (T13)	07:22			07:38		18:51 (T11)	06:47		07:06 (T10)	06:10		06:50 (T10)	05:58		06:21 (T8)
	17:31	35	09:47 (T12)	18:10			19:42	30	19:21 (T11)	20:14	61	19:14 (T11)	20:46	54	07:44 (T10)	21:07	40	07:34 (T10)
20	07:53		08:14 (T13)	07:21			07:36		18:49 (T11)	06:46		07:05 (T10)	06:09		06:50 (T10)	05:58		06:21 (T8)
	17:32	26	08:40 (T13)	18:11			19:43	32	19:21 (T11)	20:15	62	19:13 (T11)	20:47	54	07:44 (T10)	21:08	40	07:34 (T10)
21	07:53		08:14 (T13)	07:19			07:35		18:47 (T11)	06:44		07:03 (T10)	06:08		06:50 (T10)	05:58		06:21 (T8)
	17:34	27	08:41 (T13)	18:12			19:44	36	19:23 (T11)	20:17	59	19:09 (T11)	20:48	53	07:43 (T10)	21:08	40	07:34 (T10)
22	07:52		08:13 (T13)	07:18			07:33		18:45 (T11)	06:43		07:02 (T10)	06:08		06:52 (T10)	05:59		06:21 (T8)
	17:35	29	08:42 (T13)	18:13			19:45	39	19:24 (T11)	20:18	54	19:06 (T11)	20:49	51	07:43 (T10)	21:08	40	07:34 (T10)
23	07:51		08:12 (T13)	07:16			07:31		18:43 (T11)	06:41		07:01 (T10)	06:07		06:52 (T10)	05:59		06:21 (T8)
	17:36	30	08:42 (T13)	18:15			19:46	42	19:25 (T11)	20:19	42	07:43 (T10)	20:50	51	07:43 (T10)	21:08	40	07:34 (T10)
24	07:51		08:11 (T13)	07:15			07:30		18:42 (T11)	06:40		06:59 (T10)	06:06		06:52 (T10)	05:59		06:22 (T8)
	17:37	31	08:42 (T13)	18:16			19:47	44	19:26 (T11)	20:20	44	07:43 (T10)	20:51	50	07:42 (T10)	21:09	40	07:35 (T10)
25	07:50		08:11 (T13)	07:13			07:28		18:41 (T11)	06:38		06:58 (T10)	06:05		06:53 (T10)	05:59		06:22 (T8)
	17:39	33	08:44 (T13)	18:17			19:49	46	19:27 (T11)	20:21	46	07:44 (T10)	20:51	49	07:42 (T10)	21:09	40	07:35 (T10)
26	07:49		08:10 (T13)	07:12			07:26		18:39 (T11)	06:37		06:56 (T10)	06:05		06:54 (T10)	06:00		06:22 (T8)
	17:40	34	08:44 (T13)	18:18			19:50	49	19:28 (T11)	20:22	48	07:44 (T10)	20:52	47	07:41 (T10)	21:09	42	07:36 (T10)
27	07:48		08:09 (T13)	07:10			07:25		18:39 (T11)	06:36		06:55 (T10)	06:04		06:54 (T10)	06:00		06:23 (T8)
	17:41	35	08:44 (T13)	18:19			19:51	51	19:30 (T11)	20:23	50	07:45 (T10)	20:53	47	07:41 (T10)	21:09	42	07:37 (T10)
28	07:47		08:08 (T13)	07:09			07:23		18:38 (T11)	06:34		06:54 (T10)	06:03		06:55 (T10)	06:00		06:23 (T8)
	17:42	36	08:44 (T13)	18:21			19:52	52	19:30 (T11)	20:24	52	07:46 (T10)	20:54	46	07:41 (T10)	21:09	42	07:37 (T10)
29	07:47		08:07 (T13)				07:21		18:37 (T11)	06:33		06:52 (T10)	06:03		06:24 (T8)	06:01		06:24 (T8)
	17:44	37	08:44 (T13)				19:53	54	19:31 (T11)	20:25	54	07:46 (T10)	20:55	47	07:40 (T10)	21:09	42	07:38 (T10)
30	07:46		08:08 (T13)				07:19		18:36 (T11)	06:31		06:51 (T10)	06:02		06:24 (T8)	06:01		06:24 (T8)
	17:45	36	08:44 (T13)				19:54	55	19:31 (T11)	20:26	55	07:46 (T10)	20:56	48	07:40 (T10)	21:09	43	07:38 (T10)
31	07:45		08:08 (T13)				07:18		18:36 (T11)				06:02		06:23 (T8)			
	17:46	36	08:44 (T13)				19:55	56	19:32 (T11)				20:56	48	07:39 (T10)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1311			294			630			1595			1678			1288	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.53			0.52			0.63			0.65			0.68			0.69	
Total reduction		0.16			0.20			0.27			0.33			0.37			0.43	
Total, real		207			60			170			523			629			553	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 427 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8046)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October			November		December	
1	06:02		06:24 (T8)	06:26		06:58 (T10)	06:57		18:34 (T11)	07:28		07:02		07:48 (T13)	07:37		08:01 (T13)
	21:09	43	07:38 (T10)	20:50	59	07:57 (T10)	20:07	52	19:26 (T11)	19:15		17:28	18	08:06 (T13)	17:03	53	09:42 (T12)
2	06:02		06:25 (T8)	06:27		06:58 (T10)	06:58		18:33 (T11)	07:29		07:03		07:46 (T13)	07:38		08:02 (T13)
	21:09	44	07:40 (T10)	20:49	59	07:57 (T10)	20:06	53	19:26 (T11)	19:13		17:27	22	08:08 (T13)	17:03	52	09:43 (T12)
3	06:03		06:25 (T8)	06:28		06:58 (T10)	06:59		18:32 (T11)	07:30		07:05		07:44 (T13)	07:39		08:03 (T13)
	21:09	45	07:40 (T10)	20:48	59	07:57 (T10)	20:04	54	19:26 (T11)	19:11		17:25	25	08:09 (T13)	17:03	52	09:44 (T12)
4	06:03		06:26 (T8)	06:29		06:58 (T10)	07:00		18:32 (T11)	07:31		07:06		07:43 (T13)	07:40		08:04 (T13)
	21:09	45	07:41 (T10)	20:47	59	07:57 (T10)	20:02	54	19:26 (T11)	19:10		17:24	27	08:10 (T13)	17:03	51	09:45 (T12)
5	06:04		06:27 (T8)	06:30		06:58 (T10)	07:01		18:31 (T11)	07:32		07:07		07:43 (T13)	07:41		08:05 (T13)
	21:08	46	07:42 (T10)	20:46	59	07:57 (T10)	20:01	55	19:26 (T11)	19:08		17:23	29	08:12 (T13)	17:03	50	09:46 (T12)
6	06:05		06:27 (T8)	06:31		06:58 (T10)	07:02		18:30 (T11)	07:33		07:08		07:41 (T13)	07:42		08:06 (T13)
	21:08	46	07:42 (T10)	20:45	59	07:57 (T10)	19:57	56	19:26 (T11)	19:06		17:22	32	08:13 (T13)	17:02	49	09:47 (T12)
7	06:05		06:28 (T8)	06:32		06:58 (T10)	07:03		18:30 (T11)	07:34		07:09		07:40 (T13)	07:43		09:01 (T12)
	21:08	46	07:43 (T10)	20:44	59	07:57 (T10)	19:56	56	19:26 (T11)	19:05		17:21	33	08:13 (T13)	17:02	47	09:48 (T12)
8	06:06		06:28 (T8)	06:33		06:58 (T10)	07:04		18:29 (T11)	07:35		07:11		07:41 (T13)	07:44		09:01 (T12)
	21:08	48	07:44 (T10)	20:42	59	07:57 (T10)	19:54	57	19:26 (T11)	19:03		17:20	33	08:14 (T13)	17:02	48	09:49 (T12)
9	06:07		06:29 (T8)	06:34		06:58 (T10)	07:05		18:29 (T11)	07:36		07:12		07:40 (T13)	07:45		09:01 (T12)
	21:07	48	07:45 (T10)	20:41	59	07:57 (T10)	19:52	56	19:25 (T11)	19:02		17:19	35	08:15 (T13)	17:02	49	09:50 (T12)
10	06:07		06:30 (T8)	06:35		06:59 (T10)	07:06		18:28 (T11)	07:37		07:13		07:39 (T13)	07:46		09:01 (T12)
	21:07	48	07:46 (T10)	20:40	57	07:56 (T10)	19:51	57	19:25 (T11)	19:00		17:18	36	08:15 (T13)	17:02	50	09:51 (T12)
11	06:08		06:30 (T8)	06:36		06:59 (T10)	07:07		18:27 (T11)	07:38		07:14		07:39 (T13)	07:47		09:00 (T12)
	21:06	48	07:46 (T10)	20:39	57	07:56 (T10)	19:49	57	19:24 (T11)	18:58		17:17	36	08:15 (T13)	17:02	51	09:51 (T12)
12	06:09		06:31 (T8)	06:37		06:59 (T10)	07:08		18:27 (T11)	07:39		07:15		07:40 (T13)	07:48		09:01 (T12)
	21:06	48	07:47 (T10)	20:37	56	07:55 (T10)	19:47	56	19:23 (T11)	18:57		17:16	36	08:16 (T13)	17:03	51	09:52 (T12)
13	06:09		06:32 (T8)	06:38		07:00 (T10)	07:09		18:27 (T11)	07:40		07:17		07:39 (T13)	07:48		09:01 (T12)
	21:05	47	07:48 (T10)	20:36	55	07:55 (T10)	19:46	55	19:22 (T11)	18:55		17:15	37	08:16 (T13)	17:03	52	09:53 (T12)
14	06:10		06:33 (T8)	06:39		07:00 (T10)	07:10		18:27 (T11)	07:42		07:18		07:40 (T13)	07:49		09:02 (T12)
	21:05	47	07:49 (T10)	20:35	53	07:53 (T10)	19:44	55	19:22 (T11)	18:54		17:14	36	08:16 (T13)	17:03	52	09:54 (T12)
15	06:11		06:33 (T8)	06:40		07:01 (T10)	07:11		18:27 (T11)	07:43		07:19		07:42 (T13)	07:50		09:02 (T12)
	21:04	47	07:49 (T10)	20:33	52	07:53 (T10)	19:42	53	19:20 (T11)	18:52		17:13	35	08:17 (T13)	17:03	53	09:55 (T12)
16	06:12		07:03 (T10)	06:41		07:02 (T10)	07:12		18:27 (T11)	07:44		07:20		07:43 (T13)	07:51		09:02 (T12)
	21:04	47	07:50 (T10)	20:32	50	07:52 (T10)	19:40	51	19:18 (T11)	18:50		17:12	34	08:17 (T13)	17:03	53	09:55 (T12)
17	06:12		07:03 (T10)	06:42		07:03 (T10)	07:13		18:27 (T11)	07:45		07:21		07:44 (T13)	07:51		09:03 (T12)
	21:03	47	07:50 (T10)	20:30	48	07:51 (T10)	19:39	50	19:17 (T11)	18:49		17:11	33	08:17 (T13)	17:04	53	09:56 (T12)
18	06:13		07:03 (T10)	06:43		07:04 (T10)	07:14		18:28 (T11)	07:46		07:23		07:45 (T13)	07:52		09:03 (T12)
	21:03	48	07:51 (T10)	20:29	46	07:50 (T10)	19:37	47	19:15 (T11)	18:47		17:10	31	08:16 (T13)	17:04	54	09:57 (T12)
19	06:14		07:03 (T10)	06:44		07:05 (T10)	07:15		18:28 (T11)	07:47		07:24		07:47 (T13)	07:53		09:03 (T12)
	21:02	49	07:52 (T10)	20:27	44	07:49 (T10)	19:35	45	19:13 (T11)	18:46		17:10	30	08:17 (T13)	17:04	54	09:57 (T12)
20	06:15		07:02 (T10)	06:45		07:06 (T10)	07:16		18:29 (T11)	07:48		07:25		07:48 (T13)	07:53		09:04 (T12)
	21:01	50	07:52 (T10)	20:26	41	07:47 (T10)	19:34	42	19:11 (T11)	18:44		17:09	29	08:17 (T13)	17:05	54	09:58 (T12)
21	06:16		07:01 (T10)	06:46		07:07 (T10)	07:17		18:30 (T11)	07:49		07:26		07:49 (T13)	07:54		09:04 (T12)
	21:00	52	07:53 (T10)	20:25	55	19:11 (T11)	19:32	40	19:10 (T11)	18:43		17:08	28	08:17 (T13)	17:05	54	09:58 (T12)
22	06:17		07:01 (T10)	06:47		07:08 (T10)	07:18		18:31 (T11)	07:51		07:27		07:50 (T13)	07:54		09:05 (T12)
	21:00	52	07:53 (T10)	20:23	59	19:14 (T11)	19:30	37	19:08 (T11)	18:41		17:08	26	08:16 (T13)	17:06	54	09:59 (T12)
23	06:18		07:01 (T10)	06:48		07:09 (T10)	07:19		18:32 (T11)	07:52		07:29		07:52 (T13)	07:55		09:05 (T12)
	20:59	53	07:54 (T10)	20:22	62	19:17 (T11)	19:28	34	19:06 (T11)	18:40		17:07	34	09:24 (T12)	17:06	54	09:59 (T12)
24	06:19		07:01 (T10)	06:49		07:10 (T10)	07:20		18:34 (T11)	07:53		07:30		07:53 (T13)	07:55		09:05 (T12)
	20:58	54	07:55 (T10)	20:20	63	19:19 (T11)	19:27	30	19:04 (T11)	18:39		17:06	40	09:28 (T12)	17:07	54	09:59 (T12)
25	06:19		07:01 (T10)	06:50		07:11 (T10)	07:21		18:36 (T11)	07:54		07:31		07:54 (T13)	07:56		09:06 (T12)
	20:57	54	07:55 (T10)	20:18	62	19:20 (T11)	19:25	27	19:03 (T11)	18:37		17:06	45	09:31 (T12)	17:07	54	10:00 (T12)
26	06:20		07:00 (T10)	06:51		07:13 (T10)	07:22		18:39 (T11)	07:55		07:32		07:55 (T13)	07:56		09:06 (T12)
	20:56	56	07:56 (T10)	20:17	60	19:21 (T11)	19:23	21	19:00 (T11)	18:36		17:05	47	09:33 (T12)	17:08	54	10:00 (T12)
27	06:21		06:59 (T10)	06:52		07:19 (T10)	07:23		18:44 (T11)	07:56		07:33		07:56 (T13)	07:56		09:07 (T12)
	20:55	56	07:55 (T10)	20:15	50	19:22 (T11)	19:22	11	18:55 (T11)	18:34		17:05	49	09:35 (T12)	17:09	53	10:00 (T12)
28	06:22		06:59 (T10)	06:53		18:39 (T11)	07:24			07:58		07:34		07:58 (T13)	07:57		09:08 (T12)
	20:54	57	07:56 (T10)	20:14	44	19:23 (T11)	19:20			18:33		17:05	50	09:38 (T12)	17:09	53	10:01 (T12)
29	06:23		06:59 (T10)	06:54		18:38 (T11)	07:26			07:59		07:35		07:59 (T13)	07:57		09:08 (T12)
	20:54	57	07:56 (T10)	20:12	46	19:24 (T11)	19:18			18:32		17:04	51	09:39 (T12)	17:10	53	10:01 (T12)
30	06:24		06:59 (T10)	06:55		18:36 (T11)	07:27			08:00		07:36		08:00 (T13)	07:57		09:09 (T12)
	20:53	57	07:56 (T10)	20:11	49	19:25 (T11)	19:16			18:30		17:04	51	09:40 (T12)	17:11	52	10:01 (T12)
31	06:25		06:59 (T10)	06:56		18:35 (T11)				08:01	08:51 (T13)				07:57		09:10 (T12)
	20:51	57	07:56 (T10)	20:09	50	19:25 (T11)				18:29	11 09:02 (T13)				17:12	51	10:01 (T12)
Potential sun hours	460			429			375			345		297			287		
Total, worst case		1542			1690			1261			11		1048			1614	
Sun reduction		0.66			0.61			0.59			0.48		0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00		1.00			1.00	
Wind dir. red.		0.68			0.67			0.63			0.52		0.52			0.53	
Total reduction		0.44			0.39			0.36			0.24		0.15			0.11	
Total, real		673			667			457			3		160			181	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 477 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8085)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57	15:52 (T77)	07:43	08:13 (T76)	07:07	17:10 (T42)	07:16	19:11 (T41)	06:30		06:01	20:00 (T40)
	17:13 32	16:24 (T77)	17:47 35	17:23 (T42)	18:22 23	17:33 (T42)	19:56 23	19:34 (T41)	20:27		20:57 24	20:24 (T40)
2	07:57	08:20 (T76)	07:42	08:14 (T76)	07:06	17:12 (T42)	07:14	19:10 (T41)	06:29		06:01	20:01 (T40)
	17:14 32	16:24 (T77)	17:49 38	17:25 (T42)	18:23 18	17:30 (T42)	19:57 25	19:35 (T41)	20:28		20:58 23	20:24 (T40)
3	07:57	08:20 (T76)	07:41	08:15 (T76)	07:04	17:16 (T42)	07:13	19:10 (T41)	06:28		06:01	20:02 (T40)
	17:15 34	16:25 (T77)	17:50 39	17:26 (T42)	18:24 8	17:24 (T42)	19:58 27	19:37 (T41)	20:29		20:58 21	20:23 (T40)
4	07:57	08:20 (T76)	07:40	08:17 (T76)	07:02		07:11	19:10 (T41)	06:26		06:00	20:03 (T40)
	17:16 34	16:25 (T77)	17:51 40	17:28 (T42)	18:25		19:59 27	19:37 (T41)	20:30		20:59 20	20:23 (T40)
5	07:57	08:20 (T76)	07:39	08:19 (T76)	07:01		07:09	19:09 (T41)	06:25	20:06 (T40)	06:00	20:04 (T40)
	17:16 35	16:25 (T77)	17:52 38	17:29 (T42)	18:26		20:00 29	19:38 (T41)	20:31 3	20:09 (T40)	21:00 19	20:23 (T40)
6	07:57	08:20 (T76)	07:38	08:21 (T76)	06:59		07:08	19:10 (T41)	06:24	20:03 (T40)	05:59	20:04 (T40)
	17:17 35	16:25 (T77)	17:54 36	17:30 (T42)	18:27		20:00 30	19:40 (T41)	20:32 7	20:10 (T40)	21:00 18	20:22 (T40)
7	07:57	08:19 (T76)	07:37	17:04 (T42)	06:58		07:06	19:09 (T41)	06:23	20:02 (T40)	05:59	20:05 (T40)
	17:18 35	16:24 (T77)	17:55 27	17:31 (T42)	18:29		20:01 31	19:40 (T41)	20:33 9	20:11 (T40)	21:01 17	20:22 (T40)
8	07:57	08:19 (T76)	07:36	17:04 (T42)	07:56		07:05	19:10 (T41)	06:22	20:00 (T40)	05:59	20:06 (T40)
	17:19 35	16:24 (T77)	17:56 29	17:33 (T42)	19:30		20:02 30	19:40 (T41)	20:34 12	20:12 (T40)	21:02 15	20:21 (T40)
9	07:57	08:19 (T76)	07:35	17:03 (T42)	07:54		07:03	19:10 (T41)	06:20	19:58 (T40)	05:59	20:07 (T40)
	17:20 34	16:23 (T77)	17:57 31	17:34 (T42)	19:31		20:03 29	19:39 (T41)	20:35 14	20:12 (T40)	21:02 14	20:21 (T40)
10	07:57	08:19 (T76)	07:34	17:03 (T42)	07:53		07:01	19:11 (T41)	06:19	19:58 (T40)	05:59	20:08 (T40)
	17:21 33	16:23 (T77)	17:59 33	17:36 (T42)	19:32		20:05 26	19:37 (T41)	20:36 15	20:13 (T40)	21:03 13	20:21 (T40)
11	07:57	08:18 (T76)	07:32	17:01 (T42)	07:51		07:00	19:12 (T41)	06:18	19:57 (T40)	05:58	20:09 (T40)
	17:23 33	16:22 (T77)	18:00 35	17:36 (T42)	19:33		20:06 24	19:36 (T41)	20:37 17	20:14 (T40)	21:04 11	20:20 (T40)
12	07:56	08:18 (T76)	07:31	17:01 (T42)	07:50		06:58	19:13 (T41)	06:17	19:56 (T40)	05:58	20:09 (T40)
	17:24 31	16:21 (T77)	18:01 37	17:38 (T42)	19:34		20:07 21	19:34 (T41)	20:38 19	20:15 (T40)	21:04 10	20:19 (T40)
13	07:56	08:18 (T76)	07:30	17:01 (T42)	07:48		06:57	19:15 (T41)	06:16	19:56 (T40)	05:58	20:10 (T40)
	17:25 28	16:20 (T77)	18:02 39	17:40 (T42)	19:35		20:08 17	19:32 (T41)	20:39 20	20:16 (T40)	21:05 8	20:18 (T40)
14	07:56	08:17 (T76)	07:29	17:00 (T42)	07:46		06:55	19:17 (T41)	06:15	19:55 (T40)	05:58	20:11 (T40)
	17:26 21	16:15 (T77)	18:04 40	17:40 (T42)	19:36		20:09 12	19:29 (T41)	20:41 22	20:17 (T40)	21:05 6	20:17 (T40)
15	07:55	08:17 (T76)	07:27	17:00 (T42)	07:45		06:53		06:14	19:55 (T40)	05:58	20:13 (T40)
	17:27 19	08:36 (T76)	18:05 42	17:42 (T42)	19:38		20:10		20:42 23	20:18 (T40)	21:05 3	20:16 (T40)
16	07:55	08:16 (T76)	07:26	17:01 (T42)	07:43		06:52		06:13	19:56 (T40)	05:58	
	17:28 20	08:36 (T76)	18:06 43	17:44 (T42)	19:39		20:11		20:42 24	20:20 (T40)	21:06	
17	07:54	08:16 (T76)	07:25	17:00 (T42)	07:41		06:50		06:12	19:56 (T40)	05:58	
	17:29 22	08:38 (T76)	18:07 43	17:43 (T42)	19:40		20:12		20:43 24	20:20 (T40)	21:06	
18	07:54	08:15 (T76)	07:23	17:00 (T42)	07:40		06:49		06:11	19:55 (T40)	05:58	
	17:30 23	08:38 (T76)	18:09 44	17:44 (T42)	19:41		20:13		20:44 26	20:21 (T40)	21:07	
19	07:53	08:15 (T76)	07:22	17:01 (T42)	07:38		06:47		06:10	19:55 (T40)	05:58	
	17:31 24	08:39 (T76)	18:10 43	17:44 (T42)	19:42		20:14		20:45 27	20:22 (T40)	21:07	
20	07:53	08:14 (T76)	07:20	17:01 (T42)	07:36		06:46		06:09	19:55 (T40)	05:58	
	17:33 25	08:39 (T76)	18:11 42	17:43 (T42)	19:43		20:15		20:46 28	20:23 (T40)	21:07	
21	07:52	08:13 (T76)	07:19	17:01 (T42)	07:35		06:44		06:09	19:55 (T40)	05:59	
	17:34 26	08:39 (T76)	18:12 42	17:43 (T42)	19:44		20:16		20:47 28	20:23 (T40)	21:08	
22	07:52	08:13 (T76)	07:18	17:01 (T42)	07:33		06:43		06:08	19:56 (T40)	05:59	
	17:35 27	08:40 (T76)	18:13 41	17:42 (T42)	19:45		20:17		20:48 29	20:25 (T40)	21:08	
23	07:51	08:12 (T76)	07:16	17:02 (T42)	07:31		06:41		06:07	19:56 (T40)	05:59	
	17:36 29	08:41 (T76)	18:15 39	17:41 (T42)	19:46		20:18		20:49 29	20:25 (T40)	21:08	
24	07:50	08:11 (T76)	07:15	17:03 (T42)	07:30		06:40		06:06	19:56 (T40)	05:59	
	17:37 30	08:41 (T76)	18:16 37	17:40 (T42)	19:47		20:19		20:50 30	20:26 (T40)	21:08	
25	07:49	08:10 (T76)	07:13	17:04 (T42)	07:28		06:38		06:06	19:57 (T40)	06:00	
	17:39 31	08:41 (T76)	18:17 36	17:40 (T42)	19:48		20:21		20:51 29	20:26 (T40)	21:08	
26	07:49	08:09 (T76)	07:12	17:05 (T42)	07:26	19:21 (T41)	06:37		06:05	19:57 (T40)	06:00	
	17:40 32	08:41 (T76)	18:18 33	17:38 (T42)	19:50 7	19:28 (T41)	20:22		20:52 29	20:26 (T40)	21:08	
27	07:48	08:10 (T76)	07:10	17:06 (T42)	07:24	19:18 (T41)	06:36		06:04	19:57 (T40)	06:00	20:17 (T40)
	17:41 31	08:41 (T76)	18:19 31	17:37 (T42)	19:51 11	19:29 (T41)	20:23		20:53 28	20:25 (T40)	21:08 1	20:18 (T40)
28	07:47	08:10 (T76)	07:09	17:07 (T42)	07:23	19:17 (T41)	06:34		06:04	19:58 (T40)	06:01	20:15 (T40)
	17:42 31	08:41 (T76)	18:21 28	17:35 (T42)	19:52 13	19:30 (T41)	20:24		20:54 27	20:25 (T40)	21:09 5	20:20 (T40)
29	07:46	08:10 (T76)			07:21	19:15 (T41)	06:33		06:03	19:58 (T40)	06:01	20:15 (T40)
	17:44 31	08:41 (T76)			19:53 16	19:31 (T41)	20:25		20:54 27	20:25 (T40)	21:09 7	20:22 (T40)
30	07:45	08:11 (T76)			07:19	19:13 (T41)	06:32		06:02	19:59 (T40)	06:02	20:13 (T40)
	17:45 30	08:41 (T76)			19:54 19	19:32 (T41)	20:26		20:55 26	20:25 (T40)	21:09 9	20:22 (T40)
31	07:44	08:12 (T76)			07:18	19:13 (T41)			06:02	19:59 (T40)		
	17:46 28	08:40 (T76)			19:55 21	19:34 (T41)			20:56 25	20:24 (T40)		
Potential sun hours	297		297		370		399		449		453	
Total, worst case		911		1041		136		351		597		244
Sun reduction		0.31		0.40		0.44		0.52		0.57		0.64
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.60		0.69		0.65		0.62		0.55		0.55
Total reduction		0.19		0.28		0.29		0.33		0.32		0.36
Total, real		173		292		40		114		192		88

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 477 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8085)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December		
1	06:02		20:13 (T40)	06:26		20:07 (T40)	06:57		19:11 (T41)	07:27		07:02	
	21:08	11	20:24 (T40)	20:50	18	20:25 (T40)	20:07	24	19:35 (T41)	19:15		17:28	32
2	06:03		20:12 (T40)	06:27		20:08 (T40)	06:58		19:09 (T41)	07:29		07:03	
	21:08	12	20:24 (T40)	20:49	16	20:24 (T40)	20:06	27	19:36 (T41)	19:13		17:27	31
3	06:03		20:12 (T40)	06:28		20:09 (T40)	06:59		19:08 (T41)	07:30		07:04	
	21:08	14	20:26 (T40)	20:48	14	20:23 (T40)	20:04	29	19:37 (T41)	19:11		17:26	28
4	06:04		20:11 (T40)	06:29		20:09 (T40)	07:00		19:07 (T41)	07:31		07:06	
	21:08	15	20:26 (T40)	20:47	13	20:22 (T40)	20:02	30	19:37 (T41)	19:10		17:24	27
5	06:04		20:11 (T40)	06:30		20:11 (T40)	07:01		19:06 (T41)	07:32		07:07	
	21:08	16	20:27 (T40)	20:46	10	20:21 (T40)	20:01	31	19:37 (T41)	19:08		17:23	36
6	06:05		20:10 (T40)	06:31		20:12 (T40)	07:02		19:06 (T41)	07:33		07:08	
	21:08	18	20:28 (T40)	20:44	8	20:20 (T40)	19:57	30	19:36 (T41)	19:06		17:22	39
7	06:05		20:10 (T40)	06:32		20:14 (T40)	07:03		19:05 (T41)	07:34		07:09	
	21:07	19	20:29 (T40)	20:43	5	20:19 (T40)	19:56	29	19:34 (T41)	19:05		17:21	39
8	06:06		20:10 (T40)	06:33		20:16 (T40)	07:04		19:05 (T41)	07:35		07:10	
	21:07	20	20:30 (T40)	20:42	2	20:18 (T40)	19:54	28	19:33 (T41)	19:03		17:20	39
9	06:07		20:09 (T40)	06:34			07:05		19:05 (T41)	07:36		07:12	
	21:07	21	20:30 (T40)	20:41			19:52	26	19:31 (T41)	19:01		17:19	38
10	06:07		20:09 (T40)	06:35			07:06		19:03 (T41)	07:37		07:13	
	21:06	22	20:31 (T40)	20:39			19:51	25	19:28 (T41)	19:00		17:18	35
11	06:08		20:09 (T40)	06:36			07:07		19:04 (T41)	07:38		07:14	
	21:06	23	20:32 (T40)	20:38			19:49	23	19:27 (T41)	18:58	13	18:01 (T42)	17:17
12	06:09		20:08 (T40)	06:37			07:08		19:04 (T41)	07:39		17:44 (T42)	07:15
	21:06	24	20:32 (T40)	20:37			19:47	21	19:25 (T41)	18:57	20	18:04 (T42)	17:16
13	06:10		20:08 (T40)	06:38			07:09		19:04 (T41)	07:40		17:41 (T42)	07:16
	21:05	25	20:33 (T40)	20:36			19:45	19	19:23 (T41)	18:55	25	18:06 (T42)	17:15
14	06:10		20:08 (T40)	06:39			07:10		19:05 (T41)	07:41		17:39 (T42)	07:18
	21:05	26	20:34 (T40)	20:34			19:44	17	19:22 (T41)	18:54	29	18:08 (T42)	17:14
15	06:11		20:08 (T40)	06:40			07:11		19:06 (T41)	07:42		17:38 (T42)	07:19
	21:04	26	20:34 (T40)	20:33			19:42	14	19:20 (T41)	18:52	32	18:10 (T42)	17:13
16	06:12		20:07 (T40)	06:41			07:12		19:07 (T41)	07:44		17:37 (T42)	07:20
	21:03	27	20:34 (T40)	20:31			19:40	11	19:18 (T41)	18:50	34	18:11 (T42)	17:12
17	06:13		20:07 (T40)	06:42			07:13		19:09 (T41)	07:45		17:35 (T42)	07:21
	21:03	28	20:35 (T40)	20:30			19:39	8	19:17 (T41)	18:49	36	18:11 (T42)	17:11
18	06:14		20:07 (T40)	06:43			07:14		19:12 (T41)	07:46		17:34 (T42)	07:22
	21:02	28	20:35 (T40)	20:29			19:37	3	19:15 (T41)	18:47	38	18:12 (T42)	17:11
19	06:14		20:07 (T40)	06:44			07:15			07:47		17:33 (T42)	07:23
	21:02	29	20:36 (T40)	20:27			19:35			18:46	39	18:12 (T42)	17:10
20	06:15		20:07 (T40)	06:45			07:16			07:48		17:32 (T42)	07:25
	21:01	29	20:36 (T40)	20:26			19:33			18:44	40	18:12 (T42)	17:09
21	06:16		20:06 (T40)	06:46			07:17			07:49		17:32 (T42)	07:26
	21:00	29	20:35 (T40)	20:24			19:32			18:43	42	18:14 (T42)	17:08
22	06:17		20:06 (T40)	06:47			07:18			07:50		17:31 (T42)	07:27
	20:59	28	20:34 (T40)	20:23			19:30			18:41	43	18:14 (T42)	17:08
23	06:18		20:06 (T40)	06:48			07:19			07:51		17:31 (T42)	07:28
	20:59	27	20:33 (T40)	20:21			19:28			18:40	42	18:13 (T42)	17:07
24	06:19		20:06 (T40)	06:49			07:20			07:53		17:30 (T42)	07:29
	20:58	27	20:33 (T40)	20:20			19:27			18:39	43	18:13 (T42)	17:07
25	06:20		20:06 (T40)	06:50			07:21			07:54		17:31 (T42)	07:30
	20:57	26	20:32 (T40)	20:18			19:25			18:37	43	18:14 (T42)	17:06
26	06:21		20:06 (T40)	06:51			07:22			07:55		17:30 (T42)	07:32
	20:56	25	20:31 (T40)	20:17			19:23			18:36	43	18:13 (T42)	17:06
27	06:22		20:06 (T40)	06:52			07:23			07:56		17:30 (T42)	07:33
	20:55	25	20:31 (T40)	20:15			19:21			18:34	41	18:11 (T42)	17:05
28	06:22		20:06 (T40)	06:53			07:24			07:57		17:30 (T42)	07:34
	20:54	23	20:29 (T40)	20:14			19:20			18:33	40	18:10 (T42)	17:05
29	06:23		20:06 (T40)	06:54		19:18 (T41)	07:25			07:58		17:30 (T42)	07:35
	20:53	22	20:28 (T40)	20:12	12	19:30 (T41)	19:18			18:32	38	18:08 (T42)	17:04
30	06:24		20:06 (T40)	06:55		19:15 (T41)	07:26			08:00		17:31 (T42)	07:36
	20:52	21	20:27 (T40)	20:10	17	19:32 (T41)	19:16			18:30	36	18:07 (T42)	17:04
31	06:25		20:07 (T40)	06:56		19:13 (T41)				08:01		17:31 (T42)	
	20:51	19	20:26 (T40)	20:09	21	19:34 (T41)				18:29	35	18:06 (T42)	
Potential sun hours	460			429			375			345			297
Total, worst case		705			136			395			752		
Sun reduction		0.66			0.61			0.59			0.48		
Oper. time red.		1.00			1.00			1.00			1.00		
Wind dir. red.		0.55			0.58			0.62			0.71		
Total reduction		0.37			0.36			0.37			0.35		
Total, real		263			49			146			261		

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 500 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8106)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		15:43 (T35)	07:43		08:04 (T36)	07:07			07:16		07:35 (T31)	06:30		18:59 (T30)	06:01		20:04 (T27)
	17:13	36	16:19 (T35)	17:47	29	08:33 (T36)	18:22			19:56	17	07:52 (T31)	20:27	52	19:51 (T30)	20:57	29	20:33 (T27)
2	07:57		15:44 (T35)	07:43		08:05 (T36)	07:06			07:14		07:33 (T31)	06:29		19:00 (T30)	06:01		20:04 (T27)
	17:14	35	16:19 (T35)	17:49	27	08:32 (T36)	18:23			19:57	19	07:52 (T31)	20:28	51	19:51 (T30)	20:58	30	20:34 (T27)
3	07:58		15:45 (T35)	07:41		08:06 (T36)	07:04			07:13		07:32 (T31)	06:28		18:59 (T30)	06:00		06:22 (T28)
	17:15	35	16:20 (T35)	17:50	26	08:32 (T36)	18:24			19:58	22	07:54 (T31)	20:29	51	19:50 (T30)	20:58	34	20:34 (T27)
4	07:58		15:46 (T35)	07:40		08:07 (T36)	07:02			07:11		07:30 (T31)	06:26		19:00 (T30)	06:00		06:22 (T28)
	17:15	34	16:20 (T35)	17:51	24	08:31 (T36)	18:25			19:59	24	07:54 (T31)	20:30	50	19:50 (T30)	20:59	38	20:35 (T27)
5	07:58		15:47 (T35)	07:39		08:08 (T36)	07:01			07:09		07:28 (T31)	06:25		19:00 (T30)	06:00		06:22 (T28)
	17:16	33	16:20 (T35)	17:52	23	08:31 (T36)	18:26			20:00	26	07:54 (T31)	20:31	49	19:49 (T30)	21:00	40	20:36 (T27)
6	07:58		15:48 (T35)	07:38		08:08 (T36)	06:59			07:08		07:27 (T31)	06:24		19:01 (T30)	05:59		06:21 (T28)
	17:17	32	16:20 (T35)	17:54	20	08:28 (T36)	18:27			20:00	28	07:55 (T31)	20:32	48	19:49 (T30)	21:01	43	20:36 (T27)
7	07:57		15:49 (T35)	07:37		08:10 (T36)	06:58			07:06		07:25 (T31)	06:23		19:01 (T30)	05:59		06:21 (T28)
	17:18	31	16:20 (T35)	17:55	17	08:27 (T36)	18:29			20:01	29	07:54 (T31)	20:33	48	19:49 (T30)	21:01	44	20:36 (T27)
8	07:57		15:49 (T35)	07:36		08:13 (T36)	07:56			07:05		07:24 (T31)	06:21		19:01 (T30)	05:59		06:21 (T28)
	17:19	30	16:19 (T35)	17:56	12	08:25 (T36)	19:30			20:02	31	07:55 (T31)	20:34	46	19:47 (T30)	21:02	45	20:37 (T27)
9	07:57		15:51 (T35)	07:35			07:54			07:03		07:22 (T31)	06:20		19:02 (T30)	05:59		06:21 (T28)
	17:20	28	16:19 (T35)	17:57			19:31			20:03	32	07:54 (T31)	20:35	45	19:47 (T30)	21:02	48	20:38 (T27)
10	07:57		15:52 (T35)	07:34			07:53			07:01		07:20 (T31)	06:19		19:03 (T30)	05:58		06:20 (T28)
	17:21	26	16:18 (T35)	17:59			19:32			20:05	50	19:37 (T30)	20:36	43	19:46 (T30)	21:03	48	20:38 (T27)
11	07:57		15:53 (T35)	07:32			07:51			07:00		07:19 (T31)	06:18		19:03 (T30)	05:58		06:20 (T28)
	17:22	24	16:17 (T35)	18:00			19:33			20:06	58	19:41 (T30)	20:38	42	19:45 (T30)	21:04	49	20:38 (T27)
12	07:56		08:18 (T36)	07:31			07:50			06:58		07:17 (T31)	06:17		19:04 (T30)	05:58		06:20 (T28)
	17:23	22	16:16 (T35)	18:01			19:34			20:07	65	19:43 (T30)	20:39	40	19:44 (T30)	21:04	51	20:39 (T27)
13	07:56		08:18 (T36)	07:30			07:48			06:56		07:17 (T31)	06:16		19:05 (T30)	05:58		06:20 (T28)
	17:25	21	16:16 (T35)	18:02			19:35			20:08	68	19:45 (T30)	20:40	38	19:43 (T30)	21:05	52	20:39 (T27)
14	07:56		08:17 (T36)	07:29			07:46			06:55		07:17 (T31)	06:15		19:06 (T30)	05:58		06:20 (T28)
	17:26	18	16:13 (T35)	18:04			19:36			20:09	70	19:46 (T30)	20:41	36	19:42 (T30)	21:05	52	20:40 (T27)
15	07:55		08:17 (T36)	07:27			07:45			06:53		07:17 (T31)	06:14		19:07 (T30)	05:58		06:20 (T28)
	17:27	14	16:11 (T35)	18:05			19:38			20:10	72	19:47 (T30)	20:42	38	20:18 (T27)	21:06	53	20:40 (T27)
16	07:55		08:16 (T36)	07:26			07:43			06:52		07:18 (T31)	06:13		19:08 (T30)	05:58		06:20 (T28)
	17:28	9	08:25 (T36)	18:06			19:39			20:11	73	19:49 (T30)	20:43	39	20:19 (T27)	21:06	53	20:40 (T27)
17	07:55		08:16 (T36)	07:25			07:41			06:50		07:19 (T31)	06:12		19:10 (T30)	05:58		06:20 (T28)
	17:29	10	08:26 (T36)	18:07			19:40			20:12	73	19:49 (T30)	20:44	40	20:21 (T27)	21:06	54	20:41 (T27)
18	07:54		08:15 (T36)	07:23			07:40			06:49		07:20 (T31)	06:11		19:12 (T30)	05:58		06:20 (T28)
	17:30	12	08:27 (T36)	18:09			19:41			20:13	72	19:50 (T30)	20:45	37	20:21 (T27)	21:07	55	20:41 (T27)
19	07:53		08:15 (T36)	07:22			07:38			06:47		07:21 (T31)	06:10		19:13 (T30)	05:58		06:21 (T28)
	17:31	13	08:28 (T36)	18:10			19:42			20:14	70	19:50 (T30)	20:46	37	20:22 (T27)	21:07	55	20:42 (T27)
20	07:53		08:14 (T36)	07:21			07:36			06:46		07:23 (T31)	06:09		19:15 (T30)	05:58		06:21 (T28)
	17:33	15	08:29 (T36)	18:11			19:43			20:15	68	19:51 (T30)	20:46	35	20:23 (T27)	21:07	55	20:42 (T27)
21	07:52		08:13 (T36)	07:19			07:35			06:44		07:25 (T31)	06:08		19:17 (T30)	05:59		06:21 (T28)
	17:34	16	08:29 (T36)	18:12			19:44			20:16	64	19:51 (T30)	20:47	32	20:23 (T27)	21:08	54	20:42 (T27)
22	07:52		08:13 (T36)	07:18			07:33			06:43		07:30 (T31)	06:08		19:22 (T30)	05:59		06:21 (T28)
	17:35	18	08:31 (T36)	18:13			19:45			20:17	55	19:52 (T30)	20:48	25	20:25 (T27)	21:08	54	20:42 (T27)
23	07:51		08:12 (T36)	07:16			07:31			06:41		19:01 (T30)	06:07		20:06 (T27)	05:59		06:21 (T28)
	17:36	19	08:31 (T36)	18:15			19:46			20:18	51	19:52 (T30)	20:49	20	20:26 (T27)	21:08	55	20:42 (T27)
24	07:50		08:11 (T36)	07:15			07:30			06:40		19:00 (T30)	06:06		20:05 (T27)	05:59		06:22 (T28)
	17:37	20	08:31 (T36)	18:16			19:47			20:20	52	19:52 (T30)	20:50	21	20:26 (T27)	21:08	55	20:43 (T27)
25	07:50		08:10 (T36)	07:13			07:28			06:38		19:00 (T30)	06:05		20:05 (T27)	06:00		06:22 (T28)
	17:39	22	08:32 (T36)	18:17			19:48			20:21	52	19:52 (T30)	20:51	23	20:28 (T27)	21:08	55	20:43 (T27)
26	07:49		08:10 (T36)	07:12			07:26			06:37		18:59 (T30)	06:05		20:04 (T27)	06:00		06:22 (T28)
	17:40	23	08:33 (T36)	18:18			19:50			20:22	53	19:52 (T30)	20:52	24	20:28 (T27)	21:09	54	20:43 (T27)
27	07:48		08:09 (T36)	07:10			07:24			06:36		18:59 (T30)	06:04		20:04 (T27)	06:00		06:23 (T28)
	17:41	24	08:33 (T36)	18:19			19:51			20:23	53	19:52 (T30)	20:53	24	20:28 (T27)	21:09	53	20:43 (T27)
28	07:47		08:08 (T36)	07:09			07:23			06:34		18:59 (T30)	06:03		20:04 (T27)	06:01		06:23 (T28)
	17:42	25	08:33 (T36)	18:20			19:52			20:24	53	19:52 (T30)	20:54	26	20:30 (T27)	21:09	52	20:43 (T27)
29	07:46		08:07 (T36)				07:21		07:40 (T31)	06:33		18:59 (T30)	06:03		20:04 (T27)	06:01		06:24 (T28)
	17:44	26	08:33 (T36)				19:53	6	07:46 (T31)	20:25	52	19:51 (T30)	20:55	26	20:30 (T27)	21:09	51	20:43 (T27)
30	07:45		08:06 (T36)				07:19		07:38 (T31)	06:31		18:59 (T30)	06:02		20:04 (T27)	06:01		06:24 (T28)
	17:45	27	08:33 (T36)				19:54	10	07:48 (T31)	20:26	52	19:51 (T30)	20:55	27	20:31 (T27)	21:09	51	20:43 (T27)
31	07:44		08:05 (T36)				07:18		07:37 (T31)				06:02		20:03 (T27)			
	17:46	28	08:33 (T36)				19:55	14	07:51 (T31)				20:56	28	20:31 (T27)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		726			178			30			1504			1141			1462	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.65			0.53			0.65			0.60			0.57			0.60	
Total reduction		0.20			0.22			0.29			0.32			0.33			0.39	
Total, real		149			38			9			481			375			572	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 500 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8106)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		06:25 (T28)	06:26		19:14 (T30)	06:57		07:18 (T31)	07:27	07:02			07:37		15:36 (T35)
	21:09	50	20:43 (T27)	20:50	41	19:55 (T30)	20:07	58	19:40 (T30)	19:15	17:28			17:04	24	16:00 (T35)
2	06:02		06:25 (T28)	06:27		19:14 (T30)	06:58		07:19 (T31)	07:29	07:03		07:47 (T36)	07:38		15:36 (T35)
	21:08	49	20:43 (T27)	20:49	42	19:56 (T30)	20:06	50	19:36 (T30)	19:13	17:27	4	07:51 (T36)	17:03	25	16:01 (T35)
3	06:03		06:26 (T28)	06:28		19:13 (T30)	06:59		07:20 (T31)	07:30	07:04		07:42 (T36)	07:39		15:35 (T35)
	21:08	48	20:43 (T27)	20:48	44	19:57 (T30)	20:04	32	07:52 (T31)	19:11	17:25	13	07:55 (T36)	17:03	27	16:02 (T35)
4	06:04		06:26 (T28)	06:29		19:12 (T30)	07:00		07:21 (T31)	07:31	07:06		07:40 (T36)	07:40		15:34 (T35)
	21:08	47	20:43 (T27)	20:47	45	19:57 (T30)	20:02	31	07:52 (T31)	19:10	17:24	17	07:57 (T36)	17:03	30	16:04 (T35)
5	06:04		06:27 (T28)	06:30		19:11 (T30)	07:01		07:22 (T31)	07:32	07:07		07:38 (T36)	07:41		15:34 (T35)
	21:08	45	20:43 (T27)	20:46	47	19:58 (T30)	20:01	30	07:52 (T31)	19:08	17:23	21	07:59 (T36)	17:03	31	16:05 (T35)
6	06:05		06:27 (T28)	06:31		19:11 (T30)	07:02		07:23 (T31)	07:33	07:08		07:38 (T36)	07:42		15:34 (T35)
	21:08	43	20:42 (T27)	20:45	47	19:58 (T30)	19:57	28	07:51 (T31)	19:06	17:22	23	08:01 (T36)	17:03	32	16:06 (T35)
7	06:05		06:28 (T28)	06:32		19:10 (T30)	07:03		07:24 (T31)	07:34	07:09		07:36 (T36)	07:43		15:34 (T35)
	21:07	41	20:42 (T27)	20:43	49	19:59 (T30)	19:56	26	07:50 (T31)	19:05	17:21	25	08:01 (T36)	17:02	33	16:07 (T35)
8	06:06		06:28 (T28)	06:33		19:10 (T30)	07:04		07:25 (T31)	07:35	07:10		07:35 (T36)	07:44		15:34 (T35)
	21:07	39	20:41 (T27)	20:42	49	19:59 (T30)	19:54	24	07:49 (T31)	19:03	17:20	27	08:02 (T36)	17:02	34	16:08 (T35)
9	06:07		06:29 (T28)	06:34		19:09 (T30)	07:05		07:25 (T31)	07:36	07:12		07:36 (T36)	07:45		15:33 (T35)
	21:07	36	20:41 (T27)	20:41	50	19:59 (T30)	19:52	22	07:47 (T31)	19:01	17:19	27	08:03 (T36)	17:02	35	16:08 (T35)
10	06:07		06:30 (T28)	06:35		19:09 (T30)	07:06		07:26 (T31)	07:37	07:13		07:35 (T36)	07:46		15:33 (T35)
	21:06	31	20:41 (T27)	20:40	51	20:00 (T30)	19:51	20	07:46 (T31)	19:00	17:18	29	08:04 (T36)	17:02	35	16:08 (T35)
11	06:08		20:11 (T27)	06:36		19:08 (T30)	07:07		07:27 (T31)	07:38	07:14		07:36 (T36)	07:47		15:33 (T35)
	21:06	29	20:40 (T27)	20:38	52	20:00 (T30)	19:49	17	07:44 (T31)	18:58	17:17	28	08:04 (T36)	17:03	36	16:09 (T35)
12	06:09		20:12 (T27)	06:37		19:08 (T30)	07:08		07:28 (T31)	07:39	07:15		07:37 (T36)	07:47		15:34 (T35)
	21:06	28	20:40 (T27)	20:37	52	20:00 (T30)	19:47	14	07:42 (T31)	18:57	17:16	27	08:04 (T36)	17:03	36	16:10 (T35)
13	06:09		20:12 (T27)	06:38		19:08 (T30)	07:09		07:29 (T31)	07:40	07:16		07:39 (T36)	07:48		15:34 (T35)
	21:05	28	20:40 (T27)	20:36	52	20:00 (T30)	19:45	11	07:40 (T31)	18:55	17:15	26	08:05 (T36)	17:03	37	16:11 (T35)
14	06:10		20:13 (T27)	06:39		19:06 (T30)	07:10		07:30 (T31)	07:41	07:18		07:40 (T36)	07:49		15:33 (T35)
	21:05	27	20:40 (T27)	20:34	53	19:59 (T30)	19:44	7	07:37 (T31)	18:53	17:14	25	08:05 (T36)	17:03	38	16:11 (T35)
15	06:11		20:12 (T27)	06:40		19:06 (T30)	07:11			07:42	07:19		07:41 (T36)	07:50		15:34 (T35)
	21:04	26	20:38 (T27)	20:33	53	19:59 (T30)	19:42			18:52	17:13	24	08:05 (T36)	17:03	38	16:12 (T35)
16	06:12		20:13 (T27)	06:41		19:06 (T30)	07:12			07:44	07:20		07:43 (T36)	07:50		15:35 (T35)
	21:04	25	20:38 (T27)	20:32	53	19:59 (T30)	19:40			18:50	17:12	23	08:06 (T36)	17:03	38	16:13 (T35)
17	06:13		20:14 (T27)	06:42		19:06 (T30)	07:13			07:45	07:21		07:44 (T36)	07:51		15:35 (T35)
	21:03	24	20:38 (T27)	20:30	52	19:58 (T30)	19:39			18:49	17:11	22	08:06 (T36)	17:04	39	16:14 (T35)
18	06:13		20:14 (T27)	06:43		19:06 (T30)	07:14			07:46	07:22		07:45 (T36)	07:52		15:35 (T35)
	21:02	23	20:37 (T27)	20:29	52	19:58 (T30)	19:37			18:47	17:11	20	08:05 (T36)	17:04	39	16:14 (T35)
19	06:14		20:15 (T27)	06:44		19:06 (T30)	07:15			07:47	07:24		07:46 (T36)	07:52		15:36 (T35)
	21:02	22	20:37 (T27)	20:27	51	19:57 (T30)	19:35			18:46	17:10	19	08:05 (T36)	17:04	39	16:15 (T35)
20	06:15		20:15 (T27)	06:45		19:06 (T30)	07:16			07:48	07:25		07:48 (T36)	07:53		15:36 (T35)
	21:01	20	20:35 (T27)	20:26	51	19:57 (T30)	19:33			18:44	17:09	18	08:06 (T36)	17:05	39	16:15 (T35)
21	06:16		20:15 (T27)	06:46		07:34 (T31)	07:17			07:49	07:26		07:49 (T36)	07:53		15:37 (T35)
	21:00	20	20:35 (T27)	20:24	57	19:56 (T30)	19:32			18:43	17:08	16	08:05 (T36)	17:05	39	16:16 (T35)
22	06:17		19:30 (T30)	06:47		07:29 (T31)	07:18			07:50	07:27		07:50 (T36)	07:54		15:37 (T35)
	20:59	28	20:34 (T27)	20:23	66	19:56 (T30)	19:30			18:41	17:08	15	08:05 (T36)	17:06	39	16:16 (T35)
23	06:18		19:27 (T30)	06:48		07:27 (T31)	07:19			07:51	07:28		07:51 (T36)	07:54		15:38 (T35)
	20:59	33	20:34 (T27)	20:21	68	19:55 (T30)	19:28			18:40	17:07	13	08:04 (T36)	17:06	39	16:17 (T35)
24	06:19		19:25 (T30)	06:49		07:25 (T31)	07:20			07:53	07:29		07:53 (T36)	07:55		15:38 (T35)
	20:58	36	20:33 (T27)	20:20	70	19:54 (T30)	19:27			18:39	17:07	12	08:05 (T36)	17:07	39	16:17 (T35)
25	06:20		19:23 (T30)	06:50		07:23 (T31)	07:21			07:54	07:31		07:54 (T36)	07:55		15:38 (T35)
	20:57	38	20:32 (T27)	20:18	72	19:53 (T30)	19:25			18:37	17:06	10	08:04 (T36)	17:08	39	16:17 (T35)
26	06:20		19:22 (T30)	06:51		07:21 (T31)	07:22			07:55	07:32		07:55 (T36)	07:56		15:39 (T35)
	20:56	38	20:32 (T27)	20:17	74	19:52 (T30)	19:23			18:36	17:05	9	08:04 (T36)	17:08	39	16:18 (T35)
27	06:21		19:19 (T30)	06:52		07:20 (T31)	07:23			07:56	07:33		07:56 (T36)	07:56		15:39 (T35)
	20:55	40	20:30 (T27)	20:15	72	19:50 (T30)	19:21			18:34	17:05	14	15:50 (T35)	17:09	39	16:18 (T35)
28	06:22		19:18 (T30)	06:53		07:19 (T31)	07:24			07:57	07:34		07:57 (T36)	07:56		15:40 (T35)
	20:54	39	20:29 (T27)	20:14	72	19:49 (T30)	19:20			18:33	17:05	18	15:53 (T35)	17:09	38	16:18 (T35)
29	06:23		19:17 (T30)	06:54		07:18 (T31)	07:25			07:58	07:35		07:58 (T36)	07:57		15:41 (T35)
	20:53	36	20:28 (T27)	20:12	70	19:47 (T30)	19:18			18:32	17:04	21	15:56 (T35)	17:10	38	16:19 (T35)
30	06:24		19:16 (T30)	06:55		07:17 (T31)	07:26			08:00	07:36		07:59 (T36)	07:57		15:42 (T35)
	20:52	37	19:53 (T30)	20:10	68	19:45 (T30)	19:16			18:30	17:04	22	15:57 (T35)	17:11	37	16:19 (T35)
31	06:25		19:15 (T30)	06:56		07:17 (T31)				08:01				07:57		15:42 (T35)
	20:51	39	19:54 (T30)	20:09	65	19:43 (T30)				18:29				17:12	37	16:19 (T35)
Potential sun hours	460			429			375			345	297			287		
Total, worst case		1065			1740			370				568			1108	
Sun reduction		0.66			0.61			0.59				0.30			0.22	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.57			0.59			0.64				0.55			0.75	
Total reduction		0.38			0.37			0.39				0.17			0.17	
Total, real		408			635			143				96			185	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 501 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8107)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February			March			April			May			June
1	07:57	07:43			07:07		07:27 (T31)	07:16			06:30		07:05 (T28)	06:01
	17:13	17:47			18:22	78	17:52 (T30)	19:56			20:27	48	07:53 (T28)	20:57
2	07:57	07:43			07:06		07:25 (T31)	07:14			06:29		07:06 (T28)	06:01
	17:14	17:49			18:23	78	17:51 (T30)	19:57			20:28	46	07:52 (T28)	20:58
3	07:58	07:41			07:04		07:23 (T31)	07:13		19:31 (T27)	06:28		07:06 (T28)	06:00
	17:15	17:50			18:24	80	17:50 (T30)	19:58	6	19:37 (T27)	20:29	44	07:50 (T28)	20:58
4	07:58	07:40			07:02		07:22 (T31)	07:11		07:30 (T28)	06:26		07:07 (T28)	06:00
	17:15	17:51			18:25	80	17:50 (T30)	19:59	23	19:37 (T27)	20:30	42	07:49 (T28)	20:59
5	07:58	07:39			07:01		07:20 (T31)	07:09		07:28 (T28)	06:25		07:08 (T28)	06:00
	17:16	17:52			18:26	80	17:49 (T30)	20:00	32	19:38 (T27)	20:31	41	07:49 (T28)	21:00
6	07:58	07:38			06:59		07:21 (T31)	07:08		07:27 (T28)	06:24		07:09 (T28)	05:59
	17:17	17:54			18:27	78	17:49 (T30)	20:00	39	19:40 (T27)	20:32	39	07:48 (T28)	21:01
7	07:57	07:37			06:58		07:21 (T31)	07:06		07:25 (T28)	06:23		07:10 (T28)	05:59
	17:18	17:55			18:29	74	17:47 (T30)	20:01	45	19:40 (T27)	20:33	37	07:47 (T28)	21:01
8	07:57	07:36			07:56		08:21 (T31)	07:05		07:24 (T28)	06:21		07:10 (T28)	05:59
	17:19	17:56			19:30	71	18:46 (T30)	20:02	51	19:42 (T27)	20:34	34	07:44 (T28)	21:02
9	07:57	07:35			07:54		08:22 (T31)	07:03		07:22 (T28)	06:20		07:12 (T28)	05:59
	17:20	17:57			19:31	67	18:45 (T30)	20:03	55	19:43 (T27)	20:35	31	07:43 (T28)	21:02
10	07:57	07:34			07:53		08:23 (T31)	07:01		07:20 (T28)	06:19		07:13 (T28)	05:58
	17:21	17:59			19:32	61	18:43 (T30)	20:05	60	19:43 (T27)	20:37	28	07:41 (T28)	21:03
11	07:57	07:32			07:51		08:24 (T31)	07:00		07:19 (T28)	06:18		07:15 (T28)	05:58
	17:22	18:00			19:33	55	18:41 (T30)	20:06	64	19:45 (T27)	20:38	24	07:39 (T28)	21:04
12	07:56	07:31		17:26 (T30)	07:50		08:26 (T31)	06:58		07:17 (T28)	06:17		07:17 (T28)	05:58
	17:23	18:01	7	17:33 (T30)	19:34	47	18:39 (T30)	20:07	69	19:46 (T27)	20:39	20	07:37 (T28)	21:04
13	07:56	07:30		17:21 (T30)	07:48		08:28 (T31)	06:56		07:16 (T28)	06:16		07:20 (T28)	05:58
	17:25	18:02	17	17:38 (T30)	19:35	36	18:36 (T30)	20:08	72	19:47 (T27)	20:40	14	07:34 (T28)	21:05
14	07:56	07:29		17:19 (T30)	07:46		08:32 (T31)	06:55		07:14 (T28)	06:15			05:58
	17:26	18:04	22	17:41 (T30)	19:36	18	18:31 (T30)	20:09	76	19:48 (T27)	20:41			21:05
15	07:55	07:27		17:16 (T30)	07:45			06:53		07:12 (T28)	06:14			05:58
	17:27	18:05	26	17:42 (T30)	19:38			20:10	77	19:48 (T27)	20:42			21:06
16	07:55	07:26		17:14 (T30)	07:43			06:52		07:11 (T28)	06:13			05:58
	17:28	18:06	29	17:43 (T30)	19:39			20:11	81	19:50 (T27)	20:43			21:06
17	07:55	07:25		17:12 (T30)	07:41			06:50		07:09 (T28)	06:12			05:58
	17:29	18:07	32	17:44 (T30)	19:40			20:12	83	19:50 (T27)	20:44			21:06
18	07:54	07:23		07:43 (T31)	07:40			06:49		07:08 (T28)	06:11			05:58
	17:30	18:09	38	17:46 (T30)	19:41			20:13	83	19:50 (T27)	20:45			21:07
19	07:53	07:22		07:42 (T31)	07:38			06:47		07:06 (T28)	06:10			05:58
	17:31	18:10	45	17:48 (T30)	19:42			20:14	85	19:49 (T27)	20:46			21:07
20	07:53	07:21		07:40 (T31)	07:36			06:46		07:05 (T28)	06:09			05:58
	17:33	18:11	51	17:48 (T30)	19:43			20:15	84	19:48 (T27)	20:46			21:07
21	07:52	07:19		07:39 (T31)	07:35			06:44		07:03 (T28)	06:08			05:59
	17:34	18:12	56	17:50 (T30)	19:44			20:16	83	19:47 (T27)	20:47			21:08
22	07:52	07:18		07:37 (T31)	07:33			06:43		07:03 (T28)	06:08			05:59
	17:35	18:13	60	17:50 (T30)	19:45			20:17	81	19:46 (T27)	20:48			21:08
23	07:51	07:16		07:36 (T31)	07:31			06:41		07:04 (T28)	06:07			05:59
	17:36	18:15	64	17:51 (T30)	19:46			20:18	79	19:45 (T27)	20:49			21:08
24	07:50	07:15		07:34 (T31)	07:30			06:40		07:03 (T28)	06:06			05:59
	17:37	18:16	68	17:51 (T30)	19:47			20:20	76	19:43 (T27)	20:50			21:08
25	07:50	07:13		07:33 (T31)	07:28			06:38		07:03 (T28)	06:05			06:00
	17:39	18:17	71	17:52 (T30)	19:48			20:21	72	19:41 (T27)	20:51			21:08
26	07:49	07:12		07:31 (T31)	07:26			06:37		07:03 (T28)	06:05			06:00
	17:40	18:18	72	17:51 (T30)	19:50			20:22	64	19:37 (T27)	20:52			21:09
27	07:48	07:10		07:30 (T31)	07:24			06:36		07:03 (T28)	06:04			06:00
	17:41	18:19	75	17:52 (T30)	19:51			20:23	52	07:55 (T28)	20:53			21:09
28	07:47	07:09		07:28 (T31)	07:23			06:34		07:04 (T28)	06:03			06:01
	17:42	18:20	76	17:51 (T30)	19:52			20:24	51	07:55 (T28)	20:54			21:09
29	07:46				07:21			06:33		07:04 (T28)	06:03			06:01
	17:44				19:53			20:25	50	07:54 (T28)	20:55			21:09
30	07:45				07:19			06:31		07:04 (T28)	06:02			06:01
	17:45				19:54			20:26	49	07:53 (T28)	20:55			21:09
31	07:44				07:18						06:02			
	17:46				19:55						20:56			
Potential sun hours	297	297			370			399			449			453
Total, worst case			809			903			1742			448		
Sun reduction			0.40			0.44			0.52			0.57		
Oper. time red.			1.00			1.00			1.00			1.00		
Wind dir. red.			0.66			0.64			0.64			0.66		
Total reduction			0.27			0.28			0.33			0.38		
Total, real			215			254			577			169		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 501 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8107)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:02		06:26	07:27 (T28)	06:57	07:18 (T28)	07:27	08:06 (T31)	07:02	07:37
	21:09		20:50 22	07:49 (T28)	20:07 64	19:44 (T27)	19:15 43	18:17 (T30)	17:28	17:04
2	06:02		06:27	07:25 (T28)	06:58	07:19 (T28)	07:29	08:03 (T31)	07:03	07:38
	21:08		20:49 26	07:51 (T28)	20:06 60	19:42 (T27)	19:13 52	18:18 (T30)	17:27	17:03
3	06:03		06:28	07:23 (T28)	06:59	07:20 (T28)	07:30	08:01 (T31)	07:04	07:39
	21:08		20:48 29	07:52 (T28)	20:04 55	19:41 (T27)	19:11 59	18:20 (T30)	17:25	17:03
4	06:03		06:29	07:22 (T28)	07:00	07:21 (T28)	07:31	08:00 (T31)	07:06	07:40
	21:08		20:47 32	07:54 (T28)	20:02 51	19:39 (T27)	19:10 64	18:21 (T30)	17:24	17:03
5	06:04		06:30	07:20 (T28)	07:01	07:22 (T28)	07:32	07:59 (T31)	07:07	07:41
	21:08		20:46 35	07:55 (T28)	20:01 46	19:38 (T27)	19:08 69	18:23 (T30)	17:23	17:03
6	06:05		06:31	07:19 (T28)	07:02	07:23 (T28)	07:33	07:58 (T31)	07:08	07:42
	21:08		20:45 38	07:57 (T28)	19:57 39	19:36 (T27)	19:06 72	18:23 (T30)	17:22	17:03
7	06:05		06:32	07:18 (T28)	07:03	07:24 (T28)	07:34	07:57 (T31)	07:09	07:43
	21:07		20:43 40	07:58 (T28)	19:56 32	19:34 (T27)	19:05 76	18:24 (T30)	17:21	17:02
8	06:06		06:33	07:17 (T28)	07:04	07:25 (T28)	07:35	07:56 (T31)	07:10	07:44
	21:07		20:42 42	07:59 (T28)	19:54 25	19:33 (T27)	19:03 78	18:24 (T30)	17:20	17:02
9	06:07		06:34	07:16 (T28)	07:05	07:27 (T28)	07:36	07:56 (T31)	07:12	07:45
	21:07		20:41 43	07:59 (T28)	19:52 10	19:30 (T27)	19:01 79	18:24 (T30)	17:19	17:02
10	06:07		06:35	07:15 (T28)	07:06		07:37	07:57 (T31)	07:13	07:46
	21:06		20:40 45	08:00 (T28)	19:51		19:00 80	18:25 (T30)	17:18	17:02
11	06:08		06:36	07:14 (T28)	07:07		07:38	07:58 (T31)	07:14	07:47
	21:06		20:38 47	08:01 (T28)	19:49		18:58 79	18:25 (T30)	17:17	17:02
12	06:09		06:37	07:14 (T28)	07:08		07:39	07:59 (T31)	07:15	07:47
	21:06		20:37 47	08:01 (T28)	19:47		18:57 78	18:24 (T30)	17:16	17:03
13	06:09		06:38	07:13 (T28)	07:09		07:40	08:00 (T31)	07:16	07:48
	21:05		20:36 49	08:02 (T28)	19:45		18:55 77	18:24 (T30)	17:15	17:03
14	06:10		06:39	07:11 (T28)	07:10		07:41	08:02 (T31)	07:18	07:49
	21:05		20:34 50	08:01 (T28)	19:44		18:53 76	18:25 (T30)	17:14	17:03
15	06:11		06:40	07:11 (T28)	07:11		07:42	08:03 (T31)	07:19	07:50
	21:04		20:33 51	08:02 (T28)	19:42		18:52 74	18:24 (T30)	17:13	17:03
16	06:12		06:41	07:10 (T28)	07:12		07:44	08:04 (T31)	07:20	07:50
	21:04		20:32 55	19:40 (T27)	19:40		18:50 72	18:24 (T30)	17:12	17:03
17	06:13		06:42	07:10 (T28)	07:13		07:45	08:05 (T31)	07:21	07:51
	21:03		20:30 66	19:45 (T27)	19:39		18:49 69	18:23 (T30)	17:11	17:04
18	06:13		06:43	07:09 (T28)	07:14		07:46	08:06 (T31)	07:22	07:52
	21:02		20:29 71	19:47 (T27)	19:37		18:47 67	18:23 (T30)	17:11	17:04
19	06:14		06:44	07:09 (T28)	07:15		07:47	08:07 (T31)	07:24	07:52
	21:02		20:27 76	19:49 (T27)	19:35		18:46 63	18:22 (T30)	17:10	17:04
20	06:15		06:45	07:08 (T28)	07:16		07:48	08:09 (T31)	07:25	07:53
	21:01		20:26 79	19:50 (T27)	19:33		18:44 60	18:22 (T30)	17:09	17:05
21	06:16		06:46	07:08 (T28)	07:17		07:49	08:10 (T31)	07:26	07:53
	21:00		20:24 82	19:51 (T27)	19:32		18:43 54	18:20 (T30)	17:08	17:05
22	06:17		06:47	07:08 (T28)	07:18		07:50	08:11 (T31)	07:27	07:54
	20:59		20:23 84	19:52 (T27)	19:30		18:41 49	18:18 (T30)	17:08	17:06
23	06:18		06:48	07:09 (T28)	07:19		07:51	08:12 (T31)	07:28	07:54
	20:59		20:21 84	19:52 (T27)	19:28		18:40 43	18:17 (T30)	17:07	17:06
24	06:19		06:49	07:10 (T28)	07:20		07:53	08:13 (T31)	07:29	07:55
	20:58		20:20 85	19:53 (T27)	19:27		18:39 36	18:15 (T30)	17:07	17:07
25	06:20		06:50	07:11 (T28)	07:21		07:54	17:43 (T30)	07:31	07:55
	20:57		20:18 84	19:53 (T27)	19:25		18:37 31	18:14 (T30)	17:06	17:07
26	06:20		06:51	07:12 (T28)	07:22		07:55	17:45 (T30)	07:32	07:56
	20:56		20:17 83	19:53 (T27)	19:23		18:36 28	18:13 (T30)	17:05	17:08
27	06:21		06:52	07:13 (T28)	07:23		07:56	17:46 (T30)	07:33	07:56
	20:55		20:15 81	19:52 (T27)	19:21		18:34 25	18:11 (T30)	17:05	17:09
28	06:22		06:53	07:14 (T28)	07:24		07:57	17:48 (T30)	07:34	07:56
	20:54		20:14 77	19:50 (T27)	19:20		18:33 22	18:10 (T30)	17:05	17:09
29	06:23		06:54	07:15 (T28)	07:25		07:58	17:52 (T30)	07:35	07:57
	20:53		20:12 75	19:49 (T27)	19:18		18:32 15	18:07 (T30)	17:04	17:10
30	06:24	07:34 (T28)	06:55	07:16 (T28)	07:26	08:09 (T31)	08:00	17:58 (T30)	07:36	07:57
	20:52 7	07:41 (T28)	20:10 71	19:47 (T27)	19:16 30	18:14 (T30)	18:30 2	18:00 (T30)	17:04	17:11
31	06:25	07:30 (T28)	06:56	07:17 (T28)			08:01			07:57
	20:51 16	07:46 (T28)	20:09 67	19:45 (T27)			18:29			17:12
Potential sun hours	460		429		375		345		297	287
Total, worst case	23		1816		412		1692			
Sun reduction	0.66		0.61		0.59		0.48			
Oper. time red.	1.00		1.00		1.00		1.00			
Wind dir. red.	0.66		0.64		0.63		0.65			
Total reduction	0.44		0.39		0.37		0.31			
Total, real	10		714		154		529			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 510 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8114)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57			07:43		16:00 (T79)	07:07		16:04 (T79)	07:16		19:40 (T60)	06:30			06:02		19:40 (T60)
	17:13			17:48	76	17:16 (T79)	18:22	111	17:55 (T62)	19:56			20:27			20:56	50	20:30 (T60)
2	07:57			07:42		15:59 (T79)	07:05		16:05 (T79)	07:14		19:41 (T60)	06:29			06:01		19:41 (T60)
	17:14			17:49	77	17:16 (T79)	18:23	110	17:55 (T62)	19:57			20:28			20:57	50	20:31 (T60)
3	07:57			07:41		15:59 (T79)	07:04		16:06 (T79)	07:13		19:40 (T60)	06:28			06:01		19:40 (T60)
	17:15			17:50	78	17:17 (T79)	18:24	109	17:55 (T62)	19:58			20:29			20:58	50	20:30 (T60)
4	07:57		16:27 (T79)	07:40		15:59 (T79)	07:02		16:08 (T79)	07:11		19:41 (T60)	06:26			06:00		19:41 (T60)
	17:16	3	16:30 (T79)	17:51	79	17:18 (T79)	18:25	107	17:55 (T62)	19:59			20:30			20:59	50	20:31 (T60)
5	07:57		16:23 (T79)	07:39		15:59 (T79)	07:01		16:09 (T79)	07:09		19:41 (T60)	06:25			06:00		19:41 (T60)
	17:17	13	16:36 (T79)	17:53	79	17:18 (T79)	18:26	104	17:54 (T62)	20:00			20:31			20:59	50	20:31 (T60)
6	07:57		16:21 (T79)	07:38		15:58 (T79)	06:59		16:10 (T79)	07:08		19:41 (T60)	06:24		19:59 (T60)	06:00		19:41 (T60)
	17:18	18	16:39 (T79)	17:54	81	17:19 (T79)	18:27	100	17:53 (T62)	20:00			20:32	10	20:09 (T60)	21:00	50	20:31 (T60)
7	07:57		16:19 (T79)	07:37		15:58 (T79)	06:58		16:12 (T79)	07:06		19:41 (T60)	06:23		19:55 (T60)	05:59		19:41 (T60)
	17:19	23	16:42 (T79)	17:55	82	17:20 (T79)	18:29	96	17:53 (T62)	20:01			20:33	16	20:11 (T60)	21:01	50	20:31 (T60)
8	07:57		16:18 (T79)	07:36		15:58 (T79)	07:56		17:13 (T79)	07:05		19:42 (T60)	06:22		19:53 (T60)	05:59		19:42 (T60)
	17:20	26	16:44 (T79)	17:56	82	17:20 (T79)	19:30	92	18:52 (T62)	20:02			20:34	19	20:12 (T60)	21:01	49	20:31 (T60)
9	07:57		16:17 (T79)	07:35		15:57 (T79)	07:54		17:16 (T79)	07:03		19:42 (T60)	06:20		19:51 (T60)	05:59		19:42 (T60)
	17:21	30	16:47 (T79)	17:58	83	17:20 (T79)	19:31	86	18:52 (T62)	20:03			20:35	22	20:13 (T60)	21:02	50	20:32 (T60)
10	07:56		16:15 (T79)	07:33		15:58 (T79)	07:53		17:17 (T79)	07:01		19:43 (T60)	06:19		19:48 (T60)	05:59		19:43 (T60)
	17:22	33	16:48 (T79)	17:59	82	17:20 (T79)	19:32	82	18:51 (T62)	20:04			20:36	25	20:13 (T60)	21:03	49	20:32 (T60)
11	07:56		16:14 (T79)	07:32		15:58 (T79)	07:51		17:20 (T79)	07:00		19:43 (T60)	06:18		19:47 (T60)	05:59		19:43 (T60)
	17:23	36	16:50 (T79)	18:00	83	17:21 (T79)	19:33	73	18:49 (T62)	20:05			20:37	27	20:14 (T60)	21:03	49	20:32 (T60)
12	07:56		16:14 (T79)	07:31		15:58 (T79)	07:49		17:23 (T79)	06:58		19:43 (T60)	06:17		19:46 (T60)	05:58		19:43 (T60)
	17:24	38	16:52 (T79)	18:01	83	17:21 (T79)	19:34	65	18:48 (T62)	20:06			20:38	29	20:15 (T60)	21:04	50	20:33 (T60)
13	07:56		16:12 (T79)	07:30		15:57 (T79)	07:48		17:27 (T79)	06:57		19:44 (T60)	06:16		19:45 (T60)	05:58		19:44 (T60)
	17:25	41	16:53 (T79)	18:02	84	17:21 (T79)	19:35	54	18:46 (T62)	20:07			20:39	31	20:16 (T60)	21:04	49	20:33 (T60)
14	07:55		16:11 (T79)	07:28		15:58 (T79)	07:46		17:33 (T79)	06:55		19:43 (T60)	06:15		19:44 (T60)	05:58		19:43 (T60)
	17:26	44	16:55 (T79)	18:04	83	17:21 (T79)	19:36	37	18:44 (T62)	20:09			20:40	33	20:17 (T60)	21:05	49	20:32 (T60)
15	07:55		16:10 (T79)	07:27		15:58 (T79)	07:44		18:20 (T62)	06:53		19:44 (T60)	06:14		19:44 (T60)	05:58		19:44 (T60)
	17:27	46	16:56 (T79)	18:05	84	17:22 (T79)	19:37	22	18:42 (T62)	20:10			20:41	34	20:18 (T60)	21:05	49	20:33 (T60)
16	07:54		16:10 (T79)	07:26		15:57 (T79)	07:43		18:23 (T62)	06:52		19:43 (T60)	06:13		19:43 (T60)	05:58		19:44 (T60)
	17:28	48	16:58 (T79)	18:06	84	17:21 (T79)	19:39	16	18:39 (T62)	20:11			20:42	36	20:19 (T60)	21:05	49	20:33 (T60)
17	07:54		16:08 (T79)	07:24		15:58 (T79)	07:41			06:50		19:45 (T60)	06:12		19:43 (T60)	05:58		19:45 (T60)
	17:29	51	16:59 (T79)	18:07	93	17:40 (T62)	19:40			20:12			20:43	37	20:20 (T60)	21:06	48	20:33 (T60)
18	07:54		16:08 (T79)	07:23		15:59 (T79)	07:39			06:49		19:45 (T60)	06:11		19:42 (T60)	05:58		19:45 (T60)
	17:30	53	17:01 (T79)	18:09	100	17:44 (T62)	19:41			20:13			20:44	39	20:21 (T60)	21:06	48	20:33 (T60)
19	07:53		16:07 (T79)	07:22		15:58 (T79)	07:38			06:47		19:45 (T60)	06:10		19:41 (T60)	05:59		19:45 (T60)
	17:32	55	17:02 (T79)	18:10	106	17:46 (T62)	19:42			20:14			20:45	40	20:21 (T60)	21:07	48	20:33 (T60)
20	07:52		16:07 (T79)	07:20		15:59 (T79)	07:36			06:46		19:45 (T60)	06:09		19:41 (T60)	05:59		19:45 (T60)
	17:33	57	17:04 (T79)	18:11	110	17:49 (T62)	19:43			20:15			20:46	41	20:22 (T60)	21:07	49	20:34 (T60)
21	07:52		16:06 (T79)	07:19		15:59 (T79)	07:34			06:44		19:45 (T60)	06:09		19:41 (T60)	05:59		19:45 (T60)
	17:34	59	17:05 (T79)	18:12	110	17:49 (T62)	19:44			20:16			20:47	43	20:24 (T60)	21:07	49	20:34 (T60)
22	07:51		16:05 (T79)	07:17		16:00 (T79)	07:33			06:43		19:45 (T60)	06:08		19:41 (T60)	05:59		19:45 (T60)
	17:35	61	17:06 (T79)	18:13	111	17:51 (T62)	19:45			20:17			20:48	43	20:24 (T60)	21:07	49	20:34 (T60)
23	07:51		16:04 (T79)	07:16		16:00 (T79)	07:31			06:41		19:46 (T60)	06:07		19:40 (T60)	05:59		19:46 (T60)
	17:36	63	17:07 (T79)	18:15	112	17:52 (T62)	19:46			20:18			20:49	45	20:25 (T60)	21:08	48	20:34 (T60)
24	07:50		16:04 (T79)	07:14		16:01 (T79)	07:29			06:40		19:46 (T60)	06:06		19:40 (T60)	06:00		19:46 (T60)
	17:38	65	17:09 (T79)	18:16	112	17:53 (T62)	19:47			20:19			20:50	45	20:25 (T60)	21:08	48	20:34 (T60)
25	07:49		16:04 (T79)	07:13		16:01 (T79)	07:28			06:38		19:46 (T60)	06:06		19:40 (T60)	06:00		19:46 (T60)
	17:39	66	17:10 (T79)	18:17	112	17:53 (T62)	19:48			20:20			20:51	47	20:27 (T60)	21:08	48	20:34 (T60)
26	07:48		16:03 (T79)	07:11		16:02 (T79)	07:26			06:37		19:46 (T60)	06:05		19:40 (T60)	06:00		19:46 (T60)
	17:40	68	17:11 (T79)	18:18	112	17:54 (T62)	19:49			20:21			20:51	47	20:27 (T60)	21:08	49	20:35 (T60)
27	07:48		16:02 (T79)	07:10		16:02 (T79)	07:24			06:36		19:46 (T60)	06:04		19:41 (T60)	06:01		19:46 (T60)
	17:41	70	17:12 (T79)	18:19	112	17:54 (T62)	19:50			20:22			20:52	48	20:29 (T60)	21:08	49	20:35 (T60)
28	07:47		16:02 (T79)	07:08		16:03 (T79)	07:23			06:34		19:46 (T60)	06:04		19:40 (T60)	06:01		19:46 (T60)
	17:43	70	17:12 (T79)	18:20	112	17:55 (T62)	19:51			20:23			20:53	49	20:29 (T60)	21:08	49	20:35 (T60)
29	07:46		16:01 (T79)				07:21			06:33		19:47 (T60)	06:03		19:41 (T60)	06:01		19:47 (T60)
	17:44	72	17:13 (T79)				19:53			20:25			20:54	49	20:30 (T60)	21:08	49	20:36 (T60)
30	07:45		16:00 (T79)				07:19			06:32		19:46 (T60)	06:03		19:40 (T60)	06:02		19:46 (T60)
	17:45	74	17:14 (T79)				19:54			20:26			20:55	50	20:30 (T60)	21:08	50	20:36 (T60)
31	07:44		16:00 (T79)				07:18						06:02		19:41 (T60)			
	17:46	75	17:15 (T79)				19:55						20:56	50	20:31 (T60)			
Potential sun hours	297			297			370			399			448			452		
Total, worst case		1358			2602			1264						955			1474	
Sun reduction		0.31			0.40			0.44						0.57			0.64	
Oper. time red.		1.00			1.00			1.00						1.00			1.00	
Wind dir. red.		0.73			0.72			0.71						0.55			0.55	
Total reduction		0.23			0.30			0.32						0.32			0.36	
Total, real		314			770			405						308			534	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 510 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8114)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02	19:47 (T60)	06:26	19:57 (T60)	06:57		07:27	17:03 (T79)	07:02	15:27 (T79)	07:37	15:56 (T79)
	21:08 49	20:36 (T60)	20:50 28	20:25 (T60)	20:07		19:15 60	18:26 (T62)	17:28 83	16:50 (T79)	17:04 36	16:32 (T79)
2	06:03	19:47 (T60)	06:27	19:58 (T60)	06:58		07:28	16:59 (T79)	07:03	15:27 (T79)	07:38	15:58 (T79)
	21:08 49	20:36 (T60)	20:49 26	20:24 (T60)	20:05		19:13 70	18:27 (T62)	17:27 83	16:50 (T79)	17:04 33	16:31 (T79)
3	06:03	19:47 (T60)	06:28	19:59 (T60)	06:59		07:29	16:56 (T79)	07:04	15:27 (T79)	07:39	16:00 (T79)
	21:08 50	20:37 (T60)	20:48 24	20:23 (T60)	20:04		19:11 78	18:28 (T62)	17:26 82	16:49 (T79)	17:03 30	16:30 (T79)
4	06:04	19:47 (T60)	06:29	20:01 (T60)	07:00		07:30	16:53 (T79)	07:05	15:28 (T79)	07:40	16:02 (T79)
	21:08 50	20:37 (T60)	20:46 21	20:22 (T60)	20:02		19:10 84	18:28 (T62)	17:24 81	16:49 (T79)	17:03 26	16:28 (T79)
5	06:04	19:48 (T60)	06:30	20:03 (T60)	07:01		07:32	16:51 (T79)	07:06	15:28 (T79)	07:41	16:04 (T79)
	21:07 49	20:37 (T60)	20:45 18	20:21 (T60)	20:00		19:08 90	18:29 (T62)	17:23 81	16:49 (T79)	17:03 23	16:27 (T79)
6	06:05	19:47 (T60)	06:31	20:06 (T60)	07:02		07:33	16:48 (T79)	07:08	15:28 (T79)	07:42	16:07 (T79)
	21:07 50	20:37 (T60)	20:44 14	20:20 (T60)	19:57		19:06 95	18:29 (T62)	17:22 80	16:48 (T79)	17:03 18	16:25 (T79)
7	06:06	19:48 (T60)	06:32	20:10 (T60)	07:03		07:34	16:46 (T79)	07:09	15:30 (T79)	07:43	16:10 (T79)
	21:07 49	20:37 (T60)	20:43 8	20:18 (T60)	19:55		19:05 99	18:29 (T62)	17:21 79	16:49 (T79)	17:03 13	16:23 (T79)
8	06:06	19:48 (T60)	06:33		07:04		07:35	16:45 (T79)	07:10	15:30 (T79)	07:43	16:14 (T79)
	21:07 50	20:38 (T60)	20:42		19:54		19:03 103	18:30 (T62)	17:20 78	16:48 (T79)	17:03 5	16:19 (T79)
9	06:07	19:48 (T60)	06:34		07:05		07:36	16:43 (T79)	07:11	15:30 (T79)	07:44	
	21:06 50	20:38 (T60)	20:40		19:52		19:01 106	18:30 (T62)	17:19 77	16:47 (T79)	17:03	
10	06:08	19:48 (T60)	06:35		07:06		07:37	16:41 (T79)	07:12	15:31 (T79)	07:45	
	21:06 50	20:38 (T60)	20:39		19:50		19:00 108	18:29 (T62)	17:18 75	16:46 (T79)	17:03	
11	06:08	19:49 (T60)	06:36		07:07		07:38	16:40 (T79)	07:14	15:32 (T79)	07:46	
	21:06 49	20:38 (T60)	20:38		19:49		18:58 109	18:29 (T62)	17:17 75	16:47 (T79)	17:03	
12	06:09	19:48 (T60)	06:37		07:08		07:39	16:38 (T79)	07:15	15:32 (T79)	07:47	
	21:05 50	20:38 (T60)	20:37		19:47		18:57 111	18:29 (T62)	17:16 74	16:46 (T79)	17:03	
13	06:10	19:49 (T60)	06:38		07:09		07:40	16:37 (T79)	07:16	15:33 (T79)	07:48	
	21:05 49	20:38 (T60)	20:35		19:45		18:55 111	18:28 (T62)	17:15 72	16:45 (T79)	17:03	
14	06:11	19:49 (T60)	06:39		07:10		07:41	16:35 (T79)	07:17	15:35 (T79)	07:48	
	21:04 50	20:39 (T60)	20:34		19:44		18:53 112	18:27 (T62)	17:14 70	16:45 (T79)	17:03	
15	06:11	19:49 (T60)	06:40		07:11		07:42	16:34 (T79)	07:18	15:35 (T79)	07:49	
	21:04 50	20:39 (T60)	20:33		19:42		18:52 112	18:26 (T62)	17:13 69	16:44 (T79)	17:03	
16	06:12	19:49 (T60)	06:41		07:12		07:43	16:34 (T79)	07:20	15:36 (T79)	07:50	
	21:03 48	20:37 (T60)	20:31		19:40		18:50 113	18:27 (T62)	17:12 68	16:44 (T79)	17:04	
17	06:13	19:49 (T60)	06:42		07:13		07:44	16:33 (T79)	07:21	15:37 (T79)	07:51	
	21:02 48	20:37 (T60)	20:30		19:38		18:49 112	18:25 (T62)	17:12 66	16:43 (T79)	17:04	
18	06:14	19:50 (T60)	06:43		07:14		07:46	16:32 (T79)	07:22	15:38 (T79)	07:51	
	21:02 47	20:37 (T60)	20:28		19:37		18:47 112	18:24 (T62)	17:11 65	16:43 (T79)	17:04	
19	06:15	19:50 (T60)	06:44		07:15		07:47	16:31 (T79)	07:23	15:39 (T79)	07:52	
	21:01 46	20:36 (T60)	20:27		19:35		18:46 112	18:23 (T62)	17:10 63	16:42 (T79)	17:05	
20	06:15	19:51 (T60)	06:45		07:16		07:48	16:30 (T79)	07:24	15:40 (T79)	07:52	
	21:00 45	20:36 (T60)	20:25		19:33		18:44 111	18:21 (T62)	17:09 61	16:41 (T79)	17:05	
21	06:16	19:50 (T60)	06:46		07:17		07:49	16:29 (T79)	07:25	15:41 (T79)	07:53	
	21:00 44	20:34 (T60)	20:24		19:32		18:43 111	18:20 (T62)	17:09 59	16:40 (T79)	17:06	
22	06:17	19:51 (T60)	06:47		07:18		07:50	16:29 (T79)	07:27	15:43 (T79)	07:53	
	20:59 43	20:34 (T60)	20:22		19:30		18:41 109	18:19 (T62)	17:08 57	16:40 (T79)	17:06	
23	06:18	19:51 (T60)	06:48		07:19		07:51	16:29 (T79)	07:28	15:44 (T79)	07:54	
	20:58 42	20:33 (T60)	20:21		19:28		18:40 104	18:16 (T62)	17:07 55	16:39 (T79)	17:07	
24	06:19	19:52 (T60)	06:49		07:20		07:52	16:28 (T79)	07:29	15:45 (T79)	07:54	
	20:57 40	20:32 (T60)	20:19		19:26		18:39 100	18:13 (T62)	17:07 53	16:38 (T79)	17:07	
25	06:20	19:52 (T60)	06:50		07:21		07:53	16:28 (T79)	07:30	15:46 (T79)	07:55	
	20:56 40	20:32 (T60)	20:18		19:25		18:37 90	18:08 (T62)	17:06 51	16:37 (T79)	17:08	
26	06:21	19:53 (T60)	06:51		07:22		07:55	16:27 (T79)	07:31	15:48 (T79)	07:55	
	20:56 38	20:31 (T60)	20:16		19:23		18:36 84	17:51 (T79)	17:06 48	16:36 (T79)	17:08	
27	06:22	19:53 (T60)	06:52		07:23	18:06 (T62)	07:56	16:28 (T79)	07:32	15:49 (T79)	07:56	
	20:55 37	20:30 (T60)	20:15		19:21 13	18:19 (T62)	18:34 83	17:51 (T79)	17:05 46	16:35 (T79)	17:09	
28	06:23	19:54 (T60)	06:53		07:24	18:02 (T62)	07:57	16:27 (T79)	07:33	15:51 (T79)	07:56	
	20:54 35	20:29 (T60)	20:13		19:20 20	18:22 (T62)	18:33 84	17:51 (T79)	17:05 44	16:35 (T79)	17:10	
29	06:23	19:54 (T60)	06:54		07:25	17:59 (T62)	07:58	16:27 (T79)	07:34	15:53 (T79)	07:56	
	20:53 34	20:28 (T60)	20:12		19:18 25	18:24 (T62)	18:32 83	17:50 (T79)	17:04 41	16:34 (T79)	17:11	
30	06:24	19:55 (T60)	06:55		07:26	17:08 (T79)	07:59	16:27 (T79)	07:36	15:55 (T79)	07:56	
	20:52 32	20:27 (T60)	20:10		19:16 49	18:25 (T62)	18:31 83	17:50 (T79)	17:04 38	16:33 (T79)	17:11	
31	06:25	19:56 (T60)	06:56				08:00	16:28 (T79)			07:57	
	20:51 30	20:26 (T60)	20:09				18:29 83	17:51 (T79)			17:12	
Potential sun hours	459		428		375		345		298		288	
Total, worst case	1393		139		107		3022		1974		184	
Sun reduction	0.66		0.61		0.59		0.48		0.30		0.22	
Oper. time red.	1.00		1.00		1.00		1.00		1.00		1.00	
Wind dir. red.	0.55		0.55		0.70		0.72		0.73		0.73	
Total reduction	0.37		0.35		0.42		0.35		0.22		0.16	
Total, real	521		48		45		1065		441		30	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 518 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8120)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16	06:30		06:02		06:28 (T46)	06:02	06:33 (T46)	06:26	06:48 (T46)	06:57	07:28	07:02	07:37
	17:13	17:48	18:22	19:56	20:27		20:57	77	07:45 (T46)	21:08 79	07:52 (T46)	20:50 56	07:44 (T46)	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:15	06:29		06:01		06:28 (T46)	06:03	06:33 (T46)	06:27	06:49 (T46)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57	20:28	7	07:10 (T46)	20:58 77	07:45 (T46)	21:08 79	07:52 (T46)	20:49 53	07:42 (T46)	20:06	19:13	17:27	17:04
3	07:57	07:41	07:04	07:13	06:28		06:56 (T46)	06:01	06:28 (T46)	06:03	06:34 (T46)	06:28	06:50 (T46)	06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58	20:29	21	07:17 (T46)	20:58 77	07:45 (T46)	21:08 78	07:52 (T46)	20:48 51	07:41 (T46)	20:04	19:11	17:26	17:03
4	07:57	07:40	07:03	07:11	06:26		06:51 (T46)	06:00	06:28 (T46)	06:04	06:33 (T46)	06:29	06:51 (T46)	07:00	07:31	07:06	07:40
	17:16	17:51	18:25	19:59	20:30	29	07:20 (T46)	20:59 78	07:46 (T46)	21:08 79	07:52 (T46)	20:47 49	07:40 (T46)	20:02	19:10	17:24	17:03
5	07:57	07:39	07:01	07:10	06:25		06:49 (T46)	06:00	06:28 (T46)	06:04	06:34 (T46)	06:30	06:53 (T46)	07:01	07:32	07:07	07:41
	17:17	17:53	18:26	20:00	20:31	34	07:23 (T46)	21:00 78	07:46 (T46)	21:08 78	07:52 (T46)	20:46 45	07:38 (T46)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08	06:24		06:46 (T46)	06:00	06:29 (T46)	06:05	06:34 (T46)	06:31	06:55 (T46)	07:02	07:33	07:08	07:42
	17:18	17:54	18:28	20:00	20:32	39	07:25 (T46)	21:00 78	07:47 (T46)	21:08 78	07:52 (T46)	20:44 41	07:36 (T46)	19:57	19:06	17:22	17:03
7	07:57	07:37	06:58	07:06	06:23		06:44 (T46)	05:59	06:28 (T46)	06:06	06:34 (T46)	06:32	06:57 (T46)	07:03	07:34	07:09	07:43
	17:19	17:55	18:29	20:01	20:33	43	07:27 (T46)	21:01 78	07:46 (T46)	21:07 78	07:52 (T46)	20:43 37	07:34 (T46)	19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05	06:22		06:43 (T46)	05:59	06:28 (T46)	06:06	06:35 (T46)	06:33	06:59 (T46)	07:04	07:35	07:10	07:44
	17:20	17:56	19:30	20:02	20:34	46	07:29 (T46)	21:02 79	07:47 (T46)	21:07 78	07:53 (T46)	20:42 33	07:32 (T46)	19:54	19:03	17:20	17:03
9	07:57	07:35	07:55	07:03	06:20		06:41 (T46)	05:59	06:28 (T46)	06:07	06:35 (T46)	06:34	07:02 (T46)	07:05	07:36	07:12	07:45
	17:21	17:58	19:31	20:04	20:35	50	07:31 (T46)	21:02 79	07:47 (T46)	21:07 77	07:52 (T46)	20:41 27	07:29 (T46)	19:52	19:02	17:19	17:03
10	07:57	07:34	07:53	07:01	06:19		06:40 (T46)	05:59	06:29 (T46)	06:08	06:35 (T46)	06:35	07:06 (T46)	07:06	07:37	07:13	07:46
	17:22	17:59	19:32	20:05	20:36	52	07:32 (T46)	21:03 78	07:47 (T46)	21:06 78	07:53 (T46)	20:40 18	07:24 (T46)	19:51	19:00	17:18	17:03
11	07:57	07:32	07:51	07:00	06:18		06:39 (T46)	05:59	06:29 (T46)	06:08	06:36 (T46)	06:36		07:07	07:38	07:14	07:46
	17:23	18:00	19:33	20:06	20:37	54	07:33 (T46)	21:04 79	07:48 (T46)	21:06 77	07:53 (T46)	20:38		19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58	06:17		06:38 (T46)	05:58	06:29 (T46)	06:09	06:36 (T46)	06:37		07:08	07:39	07:15	07:47
	17:24	18:01	19:34	20:07	20:38	56	07:34 (T46)	21:04 79	07:48 (T46)	21:06 76	07:52 (T46)	20:37		19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57	06:16		06:37 (T46)	05:58	06:29 (T46)	06:10	06:36 (T46)	06:38		07:09	07:40	07:16	07:48
	17:25	18:03	19:35	20:08	20:40	58	07:35 (T46)	21:05 79	07:48 (T46)	21:05 77	07:53 (T46)	20:36		19:46	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55	06:15		06:36 (T46)	05:58	06:30 (T46)	06:11	06:37 (T46)	06:39		07:10	07:41	07:18	07:49
	17:26	18:04	19:37	20:09	20:41	60	07:36 (T46)	21:05 79	07:49 (T46)	21:05 76	07:53 (T46)	20:34		19:44	18:54	17:14	17:03
15	07:55	07:27	07:45	06:54	06:14		06:35 (T46)	05:58	06:30 (T46)	06:11	06:38 (T46)	06:40		07:11	07:43	07:19	07:50
	17:27	18:05	19:38	20:10	20:42	62	07:37 (T46)	21:05 79	07:49 (T46)	21:04 75	07:53 (T46)	20:33		19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52	06:13		06:34 (T46)	05:58	06:30 (T46)	06:12	06:37 (T46)	06:41		07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11	20:43	64	07:38 (T46)	21:06 79	07:49 (T46)	21:03 75	07:52 (T46)	20:31		19:40	18:51	17:12	17:04
17	07:54	07:25	07:41	06:50	06:12		06:33 (T46)	05:58	06:30 (T46)	06:13	06:38 (T46)	06:42		07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12	20:43	65	07:38 (T46)	21:06 79	07:49 (T46)	21:03 74	07:52 (T46)	20:30		19:39	18:49	17:12	17:04
18	07:54	07:23	07:40	06:49	06:11		06:32 (T46)	05:58	06:30 (T46)	06:14	06:38 (T46)	06:43		07:14	07:46	07:22	07:52
	17:30	18:09	19:41	20:13	20:44	67	07:39 (T46)	21:07 79	07:49 (T46)	21:02 74	07:52 (T46)	20:29		19:37	18:47	17:11	17:04
19	07:53	07:22	07:38	06:47	06:10		06:31 (T46)	05:59	06:30 (T46)	06:15	06:39 (T46)	06:44		07:15	07:47	07:24	07:52
	17:32	18:10	19:42	20:14	20:45	68	07:39 (T46)	21:07 79	07:49 (T46)	21:02 73	07:52 (T46)	20:27		19:35	18:46	17:10	17:05
20	07:53	07:21	07:36	06:46	06:10		06:31 (T46)	05:59	06:30 (T46)	06:15	06:40 (T46)	06:45		07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15	20:46	69	07:40 (T46)	21:07 79	07:49 (T46)	21:01 72	07:52 (T46)	20:26		19:34	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44	06:09		06:31 (T46)	05:59	06:30 (T46)	06:16	06:39 (T46)	06:46		07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16	20:47	70	07:41 (T46)	21:08 79	07:49 (T46)	21:00 72	07:51 (T46)	20:24		19:32	18:43	17:09	17:06
22	07:52	07:18	07:33	06:43	06:08		06:30 (T46)	05:59	06:30 (T46)	06:17	06:40 (T46)	06:47		07:18	07:50	07:27	07:54
	17:35	18:14	19:45	20:17	20:48	71	07:41 (T46)	21:08 79	07:49 (T46)	20:59 71	07:51 (T46)	20:23		19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:41	06:07		06:29 (T46)	05:59	06:31 (T46)	06:18	06:41 (T46)	06:48		07:19	07:51	07:28	07:54
	17:36	18:15	19:46	20:18	20:49	72	07:41 (T46)	21:08 79	07:50 (T46)	20:59 69	07:50 (T46)	20:21		19:28	18:40	17:07	17:07
24	07:50	07:15	07:30	06:40	06:06		06:29 (T46)	06:00	06:31 (T46)	06:19	06:41 (T46)	06:49		07:20	07:53	07:29	07:55
	17:38	18:16	19:47	20:20	20:50	72	07:41 (T46)	21:08 79	07:50 (T46)	20:58 69	07:50 (T46)	20:20		19:27	18:39	17:07	17:07
25	07:49	07:13	07:28	06:39	06:06		06:29 (T46)	06:00	06:31 (T46)	06:20	06:42 (T46)	06:50		07:21	07:54	07:30	07:55
	17:39	18:17	19:49	20:21	20:51	74	07:43 (T46)	21:08 79	07:50 (T46)	20:57 68	07:50 (T46)	20:18		19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:05		06:29 (T46)	06:00	06:32 (T46)	06:21	06:43 (T46)	06:51		07:22	07:55	07:32	07:56
	17:40	18:18	19:50	20:22	20:52	74	07:43 (T46)	21:08 79	07:51 (T46)	20:56 66	07:49 (T46)	20:17		19:23	18:36	17:06	17:08
27	07:48	07:10	07:25	06:36	06:04		06:29 (T46)	06:01	06:32 (T46)	06:22	06:44 (T46)	06:52		07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23	20:53	75	07:44 (T46)	21:08 79	07:51 (T46)	20:55 65	07:49 (T46)	20:15		19:22	18:35	17:05	17:09
28	07:47	07:09	07:23	06:34	06:04		06:28 (T46)	06:01	06:32 (T46)	06:23	06:45 (T46)	06:53		07:24	07:57	07:34	07:56
	17:43	18:21	19:52	20:24	20:54	75	07:43 (T46)	21:09 79	07:51 (T46)	20:54 63	07:48 (T46)	20:14		19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:03		06:29 (T46)	06:01	06:32 (T46)	06:24	06:46 (T46)	06:54		07:25	07:58	07:35	07:57
	17:44		19:53	20:25	20:54	75	07:44 (T46)	21:09 80	07:52 (T46)	20:53 61	07:47 (T46)	20:12		19:18	18:32	17:04	17:11
30	07:45		07:20	06:32	06:03		06:28 (T46)	06:02	06:32 (T46)	06:24	06:46 (T46)	06:55		07:27	08:00	07:36	07:57
	17:45		19:54	20:26	20:55	76	07:44 (T46)	21:09 79	07:51 (T46)	20:52 59	07:45 (T46)	20:10		19:16	18:31	17:04	17:11
31	07:44		07:18		06:02		06:28 (T46)			06:25	06:47 (T46)	06:56			08:01		07:57
	17:46		19:55		20:56	77	07:45 (T46)			20:51 58	07:45 (T46)	20:09			18:29		17:12
Potential sun hours	297	297	370	399	448		453		460		429		375	345	297	287	
Total, worst case					1755		2360		2252		410						
Sun reduction					0.57		0.64		0.66		0.61						
Oper. time red.					1.00		1.00		1.00		1.00						
Wind dir. red.					0.71		0.71		0.71		0.71						
Total reduction					0.40		0.45		0.47		0.43						
Total, real					708		1069		1052		177						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 569 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8166)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		06:55 (T36)	06:01	19:32 (T35)	06:02	19:44 (T35)	06:26	19:34 (T35)	06:57	07:27	07:02	07:37
	17:13	17:47	18:22	19:56		20:27	72	20:05 (T35)	20:57 36	20:08 (T35)	21:09 25	20:09 (T35)	20:50 50	20:24 (T35)	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:14		06:29		06:56 (T36)	06:01	19:33 (T35)	06:02	19:43 (T35)	06:27	07:18 (T36)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	72	20:06 (T35)	20:58 35	20:08 (T35)	21:08 27	20:10 (T35)	20:49 58	20:24 (T35)	20:06	19:13	17:27	17:03
3	07:57	07:41	07:04	07:13		06:28		06:55 (T36)	06:00	19:33 (T35)	06:03	19:43 (T35)	06:28	07:14 (T36)	06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58		20:29	73	20:06 (T35)	20:58 34	20:07 (T35)	21:08 28	20:11 (T35)	20:48 64	20:23 (T35)	20:04	19:11	17:25	17:03
4	07:58	07:40	07:02	07:11		06:26		06:56 (T36)	06:00	19:34 (T35)	06:04	19:43 (T35)	06:29	07:12 (T36)	07:00	07:31	07:06	07:40
	17:15	17:51	18:25	19:59		20:30	73	20:08 (T35)	20:59 33	20:07 (T35)	21:08 28	20:11 (T35)	20:47 67	20:22 (T35)	20:02	19:10	17:24	17:03
5	07:58	07:39	07:01	07:09		06:25		06:57 (T36)	06:00	19:35 (T35)	06:04	19:43 (T35)	06:30	07:10 (T36)	07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00		20:31	72	20:09 (T35)	21:00 32	20:07 (T35)	21:08 29	20:12 (T35)	20:46 69	20:21 (T35)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08		06:24		06:58 (T36)	05:59	19:35 (T35)	06:05	19:42 (T35)	06:31	07:09 (T36)	07:02	07:33	07:08	07:42
	17:17	17:54	18:27	20:00		20:32	72	20:10 (T35)	21:01 31	20:06 (T35)	21:08 30	20:12 (T35)	20:44 70	20:20 (T35)	19:57	19:06	17:22	17:03
7	07:57	07:37	06:58	07:06		06:23		07:00 (T36)	05:59	19:36 (T35)	06:05	19:42 (T35)	06:32	07:08 (T36)	07:03	07:34	07:09	07:43
	17:18	17:55	18:29	20:01		20:33	70	20:11 (T35)	21:01 30	20:06 (T35)	21:07 31	20:13 (T35)	20:43 71	20:19 (T35)	19:56	19:05	17:21	17:02
8	07:57	07:36	07:56	07:05		06:21		07:01 (T36)	05:59	19:37 (T35)	06:06	19:41 (T35)	06:33	07:07 (T36)	07:04	07:35	07:10	07:44
	17:19	17:56	19:30	20:02		20:34	69	20:12 (T35)	21:02 29	20:06 (T35)	21:07 32	20:13 (T35)	20:42 72	20:18 (T35)	19:54	19:03	17:20	17:02
9	07:57	07:35	07:54	07:03		06:20		07:02 (T36)	05:59	19:38 (T35)	06:07	19:41 (T35)	06:34	07:06 (T36)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03		20:35	66	20:12 (T35)	21:02 28	20:06 (T35)	21:07 33	20:14 (T35)	20:41 72	20:17 (T35)	19:52	19:01	17:19	17:02
10	07:57	07:34	07:53	07:01		06:19		07:05 (T36)	05:58	19:38 (T35)	06:07	19:41 (T35)	06:35	07:05 (T36)	07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:05		20:36	61	20:13 (T35)	21:03 27	20:05 (T35)	21:06 34	20:15 (T35)	20:40 73	20:16 (T35)	19:51	19:00	17:18	17:02
11	07:57	07:32	07:51	07:00		06:18		07:10 (T36)	05:58	19:39 (T35)	06:08	19:40 (T35)	06:36	07:04 (T36)	07:07	07:38	07:14	07:47
	17:22	18:00	19:33	20:06		20:38	51	20:13 (T35)	21:04 26	20:05 (T35)	21:06 35	20:15 (T35)	20:38 72	20:15 (T35)	19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58	07:17 (T36)	06:17		19:24 (T35)	05:58	19:40 (T35)	06:09	19:40 (T35)	06:37	07:03 (T36)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:07 4	07:21 (T36)	20:39	49	20:13 (T35)	21:04 24	20:04 (T35)	21:06 36	20:16 (T35)	20:37 72	20:13 (T35)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:56	07:16 (T36)	06:16		19:24 (T35)	05:58	19:40 (T35)	06:09	19:39 (T35)	06:38	07:03 (T36)	07:09	07:40	07:16	07:48
	17:25	18:02	19:35	20:08 9	07:25 (T36)	20:40	49	20:13 (T35)	21:05 24	20:04 (T35)	21:05 38	20:17 (T35)	20:36 70	20:12 (T35)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55	07:14 (T36)	06:15		19:24 (T35)	05:58	19:41 (T35)	06:10	19:39 (T35)	06:39	07:01 (T36)	07:10	07:41	07:18	07:49
	17:26	18:04	19:36	20:09 13	07:27 (T36)	20:41	49	20:13 (T35)	21:05 23	20:04 (T35)	21:05 39	20:18 (T35)	20:34 69	20:10 (T35)	19:44	18:53	17:14	17:03
15	07:55	07:27	07:45	06:53	07:12 (T36)	06:14		19:24 (T35)	05:58	19:41 (T35)	06:11	19:38 (T35)	06:40	07:01 (T36)	07:11	07:42	07:19	07:50
	17:27	18:05	19:38	20:10 16	07:28 (T36)	20:42	49	20:13 (T35)	21:06 23	20:04 (T35)	21:04 40	20:18 (T35)	20:33 68	20:09 (T35)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52	07:11 (T36)	06:13		19:24 (T35)	05:58	19:42 (T35)	06:12	19:38 (T35)	06:41	07:02 (T36)	07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11 19	07:30 (T36)	20:43	48	20:12 (T35)	21:06 22	20:04 (T35)	21:04 41	20:19 (T35)	20:31 64	20:07 (T35)	19:40	18:50	17:12	17:03
17	07:54	07:25	07:41	06:50	07:09 (T36)	06:12		19:25 (T35)	05:58	19:42 (T35)	06:13	19:38 (T35)	06:42	07:03 (T36)	07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12 21	07:30 (T36)	20:44	48	20:13 (T35)	21:06 22	20:04 (T35)	21:03 42	20:20 (T35)	20:30 61	20:06 (T35)	19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49	07:08 (T36)	06:11		19:25 (T35)	05:58	19:43 (T35)	06:13	19:38 (T35)	06:43	07:04 (T36)	07:14	07:46	07:22	07:52
	17:30	18:09	19:41	20:13 23	07:31 (T36)	20:45	48	20:13 (T35)	21:07 20	20:03 (T35)	21:02 42	20:20 (T35)	20:29 56	20:05 (T35)	19:37	18:47	17:11	17:04
19	07:53	07:22	07:38	06:47	07:06 (T36)	06:10		19:25 (T35)	05:58	19:44 (T35)	06:14	19:38 (T35)	06:44	07:05 (T36)	07:15	07:47	07:24	07:52
	17:31	18:10	19:42	20:14 25	07:31 (T36)	20:45	47	20:12 (T35)	21:07 20	20:04 (T35)	21:02 43	20:21 (T35)	20:27 51	20:03 (T35)	19:35	18:46	17:10	17:04
20	07:53	07:20	07:36	06:46	07:05 (T36)	06:09		19:25 (T35)	05:58	19:44 (T35)	06:15	19:36 (T35)	06:45	07:06 (T36)	07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15 27	07:32 (T36)	20:46	47	20:12 (T35)	21:07 20	20:04 (T35)	21:01 45	20:21 (T35)	20:26 45	20:02 (T35)	19:33	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44	07:03 (T36)	06:08		19:25 (T35)	05:59	19:44 (T35)	06:16	19:36 (T35)	06:46	07:07 (T36)	07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16 29	07:32 (T36)	20:47	47	20:12 (T35)	21:08 20	20:04 (T35)	21:00 45	20:21 (T35)	20:24 30	07:37 (T36)	19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43	07:02 (T36)	06:08		19:27 (T35)	05:59	19:44 (T35)	06:17	19:36 (T35)	06:47	07:08 (T36)	07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:17 31	07:33 (T36)	20:48	45	20:12 (T35)	21:08 20	20:04 (T35)	20:59 46	20:22 (T35)	20:23 29	07:37 (T36)	19:30	18:41	17:08	17:06
23	07:51	07:16	07:31	06:41	07:01 (T36)	06:07		19:27 (T35)	05:59	19:44 (T35)	06:18	19:36 (T35)	06:48	07:09 (T36)	07:19	07:51	07:28	07:54
	17:36	18:15	19:46	20:18 46	19:57 (T35)	20:49	44	20:11 (T35)	21:08 20	20:04 (T35)	20:59 46	20:22 (T35)	20:21 27	07:36 (T36)	19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:40	06:59 (T36)	06:06		19:27 (T35)	05:59	19:45 (T35)	06:19	19:36 (T35)	06:49	07:10 (T36)	07:20	07:53	07:29	07:55
	17:37	18:16	19:47	20:20 52	19:58 (T35)	20:50	44	20:11 (T35)	21:08 20	20:05 (T35)	20:58 47	20:23 (T35)	20:20 25	07:35 (T36)	19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:38	06:58 (T36)	06:05		19:28 (T35)	06:00	19:44 (T35)	06:20	19:36 (T35)	06:50	07:11 (T36)	07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:21 57	19:59 (T35)	20:51	43	20:11 (T35)	21:08 22	20:06 (T35)	20:57 47	20:23 (T35)	20:18 23	07:34 (T36)	19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:56 (T36)	06:05		19:28 (T35)	06:00	19:44 (T35)	06:20	19:36 (T35)	06:51	07:12 (T36)	07:22	07:55	07:32	07:56
	17:40	18:18	19:50	20:22 61	19:59 (T35)	20:52	43	20:11 (T35)	21:08 22	20:06 (T35)	20:56 48	20:24 (T35)	20:17 21	07:33 (T36)	19:23	18:36	17:06	17:08
27	07:48	07:10	07:24	06:36	06:55 (T36)	06:04		19:28 (T35)	06:00	19:45 (T35)	06:21	19:34 (T35)	06:52	07:13 (T36)	07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23 65	20:01 (T35)	20:53	42	20:10 (T35)	21:09 22	20:07 (T35)	20:55 49	20:23 (T35)	20:15 19	07:32 (T36)	19:21	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34	06:54 (T36)	06:03		19:30 (T35)	06:01	19:44 (T35)	06:22	19:34 (T35)	06:53	07:14 (T36)	07:24	07:57	07:34	07:56
	17:42	18:20	19:52	20:24 68	20:02 (T35)	20:54	40	20:10 (T35)	21:09 23	20:07 (T35)	20:54 49	20:23 (T35)	20:14 16	07:30 (T36)	19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:54 (T36)	06:03		19:30 (T35)	06:01	19:44 (T35)	06:23	19:34 (T35)	06:54	07:15 (T36)	07:25	07:58	07:35	07:57
	17:44		19:53	20:25 69	20:02 (T35)	20:55	39	20:09 (T35)	21:09 24	20:08 (T35)	20:53 49	20:23 (T35)	20:12 13	07:28 (T36)	19:18	18:32	17:04	17:10
30	07:45		07:19	06:31	06:54 (T36)	06:02		19:31 (T35)	06:01	19:44 (T35)	06:24	19:34 (T35)	06:55	07:16 (T36)	07:26	08:00	07:36	07:57
	17:45		19:54	20:26 71	20:04 (T35)	20:55	38	20:09 (T35)	21:09 24	20:08 (T35)	20:52 49	20:23 (T35)	20:10 9	07:25 (T36)	19:16	18:30	17:04	17:11
31	07:44		07:18			06:02		19:31 (T35)			06:25	19:34 (T35)	06:56	07:17 (T36)		08:01		07:57
	17:46		19:55			20:56	37	20:08 (T35)			20:51 50	20:24 (T35)	20:09 3	07:20 (T36)		18:29		17:12
Potential sun hours	297	297	370	399		449		453		460		429		375	345	297	287	
Total, worst case					706		1647		756		1223		1509					
Sun reduction					0.52		0.57		0.64		0.66		0.61					
Oper. time red.					1.00		1.00		1.00		1.00		1.00					
Wind dir. red.					0.64		0.58		0.57		0.57		0.62					
Total reduction					0.33		0.33		0.36		0.37		0.38					
Total, real					235		548		274		457		571					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 570 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8167)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:58			07:44		16:38 (T37)	07:07	07:16			06:30			06:01		19:46 (T87)
	17:13			17:48	43	17:21 (T37)	18:22	19:56			20:27			20:57	47	20:33 (T87)
2	07:58			07:43		16:38 (T37)	07:06	07:15			06:29			06:01		19:46 (T87)
	17:14			17:49	43	17:21 (T37)	18:23	19:57			20:28			20:58	48	20:34 (T87)
3	07:58			07:42		16:38 (T37)	07:04	07:13		19:36 (T34)	06:28			06:01		19:46 (T87)
	17:15			17:50	44	17:22 (T37)	18:24	19:58	1	19:37 (T34)	20:29			20:59	48	20:34 (T87)
4	07:58			07:41		16:38 (T37)	07:03	07:11		19:30 (T34)	06:26			06:00		19:46 (T87)
	17:16			17:51	44	17:22 (T37)	18:25	19:59	7	19:37 (T34)	20:30			20:59	49	20:35 (T87)
5	07:58			07:40		16:38 (T37)	07:01	07:10		19:28 (T34)	06:25			06:00		19:47 (T87)
	17:17			17:53	45	17:23 (T37)	18:26	20:00	11	19:39 (T34)	20:31			21:00	49	20:36 (T87)
6	07:58			07:38		16:38 (T37)	07:00	07:08		19:26 (T34)	06:24			06:00		19:46 (T87)
	17:18			17:54	45	17:23 (T37)	18:28	20:00	14	19:40 (T34)	20:33			21:01	50	20:36 (T87)
7	07:58			07:37		16:37 (T37)	06:58	07:06		19:24 (T34)	06:23			05:59		19:47 (T87)
	17:19			17:55	45	17:22 (T37)	18:29	20:02	16	19:40 (T34)	20:34			21:01	49	20:36 (T87)
8	07:58			07:36		16:38 (T37)	07:56	07:05		19:23 (T34)	06:22			05:59		19:47 (T87)
	17:20			17:56	45	17:23 (T37)	19:30	20:03	19	19:42 (T34)	20:35			21:02	50	20:37 (T87)
9	07:57			07:35		16:38 (T37)	07:55	07:03		19:22 (T34)	06:20		20:05 (T87)	05:59		19:47 (T87)
	17:21			17:58	47	17:34 (T38)	19:31	20:04	21	19:43 (T34)	20:36	8	20:13 (T87)	21:03	51	20:38 (T87)
10	07:57			07:34		16:39 (T37)	07:53	07:02		19:22 (T34)	06:19		20:01 (T87)	05:59		19:48 (T87)
	17:22			17:59	50	17:36 (T38)	19:32	20:05	22	19:44 (T34)	20:37	13	20:14 (T87)	21:03	50	20:38 (T87)
11	07:57			07:33		16:39 (T37)	07:51	07:00		19:21 (T34)	06:18		19:59 (T87)	05:58		19:48 (T87)
	17:23			18:00	53	17:37 (T38)	19:33	20:06	24	19:45 (T34)	20:38	16	20:15 (T87)	21:04	50	20:38 (T87)
12	07:57			07:31		16:39 (T37)	07:50	06:58		19:20 (T34)	06:17		19:57 (T87)	05:58		19:48 (T87)
	17:24			18:01	55	17:38 (T38)	19:34	20:07	26	19:46 (T34)	20:39	19	20:16 (T87)	21:04	51	20:39 (T87)
13	07:56			07:30		16:40 (T37)	07:48	06:57		19:20 (T34)	06:16		19:55 (T87)	05:58		19:48 (T87)
	17:25			18:03	56	17:40 (T38)	19:36	20:08	27	19:47 (T34)	20:40	22	20:17 (T87)	21:05	50	20:38 (T87)
14	07:56			07:29		16:41 (T37)	07:46	06:55		19:20 (T34)	06:15		19:54 (T87)	05:58		19:48 (T87)
	17:26			18:04	55	17:41 (T38)	19:37	20:09	28	19:48 (T34)	20:41	24	20:18 (T87)	21:05	50	20:38 (T87)
15	07:56			07:28		16:41 (T37)	07:45	06:54		19:20 (T34)	06:14		19:53 (T87)	05:58		19:48 (T87)
	17:27			18:05	57	17:42 (T38)	19:38	20:10	28	19:48 (T34)	20:42	26	20:19 (T87)	21:06	50	20:38 (T87)
16	07:55			07:26		16:42 (T37)	07:43	06:52		19:20 (T34)	06:13		19:51 (T87)	05:58		19:49 (T87)
	17:28			18:06	56	17:43 (T38)	19:39	20:11	27	19:47 (T34)	20:43	29	20:20 (T87)	21:06	50	20:39 (T87)
17	07:55			07:25		16:44 (T37)	07:41	06:50		19:21 (T34)	06:12		19:50 (T87)	05:58		19:49 (T87)
	17:29			18:08	55	17:45 (T38)	19:40	20:12	25	19:46 (T34)	20:44	31	20:21 (T87)	21:07	51	20:40 (T87)
18	07:54		16:50 (T37)	07:24		16:44 (T37)	07:40	06:49		19:21 (T34)	06:11		19:50 (T87)	05:58		19:49 (T87)
	17:30	11	17:01 (T37)	18:09	55	17:46 (T38)	19:41	20:13	24	19:45 (T34)	20:45	31	20:21 (T87)	21:07	51	20:40 (T87)
19	07:54		16:48 (T37)	07:22		16:46 (T37)	07:38	06:47		19:23 (T34)	06:10		19:49 (T87)	05:58		19:49 (T87)
	17:32	17	17:05 (T37)	18:10	53	17:48 (T38)	19:42	20:14	21	19:44 (T34)	20:46	33	20:22 (T87)	21:07	51	20:40 (T87)
20	07:53		16:46 (T37)	07:21		16:47 (T37)	07:36	06:46		19:23 (T34)	06:09		19:48 (T87)	05:59		19:50 (T87)
	17:33	21	17:07 (T37)	18:11	48	17:47 (T38)	19:43	20:15	19	19:42 (T34)	20:47	35	20:23 (T87)	21:08	50	20:40 (T87)
21	07:53		16:45 (T37)	07:19		16:50 (T37)	07:35	06:44		19:25 (T34)	06:09		19:48 (T87)	05:59		19:50 (T87)
	17:34	24	17:09 (T37)	18:12	42	17:47 (T38)	19:44	20:17	15	19:40 (T34)	20:48	36	20:24 (T87)	21:08	50	20:40 (T87)
22	07:52		16:44 (T37)	07:18		16:53 (T37)	07:33	06:43		19:28 (T34)	06:08		19:48 (T87)	05:59		19:50 (T87)
	17:35	26	17:10 (T37)	18:14	34	17:45 (T38)	19:45	20:18	8	19:36 (T34)	20:49	37	20:25 (T87)	21:08	50	20:40 (T87)
23	07:51		16:43 (T37)	07:16		17:28 (T38)	07:31	06:41			06:07		19:47 (T87)	05:59		19:51 (T87)
	17:36	28	17:11 (T37)	18:15	16	17:44 (T38)	19:46	20:19			20:49	39	20:26 (T87)	21:08	50	20:41 (T87)
24	07:50		16:42 (T37)	07:15		17:30 (T38)	07:30	06:40			06:06		19:46 (T87)	05:59		19:50 (T87)
	17:38	30	17:12 (T37)	18:16	13	17:43 (T38)	19:48	20:20			20:50	40	20:26 (T87)	21:08	51	20:41 (T87)
25	07:50		16:42 (T37)	07:13		17:32 (T38)	07:28	06:39			06:06		19:47 (T87)	06:00		19:50 (T87)
	17:39	32	17:14 (T37)	18:17	7	17:39 (T38)	19:49	20:21			20:51	41	20:28 (T87)	21:09	51	20:41 (T87)
26	07:49		16:41 (T37)	07:12			07:26	06:37			06:05		19:46 (T87)	06:00		19:51 (T87)
	17:40	35	17:16 (T37)	18:18			19:50	20:22			20:52	42	20:28 (T87)	21:09	50	20:41 (T87)
27	07:48		16:40 (T37)	07:10			07:25	06:36			06:04		19:47 (T87)	06:00		19:51 (T87)
	17:41	37	17:17 (T37)	18:20			19:51	20:23			20:53	42	20:29 (T87)	21:09	50	20:41 (T87)
28	07:47		16:39 (T37)	07:09			07:23	06:34			06:04		19:46 (T87)	06:01		19:51 (T87)
	17:43	39	17:18 (T37)	18:21			19:52	20:24			20:54	44	20:30 (T87)	21:09	50	20:41 (T87)
29	07:46		16:39 (T37)				07:21	06:33			06:03		19:47 (T87)	06:01		19:52 (T87)
	17:44	40	17:19 (T37)				19:53	20:25			20:55	44	20:31 (T87)	21:09	50	20:42 (T87)
30	07:46		16:39 (T37)				07:20	06:32			06:03		19:46 (T87)	06:02		19:51 (T87)
	17:45	40	17:19 (T37)				19:54	20:26			20:56	45	20:31 (T87)	21:09	51	20:42 (T87)
31	07:45		16:38 (T37)				07:18				06:02		19:47 (T87)			
	17:46	42	17:20 (T37)				19:55				20:56	45	20:32 (T87)			
Potential sun hours	297			297			370	399			449			453		
Total, worst case		422			1106				383			742			1498	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.72			0.72				0.59			0.55			0.55	
Total reduction		0.23			0.30				0.32			0.32			0.36	
Total, real		98			328				122			239			541	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 570 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8167)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December	
1	06:02		19:52 (T87)	06:26		20:07 (T87)	06:57		19:20 (T34)	07:28			07:02		16:08 (T37)	07:37	
	21:09	50	20:42 (T87)	20:50	18	20:25 (T87)	20:07	24	19:44 (T34)	19:15			17:28	50	17:05 (T38)	17:04	
2	06:03		19:52 (T87)	06:27		20:09 (T87)	06:58		19:20 (T34)	07:29			07:03		16:08 (T37)	07:38	
	21:09	50	20:42 (T87)	20:49	16	20:25 (T87)	20:06	22	19:42 (T34)	19:13			17:27	46	17:04 (T38)	17:03	
3	06:03		19:52 (T87)	06:28		20:12 (T87)	06:59		19:20 (T34)	07:30			07:05		16:07 (T37)	07:39	
	21:09	51	20:43 (T87)	20:48	12	20:24 (T87)	20:04	21	19:41 (T34)	19:12			17:26	45	16:52 (T37)	17:03	
4	06:04		19:52 (T87)	06:29		20:17 (T87)	07:00		19:20 (T34)	07:31			07:06		16:07 (T37)	07:40	
	21:08	50	20:42 (T87)	20:47	6	20:23 (T87)	20:02	19	19:39 (T34)	19:10			17:24	45	16:52 (T37)	17:03	
5	06:04		19:53 (T87)	06:30			07:01		19:21 (T34)	07:32			07:07		16:08 (T37)	07:41	
	21:08	50	20:43 (T87)	20:46			20:01	16	19:37 (T34)	19:08			17:23	45	16:53 (T37)	17:03	
6	06:05		19:52 (T87)	06:31			07:02		19:22 (T34)	07:33			07:08		16:08 (T37)	07:42	
	21:08	50	20:42 (T87)	20:45			19:58	14	19:36 (T34)	19:07			17:22	44	16:52 (T37)	17:03	
7	06:06		19:53 (T87)	06:32			07:03		19:23 (T34)	07:34			07:09		16:08 (T37)	07:43	
	21:08	49	20:42 (T87)	20:44			19:56	11	19:34 (T34)	19:05			17:21	44	16:52 (T37)	17:03	
8	06:06		19:54 (T87)	06:33			07:04		19:25 (T34)	07:35			07:11		16:09 (T37)	07:44	
	21:07	48	20:42 (T87)	20:42			19:54	8	19:33 (T34)	19:03			17:20	44	16:53 (T37)	17:03	
9	06:07		19:53 (T87)	06:34			07:05		19:29 (T34)	07:36			07:12		16:09 (T37)	07:45	
	21:07	48	20:41 (T87)	20:41			19:52	2	19:31 (T34)	19:02			17:19	43	16:52 (T37)	17:03	
10	06:08		19:54 (T87)	06:35			07:06			07:37			07:13		16:09 (T37)	07:46	
	21:07	47	20:41 (T87)	20:40			19:51			19:00			17:18	43	16:52 (T37)	17:03	
11	06:08		19:54 (T87)	06:36			07:07			07:38			07:14		16:09 (T37)	07:47	
	21:06	47	20:41 (T87)	20:38			19:49			18:58			17:17	42	16:51 (T37)	17:03	
12	06:09		19:54 (T87)	06:37			07:08			07:39			07:15		16:11 (T37)	07:48	
	21:06	46	20:40 (T87)	20:37			19:47			18:57			17:16	40	16:51 (T37)	17:03	
13	06:10		19:54 (T87)	06:38			07:09			07:40			07:17		16:11 (T37)	07:48	
	21:05	46	20:40 (T87)	20:36			19:46			18:55			17:15	40	16:51 (T37)	17:03	
14	06:10		19:55 (T87)	06:39			07:10			07:42			07:18		16:11 (T37)	07:49	
	21:05	45	20:40 (T87)	20:34			19:44			18:54			17:14	39	16:50 (T37)	17:03	
15	06:11		19:55 (T87)	06:40			07:11			07:43			07:19		16:13 (T37)	07:50	
	21:04	44	20:39 (T87)	20:33			19:42			18:52			17:13	37	16:50 (T37)	17:03	
16	06:12		19:55 (T87)	06:41			07:12			07:44			07:20		16:14 (T37)	07:51	
	21:04	43	20:38 (T87)	20:32			19:41			18:51			17:12	34	16:48 (T37)	17:04	
17	06:13		19:55 (T87)	06:42			07:13			07:45		18:02 (T38)	07:21		16:15 (T37)	07:51	
	21:03	43	20:38 (T87)	20:30			19:39			18:49	10	18:12 (T38)	17:12	32	16:47 (T37)	17:04	
18	06:14		19:56 (T87)	06:43			07:14			07:46		18:00 (T38)	07:23		16:16 (T37)	07:52	
	21:02	41	20:37 (T87)	20:29			19:37			18:48	14	18:14 (T38)	17:11	30	16:46 (T37)	17:04	
19	06:14		19:57 (T87)	06:44			07:15			07:47		17:28 (T37)	07:24		16:18 (T37)	07:53	
	21:02	40	20:37 (T87)	20:27			19:35			18:46	25	18:16 (T38)	17:10	28	16:46 (T37)	17:05	
20	06:15		19:57 (T87)	06:45			07:16			07:48		17:23 (T37)	07:25		16:19 (T37)	07:53	
	21:01	39	20:36 (T87)	20:26			19:34			18:45	37	18:17 (T38)	17:09	26	16:45 (T37)	17:05	
21	06:16		19:57 (T87)	06:46		19:32 (T34)	07:17			07:49		17:20 (T37)	07:26		16:20 (T37)	07:54	
	21:00	38	20:35 (T87)	20:25	10	19:42 (T34)	19:32			18:43	45	18:18 (T38)	17:09	24	16:44 (T37)	17:06	
22	06:17		19:57 (T87)	06:47		19:29 (T34)	07:18			07:51		17:17 (T37)	07:27		16:22 (T37)	07:54	
	21:00	37	20:34 (T87)	20:23	15	19:44 (T34)	19:30			18:42	51	18:18 (T38)	17:08	21	16:43 (T37)	17:06	
23	06:18		19:58 (T87)	06:48		19:27 (T34)	07:19			07:52		17:15 (T37)	07:28		16:25 (T37)	07:55	
	20:59	36	20:34 (T87)	20:22	19	19:46 (T34)	19:29			18:40	54	18:17 (T38)	17:07	17	16:42 (T37)	17:07	
24	06:19		19:59 (T87)	06:49		19:25 (T34)	07:20			07:53		17:15 (T37)	07:30		16:27 (T37)	07:55	
	20:58	34	20:33 (T87)	20:20	22	19:47 (T34)	19:27			18:39	54	18:16 (T38)	17:07	12	16:39 (T37)	17:07	
25	06:20		20:00 (T87)	06:50		19:24 (T34)	07:22			07:54		17:13 (T37)	07:31			07:56	
	20:57	32	20:32 (T87)	20:18	24	19:48 (T34)	19:25			18:37	56	18:14 (T38)	17:06			17:08	
26	06:21		20:01 (T87)	06:51		19:23 (T34)	07:23			07:55		17:12 (T37)	07:32			07:56	
	20:56	31	20:32 (T87)	20:17	25	19:48 (T34)	19:23			18:36	56	18:13 (T38)	17:06			17:08	
27	06:22		20:01 (T87)	06:52		19:22 (T34)	07:24			07:56		17:10 (T37)	07:33			07:56	
	20:55	30	20:31 (T87)	20:15	27	19:49 (T34)	19:22			18:35	57	18:11 (T38)	17:05			17:09	
28	06:23		20:02 (T87)	06:53		19:21 (T34)	07:25			07:58		17:10 (T37)	07:34			07:57	
	20:54	28	20:30 (T87)	20:14	28	19:49 (T34)	19:20			18:33	57	18:11 (T38)	17:05			17:10	
29	06:23		20:04 (T87)	06:54		19:21 (T34)	07:26			07:59		17:09 (T37)	07:35			07:57	
	20:53	25	20:29 (T87)	20:12	28	19:49 (T34)	19:18			18:32	55	18:09 (T38)	17:04			17:10	
30	06:24		20:04 (T87)	06:55		19:20 (T34)	07:27			08:00		17:09 (T37)	07:36			07:57	
	20:52	23	20:27 (T87)	20:11	27	19:47 (T34)	19:17			18:31	54	18:07 (T38)	17:04			17:11	
31	06:25		20:05 (T87)	06:56		19:20 (T34)				08:01		17:08 (T37)				07:57	
	20:51	21	20:26 (T87)	20:09	25	19:45 (T34)				18:29	53	18:06 (T38)				17:12	
Potential sun hours	460			429			375			345			297			287	
Total, worst case		1262			302			137			678			871			
Sun reduction		0.66			0.61			0.59			0.48			0.30			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.55			0.59			0.59			0.72			0.72			
Total reduction		0.37			0.37			0.36			0.35			0.22			
Total, real		470			111			49			240			195			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 576 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8173)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57			07:43		16:57 (T46)	07:07			07:16		18:53 (T45)	06:30		18:41 (T45)	06:01		
	17:13			17:47	26	17:23 (T46)	18:22			19:56	41	19:34 (T45)	20:27	54	19:35 (T45)	20:57		
2	07:57			07:42		16:57 (T46)	07:06			07:14		18:51 (T45)	06:29		18:42 (T45)	06:01		
	17:14			17:49	28	17:25 (T46)	18:23			19:57	44	19:35 (T45)	20:28	52	19:34 (T45)	20:58		
3	07:57			07:41		16:58 (T46)	07:04			07:13		18:49 (T45)	06:28		18:42 (T45)	06:01		
	17:15			17:50	28	17:26 (T46)	18:24			19:58	48	19:37 (T45)	20:29	50	19:32 (T45)	20:58		
4	07:57			07:40		16:59 (T46)	07:02			07:11		18:47 (T45)	06:26		18:43 (T45)	06:00		
	17:16			17:51	27	17:26 (T46)	18:25			19:59	50	19:37 (T45)	20:30	48	19:31 (T45)	20:59		
5	07:57			07:39		16:58 (T46)	07:01			07:10		18:46 (T45)	06:25		18:45 (T45)	06:00		
	17:17			17:52	27	17:25 (T46)	18:26			20:00	52	19:38 (T45)	20:31	45	19:30 (T45)	21:00		
6	07:57			07:38		16:59 (T46)	06:59			07:08		18:45 (T45)	06:24		18:46 (T45)	06:00		
	17:17			17:54	26	17:25 (T46)	18:27			20:00	55	19:40 (T45)	20:32	43	19:29 (T45)	21:00		
7	07:57			07:37		17:00 (T46)	06:58			07:06		18:43 (T45)	06:23		18:47 (T45)	05:59		
	17:18			17:55	24	17:24 (T46)	18:29			20:01	57	19:40 (T45)	20:33	41	19:28 (T45)	21:01		
8	07:57			07:36		17:02 (T46)	07:56			07:05		18:43 (T45)	06:22		18:49 (T45)	05:59		
	17:19			17:56	21	17:23 (T46)	19:30			20:02	59	19:42 (T45)	20:34	38	19:27 (T45)	21:02		
9	07:57			07:35		17:03 (T46)	07:54			07:03		18:42 (T45)	06:20		18:50 (T45)	05:59		
	17:20			17:58	19	17:22 (T46)	19:31			20:03	60	19:42 (T45)	20:35	35	19:25 (T45)	21:02		
10	07:57			07:34		17:06 (T46)	07:53			07:01		18:40 (T45)	06:19		18:51 (T45)	05:59		
	17:22			17:59	15	17:21 (T46)	19:32			20:05	62	19:42 (T45)	20:36	32	19:23 (T45)	21:03		
11	07:57			07:32		17:08 (T46)	07:51			07:00		18:40 (T45)	06:18		18:53 (T45)	05:58		
	17:23			18:00	9	17:17 (T46)	19:33			20:06	63	19:43 (T45)	20:37	28	19:21 (T45)	21:03		
12	07:56			07:31			07:50			06:58		18:39 (T45)	06:17		18:56 (T45)	05:58		
	17:24			18:01			19:34			20:07	63	19:42 (T45)	20:38	22	19:18 (T45)	21:04		
13	07:56			07:30			07:48			06:57		18:39 (T45)	06:16		18:59 (T45)	05:58		
	17:25			18:02			19:35			20:08	64	19:43 (T45)	20:39	16	19:15 (T45)	21:04		
14	07:56			07:29			07:46			06:55		18:38 (T45)	06:15		19:04 (T45)	05:58		
	17:26			18:04			19:36			20:09	65	19:43 (T45)	20:40	6	19:10 (T45)	21:05		
15	07:55			07:27			07:45			06:53		18:38 (T45)	06:14			05:58		
	17:27			18:05			19:38			20:10	65	19:43 (T45)	20:41			21:05		
16	07:55			07:26			07:43			06:52		18:38 (T45)	06:13			05:58		
	17:28			18:06			19:39			20:11	65	19:43 (T45)	20:42			21:06		
17	07:54		17:03 (T46)	07:25			07:41			06:50		18:37 (T45)	06:12			05:58		
	17:29	1	17:04 (T46)	18:07			19:40			20:12	65	19:42 (T45)	20:43			21:06		
18	07:54		17:01 (T46)	07:23			07:40			06:49		18:37 (T45)	06:11			05:58		
	17:30	4	17:05 (T46)	18:09			19:41			20:13	65	19:42 (T45)	20:44			21:07		
19	07:53		17:01 (T46)	07:22			07:38			06:47		18:37 (T45)	06:10			05:58		
	17:32	6	17:07 (T46)	18:10			19:42			20:14	64	19:41 (T45)	20:45			21:07		
20	07:53		16:59 (T46)	07:20			07:36			06:46		18:37 (T45)	06:09			05:59		
	17:33	8	17:07 (T46)	18:11			19:43			20:15	65	19:42 (T45)	20:46			21:07		
21	07:52		16:58 (T46)	07:19			07:35			06:44		18:38 (T45)	06:09			05:59		
	17:34	10	17:08 (T46)	18:12			19:44			20:16	64	19:42 (T45)	20:47			21:07		
22	07:52		16:57 (T46)	07:18			07:33			06:43		18:37 (T45)	06:08			05:59		
	17:35	12	17:09 (T46)	18:13			19:45			20:17	64	19:41 (T45)	20:48			21:08		
23	07:51		16:58 (T46)	07:16			07:31			06:41		18:38 (T45)	06:07			05:59		
	17:36	13	17:11 (T46)	18:15			19:46			20:18	63	19:41 (T45)	20:49			21:08		
24	07:50		16:57 (T46)	07:15			07:30			06:40		18:37 (T45)	06:06			05:59		
	17:38	16	17:13 (T46)	18:16			19:47			20:19	62	19:39 (T45)	20:50			21:08		
25	07:49		16:57 (T46)	07:13			07:28			06:38		18:38 (T45)	06:06			06:00		
	17:39	17	17:14 (T46)	18:17			19:48			20:21	61	19:39 (T45)	20:51			21:08		
26	07:49		16:56 (T46)	07:12			07:26			06:37		18:38 (T45)	06:05			06:00		
	17:40	19	17:15 (T46)	18:18			19:50			20:22	60	19:38 (T45)	20:52			21:08		
27	07:48		16:57 (T46)	07:10			07:24			06:36		18:38 (T45)	06:04			06:00		
	17:41	20	17:17 (T46)	18:19			19:51			20:23	60	19:38 (T45)	20:53			21:08		
28	07:47		16:57 (T46)	07:09			07:23		19:06 (T45)	06:34		18:39 (T45)	06:04			06:01		
	17:42	21	17:18 (T46)	18:21			19:52	20	19:26 (T45)	20:24	58	19:37 (T45)	20:54			21:08		
29	07:46		16:57 (T46)				07:21		19:01 (T45)	06:33		18:39 (T45)	06:03			06:01		
	17:44	22	17:19 (T46)				19:53	28	19:29 (T45)	20:25	57	19:36 (T45)	20:54			21:08		
30	07:45		16:57 (T46)				07:19		18:58 (T45)	06:32		18:40 (T45)	06:02			06:02		
	17:45	24	17:21 (T46)				19:54	33	19:31 (T45)	20:26	55	19:35 (T45)	20:55			21:08		
31	07:44		16:57 (T46)				07:18		18:56 (T45)				06:02					
	17:46	25	17:22 (T46)				19:55	38	19:34 (T45)				20:56					
Potential sun hours	297			297			370			399			448			453		
Total, worst case		218			250			119			1776			510				
Sun reduction		0.31			0.40			0.44			0.52			0.57				
Oper. time red.		1.00			1.00			1.00			1.00			1.00				
Wind dir. red.		0.72			0.72			0.61			0.61			0.61				
Total reduction		0.23			0.29			0.27			0.32			0.35				
Total, real		49			73			32			566			178				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 576 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8173)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26	19:05 (T45)	06:57	18:39 (T45)	07:27		07:02	16:34 (T46)	07:37	
	21:08		20:50 25	19:30 (T45)	20:07 63	19:42 (T45)	19:15		17:28 16	16:50 (T46)	17:04	
2	06:03		06:27	19:03 (T45)	06:58	18:39 (T45)	07:29		07:03	16:33 (T46)	07:38	
	21:08		20:49 29	19:32 (T45)	20:06 62	19:41 (T45)	19:13		17:27 19	16:52 (T46)	17:03	
3	06:03		06:28	19:01 (T45)	06:59	18:40 (T45)	07:30		07:04	16:31 (T46)	07:39	
	21:08		20:48 33	19:34 (T45)	20:04 60	19:40 (T45)	19:11		17:26 22	16:53 (T46)	17:03	
4	06:04		06:29	18:59 (T45)	07:00	18:40 (T45)	07:31		07:06	16:30 (T46)	07:40	
	21:08		20:47 36	19:35 (T45)	20:02 59	19:39 (T45)	19:10		17:24 24	16:54 (T46)	17:03	
5	06:04		06:30	18:58 (T45)	07:01	18:40 (T45)	07:32		07:07	16:29 (T46)	07:41	
	21:08		20:46 39	19:37 (T45)	20:01 57	19:37 (T45)	19:08		17:23 26	16:55 (T46)	17:03	
6	06:05		06:31	18:56 (T45)	07:02	18:41 (T45)	07:33		07:08	16:29 (T46)	07:42	
	21:08		20:44 42	19:38 (T45)	19:57 55	19:36 (T45)	19:06		17:22 27	16:56 (T46)	17:03	
7	06:06		06:32	18:55 (T45)	07:03	18:42 (T45)	07:34		07:09	16:28 (T46)	07:43	
	21:07		20:43 44	19:39 (T45)	19:56 52	19:34 (T45)	19:05		17:21 28	16:56 (T46)	17:03	
8	06:06		06:33	18:54 (T45)	07:04	18:42 (T45)	07:35		07:10	16:28 (T46)	07:44	
	21:07		20:42 46	19:40 (T45)	19:54 51	19:33 (T45)	19:03		17:20 28	16:56 (T46)	17:03	
9	06:07		06:34	18:53 (T45)	07:05	18:43 (T45)	07:36		07:12	16:27 (T46)	07:45	
	21:07		20:41 48	19:41 (T45)	19:52 48	19:31 (T45)	19:02		17:19 28	16:55 (T46)	17:03	
10	06:07		06:35	18:52 (T45)	07:06	18:44 (T45)	07:37		07:13	16:28 (T46)	07:46	
	21:06		20:39 50	19:42 (T45)	19:51 44	19:28 (T45)	19:00		17:18 26	16:54 (T46)	17:03	
11	06:08		06:36	18:51 (T45)	07:07	18:45 (T45)	07:38		07:14	16:28 (T46)	07:46	
	21:06		20:38 52	19:43 (T45)	19:49 42	19:27 (T45)	18:58		17:17 25	16:53 (T46)	17:03	
12	06:09		06:37	18:50 (T45)	07:08	18:46 (T45)	07:39		07:15	16:28 (T46)	07:47	
	21:05		20:37 54	19:44 (T45)	19:47 39	19:25 (T45)	18:57		17:16 24	16:52 (T46)	17:03	
13	06:10		06:38	18:49 (T45)	07:09	18:48 (T45)	07:40		07:16	16:29 (T46)	07:48	
	21:05		20:36 55	19:44 (T45)	19:45 35	19:23 (T45)	18:55		17:15 22	16:51 (T46)	17:03	
14	06:10		06:39	18:48 (T45)	07:10	18:51 (T45)	07:41		07:18	16:29 (T46)	07:49	
	21:04		20:34 57	19:45 (T45)	19:44 29	19:20 (T45)	18:54		17:14 21	16:50 (T46)	17:03	
15	06:11		06:40	18:47 (T45)	07:11	18:54 (T45)	07:42		07:19	16:29 (T46)	07:50	
	21:04		20:33 58	19:45 (T45)	19:42 22	19:16 (T45)	18:52		17:13 20	16:49 (T46)	17:03	
16	06:12		06:41	18:46 (T45)	07:12	19:00 (T45)	07:44		07:20	16:29 (T46)	07:50	
	21:03		20:31 60	19:46 (T45)	19:40 9	19:09 (T45)	18:50		17:12 19	16:48 (T46)	17:04	
17	06:13		06:42	18:44 (T45)	07:13		07:45		07:21	16:31 (T46)	07:51	
	21:03		20:30 61	19:45 (T45)	19:39		18:49		17:11 17	16:48 (T46)	17:04	
18	06:14		06:43	18:44 (T45)	07:14		07:46		07:22	16:31 (T46)	07:52	
	21:02		20:29 61	19:45 (T45)	19:37		18:47		17:11 16	16:47 (T46)	17:04	
19	06:14		06:44	18:43 (T45)	07:15		07:47		07:23	16:32 (T46)	07:52	
	21:01		20:27 62	19:45 (T45)	19:35		18:46		17:10 13	16:45 (T46)	17:05	
20	06:15		06:45	18:42 (T45)	07:16		07:48		07:25	16:32 (T46)	07:53	
	21:01		20:26 63	19:45 (T45)	19:33		18:44		17:09 12	16:44 (T46)	17:05	
21	06:16		06:46	18:42 (T45)	07:17		07:49		07:26	16:34 (T46)	07:53	
	21:00		20:24 63	19:45 (T45)	19:32		18:43		17:09 10	16:44 (T46)	17:06	
22	06:17		06:47	18:41 (T45)	07:18		07:50		07:27	16:35 (T46)	07:54	
	20:59		20:23 64	19:45 (T45)	19:30		18:41		17:08 9	16:44 (T46)	17:06	
23	06:18		06:48	18:41 (T45)	07:19		07:51		07:28	16:36 (T46)	07:54	
	20:58		20:21 64	19:45 (T45)	19:28		18:40		17:07 7	16:43 (T46)	17:07	
24	06:19		06:49	18:40 (T45)	07:20		07:53		07:29	16:38 (T46)	07:55	
	20:58		20:20 65	19:45 (T45)	19:27		18:39		17:07 4	16:42 (T46)	17:07	
25	06:20		06:50	18:40 (T45)	07:21		07:54		07:30	16:41 (T46)	07:55	
	20:57		20:18 65	19:45 (T45)	19:25		18:37		17:06 1	16:42 (T46)	17:08	
26	06:21		06:51	18:40 (T45)	07:22		07:55		07:32		07:56	
	20:56		20:17 65	19:45 (T45)	19:23		18:36		17:06		17:08	
27	06:22		06:52	18:40 (T45)	07:23		07:56		07:33		07:56	
	20:55		20:15 64	19:44 (T45)	19:22		18:34		17:05		17:09	
28	06:22		06:53	18:39 (T45)	07:24		07:57		07:34		07:56	
	20:54		20:14 65	19:44 (T45)	19:20		18:33		17:05		17:10	
29	06:23		06:54	18:39 (T45)	07:25		07:58		07:35		07:56	
	20:53		20:12 65	19:44 (T45)	19:18		18:32		17:04		17:10	
30	06:24	19:12 (T45)	06:55	18:39 (T45)	07:26		08:00		07:36		07:57	
	20:52 11	19:23 (T45)	20:10 64	19:43 (T45)	19:16		18:31		17:04		17:11	
31	06:25	19:08 (T45)	06:56	18:39 (T45)			08:01	17:37 (T46)			07:57	
	20:51 19	19:27 (T45)	20:09 63	19:42 (T45)			18:29 11	17:48 (T46)			17:12	
Potential sun hours	460		429		375		345		297		287	
Total, worst case	30		1682		727		11		464			
Sun reduction	0.66		0.61		0.59		0.48		0.30			
Oper. time red.	1.00		1.00		1.00		1.00		1.00			
Wind dir. red.	0.61		0.61		0.61		0.72		0.72			
Total reduction	0.40		0.37		0.36		0.35		0.22			
Total, real	12		629		263		4		102			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 596 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8191)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April	May			June		
1	07:58			07:44		16:30 (T13)	07:07		17:33 (T12)	07:16	06:30			06:01		19:47 (T10)
	17:13			17:47	52	17:22 (T13)	18:22	27	18:00 (T12)	19:56	20:27			20:57	38	20:25 (T10)
2	07:58			07:43		16:30 (T13)	07:06		17:33 (T12)	07:14	06:29			06:01		19:47 (T10)
	17:13			17:48	53	17:23 (T13)	18:23	28	18:01 (T12)	19:57	20:28			20:58	39	20:33 (T9)
3	07:58			07:42		16:30 (T13)	07:04		17:33 (T12)	07:13	06:27		19:58 (T10)	06:00		19:48 (T10)
	17:14			17:50	53	17:23 (T13)	18:24	30	18:03 (T12)	19:58	20:29	9	20:07 (T10)	20:59	39	20:34 (T9)
4	07:58			07:41		16:30 (T13)	07:03		17:33 (T12)	07:11	06:26		19:56 (T10)	06:00		19:49 (T10)
	17:15			17:51	53	17:23 (T13)	18:25	30	18:03 (T12)	19:59	20:30	12	20:08 (T10)	20:59	40	20:35 (T9)
5	07:58			07:40		16:30 (T13)	07:01		17:33 (T12)	07:09	06:25		19:54 (T10)	05:59		19:49 (T10)
	17:16			17:52	54	17:24 (T13)	18:26	30	18:03 (T12)	20:00	20:31	15	20:09 (T10)	21:00	40	20:35 (T9)
6	07:58			07:38		16:30 (T13)	06:59		17:34 (T12)	07:08	06:24		19:52 (T10)	05:59		19:49 (T10)
	17:17			17:54	54	17:24 (T13)	18:27	29	18:03 (T12)	20:00	20:33	18	20:10 (T10)	21:01	42	20:36 (T9)
7	07:58			07:37		16:30 (T13)	06:58		17:34 (T12)	07:06	06:22		19:51 (T10)	05:59		19:50 (T10)
	17:18			17:55	53	17:23 (T13)	18:29	27	18:01 (T12)	20:01	20:34	20	20:11 (T10)	21:01	43	20:37 (T9)
8	07:58			07:36		16:30 (T13)	07:56		18:34 (T12)	07:05	06:21		19:49 (T10)	05:59		19:51 (T10)
	17:19			17:56	54	17:24 (T13)	19:30	26	19:00 (T12)	20:02	20:35	22	20:11 (T10)	21:02	43	20:38 (T9)
9	07:57			07:35		16:30 (T13)	07:55		18:36 (T12)	07:03	06:20		19:48 (T10)	05:58		19:50 (T10)
	17:20			17:57	54	17:24 (T13)	19:31	23	18:59 (T12)	20:04	20:36	25	20:13 (T10)	21:03	43	20:37 (T9)
10	07:57		16:47 (T13)	07:34		16:31 (T13)	07:53		18:38 (T12)	07:01	06:19		19:47 (T10)	05:58		19:51 (T10)
	17:21	5	16:52 (T13)	17:59	53	17:24 (T13)	19:32	18	18:56 (T12)	20:05	20:37	27	20:14 (T10)	21:03	43	20:38 (T9)
11	07:57		16:44 (T13)	07:33		16:32 (T13)	07:51		18:41 (T12)	07:00	06:18		19:47 (T10)	05:58		19:51 (T10)
	17:22	12	16:56 (T13)	18:00	52	17:24 (T13)	19:33	13	18:54 (T12)	20:06	20:38	28	20:15 (T10)	21:04	44	20:39 (T9)
12	07:57		16:41 (T13)	07:31		16:31 (T13)	07:50			06:58	06:17		19:46 (T10)	05:58		19:52 (T10)
	17:23	16	16:57 (T13)	18:01	52	17:23 (T13)	19:34			20:07	20:39	30	20:16 (T10)	21:04	43	20:39 (T9)
13	07:56		16:40 (T13)	07:30		16:32 (T13)	07:48			06:56	06:16		19:46 (T10)	05:58		19:52 (T10)
	17:24	18	16:58 (T13)	18:02	51	17:23 (T13)	19:35			20:08	20:40	30	20:16 (T10)	21:05	44	20:40 (T9)
14	07:56		16:39 (T13)	07:29		16:33 (T13)	07:46			06:55	06:15		19:45 (T10)	05:58		19:53 (T10)
	17:25	21	17:00 (T13)	18:04	49	17:22 (T13)	19:36			20:09	20:41	32	20:17 (T10)	21:05	43	20:40 (T9)
15	07:56		16:38 (T13)	07:27		16:33 (T13)	07:45			06:53	06:14		19:45 (T10)	05:58		19:53 (T10)
	17:27	23	17:01 (T13)	18:05	48	17:21 (T13)	19:38			20:10	20:42	33	20:18 (T10)	21:06	43	20:40 (T9)
16	07:55		16:37 (T13)	07:26		16:34 (T13)	07:43			06:52	06:13		19:44 (T10)	05:58		19:53 (T10)
	17:28	25	17:02 (T13)	18:06	47	17:21 (T13)	19:39			20:11	20:43	35	20:19 (T10)	21:06	44	20:41 (T9)
17	07:55		16:36 (T13)	07:25		16:36 (T13)	07:41			06:50	06:12		19:44 (T10)	05:58		19:54 (T10)
	17:29	27	17:03 (T13)	18:07	44	17:20 (T13)	19:40			20:12	20:44	36	20:20 (T10)	21:07	43	20:41 (T9)
18	07:54		16:36 (T13)	07:23		16:36 (T13)	07:40			06:49	06:11		19:45 (T10)	05:58		19:54 (T10)
	17:30	29	17:05 (T13)	18:08	42	17:18 (T13)	19:41			20:13	20:45	37	20:22 (T10)	21:07	43	20:41 (T9)
19	07:54		16:35 (T13)	07:22		16:38 (T13)	07:38			06:47	06:10		19:45 (T10)	05:58		19:54 (T10)
	17:31	31	17:06 (T13)	18:10	40	17:18 (T13)	19:42			20:14	20:46	37	20:22 (T10)	21:07	43	20:41 (T9)
20	07:53		16:34 (T13)	07:21		16:39 (T13)	07:36			06:46	06:09		19:44 (T10)	05:58		19:55 (T10)
	17:32	33	17:07 (T13)	18:11	42	17:48 (T12)	19:43			20:15	20:47	39	20:23 (T10)	21:08	44	20:43 (T9)
21	07:53		16:34 (T13)	07:19		16:41 (T13)	07:35			06:44	06:08		19:44 (T10)	05:58		19:55 (T10)
	17:34	35	17:09 (T13)	18:12	42	17:50 (T12)	19:44			20:16	20:48	40	20:24 (T10)	21:08	44	20:43 (T9)
22	07:52		16:33 (T13)	07:18		16:42 (T13)	07:33			06:43	06:07		19:44 (T10)	05:59		19:55 (T10)
	17:35	37	17:10 (T13)	18:13	42	17:51 (T12)	19:45			20:18	20:49	40	20:24 (T10)	21:08	44	20:43 (T9)
23	07:51		16:32 (T13)	07:16		16:45 (T13)	07:31			06:41	06:07		19:45 (T10)	05:59		19:55 (T10)
	17:36	39	17:11 (T13)	18:15	40	17:52 (T12)	19:46			20:19	20:50	41	20:26 (T10)	21:08	44	20:43 (T9)
24	07:50		16:32 (T13)	07:15		16:48 (T13)	07:30			06:40	06:06		19:45 (T10)	05:59		19:56 (T10)
	17:37	40	17:12 (T13)	18:16	35	17:53 (T12)	19:47			20:20	20:50	40	20:25 (T10)	21:09	43	20:43 (T9)
25	07:50		16:32 (T13)	07:13		16:54 (T13)	07:28			06:38	06:05		19:45 (T10)	05:59		19:56 (T10)
	17:38	42	17:14 (T13)	18:17	27	17:55 (T12)	19:48			20:21	20:51	40	20:25 (T10)	21:09	43	20:43 (T9)
26	07:49		16:31 (T13)	07:12		17:34 (T12)	07:26			06:37	06:05		19:45 (T10)	06:00		19:56 (T10)
	17:40	44	17:15 (T13)	18:18	22	17:56 (T12)	19:50			20:22	20:52	41	20:26 (T10)	21:09	43	20:43 (T9)
27	07:48		16:31 (T13)	07:10		17:34 (T12)	07:24			06:35	06:04		19:45 (T10)	06:00		19:56 (T10)
	17:41	45	17:16 (T13)	18:19	23	17:57 (T12)	19:51			20:23	20:53	40	20:25 (T10)	21:09	44	20:44 (T9)
28	07:47		16:31 (T13)	07:09		17:33 (T12)	07:23			06:34	06:03		19:46 (T10)	06:00		19:56 (T10)
	17:42	47	17:18 (T13)	18:20	25	17:58 (T12)	19:52			20:24	20:54	40	20:26 (T10)	21:09	43	20:43 (T9)
29	07:46		16:30 (T13)				07:21			06:33	06:03		19:46 (T10)	06:01		19:56 (T10)
	17:43	49	17:19 (T13)				19:53			20:25	20:55	39	20:25 (T10)	21:09	43	20:43 (T9)
30	07:46		16:30 (T13)				07:19			06:31	06:02		19:47 (T10)	06:01		19:56 (T10)
	17:45	50	17:20 (T13)				19:54			20:26	20:56	39	20:26 (T10)	21:09	43	20:43 (T9)
31	07:45		16:30 (T13)				07:18				06:02		19:47 (T10)			
	17:46	51	17:21 (T13)				19:55				20:56	38	20:25 (T10)			
Potential sun hours	297			297			370			399	449			453		
Total, worst case		719			1256			281				923			1278	
Sun reduction		0.31			0.40			0.44				0.57			0.64	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.72			0.72			0.68				0.56			0.55	
Total reduction		0.23			0.30			0.31				0.33			0.36	
Total, real		167			374			87				302			464	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 596 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8191)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02		19:56 (T10)	06:26		19:57 (T10)	06:57	07:28			07:02		16:01 (T13)	07:37		16:26 (T13)
	21:09	43	20:43 (T9)	20:50	29	20:26 (T10)	20:07	19:15			17:28	53	16:54 (T13)	17:03	13	16:39 (T13)
2	06:02		19:56 (T10)	06:27		19:58 (T10)	06:58	07:29		18:20 (T12)	07:03		16:00 (T13)	07:38		16:29 (T13)
	21:09	43	20:43 (T9)	20:49	27	20:25 (T10)	20:06	19:13	10	18:30 (T12)	17:27	53	16:53 (T13)	17:03	7	16:36 (T13)
3	06:03		19:56 (T10)	06:28		19:58 (T10)	06:59	07:30		18:17 (T12)	07:05		16:00 (T13)	07:39		
	21:09	43	20:43 (T9)	20:48	26	20:24 (T10)	20:04	19:11	17	18:34 (T12)	17:25	53	16:53 (T13)	17:03		
4	06:03		19:56 (T10)	06:29		19:59 (T10)	07:00	07:31		18:15 (T12)	07:06		15:59 (T13)	07:40		
	21:08	43	20:43 (T9)	20:47	24	20:23 (T10)	20:02	19:10	20	18:35 (T12)	17:24	54	16:53 (T13)	17:03		
5	06:04		19:55 (T10)	06:30		20:00 (T10)	07:01	07:32		18:13 (T12)	07:07		16:00 (T13)	07:41		
	21:08	43	20:42 (T9)	20:46	22	20:22 (T10)	20:01	19:08	24	18:37 (T12)	17:23	54	16:54 (T13)	17:03		
6	06:05		19:56 (T10)	06:31		20:01 (T10)	07:02	07:33		18:11 (T12)	07:08		16:00 (T13)	07:42		
	21:08	42	20:42 (T9)	20:45	20	20:21 (T10)	19:57	19:06	26	18:37 (T12)	17:22	54	16:54 (T13)	17:02		
7	06:05		19:56 (T10)	06:32		20:02 (T10)	07:03	07:34		18:10 (T12)	07:09		16:00 (T13)	07:43		
	21:08	40	20:42 (T9)	20:43	18	20:20 (T10)	19:56	19:05	28	18:38 (T12)	17:21	53	16:53 (T13)	17:02		
8	06:06		19:55 (T10)	06:33		20:04 (T10)	07:04	07:35		18:09 (T12)	07:11		16:01 (T13)	07:44		
	21:07	41	20:42 (T9)	20:42	14	20:18 (T10)	19:54	19:03	29	18:38 (T12)	17:20	53	16:54 (T13)	17:02		
9	06:06		19:55 (T10)	06:34		20:06 (T10)	07:05	07:36		18:08 (T12)	07:12		16:01 (T13)	07:45		
	21:07	41	20:42 (T9)	20:41	11	20:17 (T10)	19:52	19:01	30	18:38 (T12)	17:19	53	16:54 (T13)	17:02		
10	06:07		19:56 (T10)	06:35		20:09 (T10)	07:06	07:37		18:07 (T12)	07:13		16:01 (T13)	07:46		
	21:07	39	20:42 (T9)	20:40	7	20:16 (T10)	19:51	19:00	30	18:37 (T12)	17:18	52	16:53 (T13)	17:02		
11	06:08		19:55 (T10)	06:36			07:07	07:38		18:06 (T12)	07:14		16:01 (T13)	07:47		
	21:06	37	20:32 (T10)	20:38			19:49	18:58	29	18:35 (T12)	17:17	51	16:52 (T13)	17:02		
12	06:09		19:55 (T10)	06:37			07:08	07:39		18:06 (T12)	07:15		16:02 (T13)	07:48		
	21:06	38	20:33 (T10)	20:37			19:47	18:57	28	18:34 (T12)	17:16	50	16:52 (T13)	17:02		
13	06:09		19:55 (T10)	06:38			07:09	07:40		18:07 (T12)	07:17		16:02 (T13)	07:48		
	21:05	39	20:34 (T10)	20:36			19:46	18:55	26	18:33 (T12)	17:15	49	16:51 (T13)	17:03		
14	06:10		19:55 (T10)	06:39			07:10	07:41		18:07 (T12)	07:18		16:03 (T13)	07:49		
	21:05	39	20:34 (T10)	20:34			19:44	18:53	24	18:31 (T12)	17:14	46	16:49 (T13)	17:03		
15	06:11		19:55 (T10)	06:40			07:11	07:43		18:07 (T12)	07:19		16:04 (T13)	07:50		
	21:04	39	20:34 (T10)	20:33			19:42	18:52	22	18:29 (T12)	17:13	45	16:49 (T13)	17:03		
16	06:12		19:55 (T10)	06:41			07:12	07:44		18:07 (T12)	07:20		16:04 (T13)	07:51		
	21:04	39	20:34 (T10)	20:32			19:40	18:50	21	18:28 (T12)	17:12	44	16:48 (T13)	17:03		
17	06:12		19:55 (T10)	06:42			07:13	07:45		17:23 (T13)	07:21		16:05 (T13)	07:51		
	21:03	40	20:35 (T10)	20:30			19:39	18:49	31	18:26 (T12)	17:11	42	16:47 (T13)	17:04		
18	06:13		19:55 (T10)	06:43			07:14	07:46		17:18 (T13)	07:23		16:06 (T13)	07:52		
	21:03	40	20:35 (T10)	20:29			19:37	18:47	37	18:24 (T12)	17:10	40	16:46 (T13)	17:04		
19	06:14		19:54 (T10)	06:44			07:15	07:47		17:15 (T13)	07:24		16:07 (T13)	07:53		
	21:02	41	20:35 (T10)	20:27			19:35	18:46	40	18:22 (T12)	17:10	39	16:46 (T13)	17:04		
20	06:15		19:54 (T10)	06:45			07:16	07:48		17:13 (T13)	07:25		16:08 (T13)	07:53		
	21:01	41	20:35 (T10)	20:26			19:34	18:44	42	18:22 (T12)	17:09	37	16:45 (T13)	17:05		
21	06:16		19:54 (T10)	06:46			07:17	07:49		17:11 (T13)	07:26		16:09 (T13)	07:54		
	21:00	41	20:35 (T10)	20:24			19:32	18:43	43	18:20 (T12)	17:08	35	16:44 (T13)	17:05		
22	06:17		19:55 (T10)	06:47			07:18	07:50		17:09 (T13)	07:27		16:10 (T13)	07:54		
	21:00	40	20:35 (T10)	20:23			19:30	18:41	41	18:18 (T12)	17:08	33	16:43 (T13)	17:06		
23	06:18		19:55 (T10)	06:48			07:19	07:52		17:07 (T13)	07:28		16:12 (T13)	07:55		
	20:59	39	20:34 (T10)	20:21			19:28	18:40	41	17:48 (T13)	17:07	31	16:43 (T13)	17:06		
24	06:18		19:55 (T10)	06:49			07:20	07:53		17:07 (T13)	07:30		16:13 (T13)	07:55		
	20:58	38	20:33 (T10)	20:20			19:27	18:38	42	17:49 (T13)	17:06	29	16:42 (T13)	17:07		
25	06:19		19:55 (T10)	06:50			07:21	07:54		17:05 (T13)	07:31		16:14 (T13)	07:56		
	20:57	38	20:33 (T10)	20:18			19:25	18:37	45	17:50 (T13)	17:06	27	16:41 (T13)	17:07		
26	06:20		19:55 (T10)	06:51			07:22	07:55		17:04 (T13)	07:32		16:15 (T13)	07:56		
	20:56	36	20:31 (T10)	20:17			19:23	18:36	47	17:51 (T13)	17:05	25	16:40 (T13)	17:08		
27	06:21		19:55 (T10)	06:52			07:23	07:56		17:03 (T13)	07:33		16:17 (T13)	07:56		
	20:55	35	20:30 (T10)	20:15			19:22	18:34	48	17:51 (T13)	17:05	23	16:40 (T13)	17:09		
28	06:22		19:55 (T10)	06:53			07:24	07:57		17:02 (T13)	07:34		16:18 (T13)	07:57		
	20:54	34	20:29 (T10)	20:14			19:20	18:33	49	17:51 (T13)	17:04	21	16:39 (T13)	17:09		
29	06:23		19:56 (T10)	06:54			07:25	07:59		17:02 (T13)	07:35		16:21 (T13)	07:57		
	20:53	32	20:28 (T10)	20:12			19:18	18:32	50	17:52 (T13)	17:04	19	16:40 (T13)	17:10		
30	06:24		19:56 (T10)	06:55			07:27	08:00		17:01 (T13)	07:36		16:23 (T13)	07:57		
	20:52	32	20:28 (T10)	20:11			19:16	18:30	52	17:53 (T13)	17:04	16	16:39 (T13)	17:11		
31	06:25		19:56 (T10)	06:56				08:01		17:00 (T13)				07:57		
	20:51	31	20:27 (T10)	20:09				18:29	53	17:53 (T13)				17:12		
Potential sun hours	460			429			375	345			297			287		
Total, worst case		1207			198				1025			1234			20	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.55			0.56				0.71			0.72			0.72	
Total reduction		0.38			0.35				0.35			0.22			0.16	
Total, real		456			69				359			277			3	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 611 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8204)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		06:51 (T5)	06:01		06:36 (T4)	06:01		06:45 (T4)	06:26		06:48 (T4)	06:57	07:27	07:02	07:37
	17:12	17:47	18:21	19:56		20:27	31	07:22 (T5)	20:57	41	07:17 (T4)	21:09	36	07:21 (T4)	20:50	38	07:26 (T4)	20:07	19:14	17:27	17:03
2	07:57	07:42	07:05	07:14		06:28		06:50 (T4)	06:00		06:37 (T4)	06:02		06:44 (T4)	06:27		06:49 (T4)	06:58	07:28	07:03	07:38
	17:13	17:48	18:22	19:57		20:28	32	07:22 (T5)	20:58	40	07:17 (T4)	21:08	37	07:21 (T4)	20:49	37	07:26 (T4)	20:05	19:13	17:26	17:03
3	07:57	07:41	07:04	07:12		06:27		06:47 (T4)	06:00		06:38 (T4)	06:02		06:45 (T4)	06:28		06:50 (T4)	06:59	07:29	07:04	07:39
	17:14	17:49	18:24	19:58		20:29	35	07:22 (T5)	20:58	39	07:17 (T4)	21:08	37	07:22 (T4)	20:48	35	07:25 (T4)	20:04	19:11	17:25	17:02
4	07:58	07:40	07:02	07:11		06:26		06:46 (T4)	05:59		06:37 (T4)	06:03		06:45 (T4)	06:29		06:50 (T4)	07:00	07:30	07:05	07:40
	17:15	17:51	18:25	19:59		20:30	35	07:21 (T5)	20:59	40	07:17 (T4)	21:08	37	07:22 (T4)	20:47	34	07:24 (T5)	20:02	19:09	17:24	17:02
5	07:58	07:39	07:01	07:09		06:25		06:44 (T4)	05:59		06:38 (T4)	06:04		06:45 (T4)	06:30		06:51 (T4)	07:01	07:31	07:07	07:41
	17:16	17:52	18:26	20:00		20:31	35	07:19 (T5)	21:00	39	07:17 (T4)	21:08	37	07:22 (T4)	20:46	35	07:26 (T5)	20:00	19:08	17:23	17:02
6	07:57	07:38	06:59	07:07		06:23		06:43 (T4)	05:59		06:39 (T4)	06:04		06:45 (T4)	06:31		06:52 (T4)	07:02	07:32	07:08	07:42
	17:17	17:53	18:27	20:00		20:32	35	07:18 (T5)	21:01	38	07:17 (T4)	21:08	38	07:23 (T4)	20:44	35	07:27 (T5)	19:57	19:06	17:21	17:02
7	07:57	07:37	06:57	07:06		06:22		06:42 (T4)	05:58		06:38 (T4)	06:05		06:44 (T4)	06:32		06:53 (T4)	07:03	07:34	07:09	07:43
	17:18	17:54	18:28	20:01		20:33	35	07:17 (T5)	21:01	38	07:16 (T4)	21:07	39	07:23 (T4)	20:43	35	07:28 (T5)	19:55	19:04	17:20	17:02
8	07:57	07:36	07:56	07:04		06:21		06:41 (T4)	05:58		06:39 (T4)	06:05		06:45 (T4)	06:33		06:54 (T4)	07:04	07:35	07:10	07:44
	17:19	17:56	19:29	20:02		20:34	34	07:15 (T5)	21:02	37	07:16 (T4)	21:07	39	07:24 (T4)	20:42	35	07:29 (T5)	19:54	19:03	17:19	17:02
9	07:57	07:35	07:54	07:03		06:20		06:40 (T4)	05:58		06:39 (T4)	06:06		06:45 (T4)	06:34		06:55 (T4)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03		20:35	34	07:14 (T4)	21:02	38	07:17 (T4)	21:07	40	07:25 (T4)	20:41	35	07:30 (T5)	19:52	19:01	17:18	17:02
10	07:57	07:34	07:53	07:01		06:19		06:39 (T4)	05:58		06:40 (T4)	06:07		06:44 (T4)	06:35		06:56 (T4)	07:06	07:37	07:13	07:46
	17:21	17:58	19:32	20:04		20:36	36	07:15 (T4)	21:03	37	07:17 (T4)	21:06	40	07:24 (T4)	20:39	34	07:30 (T5)	19:50	18:59	17:17	17:02
11	07:57	07:32	07:51	06:59		06:18		06:38 (T4)	05:58		06:41 (T4)	06:07		06:44 (T4)	06:36		07:00 (T4)	07:07	07:38	07:14	07:47
	17:22	17:59	19:33	20:05		20:37	37	07:15 (T4)	21:04	36	07:17 (T4)	21:06	41	07:25 (T4)	20:38	31	07:31 (T5)	19:49	18:58	17:16	17:02
12	07:56	07:31	07:49	06:58		06:16		06:37 (T4)	05:58		06:41 (T4)	06:08		06:45 (T4)	06:37		06:59 (T5)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:06		20:38	39	07:16 (T4)	21:04	36	07:17 (T4)	21:06	41	07:26 (T4)	20:37	32	07:31 (T5)	19:47	18:56	17:15	17:02
13	07:56	07:30	07:48	06:56		06:15		06:36 (T4)	05:57		06:41 (T4)	06:09		06:44 (T4)	06:38		06:59 (T5)	07:09	07:40	07:16	07:48
	17:24	18:02	19:35	20:08		20:39	40	07:16 (T4)	21:05	36	07:17 (T4)	21:05	41	07:25 (T4)	20:36	33	07:32 (T5)	19:45	18:55	17:14	17:02
14	07:56	07:28	07:46	06:55		06:14		06:35 (T4)	05:57		06:42 (T4)	06:10		06:44 (T4)	06:39		07:00 (T5)	07:10	07:41	07:18	07:49
	17:25	18:03	19:36	20:09		20:41	41	07:16 (T4)	21:05	35	07:17 (T4)	21:05	42	07:26 (T4)	20:34	32	07:32 (T5)	19:44	18:53	17:13	17:02
15	07:55	07:27	07:44	06:53		07:12 (T5)	06:13	06:35 (T4)	05:57		06:42 (T4)	06:10		06:44 (T4)	06:40		07:01 (T5)	07:11	07:42	07:19	07:50
	17:26	18:04	19:37	20:10	3	07:15 (T5)	20:42	07:17 (T4)	21:06	35	07:17 (T4)	21:04	42	07:26 (T4)	20:33	31	07:32 (T5)	19:42	18:52	17:12	17:03
16	07:55	07:26	07:43	06:51		07:11 (T5)	06:12	06:34 (T4)	05:57		06:42 (T4)	06:11		06:44 (T4)	06:41		07:02 (T5)	07:12	07:43	07:20	07:50
	17:27	18:06	19:38	20:11	8	07:19 (T5)	20:43	07:17 (T4)	21:06	35	07:17 (T4)	21:03	43	07:27 (T4)	20:31	30	07:32 (T5)	19:40	18:50	17:12	17:03
17	07:54	07:25	07:41	06:50		07:09 (T5)	06:11	06:34 (T4)	05:57		06:43 (T4)	06:12		06:44 (T4)	06:42		07:03 (T5)	07:13	07:44	07:21	07:51
	17:29	18:07	19:39	20:12	11	07:20 (T5)	20:44	07:17 (T4)	21:06	34	07:17 (T4)	21:03	42	07:26 (T4)	20:30	28	07:31 (T5)	19:38	18:48	17:11	17:03
18	07:54	07:23	07:39	06:48		07:07 (T5)	06:10	06:34 (T4)	05:58		06:43 (T4)	06:13		06:44 (T4)	06:43		07:04 (T5)	07:14	07:46	07:22	07:52
	17:30	18:08	19:41	20:13	14	07:21 (T5)	20:44	07:17 (T4)	21:07	34	07:17 (T4)	21:02	43	07:27 (T4)	20:29	27	07:31 (T5)	19:37	18:47	17:10	17:04
19	07:53	07:22	07:38	06:47		07:06 (T5)	06:10	06:34 (T4)	05:58		06:43 (T4)	06:14		06:44 (T4)	06:44		07:05 (T5)	07:15	07:47	07:23	07:52
	17:31	18:09	19:42	20:14	17	07:23 (T5)	20:45	07:17 (T4)	21:07	34	07:17 (T4)	21:02	43	07:27 (T4)	20:27	26	07:31 (T5)	19:35	18:45	17:09	17:04
20	07:53	07:20	07:36	06:45		07:05 (T5)	06:09	06:34 (T4)	05:58		06:43 (T4)	06:15		06:44 (T4)	06:45		07:06 (T5)	07:16	07:48	07:25	07:53
	17:32	18:11	19:43	20:15	19	07:24 (T5)	20:46	07:18 (T4)	21:07	34	07:17 (T4)	21:01	44	07:28 (T4)	20:26	24	07:30 (T5)	19:33	18:44	17:09	17:04
21	07:52	07:19	07:34	06:44		07:03 (T5)	06:08	06:34 (T4)	05:58		06:43 (T4)	06:15		06:44 (T4)	06:46		07:07 (T5)	07:17	07:49	07:26	07:53
	17:33	18:12	19:44	20:16	21	07:24 (T5)	20:47	07:18 (T4)	21:08	34	07:17 (T4)	21:00	44	07:28 (T4)	20:24	22	07:29 (T5)	19:31	18:42	17:08	17:05
22	07:52	07:17	07:33	06:42		07:02 (T5)	06:07	06:34 (T4)	05:58		06:44 (T4)	06:16		06:45 (T4)	06:47		07:08 (T5)	07:18	07:50	07:27	07:54
	17:34	18:13	19:45	20:17	23	07:25 (T5)	20:48	07:17 (T4)	21:08	34	07:18 (T4)	20:59	43	07:28 (T4)	20:23	21	07:29 (T5)	19:30	18:41	17:07	17:05
23	07:51	07:16	07:31	06:41		07:00 (T5)	06:06	06:34 (T4)	05:58		06:44 (T4)	06:17		06:44 (T4)	06:48		07:09 (T5)	07:19	07:51	07:28	07:54
	17:36	18:14	19:46	20:18	24	07:24 (T5)	20:49	07:17 (T4)	21:08	34	07:18 (T4)	20:59	43	07:27 (T4)	20:21	19	07:28 (T5)	19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:39		06:59 (T5)	06:06	06:35 (T4)	05:59		06:44 (T4)	06:18		06:44 (T4)	06:49		07:10 (T5)	07:20	07:52	07:29	07:55
	17:37	18:15	19:47	20:19	26	07:25 (T5)	20:50	07:18 (T4)	21:08	34	07:18 (T4)	20:58	43	07:27 (T4)	20:20	16	07:26 (T5)	19:26	18:38	17:06	17:06
25	07:49	07:13	07:28	06:38		06:57 (T5)	06:05	06:34 (T4)	05:59		06:45 (T4)	06:19		06:44 (T4)	06:50		07:11 (T5)	07:21	07:54	07:30	07:55
	17:38	18:17	19:48	20:20	27	07:24 (T5)	20:51	07:18 (T4)	21:08	34	07:19 (T4)	20:57	44	07:28 (T4)	20:18	14	07:25 (T5)	19:25	18:37	17:05	17:07
26	07:49	07:12	07:26	06:36		06:56 (T5)	06:04	06:34 (T4)	05:59		06:45 (T4)	06:20		06:45 (T4)	06:51		07:12 (T5)	07:22	07:55	07:32	07:56
	17:39	18:18	19:49	20:22	29	07:25 (T5)	20:52	07:17 (T4)	21:09	34	07:19 (T4)	20:56	43	07:28 (T4)	20:17	11	07:23 (T5)	19:23	18:35	17:05	17:08
27	07:48	07:10	07:24	06:35		06:55 (T5)	06:04	06:35 (T4)	06:00		06:44 (T4)	06:21		06:45 (T4)	06:52		07:13 (T5)	07:23	07:56	07:33	07:56
	17:41	18:19	19:50	20:23	30	07:25 (T5)	20:53	07:18 (T4)	21:09	35	07:19 (T4)	20:55	42	07:27 (T4)	20:15	8	07:21 (T5)	19:21	18:34	17:05	17:08
28	07:47	07:08	07:22	06:34		06:53 (T5)	06:03	06:35 (T4)	06:00		06:45 (T4)	06:22		06:45 (T4)	06:53		07:14 (T5)	07:24	07:57	07:34	07:56
	17:42	18:20	19:51	20:24	31	07:24 (T5)	20:54	07:17 (T4)	21:09	35	07:20 (T4)	20:54	42	07:27 (T4)	20:13	3	07:17 (T5)	19:19	18:33	17:04	17:09
29	07:46		07:21	06:32		06:52 (T5)	06:02	06:36 (T4)	06:00		06:45 (T4)	06:23		06:46 (T4)	06:54			07:25	07:58	07:35	07:57
	17:43		19:52	20:25	32	07:24 (T5)	20:55	07:18 (T4)	21:09	35	07:20 (T4)	20:53	41	07:27 (T4)	20:12			19:18	18:31	17:04	17:10
30	07:45		07:19	06:31		06:51 (T5)	06:02	06:35 (T4)	06:01		06:45 (T4)	06:24		06:46 (T4)	06:55			07:26	08:00	07:36	07:57
	17:44		19:54	20:26	33	07:24 (T5)	20:55	07:17 (T4)	21:09	36	07:21 (T4)	20:52	41	07:27 (T4)	20:10			19:16	18:30	17:03	17:10
31	07:44		07:17				06:01	06:36 (T4)				06:25		06:47 (T4)	06:56				08:01		07:57
	17:46		19:55				20:56	41 07:17 (T4)				20:51	40	07:27 (T4)	20:09				18:29		17:11
Potential sun hours	297	297	370	399			449		453			460			429			375	345	297	287
Total, worst case					348		1227		1081			1268			761						
Sun reduction					0.52		0.57		0.64			0.66			0.61						
Oper. time red.					1.00		1.00		1.00			1.00			1.00						
Wind dir. red.					0.67		0.70		0.70			0.70			0.68						
Total reduction					0.35		0.40		0.45			0.46			0.42						
Total, real					122		488		485			587			317						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 641 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8228)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April	May	June
1	07:57			07:43		16:38 (T81)	07:07		16:28 (T81)	07:16	06:31	06:02
	17:14			17:48	46	17:24 (T81)	18:22	70	17:38 (T81)	19:56	20:27	20:57
2	07:57			07:42		16:37 (T81)	07:06		16:28 (T81)	07:15	06:29	06:02
	17:14			17:49	49	17:26 (T81)	18:23	69	17:37 (T81)	19:57	20:28	20:57
3	07:57			07:41		16:36 (T81)	07:04		16:28 (T81)	07:13	06:28	06:01
	17:15			17:50	51	17:27 (T81)	18:24	68	17:36 (T81)	19:58	20:29	20:58
4	07:57			07:40		16:34 (T81)	07:03		16:29 (T81)	07:11	06:27	06:01
	17:16			17:52	53	17:27 (T81)	18:25	66	17:35 (T81)	19:59	20:30	20:59
5	07:57			07:39		16:33 (T81)	07:01		16:29 (T81)	07:10	06:26	06:00
	17:17			17:53	56	17:29 (T81)	18:27	65	17:34 (T81)	20:00	20:31	21:00
6	07:57			07:38		16:32 (T81)	06:59		16:31 (T81)	07:08	06:24	06:00
	17:18			17:54	58	17:30 (T81)	18:28	63	17:34 (T81)	20:00	20:32	21:00
7	07:57			07:37		16:32 (T81)	06:58		16:31 (T81)	07:07	06:23	06:00
	17:19			17:55	60	17:32 (T81)	18:29	61	17:32 (T81)	20:01	20:33	21:01
8	07:57			07:36		16:31 (T81)	07:56		17:32 (T81)	07:05	06:22	06:00
	17:20			17:57	62	17:33 (T81)	19:30	59	18:31 (T81)	20:02	20:34	21:01
9	07:57			07:35		16:31 (T81)	07:55		17:34 (T81)	07:03	06:21	05:59
	17:21			17:58	64	17:35 (T81)	19:31	56	18:30 (T81)	20:04	20:35	21:02
10	07:57			07:34		16:29 (T81)	07:53		17:35 (T81)	07:02	06:20	05:59
	17:22			17:59	66	17:35 (T81)	19:32	53	18:28 (T81)	20:05	20:36	21:03
11	07:56			07:32		16:29 (T81)	07:51		17:37 (T81)	07:00	06:19	05:59
	17:23			18:00	68	17:37 (T81)	19:33	50	18:27 (T81)	20:06	20:37	21:03
12	07:56			07:31		16:29 (T81)	07:50		17:38 (T81)	06:59	06:18	05:59
	17:24			18:02	69	17:38 (T81)	19:34	47	18:25 (T81)	20:07	20:38	21:04
13	07:56			07:30		16:28 (T81)	07:48		17:39 (T81)	06:57	06:17	05:59
	17:25			18:03	71	17:39 (T81)	19:36	43	18:22 (T81)	20:08	20:39	21:04
14	07:55			07:29		16:27 (T81)	07:46		17:42 (T81)	06:55	06:16	05:59
	17:26			18:04	71	17:38 (T81)	19:37	38	18:20 (T81)	20:09	20:40	21:05
15	07:55			07:27		16:27 (T81)	07:45		17:44 (T81)	06:54	06:15	05:59
	17:27			18:05	72	17:39 (T81)	19:38	33	18:17 (T81)	20:10	20:41	21:05
16	07:55			07:26		16:27 (T81)	07:43		17:47 (T81)	06:52	06:14	05:59
	17:29			18:07	73	17:40 (T81)	19:39	26	18:13 (T81)	20:11	20:42	21:06
17	07:54			07:25		16:26 (T81)	07:41		17:52 (T81)	06:51	06:13	05:59
	17:30			18:08	73	17:39 (T81)	19:40	17	18:09 (T81)	20:12	20:43	21:06
18	07:54			07:23		16:27 (T81)	07:40			06:49	06:12	05:59
	17:31			18:09	73	17:40 (T81)	19:41			20:13	20:44	21:06
19	07:53			07:22		16:27 (T81)	07:38			06:48	06:11	05:59
	17:32			18:10	74	17:41 (T81)	19:42			20:14	20:45	21:07
20	07:53			07:20		16:26 (T81)	07:36			06:46	06:10	05:59
	17:33			18:11	74	17:40 (T81)	19:43			20:15	20:46	21:07
21	07:52			07:19		16:26 (T81)	07:35			06:45	06:09	05:59
	17:34			18:13	74	17:40 (T81)	19:44			20:16	20:47	21:07
22	07:51			07:18		16:26 (T81)	07:33			06:43	06:08	06:00
	17:36			18:14	74	17:40 (T81)	19:45			20:17	20:48	21:07
23	07:51			07:16		16:26 (T81)	07:31			06:42	06:08	06:00
	17:37			18:15	74	17:40 (T81)	19:46			20:18	20:49	21:08
24	07:50		16:56 (T81)	07:15		16:26 (T81)	07:30			06:40	06:07	06:00
	17:38	9	17:05 (T81)	18:16	73	17:39 (T81)	19:48			20:19	20:50	21:08
25	07:49		16:51 (T81)	07:13		16:27 (T81)	07:28			06:39	06:06	06:00
	17:39	19	17:10 (T81)	18:17	73	17:40 (T81)	19:49			20:21	20:51	21:08
26	07:49		16:48 (T81)	07:12		16:26 (T81)	07:26			06:37	06:05	06:01
	17:41	26	17:14 (T81)	18:19	73	17:39 (T81)	19:50			20:22	20:52	21:08
27	07:48		16:45 (T81)	07:10		16:27 (T81)	07:25			06:36	06:05	06:01
	17:42	31	17:16 (T81)	18:20	72	17:39 (T81)	19:51			20:23	20:53	21:08
28	07:47		16:43 (T81)	07:09		16:27 (T81)	07:23			06:35	06:04	06:01
	17:43	35	17:18 (T81)	18:21	71	17:38 (T81)	19:52			20:24	20:53	21:08
29	07:46		16:42 (T81)				07:21			06:33	06:04	06:02
	17:44	38	17:20 (T81)				19:53			20:25	20:54	21:08
30	07:45		16:41 (T81)				07:20			06:32	06:03	06:02
	17:45	40	17:21 (T81)				19:54			20:26	20:55	21:08
31	07:44		16:39 (T81)				07:18				06:03	
	17:47	44	17:23 (T81)				19:55				20:56	
Potential sun hours	298			297			370			399	448	452
Total, worst case		242			1867			884				
Sun reduction		0.31			0.40			0.44				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.72			0.72			0.72				
Total reduction		0.22			0.29			0.31				
Total, real		54			534			278				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 641 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8228)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August	September			October			November			December
1	06:03	06:27	06:58			07:28		17:17 (T81)	07:02		15:59 (T81)	07:37
	21:08	20:50	20:07			19:15	45	18:02 (T81)	17:28	66	17:05 (T81)	17:04
2	06:03	06:28	06:59			07:29		17:15 (T81)	07:03		16:00 (T81)	07:38
	21:08	20:49	20:06			19:13	49	18:04 (T81)	17:27	63	17:03 (T81)	17:04
3	06:04	06:29	07:00			07:30		17:14 (T81)	07:04		16:01 (T81)	07:39
	21:08	20:48	20:04			19:12	52	18:06 (T81)	17:26	62	17:03 (T81)	17:04
4	06:04	06:30	07:01			07:31		17:12 (T81)	07:05		16:02 (T81)	07:40
	21:08	20:47	20:02			19:10	55	18:07 (T81)	17:25	59	17:01 (T81)	17:04
5	06:05	06:31	07:02			07:32		17:10 (T81)	07:07		16:02 (T81)	07:41
	21:08	20:45	20:01			19:08	58	18:08 (T81)	17:24	58	17:00 (T81)	17:03
6	06:06	06:32	07:03			07:33		17:09 (T81)	07:08		16:04 (T81)	07:42
	21:07	20:44	19:57			19:07	59	18:08 (T81)	17:23	55	16:59 (T81)	17:03
7	06:06	06:33	07:04			07:34		17:07 (T81)	07:09		16:05 (T81)	07:43
	21:07	20:43	19:56			19:05	62	18:09 (T81)	17:21	53	16:58 (T81)	17:03
8	06:07	06:34	07:05			07:35		17:06 (T81)	07:10		16:06 (T81)	07:44
	21:07	20:42	19:54			19:03	63	18:09 (T81)	17:20	51	16:57 (T81)	17:03
9	06:07	06:35	07:06			07:36		17:04 (T81)	07:11		16:07 (T81)	07:44
	21:06	20:41	19:52			19:02	66	18:10 (T81)	17:19	48	16:55 (T81)	17:03
10	06:08	06:36	07:07			07:37		17:03 (T81)	07:13		16:09 (T81)	07:45
	21:06	20:39	19:51			19:00	67	18:10 (T81)	17:18	46	16:55 (T81)	17:03
11	06:09	06:37	07:08			07:38		17:02 (T81)	07:14		16:10 (T81)	07:46
	21:06	20:38	19:49			18:59	68	18:10 (T81)	17:17	44	16:54 (T81)	17:03
12	06:10	06:38	07:09			07:39		17:01 (T81)	07:15		16:12 (T81)	07:47
	21:05	20:37	19:47			18:57	69	18:10 (T81)	17:16	40	16:52 (T81)	17:03
13	06:10	06:39	07:10			07:40		17:00 (T81)	07:16		16:13 (T81)	07:48
	21:05	20:35	19:46			18:55	71	18:11 (T81)	17:15	38	16:51 (T81)	17:04
14	06:11	06:40	07:11			07:41		17:00 (T81)	07:17		16:16 (T81)	07:49
	21:04	20:34	19:44			18:54	72	18:12 (T81)	17:14	35	16:51 (T81)	17:04
15	06:12	06:41	07:12			07:43		16:59 (T81)	07:19		16:18 (T81)	07:49
	21:04	20:33	19:42			18:52	73	18:12 (T81)	17:14	31	16:49 (T81)	17:04
16	06:13	06:42	07:13			07:44		16:59 (T81)	07:20		16:21 (T81)	07:50
	21:03	20:31	19:40			18:51	72	18:11 (T81)	17:13	25	16:46 (T81)	17:04
17	06:13	06:43	07:14			07:45		16:58 (T81)	07:21		16:25 (T81)	07:51
	21:03	20:30	19:39			18:49	73	18:11 (T81)	17:12	19	16:44 (T81)	17:05
18	06:14	06:44	07:14			07:46		16:57 (T81)	07:22		16:30 (T81)	07:51
	21:02	20:29	19:37			18:48	74	18:11 (T81)	17:11	9	16:39 (T81)	17:05
19	06:15	06:45	07:15			07:47		16:57 (T81)	07:23			07:52
	21:01	20:27	19:35			18:46	74	18:11 (T81)	17:10			17:05
20	06:16	06:46	07:16			07:48		16:56 (T81)	07:25			07:53
	21:01	20:26	19:34			18:45	74	18:10 (T81)	17:10			17:06
21	06:17	06:47	07:17			07:49		16:57 (T81)	07:26			07:53
	21:00	20:24	19:32			18:43	74	18:11 (T81)	17:09			17:06
22	06:18	06:48	07:18			07:50		16:57 (T81)	07:27			07:54
	20:59	20:23	19:30			18:42	74	18:11 (T81)	17:08			17:07
23	06:18	06:49	07:19			07:51		16:56 (T81)	07:28			07:54
	20:58	20:21	19:29			18:40	74	18:10 (T81)	17:08			17:07
24	06:19	06:50	07:21			07:53		16:56 (T81)	07:29			07:55
	20:57	20:20	19:27			18:39	74	18:10 (T81)	17:07			17:08
25	06:20	06:51	07:22			07:54		16:56 (T81)	07:30			07:55
	20:57	20:18	19:25			18:38	73	18:09 (T81)	17:07			17:08
26	06:21	06:52	07:23		17:36 (T81)	07:55		16:57 (T81)	07:31			07:55
	20:56	20:17	19:23	12	17:48 (T81)	18:36	72	18:09 (T81)	17:06			17:09
27	06:22	06:53	07:24		17:30 (T81)	07:56		16:57 (T81)	07:32			07:56
	20:55	20:15	19:22	24	17:54 (T81)	18:35	72	18:09 (T81)	17:06			17:10
28	06:23	06:54	07:25		17:26 (T81)	07:57		16:57 (T81)	07:34			07:56
	20:54	20:14	19:20	31	17:57 (T81)	18:34	71	18:08 (T81)	17:05			17:10
29	06:24	06:55	07:26		17:22 (T81)	07:58		16:57 (T81)	07:35			07:56
	20:53	20:12	19:18	37	17:59 (T81)	18:32	70	18:07 (T81)	17:05			17:11
30	06:25	06:56	07:27		17:20 (T81)	08:00		16:58 (T81)	07:36			07:57
	20:52	20:10	19:17	41	18:01 (T81)	18:31	69	18:07 (T81)	17:05			17:12
31	06:26	06:57				08:01		16:59 (T81)				07:57
	20:51	20:09				18:30	67	18:06 (T81)				17:13
Potential sun hours	459	428	375			345			298			288
Total, worst case				145			2086			802		
Sun reduction				0.59			0.48			0.30		
Oper. time red.				1.00			1.00			1.00		
Wind dir. red.				0.72			0.72			0.72		
Total reduction				0.42			0.34			0.21		
Total, real				61			716			172		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 653 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8235)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February	March	April	May			June		
1	07:57		09:04 (T21)	07:44	07:07	07:16	06:30		06:50 (T18)	06:01		06:28 (T18)
	17:13	18	09:22 (T21)	17:47	18:22	19:56	20:27	7	06:57 (T18)	20:57	51	07:19 (T18)
2	07:58		09:05 (T21)	07:43	07:06	07:14	06:29		06:48 (T18)	06:01		06:27 (T18)
	17:13	16	09:21 (T21)	17:48	18:23	19:57	20:28	13	07:01 (T18)	20:58	51	07:18 (T18)
3	07:58		09:07 (T21)	07:42	07:04	07:13	06:27		06:47 (T18)	06:00		06:28 (T18)
	17:14	14	09:21 (T21)	17:50	18:24	19:58	20:29	17	07:04 (T18)	20:59	50	07:18 (T18)
4	07:58		09:09 (T21)	07:41	07:03	07:11	06:26		06:46 (T18)	06:00		06:28 (T18)
	17:15	11	09:20 (T21)	17:51	18:25	19:59	20:30	20	07:06 (T18)	20:59	51	07:19 (T18)
5	07:58		09:13 (T21)	07:39	07:01	07:09	06:25		06:45 (T18)	05:59		06:28 (T18)
	17:16	4	09:17 (T21)	17:52	18:26	20:00	20:31	23	07:08 (T18)	21:00	50	07:18 (T18)
6	07:58			07:38	06:59	07:08	06:24		06:44 (T18)	05:59		06:29 (T18)
	17:17			17:54	18:27	20:00	20:32	26	07:10 (T18)	21:01	49	07:18 (T18)
7	07:58			07:37	06:58	07:06	06:22		06:43 (T18)	05:59		06:29 (T18)
	17:18			17:55	18:29	20:01	20:33	28	07:11 (T18)	21:01	50	07:19 (T18)
8	07:57			07:36	07:56	07:04	06:21		06:41 (T18)	05:59		06:30 (T18)
	17:19			17:56	19:30	20:02	20:35	30	07:11 (T18)	21:02	49	07:19 (T18)
9	07:57			07:35	07:54	07:03	06:20		06:40 (T18)	05:58		06:29 (T18)
	17:20			17:57	19:31	20:04	20:36	32	07:12 (T18)	21:03	49	07:18 (T18)
10	07:57			07:34	07:53	07:01	06:19		06:39 (T18)	05:58		06:30 (T18)
	17:21			17:59	19:32	20:05	20:37	34	07:13 (T18)	21:03	48	07:18 (T18)
11	07:57			07:33	07:51	07:00	06:18		06:38 (T18)	05:58		06:30 (T18)
	17:22			18:00	19:33	20:06	20:38	36	07:14 (T18)	21:04	49	07:19 (T18)
12	07:57			07:31	07:50	06:58	06:17		06:37 (T18)	05:58		06:30 (T18)
	17:23			18:01	19:34	20:07	20:39	37	07:14 (T18)	21:04	49	07:19 (T18)
13	07:56			07:30	07:48	06:56	06:16		06:36 (T18)	05:58		06:31 (T18)
	17:24			18:02	19:35	20:08	20:40	39	07:15 (T18)	21:05	48	07:19 (T18)
14	07:56			07:29	07:46	06:55	06:15		06:35 (T18)	05:58		06:31 (T18)
	17:25			18:04	19:36	20:09	20:41	40	07:15 (T18)	21:05	48	07:19 (T18)
15	07:56			07:27	07:45	06:53	06:14		06:34 (T18)	05:58		06:31 (T18)
	17:27			18:05	19:38	20:10	20:42	41	07:15 (T18)	21:06	48	07:19 (T18)
16	07:55			07:26	07:43	06:52	06:13		06:33 (T18)	05:58		06:32 (T18)
	17:28			18:06	19:39	20:11	20:43	43	07:16 (T18)	21:06	47	07:19 (T18)
17	07:55			07:25	07:41	06:50	06:12		06:32 (T18)	05:58		06:32 (T18)
	17:29			18:07	19:40	20:12	20:44	44	07:16 (T18)	21:07	47	07:19 (T18)
18	07:54			07:23	07:40	06:49	06:11		06:32 (T18)	05:58		06:32 (T18)
	17:30			18:08	19:41	20:13	20:45	45	07:17 (T18)	21:07	47	07:19 (T18)
19	07:54			07:22	07:38	06:47	06:10		06:31 (T18)	05:58		06:32 (T18)
	17:31			18:10	19:42	20:14	20:46	46	07:17 (T18)	21:07	47	07:19 (T18)
20	07:53			07:21	07:36	06:46	06:09		06:30 (T18)	05:58		06:33 (T18)
	17:32			18:11	19:43	20:15	20:47	47	07:17 (T18)	21:08	47	07:20 (T18)
21	07:52			07:19	07:35	06:44	06:08		06:29 (T18)	05:58		06:33 (T18)
	17:34			18:12	19:44	20:16	20:48	48	07:17 (T18)	21:08	47	07:20 (T18)
22	07:52			07:18	07:33	06:43	06:07		06:28 (T18)	05:59		06:33 (T18)
	17:35			18:13	19:45	20:17	20:48	49	07:17 (T18)	21:08	47	07:20 (T18)
23	07:51			07:16	07:31	06:41	06:07		06:28 (T18)	05:59		06:33 (T18)
	17:36			18:14	19:46	20:19	20:49	50	07:18 (T18)	21:08	47	07:20 (T18)
24	07:50			07:15	07:29	06:40	06:06		06:27 (T18)	05:59		06:34 (T18)
	17:37			18:16	19:47	20:20	20:50	51	07:18 (T18)	21:08	47	07:21 (T18)
25	07:50			07:13	07:28	06:38	06:05		06:26 (T18)	05:59		06:34 (T18)
	17:38			18:17	19:48	20:21	20:51	51	07:17 (T18)	21:09	47	07:21 (T18)
26	07:49			07:12	07:26	06:37	06:05		06:26 (T18)	06:00		06:34 (T18)
	17:40			18:18	19:50	20:22	20:52	52	07:18 (T18)	21:09	47	07:21 (T18)
27	07:48			07:10	07:24	06:35	06:04		06:26 (T18)	06:00		06:34 (T18)
	17:41			18:19	19:51	20:23	20:53	52	07:18 (T18)	21:09	48	07:22 (T18)
28	07:47			07:09	07:23	06:34	06:03		06:27 (T18)	06:00		06:34 (T18)
	17:42			18:20	19:52	20:24	20:54	51	07:18 (T18)	21:09	48	07:22 (T18)
29	07:46				07:21	06:33	06:03		06:27 (T18)	06:01		06:34 (T18)
	17:43				19:53	20:25	20:55	51	07:18 (T18)	21:09	48	07:22 (T18)
30	07:45				07:19	06:31	06:02		06:27 (T18)	06:01		06:35 (T18)
	17:45				19:54	20:26	20:56	52	07:19 (T18)	21:09	48	07:23 (T18)
31	07:45				07:18		06:02		06:27 (T18)			
	17:46				19:55		20:56	51	07:18 (T18)			
Potential sun hours	297			297	370	399	449			453		
Total, worst case		63						1206			1449	
Sun reduction		0.31						0.57			0.64	
Oper. time red.		1.00						1.00			1.00	
Wind dir. red.		0.53						0.71			0.71	
Total reduction		0.16						0.40			0.44	
Total, real		10						476			643	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 653 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8235)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October	November	December		
1	06:02		06:34 (T18)	06:26		06:48 (T18)	06:57	07:27	07:02	07:37		
	21:09	49	07:23 (T18)	20:50	37	07:25 (T18)	20:07	19:15	17:28	17:03		
2	06:02		06:35 (T18)	06:27		06:49 (T18)	06:58	07:29	07:03	07:38		
	21:09	48	07:23 (T18)	20:49	35	07:24 (T18)	20:06	19:13	17:27	17:03		
3	06:03		06:34 (T18)	06:28		06:50 (T18)	06:59	07:30	07:04	07:39		
	21:08	49	07:23 (T18)	20:48	33	07:23 (T18)	20:04	19:11	17:25	17:03		
4	06:03		06:35 (T18)	06:29		06:51 (T18)	07:00	07:31	07:06	07:40		
	21:08	49	07:24 (T18)	20:47	31	07:22 (T18)	20:02	19:10	17:24	17:03		
5	06:04		06:34 (T18)	06:30		06:52 (T18)	07:01	07:32	07:07	07:41		
	21:08	50	07:24 (T18)	20:46	29	07:21 (T18)	20:01	19:08	17:23	17:03		
6	06:05		06:35 (T18)	06:31		06:53 (T18)	07:02	07:33	07:08	07:42		
	21:08	50	07:25 (T18)	20:45	27	07:20 (T18)	19:57	19:06	17:22	17:02		
7	06:05		06:35 (T18)	06:32		06:54 (T18)	07:03	07:34	07:09	07:43		09:00 (T21)
	21:08	50	07:25 (T18)	20:43	25	07:19 (T18)	19:56	19:05	17:21	17:02	4	09:04 (T21)
8	06:06		06:35 (T18)	06:33		06:55 (T18)	07:04	07:35	07:11	07:44		08:57 (T21)
	21:07	50	07:25 (T18)	20:42	22	07:17 (T18)	19:54	19:03	17:20	17:02	10	09:07 (T21)
9	06:06		06:35 (T18)	06:34		06:56 (T18)	07:05	07:36	07:12	07:45		08:56 (T21)
	21:07	51	07:26 (T18)	20:41	19	07:15 (T18)	19:52	19:01	17:19	17:02	14	09:10 (T21)
10	06:07		06:36 (T18)	06:35		06:57 (T18)	07:06	07:37	07:13	07:46		08:55 (T21)
	21:07	50	07:26 (T18)	20:40	16	07:13 (T18)	19:51	19:00	17:18	17:02	15	09:10 (T21)
11	06:08		06:35 (T18)	06:36		06:57 (T18)	07:07	07:38	07:14	07:47		08:54 (T21)
	21:06	51	07:26 (T18)	20:38	12	07:09 (T18)	19:49	18:58	17:17	17:02	18	09:12 (T21)
12	06:09		06:35 (T18)	06:37		06:59 (T18)	07:08	07:39	07:15	07:48		08:54 (T21)
	21:06	51	07:26 (T18)	20:37	3	07:02 (T18)	19:47	18:57	17:16	17:02	19	09:13 (T21)
13	06:09		06:36 (T18)	06:38			07:09	07:40	07:17	07:48		08:54 (T21)
	21:05	51	07:27 (T18)	20:36			19:45	18:55	17:15	17:03	21	09:15 (T21)
14	06:10		06:36 (T18)	06:39			07:10	07:41	07:18	07:49		08:54 (T21)
	21:05	51	07:27 (T18)	20:34			19:44	18:53	17:14	17:03	22	09:16 (T21)
15	06:11		06:35 (T18)	06:40			07:11	07:43	07:19	07:50		08:54 (T21)
	21:04	52	07:27 (T18)	20:33			19:42	18:52	17:13	17:03	22	09:16 (T21)
16	06:12		06:36 (T18)	06:41			07:12	07:44	07:20	07:51		08:54 (T21)
	21:04	51	07:27 (T18)	20:32			19:40	18:50	17:12	17:03	23	09:17 (T21)
17	06:12		06:36 (T18)	06:42			07:13	07:45	07:21	07:51		08:54 (T21)
	21:03	51	07:27 (T18)	20:30			19:39	18:49	17:11	17:04	24	09:18 (T21)
18	06:13		06:36 (T18)	06:43			07:14	07:46	07:23	07:52		08:54 (T21)
	21:02	52	07:28 (T18)	20:29			19:37	18:47	17:10	17:04	25	09:19 (T21)
19	06:14		06:36 (T18)	06:44			07:15	07:47	07:24	07:52		08:55 (T21)
	21:02	51	07:27 (T18)	20:27			19:35	18:46	17:10	17:04	25	09:20 (T21)
20	06:15		06:37 (T18)	06:45			07:16	07:48	07:25	07:53		08:55 (T21)
	21:01	50	07:27 (T18)	20:26			19:33	18:44	17:09	17:05	25	09:20 (T21)
21	06:16		06:38 (T18)	06:46			07:17	07:49	07:26	07:54		08:55 (T21)
	21:00	49	07:27 (T18)	20:24			19:32	18:43	17:08	17:05	26	09:21 (T21)
22	06:17		06:39 (T18)	06:47			07:18	07:50	07:27	07:54		08:55 (T21)
	21:00	49	07:28 (T18)	20:23			19:30	18:41	17:08	17:06	26	09:21 (T21)
23	06:18		06:40 (T18)	06:48			07:19	07:52	07:28	07:55		08:56 (T21)
	20:59	48	07:28 (T18)	20:21			19:28	18:40	17:07	17:06	26	09:22 (T21)
24	06:18		06:41 (T18)	06:49			07:20	07:53	07:30	07:55		08:57 (T21)
	20:58	47	07:28 (T18)	20:20			19:27	18:38	17:06	17:07	25	09:22 (T21)
25	06:19		06:42 (T18)	06:50			07:21	07:54	07:31	07:56		08:58 (T21)
	20:57	46	07:28 (T18)	20:18			19:25	18:37	17:06	17:07	25	09:23 (T21)
26	06:20		06:42 (T18)	06:51			07:22	07:55	07:32	07:56		08:58 (T21)
	20:56	45	07:27 (T18)	20:17			19:23	18:36	17:05	17:08	24	09:22 (T21)
27	06:21		06:43 (T18)	06:52			07:23	07:56	07:33	07:56		08:59 (T21)
	20:55	43	07:26 (T18)	20:15			19:21	18:34	17:05	17:09	23	09:22 (T21)
28	06:22		06:44 (T18)	06:53			07:24	07:57	07:34	07:57		08:59 (T21)
	20:54	42	07:26 (T18)	20:14			19:20	18:33	17:04	17:09	23	09:22 (T21)
29	06:23		06:45 (T18)	06:54			07:25	07:59	07:35	07:57		09:01 (T21)
	20:53	41	07:26 (T18)	20:12			19:18	18:32	17:04	17:10	22	09:23 (T21)
30	06:24		06:46 (T18)	06:55			07:26	08:00	07:36	07:57		09:02 (T21)
	20:52	40	07:26 (T18)	20:10			19:16	18:30	17:04	17:11	21	09:23 (T21)
31	06:25		06:47 (T18)	06:56				08:01		07:57		09:03 (T21)
	20:51	38	07:25 (T18)	20:09				18:29		17:12	20	09:23 (T21)
Potential sun hours	460			429			375	345	297	287		
Total, worst case		1495			289						528	
Sun reduction		0.66			0.61						0.22	
Oper. time red.		1.00			1.00						1.00	
Wind dir. red.		0.71			0.71						0.53	
Total reduction		0.46			0.42						0.11	
Total, real		684			122						60	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 688 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8262)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58			07:44		16:27 (T13)	07:07		16:39 (T13)	07:16			06:30			06:01		20:02 (T10)
	17:13			17:47	56	17:23 (T13)	18:22	57	18:00 (T12)	19:56			20:27			20:57	31	20:33 (T10)
2	07:58			07:43		16:27 (T13)	07:06		16:40 (T13)	07:14			06:29			06:01		20:01 (T10)
	17:14			17:48	57	17:24 (T13)	18:23	55	18:01 (T12)	19:57			20:28			20:58	32	20:33 (T10)
3	07:58			07:42		16:26 (T13)	07:04		16:44 (T13)	07:13			06:27			06:00		20:01 (T10)
	17:14			17:50	59	17:25 (T13)	18:24	51	18:03 (T12)	19:58			20:29			20:59	33	20:34 (T10)
4	07:58			07:41		16:26 (T13)	07:03		16:47 (T13)	07:11			06:26			06:00		20:02 (T10)
	17:15			17:51	59	17:25 (T13)	18:25	44	18:03 (T12)	19:59			20:30			20:59	33	20:35 (T10)
5	07:58			07:40		16:26 (T13)	07:01		17:35 (T12)	07:09			06:25			05:59		20:01 (T10)
	17:16			17:52	60	17:26 (T13)	18:26	29	18:04 (T12)	20:00			20:31			21:00	34	20:35 (T10)
6	07:58			07:38		16:26 (T13)	06:59		17:35 (T12)	07:08			06:24			05:59		20:01 (T10)
	17:17			17:54	61	17:27 (T13)	18:27	31	18:06 (T12)	20:00			20:33			21:01	35	20:36 (T10)
7	07:58			07:37		16:25 (T13)	06:58		17:34 (T12)	07:06			06:22			05:59		20:01 (T10)
	17:18			17:55	61	17:26 (T13)	18:29	33	18:07 (T12)	20:01			20:34			21:01	36	20:37 (T10)
8	07:58			07:36		16:25 (T13)	07:56		18:34 (T12)	07:05			06:21			05:59		20:02 (T10)
	17:19			17:56	62	17:27 (T13)	19:30	34	19:08 (T12)	20:03			20:35			21:02	36	20:38 (T10)
9	07:57			07:35		16:25 (T13)	07:55		18:35 (T12)	07:03			06:20			05:58		20:01 (T10)
	17:20			17:57	62	17:27 (T13)	19:31	33	19:08 (T12)	20:04			20:36			21:03	36	20:37 (T10)
10	07:57			07:34		16:25 (T13)	07:53		18:35 (T12)	07:01			06:19			05:58		20:01 (T10)
	17:21			17:59	63	17:28 (T13)	19:32	32	19:07 (T12)	20:05			20:37			21:03	37	20:38 (T10)
11	07:57			07:33		16:26 (T13)	07:51		18:36 (T12)	07:00			06:18			05:58		20:01 (T10)
	17:22			18:00	62	17:28 (T13)	19:33	31	19:07 (T12)	20:06			20:38			21:04	38	20:39 (T10)
12	07:57			07:31		16:25 (T13)	07:50		18:36 (T12)	06:58			06:17			05:58		20:02 (T10)
	17:23			18:01	62	17:27 (T13)	19:34	30	19:06 (T12)	20:07			20:39			21:04	37	20:39 (T10)
13	07:56			07:30		16:26 (T13)	07:48		18:36 (T12)	06:56			06:16			05:58		20:02 (T10)
	17:24			18:02	62	17:28 (T13)	19:35	28	19:04 (T12)	20:08			20:40			21:05	38	20:40 (T10)
14	07:56			07:29		16:26 (T13)	07:46		18:38 (T12)	06:55			06:15			05:58		20:02 (T10)
	17:26			18:04	62	17:28 (T13)	19:36	25	19:03 (T12)	20:09			20:41			21:05	38	20:40 (T10)
15	07:56		16:45 (T13)	07:27		16:26 (T13)	07:45		18:39 (T12)	06:53			06:14			05:58		20:02 (T10)
	17:27	11	16:56 (T13)	18:05	61	17:27 (T13)	19:38	22	19:01 (T12)	20:10			20:42			21:06	38	20:40 (T10)
16	07:55		16:43 (T13)	07:26		16:26 (T13)	07:43		18:41 (T12)	06:52			06:13			05:58		20:02 (T10)
	17:28	17	17:00 (T13)	18:06	61	17:27 (T13)	19:39	17	18:58 (T12)	20:11			20:43			21:06	39	20:41 (T10)
17	07:55		16:40 (T13)	07:25		16:27 (T13)	07:41		18:44 (T12)	06:50			06:12			05:58		20:02 (T10)
	17:29	23	17:03 (T13)	18:07	60	17:27 (T13)	19:40	10	18:54 (T12)	20:12			20:44			21:07	39	20:41 (T10)
18	07:54		16:39 (T13)	07:23		16:27 (T13)	07:40			06:49			06:11		20:17 (T10)	05:58		20:02 (T10)
	17:30	26	17:05 (T13)	18:08	59	17:26 (T13)	19:41			20:13			20:45	5	20:22 (T10)	21:07	39	20:41 (T10)
19	07:54		16:37 (T13)	07:22		16:28 (T13)	07:38			06:47			06:10		20:13 (T10)	05:58		20:02 (T10)
	17:31	29	17:06 (T13)	18:10	58	17:26 (T13)	19:42			20:14			20:46	9	20:22 (T10)	21:07	39	20:41 (T10)
20	07:53		16:36 (T13)	07:21		16:28 (T13)	07:36			06:46			06:09		20:11 (T10)	05:58		20:03 (T10)
	17:32	31	17:07 (T13)	18:11	57	17:25 (T13)	19:43			20:15			20:47	12	20:23 (T10)	21:08	40	20:43 (T10)
21	07:53		16:35 (T13)	07:19		16:29 (T13)	07:35			06:44			06:08		20:09 (T10)	05:58		20:03 (T10)
	17:34	34	17:09 (T13)	18:12	56	17:25 (T13)	19:44			20:16			20:48	15	20:24 (T10)	21:08	40	20:43 (T10)
22	07:52		16:34 (T13)	07:18		16:29 (T13)	07:33			06:43			06:07		20:08 (T10)	05:59		20:03 (T10)
	17:35	36	17:10 (T13)	18:13	54	17:23 (T13)	19:45			20:18			20:49	17	20:25 (T10)	21:08	40	20:43 (T10)
23	07:51		16:33 (T13)	07:16		16:30 (T13)	07:31			06:41			06:07		20:07 (T10)	05:59		20:03 (T10)
	17:36	38	17:11 (T13)	18:15	53	17:23 (T13)	19:46			20:19			20:50	19	20:26 (T10)	21:08	40	20:43 (T10)
24	07:50		16:32 (T13)	07:15		16:31 (T13)	07:30			06:40			06:06		20:05 (T10)	05:59		20:04 (T10)
	17:37	40	17:12 (T13)	18:16	56	17:53 (T12)	19:47			20:20			20:50	21	20:26 (T10)	21:09	39	20:43 (T10)
25	07:50		16:32 (T13)	07:13		16:32 (T13)	07:28			06:38			06:05		20:04 (T10)	05:59		20:04 (T10)
	17:38	42	17:14 (T13)	18:17	60	17:55 (T12)	19:48			20:21			20:51	23	20:27 (T10)	21:09	39	20:43 (T10)
26	07:49		16:31 (T13)	07:12		16:33 (T13)	07:26			06:37			06:05		20:04 (T10)	06:00		20:04 (T10)
	17:40	44	17:15 (T13)	18:18	60	17:56 (T12)	19:50			20:22			20:52	24	20:28 (T10)	21:09	39	20:43 (T10)
27	07:48		16:30 (T13)	07:10		16:35 (T13)	07:24			06:35			06:04		20:03 (T10)	06:00		20:05 (T10)
	17:41	46	17:16 (T13)	18:19	59	17:57 (T12)	19:51			20:23			20:53	26	20:29 (T10)	21:09	39	20:44 (T10)
28	07:47		16:29 (T13)	07:09		16:36 (T13)	07:23			06:34			06:03		20:03 (T10)	06:00		20:05 (T10)
	17:42	49	17:18 (T13)	18:20	59	17:58 (T12)	19:52			20:24			20:54	27	20:30 (T10)	21:09	38	20:43 (T10)
29	07:46		16:29 (T13)				07:21			06:33			06:03		20:02 (T10)	06:01		20:05 (T10)
	17:43	50	17:19 (T13)				19:53			20:25			20:55	28	20:30 (T10)	21:09	38	20:43 (T10)
30	07:46		16:28 (T13)				07:19			06:31			06:02		20:03 (T10)	06:01		20:06 (T10)
	17:45	52	17:20 (T13)				19:54			20:26			20:56	29	20:32 (T10)	21:09	37	20:43 (T10)
31	07:45		16:28 (T13)				07:18						06:02		20:02 (T10)			
	17:46	53	17:21 (T13)				19:55						20:56	30	20:32 (T10)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		621			1661			562						285			1117	
Sun reduction		0.31			0.40			0.44						0.57			0.64	
Oper. time red.		1.00			1.00			1.00						1.00			1.00	
Wind dir. red.		0.72			0.72			0.68						0.54			0.54	
Total reduction		0.23			0.30			0.31						0.32			0.35	
Total, real		143			493			173						90			396	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 688 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8262)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August		September			October			November			December	
1	06:02		20:05 (T10)	06:26		06:57			07:28		18:15 (T12)	07:02		15:55 (T13)	07:37	
	21:09	38	20:43 (T10)	20:50		20:07			19:15	29	18:44 (T12)	17:28	62	16:57 (T13)	17:03	
2	06:02		20:06 (T10)	06:27		06:58			07:29		18:14 (T12)	07:03		15:55 (T13)	07:38	
	21:09	37	20:43 (T10)	20:49		20:06			19:13	30	18:44 (T12)	17:27	62	16:57 (T13)	17:03	
3	06:03		20:06 (T10)	06:28		06:59			07:30		18:14 (T12)	07:05		15:55 (T13)	07:39	
	21:09	37	20:43 (T10)	20:48		20:04			19:11	32	18:46 (T12)	17:25	62	16:57 (T13)	17:03	
4	06:03		20:07 (T10)	06:29		07:00			07:31		18:13 (T12)	07:06		15:55 (T13)	07:40	
	21:08	36	20:43 (T10)	20:47		20:02			19:10	33	18:46 (T12)	17:24	61	16:56 (T13)	17:03	
5	06:04		20:08 (T10)	06:30		07:01			07:32		18:12 (T12)	07:07		15:56 (T13)	07:41	
	21:08	35	20:43 (T10)	20:46		20:01			19:08	34	18:46 (T12)	17:23	60	16:56 (T13)	17:03	
6	06:05		20:07 (T10)	06:31		07:02			07:33		18:11 (T12)	07:08		15:56 (T13)	07:42	
	21:08	35	20:42 (T10)	20:45		19:57			19:06	33	18:44 (T12)	17:22	60	16:56 (T13)	17:02	
7	06:05		20:08 (T10)	06:32		07:03			07:34		18:11 (T12)	07:09		15:56 (T13)	07:43	
	21:08	34	20:42 (T10)	20:43		19:56			19:05	31	18:42 (T12)	17:21	59	16:55 (T13)	17:02	
8	06:06		20:08 (T10)	06:33		07:04			07:35		18:10 (T12)	07:11		15:57 (T13)	07:44	
	21:07	34	20:42 (T10)	20:42		19:54			19:03	31	18:41 (T12)	17:20	59	16:56 (T13)	17:02	
9	06:06		20:09 (T10)	06:34		07:05			07:36		17:25 (T13)	07:12		15:58 (T13)	07:45	
	21:07	33	20:42 (T10)	20:41		19:52			19:01	40	18:39 (T12)	17:19	57	16:55 (T13)	17:02	
10	06:07		20:09 (T10)	06:35		07:06			07:37		17:20 (T13)	07:13		15:58 (T13)	07:46	
	21:07	33	20:42 (T10)	20:40		19:51			19:00	48	18:37 (T12)	17:18	56	16:54 (T13)	17:02	
11	06:08		20:09 (T10)	06:36		07:07			07:38		17:16 (T13)	07:14		15:58 (T13)	07:47	
	21:06	31	20:40 (T10)	20:38		19:49			18:58	53	18:35 (T12)	17:17	54	16:52 (T13)	17:02	
12	06:09		20:10 (T10)	06:37		07:08			07:39		17:13 (T13)	07:15		16:00 (T13)	07:48	
	21:06	30	20:40 (T10)	20:37		19:47			18:57	56	18:34 (T12)	17:16	52	16:52 (T13)	17:02	
13	06:09		20:11 (T10)	06:38		07:09			07:40		17:11 (T13)	07:17		16:01 (T13)	07:48	
	21:05	29	20:40 (T10)	20:36		19:46			18:55	58	18:33 (T12)	17:15	50	16:51 (T13)	17:03	
14	06:10		20:12 (T10)	06:39		07:10			07:41		17:09 (T13)	07:18		16:01 (T13)	07:49	
	21:05	28	20:40 (T10)	20:34		19:44			18:53	59	18:31 (T12)	17:14	48	16:49 (T13)	17:03	
15	06:11		20:11 (T10)	06:40		07:11			07:43		17:07 (T13)	07:19		16:03 (T13)	07:50	
	21:04	28	20:39 (T10)	20:33		19:42			18:52	59	18:29 (T12)	17:13	46	16:49 (T13)	17:03	
16	06:12		20:12 (T10)	06:41		07:12			07:44		17:05 (T13)	07:20		16:04 (T13)	07:51	
	21:04	26	20:38 (T10)	20:32		19:40			18:50	60	18:28 (T12)	17:12	44	16:48 (T13)	17:03	
17	06:12		20:13 (T10)	06:42		07:13			07:45		17:03 (T13)	07:21		16:05 (T13)	07:51	
	21:03	25	20:38 (T10)	20:30		19:39			18:49	59	18:26 (T12)	17:11	42	16:47 (T13)	17:04	
18	06:13		20:14 (T10)	06:43		07:14			07:46		17:02 (T13)	07:23		16:06 (T13)	07:52	
	21:03	24	20:38 (T10)	20:29		19:37			18:47	55	18:24 (T12)	17:10	40	16:46 (T13)	17:04	
19	06:14		20:14 (T10)	06:44		07:15			07:47		17:01 (T13)	07:24		16:08 (T13)	07:53	
	21:02	22	20:36 (T10)	20:27		19:35			18:46	53	17:54 (T13)	17:10	38	16:46 (T13)	17:04	
20	06:15		20:16 (T10)	06:45		07:16			07:48		17:00 (T13)	07:25		16:09 (T13)	07:53	
	21:01	20	20:36 (T10)	20:26		19:34			18:44	55	17:55 (T13)	17:09	36	16:45 (T13)	17:05	
21	06:16		20:17 (T10)	06:46		07:17			07:49		16:59 (T13)	07:26		16:10 (T13)	07:54	
	21:00	18	20:35 (T10)	20:24		19:32			18:43	56	17:55 (T13)	17:08	34	16:44 (T13)	17:05	
22	06:17		20:18 (T10)	06:47		07:18			07:50		16:58 (T13)	07:27		16:12 (T13)	07:54	
	21:00	17	20:35 (T10)	20:23		19:30			18:41	58	17:56 (T13)	17:08	31	16:43 (T13)	17:06	
23	06:18		20:20 (T10)	06:48		07:19			07:52		16:57 (T13)	07:28		16:14 (T13)	07:55	
	20:59	14	20:34 (T10)	20:21		19:28			18:40	59	17:56 (T13)	17:07	29	16:43 (T13)	17:06	
24	06:18		20:22 (T10)	06:49		07:20			07:53		16:57 (T13)	07:30		16:16 (T13)	07:55	
	20:58	11	20:33 (T10)	20:20		19:27			18:38	60	17:57 (T13)	17:06	26	16:42 (T13)	17:07	
25	06:19		20:25 (T10)	06:50		07:21			07:54		16:57 (T13)	07:31		16:18 (T13)	07:56	
	20:57	8	20:33 (T10)	20:18		19:25			18:37	60	17:57 (T13)	17:06	23	16:41 (T13)	17:07	
26	06:20			06:51		07:22		18:28 (T12)	07:55		16:56 (T13)	07:32		16:21 (T13)	07:56	
	20:56			20:17		19:23	7	18:35 (T12)	18:36	61	17:57 (T13)	17:05	17	16:38 (T13)	17:08	
27	06:21			06:52		07:23		18:23 (T12)	07:56		16:55 (T13)	07:33		16:24 (T13)	07:56	
	20:55			20:15		19:22	16	18:39 (T12)	18:34	62	17:57 (T13)	17:05	11	16:35 (T13)	17:09	
28	06:22			06:53		07:24		18:20 (T12)	07:57		16:55 (T13)	07:34			07:57	
	20:54			20:14		19:20	21	18:41 (T12)	18:33	62	17:57 (T13)	17:04			17:09	
29	06:23			06:54		07:25		18:18 (T12)	07:59		16:55 (T13)	07:35			07:57	
	20:53			20:12		19:18	24	18:42 (T12)	18:32	62	17:57 (T13)	17:04			17:10	
30	06:24			06:55		07:27		18:16 (T12)	08:00		16:55 (T13)	07:36			07:57	
	20:52			20:11		19:16	27	18:43 (T12)	18:30	62	17:57 (T13)	17:04			17:11	
31	06:25			06:56					08:01		16:54 (T13)				07:57	
	20:51			20:09					18:29	63	17:57 (T13)				17:12	
Potential sun hours	460			429		375			345			297			287	
Total, worst case		683					95			1573			1219			
Sun reduction		0.66					0.59			0.48			0.30			
Oper. time red.		1.00					1.00			1.00			1.00			
Wind dir. red.		0.54					0.67			0.71			0.72			
Total reduction		0.37					0.41			0.35			0.22			
Total, real		249					39			550			272			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 693 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8267)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		08:20 (T39)	07:44			07:07		17:10 (T37)	07:16		18:12 (T37)	06:30			06:02		19:55 (T34)
	17:13	12	08:32 (T39)	17:48			18:22	50	18:00 (T38)	19:56	26	18:38 (T37)	20:27			20:57	22	20:17 (T34)
2	07:58		08:20 (T39)	07:43			07:06		17:08 (T37)	07:15		18:16 (T37)	06:29			06:01		19:57 (T34)
	17:14	12	08:32 (T39)	17:49			18:23	53	18:01 (T38)	19:57	18	18:34 (T37)	20:28			20:58	20	20:17 (T34)
3	07:58		08:20 (T39)	07:42			07:04		17:07 (T37)	07:13		18:23 (T37)	06:28		20:01 (T34)	06:01		19:57 (T34)
	17:15	13	08:33 (T39)	17:50			18:24	56	18:03 (T38)	19:58	3	18:26 (T37)	20:29	6	20:07 (T34)	20:59	19	20:16 (T34)
4	07:58		08:20 (T39)	07:41			07:03		17:06 (T37)	07:11			06:26		19:58 (T34)	06:00		19:58 (T34)
	17:16	14	08:34 (T39)	17:51			18:25	58	18:04 (T38)	19:59			20:30	10	20:08 (T34)	20:59	18	20:16 (T34)
5	07:58		08:20 (T39)	07:40			07:01		17:04 (T37)	07:10			06:25		19:56 (T34)	06:00		19:59 (T34)
	17:17	14	08:34 (T39)	17:53			18:26	60	18:04 (T38)	20:00			20:31	13	20:09 (T34)	21:00	17	20:16 (T34)
6	07:58		08:20 (T39)	07:39			07:00		17:04 (T37)	07:08			06:24		19:54 (T34)	06:00		19:59 (T34)
	17:18	15	08:35 (T39)	17:54			18:28	62	18:06 (T38)	20:00			20:33	16	20:10 (T34)	21:01	15	20:14 (T34)
7	07:58		08:20 (T39)	07:37			06:58		17:02 (T37)	07:06			06:23		19:53 (T34)	05:59		20:01 (T34)
	17:19	15	08:35 (T39)	17:55			18:29	65	18:07 (T38)	20:02			20:34	18	20:11 (T34)	21:01	13	20:14 (T34)
8	07:58		08:20 (T39)	07:36			07:56		18:02 (T37)	07:05			06:22		19:52 (T34)	05:59		20:02 (T34)
	17:20	16	08:36 (T39)	17:56			19:30	67	19:09 (T38)	20:03			20:35	20	20:12 (T34)	21:02	11	20:13 (T34)
9	07:57		08:19 (T39)	07:35			07:55		18:01 (T37)	07:03			06:20		19:52 (T34)	05:59		20:04 (T34)
	17:21	17	08:36 (T39)	17:58			19:31	67	19:08 (T38)	20:04			20:36	21	20:13 (T34)	21:03	9	20:13 (T34)
10	07:57		08:19 (T39)	07:34			07:53		18:00 (T37)	07:02			06:19		19:51 (T34)	05:59		20:05 (T34)
	17:22	17	08:36 (T39)	17:59			19:32	67	19:07 (T38)	20:05			20:37	23	20:14 (T34)	21:03	7	20:12 (T34)
11	07:57		08:19 (T39)	07:33			07:51		18:00 (T37)	07:00			06:18		19:51 (T34)	05:58		
	17:23	18	08:37 (T39)	18:00			19:33	66	19:06 (T38)	20:06			20:38	24	20:15 (T34)	21:04		
12	07:57		08:18 (T39)	07:31			07:50		17:59 (T37)	06:58			06:17		19:50 (T34)	05:58		
	17:24	19	08:37 (T39)	18:01			19:34	66	19:05 (T38)	20:07			20:39	26	20:16 (T34)	21:04		
13	07:56		08:18 (T39)	07:30			07:48		17:59 (T37)	06:57			06:16		19:50 (T34)	05:58		
	17:25	19	08:37 (T39)	18:03			19:36	64	19:03 (T38)	20:08			20:40	27	20:17 (T34)	21:05		
14	07:56		08:18 (T39)	07:29			07:46		17:59 (T37)	06:55			06:15		19:50 (T34)	05:58		
	17:26	20	08:38 (T39)	18:04			19:37	63	19:02 (T38)	20:09			20:41	28	20:18 (T34)	21:05		
15	07:56		08:17 (T39)	07:28			07:45		17:59 (T37)	06:54			06:14		19:49 (T34)	05:58		
	17:27	20	08:37 (T39)	18:05			19:38	60	18:59 (T37)	20:10			20:42	30	20:19 (T34)	21:06		
16	07:55		08:18 (T39)	07:26			07:43		17:58 (T37)	06:52			06:13		19:49 (T34)	05:58		
	17:28	20	08:38 (T39)	18:06			19:39	61	18:59 (T37)	20:11			20:43	31	20:20 (T34)	21:06		
17	07:55		08:18 (T39)	07:25			07:41		17:59 (T37)	06:50			06:12		19:49 (T34)	05:58		
	17:29	19	08:37 (T39)	18:08			19:40	60	18:59 (T37)	20:12			20:44	32	20:21 (T34)	21:07		
18	07:54		08:19 (T39)	07:24			07:40		17:59 (T37)	06:49			06:11		19:49 (T34)	05:58		
	17:30	18	08:37 (T39)	18:09			19:41	59	18:58 (T37)	20:13			20:45	32	20:21 (T34)	21:07		
19	07:54		08:21 (T39)	07:22			07:38		17:58 (T37)	06:47			06:10		19:49 (T34)	05:58		
	17:32	16	08:37 (T39)	18:10			19:42	59	18:57 (T37)	20:14			20:46	32	20:21 (T34)	21:07		
20	07:53		08:22 (T39)	07:21			07:36		17:59 (T37)	06:46			06:09		19:49 (T34)	05:59		
	17:33	14	08:36 (T39)	18:11			19:43	58	18:57 (T37)	20:15			20:47	32	20:21 (T34)	21:08		
21	07:53		08:24 (T39)	07:19			07:35		17:59 (T37)	06:44			06:09		19:50 (T34)	05:59		
	17:34	11	08:35 (T39)	18:12			19:44	57	18:56 (T37)	20:17			20:48	31	20:21 (T34)	21:08		
22	07:52		08:26 (T39)	07:18			07:33		17:59 (T37)	06:43			06:08		19:50 (T34)	05:59		
	17:35	7	08:33 (T39)	18:14			19:45	56	18:55 (T37)	20:18			20:49	31	20:21 (T34)	21:08		
23	07:51			07:16		17:28 (T37)	07:31		18:00 (T37)	06:41			06:07		19:50 (T34)	05:59		
	17:36			18:15	10	17:38 (T37)	19:46	54	18:54 (T37)	20:19			20:49	31	20:21 (T34)	21:08		
24	07:50			07:15		17:23 (T37)	07:30		18:01 (T37)	06:40			06:06		19:50 (T34)	05:59		
	17:38			18:16	21	17:44 (T37)	19:48	52	18:53 (T37)	20:20			20:50	30	20:20 (T34)	21:08		
25	07:50			07:13		17:19 (T37)	07:28		18:01 (T37)	06:39			06:06		19:51 (T34)	06:00		
	17:39			18:17	28	17:47 (T37)	19:49	51	18:52 (T37)	20:21			20:51	29	20:20 (T34)	21:09		
26	07:49			07:12		17:15 (T37)	07:26		18:02 (T37)	06:37			06:05		19:51 (T34)	06:00		
	17:40			18:18	35	17:56 (T38)	19:50	48	18:50 (T37)	20:22			20:52	29	20:20 (T34)	21:09		
27	07:48			07:10		17:14 (T37)	07:25		18:04 (T37)	06:36			06:04		19:53 (T34)	06:00		
	17:41			18:20	44	17:58 (T38)	19:51	45	18:49 (T37)	20:23			20:53	27	20:20 (T34)	21:09		
28	07:47			07:09		17:11 (T37)	07:23		18:05 (T37)	06:34			06:04		19:53 (T34)	06:01		
	17:43			18:21	47	17:58 (T38)	19:52	42	18:47 (T37)	20:24			20:54	26	20:19 (T34)	21:09		
29	07:46						07:21		18:06 (T37)	06:33			06:03		19:54 (T34)	06:01		
	17:44						19:53	39	18:45 (T37)	20:25			20:55	25	20:19 (T34)	21:09		
30	07:46						07:20		18:08 (T37)	06:32			06:03		19:54 (T34)	06:02		
	17:45						19:54	36	18:44 (T37)	20:26			20:56	24	20:18 (T34)	21:09		
31	07:45						07:18		18:10 (T37)				06:02		19:55 (T34)			
	17:46						19:55	31	18:41 (T37)				20:56	23	20:18 (T34)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		346			185			1732			47			727			151	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.52			0.67			0.67			0.67			0.56			0.56	
Total reduction		0.16			0.27			0.30			0.35			0.32			0.36	
Total, real		55			50			512			16			230			54	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 693 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8267)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02			06:26		20:00 (T34)	06:57			07:28		17:39 (T37)	07:02			07:37		08:01 (T39)
	21:09			20:50	25	20:25 (T34)	20:07			19:15	65	18:44 (T38)	17:28			17:04	18	08:19 (T39)
2	06:03		20:10 (T34)	06:27		20:00 (T34)	06:58			07:29		17:39 (T37)	07:03			07:38		08:02 (T39)
	21:09	5	20:15 (T34)	20:49	25	20:25 (T34)	20:06			19:13	66	18:45 (T38)	17:27			17:04	17	08:19 (T39)
3	06:03		20:09 (T34)	06:28		20:01 (T34)	06:59			07:30		17:39 (T37)	07:05			07:39		08:03 (T39)
	21:09	8	20:17 (T34)	20:48	23	20:24 (T34)	20:04			19:12	66	18:45 (T38)	17:26			17:03	17	08:20 (T39)
4	06:04		20:08 (T34)	06:29		20:02 (T34)	07:00			07:31		17:39 (T37)	07:06			07:40		08:04 (T39)
	21:08	10	20:18 (T34)	20:47	20	20:22 (T34)	20:02			19:10	66	18:45 (T38)	17:24			17:03	16	08:20 (T39)
5	06:04		20:07 (T34)	06:30		20:02 (T34)	07:01			07:32		17:39 (T37)	07:07			07:41		08:05 (T39)
	21:08	13	20:20 (T34)	20:46	19	20:21 (T34)	20:01			19:08	66	18:45 (T38)	17:23			17:03	16	08:21 (T39)
6	06:05		20:06 (T34)	06:31		20:03 (T34)	07:02			07:33		17:39 (T37)	07:08			07:42		08:06 (T39)
	21:08	14	20:20 (T34)	20:45	17	20:20 (T34)	19:58			19:07	65	18:44 (T38)	17:22			17:03	15	08:21 (T39)
7	06:06		20:06 (T34)	06:32		20:05 (T34)	07:03			07:34		17:39 (T37)	07:09			07:43		08:07 (T39)
	21:08	16	20:22 (T34)	20:44	14	20:19 (T34)	19:56			19:05	64	18:43 (T38)	17:21			17:03	14	08:21 (T39)
8	06:06		20:06 (T34)	06:33		20:06 (T34)	07:04			07:35		17:39 (T37)	07:11			07:44		08:08 (T39)
	21:07	17	20:23 (T34)	20:42	12	20:18 (T34)	19:54			19:03	62	18:41 (T38)	17:20			17:03	14	08:22 (T39)
9	06:07		20:04 (T34)	06:34		20:08 (T34)	07:05			07:36		17:40 (T37)	07:12			07:45		08:09 (T39)
	21:07	19	20:23 (T34)	20:41	9	20:17 (T34)	19:52			19:02	59	18:39 (T38)	17:19			17:03	13	08:22 (T39)
10	06:08		20:04 (T34)	06:35		20:11 (T34)	07:06		18:09 (T37)	07:37		17:40 (T37)	07:13			07:46		08:09 (T39)
	21:07	20	20:24 (T34)	20:40	5	20:16 (T34)	19:51	18	18:27 (T37)	19:00	57	18:37 (T38)	17:18			17:03	12	08:21 (T39)
11	06:08		20:04 (T34)	06:36			07:07		18:05 (T37)	07:38		17:41 (T37)	07:14			07:47		08:10 (T39)
	21:06	21	20:25 (T34)	20:38			19:49	25	18:30 (T37)	18:58	55	18:36 (T38)	17:17			17:03	12	08:22 (T39)
12	06:09		20:03 (T34)	06:37			07:08		18:02 (T37)	07:39		17:42 (T37)	07:15			07:48		08:11 (T39)
	21:06	22	20:25 (T34)	20:37			19:47	31	18:33 (T37)	18:57	52	18:34 (T38)	17:16			17:03	11	08:22 (T39)
13	06:10		20:03 (T34)	06:38			07:09		17:59 (T37)	07:40		17:44 (T37)	07:17			07:48		08:12 (T39)
	21:05	23	20:26 (T34)	20:36			19:46	36	18:35 (T37)	18:55	49	18:33 (T38)	17:15			17:03	11	08:23 (T39)
14	06:10		20:02 (T34)	06:39			07:10		17:57 (T37)	07:42		17:45 (T37)	07:18			07:49		08:13 (T39)
	21:05	25	20:27 (T34)	20:34			19:44	39	18:36 (T37)	18:54	46	18:31 (T38)	17:14			17:03	11	08:24 (T39)
15	06:11		20:02 (T34)	06:40			07:11		17:54 (T37)	07:43		17:47 (T37)	07:19			07:50		08:13 (T39)
	21:04	26	20:28 (T34)	20:33			19:42	42	18:36 (T37)	18:52	43	18:30 (T38)	17:13			17:03	10	08:23 (T39)
16	06:12		20:01 (T34)	06:41			07:12		17:52 (T37)	07:44		17:49 (T37)	07:20			07:51		08:14 (T39)
	21:04	27	20:28 (T34)	20:32			19:41	45	18:37 (T37)	18:51	31	18:20 (T37)	17:12			17:04	10	08:24 (T39)
17	06:13		20:01 (T34)	06:42			07:13		17:51 (T37)	07:45		17:51 (T37)	07:21			07:51		08:15 (T39)
	21:03	28	20:29 (T34)	20:30			19:39	47	18:38 (T37)	18:49	26	18:17 (T37)	17:12			17:04	10	08:25 (T39)
18	06:14		20:01 (T34)	06:43			07:14		17:49 (T37)	07:46		17:55 (T37)	07:23			07:52		08:15 (T39)
	21:02	29	20:30 (T34)	20:29			19:37	50	18:39 (T37)	18:48	18	18:13 (T37)	17:11			17:04	9	08:24 (T39)
19	06:14		20:01 (T34)	06:44			07:15		17:48 (T37)	07:47			07:24			07:53		08:16 (T39)
	21:02	29	20:30 (T34)	20:27			19:35	51	18:39 (T37)	18:46			17:10			17:05	9	08:25 (T39)
20	06:15		20:01 (T34)	06:45			07:16		17:46 (T37)	07:48			07:25		08:01 (T39)	07:53		08:16 (T39)
	21:01	30	20:31 (T34)	20:26			19:34	54	18:40 (T37)	18:45			17:09	7	08:08 (T39)	17:05	9	08:25 (T39)
21	06:16		20:00 (T34)	06:46			07:17		17:45 (T37)	07:49			07:26		07:59 (T39)	07:54		08:17 (T39)
	21:00	30	20:30 (T34)	20:25			19:32	55	18:40 (T37)	18:43			17:09	11	08:10 (T39)	17:06	9	08:26 (T39)
22	06:17		20:00 (T34)	06:47			07:18		17:44 (T37)	07:51			07:27		07:58 (T39)	07:54		08:17 (T39)
	21:00	31	20:31 (T34)	20:23			19:30	56	18:40 (T37)	18:42			17:08	14	08:12 (T39)	17:06	9	08:26 (T39)
23	06:18		20:00 (T34)	06:48			07:19		17:43 (T37)	07:52			07:28		07:58 (T39)	07:55		08:18 (T39)
	20:59	31	20:31 (T34)	20:22			19:29	58	18:41 (T37)	18:40			17:07	16	08:14 (T39)	17:07	9	08:27 (T39)
24	06:19		20:00 (T34)	06:49			07:21		17:42 (T37)	07:53			07:30		07:57 (T39)	07:55		08:18 (T39)
	20:58	31	20:31 (T34)	20:20			19:27	59	18:41 (T37)	18:39			17:07	18	08:15 (T39)	17:07	9	08:27 (T39)
25	06:20		20:00 (T34)	06:50			07:22		17:41 (T37)	07:54			07:31		07:57 (T39)	07:56		08:19 (T39)
	20:57	32	20:32 (T34)	20:18			19:25	60	18:41 (T37)	18:37			17:06	18	08:15 (T39)	17:08	9	08:28 (T39)
26	06:21		20:00 (T34)	06:51			07:23		17:40 (T37)	07:55			07:32		07:56 (T39)	07:56		08:19 (T39)
	20:56	32	20:32 (T34)	20:17			19:23	60	18:40 (T37)	18:36			17:06	20	08:16 (T39)	17:08	9	08:28 (T39)
27	06:22		20:00 (T34)	06:52			07:24		17:40 (T37)	07:56			07:33		07:56 (T39)	07:56		08:19 (T39)
	20:55	31	20:31 (T34)	20:15			19:22	60	18:40 (T37)	18:35			17:05	20	08:16 (T39)	17:09	10	08:29 (T39)
28	06:23		20:00 (T34)	06:53			07:25		17:39 (T37)	07:58			07:34		07:57 (T39)	07:57		08:19 (T39)
	20:54	30	20:30 (T34)	20:14			19:20	61	18:40 (T37)	18:33			17:05	20	08:17 (T39)	17:10	10	08:29 (T39)
29	06:24		20:00 (T34)	06:54			07:26		17:39 (T37)	07:59			07:35		07:59 (T39)	07:57		08:20 (T39)
	20:53	29	20:29 (T34)	20:12			19:18	61	18:40 (T37)	18:32			17:04	19	08:18 (T39)	17:10	10	08:30 (T39)
30	06:24		19:59 (T34)	06:55			07:27		17:38 (T37)	08:00			07:36		08:00 (T39)	07:57		08:20 (T39)
	20:52	28	20:27 (T34)	20:11			19:17	64	18:42 (T38)	18:31			17:04	19	08:19 (T39)	17:11	11	08:31 (T39)
31	06:25		20:00 (T34)	06:56						08:01						07:57		08:20 (T39)
	20:51	26	20:26 (T34)	20:09						18:29						17:12	11	08:31 (T39)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		713			169			1032			956			182			360	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.56			0.56			0.67			0.67			0.52			0.52	
Total reduction		0.37			0.34			0.40			0.32			0.15			0.11	
Total, real		262			57			410			308			28			41	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 718 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8286)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May	June
1	07:57	07:43	07:07	17:25 (T77)	07:16	06:30
	17:13	17:47	18:22	35 18:00 (T77)	19:56	20:27
2	07:57	07:42	07:06	17:23 (T77)	07:14	06:29
	17:14	17:49	18:23	38 18:01 (T77)	19:57	20:28
3	07:57	07:41	07:04	17:22 (T77)	07:13	06:28
	17:15	17:50	18:24	40 18:02 (T77)	19:58	20:29
4	07:57	07:40	07:02	17:21 (T77)	07:11	06:26
	17:16	17:51	18:25	43 18:04 (T77)	19:59	20:30
5	07:57	07:39	07:01	17:20 (T77)	07:09	06:25
	17:17	17:52	18:26	44 18:04 (T77)	20:00	20:31
6	07:57	07:38	06:59	17:20 (T77)	07:08	06:24
	17:17	17:54	18:27	46 18:06 (T77)	20:00	20:32
7	07:57	07:37	06:58	07:17 (T76)	07:06	06:23
	17:18	17:55	18:29	54 18:07 (T77)	20:01	20:33
8	07:57	07:36	07:56	08:15 (T76)	07:05	06:22
	17:19	17:56	19:30	60 19:07 (T77)	20:02	20:34
9	07:57	07:35	07:54	08:14 (T76)	07:03	06:20
	17:20	17:57	19:31	65 19:08 (T77)	20:03	20:35
10	07:57	07:34	07:53	08:12 (T76)	07:01	06:19
	17:21	17:59	19:32	67 19:07 (T77)	20:05	20:36
11	07:57	07:32	07:51	08:10 (T76)	07:00	19:35 (T42) 06:18
	17:23	18:00	19:33	71 19:07 (T77)	20:06	10 19:45 (T42) 20:37
12	07:56	07:31	07:50	08:09 (T76)	06:58	19:30 (T42) 06:17
	17:24	18:01	19:34	72 19:07 (T77)	20:07	15 19:45 (T42) 20:38
13	07:56	07:30	07:48	08:07 (T76)	06:57	19:28 (T42) 06:16
	17:25	18:02	19:35	74 19:06 (T77)	20:08	19 19:47 (T42) 20:39
14	07:56	07:29	07:46	08:05 (T76)	06:55	19:25 (T42) 06:15
	17:26	18:04	19:36	76 19:06 (T77)	20:09	23 19:48 (T42) 20:40
15	07:55	07:27	07:45	08:04 (T76)	06:53	19:23 (T42) 06:14
	17:27	18:05	19:38	77 19:06 (T77)	20:10	25 19:48 (T42) 20:41
16	07:55	07:26	07:43	08:02 (T76)	06:52	19:22 (T42) 06:13
	17:28	18:06	19:39	78 19:05 (T77)	20:11	28 19:50 (T42) 20:42
17	07:54	07:25	07:41	08:00 (T76)	06:50	19:20 (T42) 06:12
	17:29	18:07	19:40	78 19:03 (T77)	20:12	30 19:50 (T42) 20:43
18	07:54	07:23	07:40	07:59 (T76)	06:49	19:19 (T42) 06:11
	17:30	18:09	19:41	78 19:03 (T77)	20:13	33 19:52 (T42) 20:44
19	07:53	07:22	07:38	07:57 (T76)	06:47	19:18 (T42) 06:10
	17:32	18:10	19:42	78 19:02 (T77)	20:14	34 19:52 (T42) 20:45
20	07:53	07:20	07:36	07:56 (T76)	06:46	19:17 (T42) 06:09
	17:33	18:11	19:43	76 19:00 (T77)	20:15	37 19:54 (T42) 20:46
21	07:52	07:19	07:35	07:57 (T76)	06:44	19:17 (T42) 06:09
	17:34	18:12	19:44	72 18:59 (T77)	20:16	38 19:55 (T42) 20:47
22	07:52	07:18	07:33	07:57 (T76)	06:43	19:16 (T42) 06:08
	17:35	18:13	19:45	68 18:57 (T77)	20:17	40 19:56 (T42) 20:48
23	07:51	07:16 17:39 (T77)	07:31	07:57 (T76)	06:41	19:15 (T42) 06:07
	17:36	18:15 13 17:52 (T77)	19:46	63 18:55 (T77)	20:18	42 19:57 (T42) 20:49
24	07:50	07:15 17:34 (T77)	07:30	07:58 (T76)	06:40	19:14 (T42) 06:06
	17:38	18:16 19 17:53 (T77)	19:47	58 18:53 (T77)	20:19	44 19:58 (T42) 20:50
25	07:49	07:13 17:32 (T77)	07:28	07:59 (T76)	06:38	19:15 (T42) 06:06
	17:39	18:17 23 17:55 (T77)	19:48	50 18:50 (T77)	20:21	44 19:59 (T42) 20:51
26	07:49	07:12 17:29 (T77)	07:26	07:59 (T76)	06:37	19:14 (T42) 06:05
	17:40	18:18 27 17:56 (T77)	19:50	39 18:45 (T77)	20:22	45 19:59 (T42) 20:52
27	07:48	07:10 17:28 (T77)	07:24	08:00 (T76)	06:36	19:14 (T42) 06:04
	17:41	18:19 30 17:58 (T77)	19:51	22 08:22 (T76)	20:23	45 19:59 (T42) 20:53
28	07:47	07:09 17:26 (T77)	07:23	08:03 (T76)	06:34	19:14 (T42) 06:04
	17:42	18:21 33 17:59 (T77)	19:52	17 08:20 (T76)	20:24	46 20:00 (T42) 20:54
29	07:46		07:21	08:06 (T76)	06:33	19:13 (T42) 06:03
	17:44		19:53	10 08:16 (T76)	20:25	46 19:59 (T42) 20:54
30	07:45		07:19		06:32	19:14 (T42) 06:02
	17:45		19:54		20:26	45 19:59 (T42) 20:55
31	07:44		07:18			06:02
	17:46		19:55			20:56
Potential sun hours	297	297	370		399	448
Total, worst case		145		1649		689
Sun reduction		0.40		0.44		0.52
Oper. time red.		1.00		1.00		1.00
Wind dir. red.		0.67		0.64		0.57
Total reduction		0.27		0.29		0.30
Total, real		39		471		207

						20:08 (T41)
						24 20:32 (T41)
						20:09 (T41)
						24 20:33 (T41)
						20:08 (T41)
						25 20:33 (T41)
						20:09 (T41)
						25 20:34 (T41)
						20:09 (T41)
						26 20:35 (T41)
						20:09 (T41)
						26 20:35 (T41)
						20:09 (T41)
						27 20:36 (T41)
						20:10 (T41)
						27 20:37 (T41)
						20:10 (T41)
						28 20:38 (T41)
						20:11 (T41)
						27 20:38 (T41)
						20:11 (T41)
						28 20:39 (T41)
						20:10 (T41)
						29 20:39 (T41)
						20:11 (T41)
						28 20:39 (T41)
						20:11 (T41)
						28 20:39 (T41)
						20:11 (T41)
						29 20:40 (T41)
						20:11 (T41)
						29 20:40 (T41)
						20:13 (T41)
						28 20:41 (T41)
						20:13 (T41)
						29 20:42 (T41)
						20:13 (T41)
						29 20:42 (T41)
						20:13 (T41)
						29 20:42 (T41)
						20:13 (T41)
						29 20:42 (T41)
						20:14 (T41)
						29 20:43 (T41)
						20:14 (T41)
						29 20:43 (T41)
						20:14 (T41)
						29 20:43 (T41)
						20:14 (T41)
						29 20:43 (T41)
						20:14 (T41)
						29 20:43 (T41)
						20:15 (T41)
						28 20:43 (T41)
						20:14 (T41)
						29 20:43 (T41)
						453
						834
						0.64
						1.00
						0.54
						0.35
						292

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 718 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8286)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:02		20:15 (T41)	06:26		19:31 (T42)	06:57		19:34 (T42)	07:27		07:47 (T76)	07:02	07:37
	21:08	28	20:43 (T41)	20:50	29	20:00 (T42)	20:07	10	19:44 (T42)	19:15	74	18:46 (T77)	17:28	17:04
2	06:03		20:15 (T41)	06:27		19:30 (T42)	06:58			07:29		07:48 (T76)	07:03	07:38
	21:08	28	20:43 (T41)	20:49	31	20:01 (T42)	20:06			19:13	72	18:46 (T77)	17:27	17:03
3	06:03		20:15 (T41)	06:28		19:29 (T42)	06:59			07:30		07:49 (T76)	07:04	07:39
	21:08	28	20:43 (T41)	20:48	33	20:02 (T42)	20:04			19:11	69	18:45 (T77)	17:26	17:03
4	06:04		20:15 (T41)	06:29		19:28 (T42)	07:00			07:31		07:50 (T76)	07:06	07:40
	21:08	27	20:42 (T41)	20:47	35	20:03 (T42)	20:02			19:10	66	18:45 (T77)	17:24	17:03
5	06:04		20:16 (T41)	06:30		19:27 (T42)	07:01			07:32		07:52 (T76)	07:07	07:41
	21:08	27	20:43 (T41)	20:46	37	20:04 (T42)	20:01			19:08	62	18:45 (T77)	17:23	17:03
6	06:05		20:15 (T41)	06:31		19:26 (T42)	07:02			07:33		07:53 (T76)	07:08	07:42
	21:08	27	20:42 (T41)	20:44	39	20:05 (T42)	19:57			19:06	57	18:44 (T77)	17:22	17:03
7	06:05		20:16 (T41)	06:32		19:26 (T42)	07:03			07:34		17:55 (T77)	07:09	07:43
	21:07	26	20:42 (T41)	20:43	39	20:05 (T42)	19:56			19:05	48	18:43 (T77)	17:21	17:03
8	06:06		20:16 (T41)	06:33		19:25 (T42)	07:04			07:35		17:56 (T77)	07:10	07:44
	21:07	26	20:42 (T41)	20:42	41	20:06 (T42)	19:54			19:03	45	18:41 (T77)	17:20	17:03
9	06:07		20:16 (T41)	06:34		19:24 (T42)	07:05			07:36		17:56 (T77)	07:12	07:45
	21:07	25	20:41 (T41)	20:41	42	20:06 (T42)	19:52			19:01	43	18:39 (T77)	17:19	17:03
10	06:07		20:16 (T41)	06:35		19:24 (T42)	07:06			07:37		17:56 (T77)	07:13	07:46
	21:06	25	20:41 (T41)	20:39	43	20:07 (T42)	19:51			19:00	41	18:37 (T77)	17:18	17:03
11	06:08		20:17 (T41)	06:36		19:23 (T42)	07:07			07:38		17:56 (T77)	07:14	07:46
	21:06	24	20:41 (T41)	20:38	44	20:07 (T42)	19:49			18:58	40	18:36 (T77)	17:17	17:03
12	06:09		20:16 (T41)	06:37		19:23 (T42)	07:08			07:39		17:57 (T77)	07:15	07:47
	21:06	24	20:40 (T41)	20:37	44	20:07 (T42)	19:47			18:57	37	18:34 (T77)	17:16	17:03
13	06:10		20:17 (T41)	06:38		19:22 (T42)	07:09			07:40		17:58 (T77)	07:16	07:48
	21:05	23	20:40 (T41)	20:36	45	20:07 (T42)	19:45			18:55	34	18:32 (T77)	17:15	17:03
14	06:10		20:17 (T41)	06:39		19:22 (T42)	07:10		07:57 (T76)	07:41		17:59 (T77)	07:18	07:49
	21:05	22	20:39 (T41)	20:34	45	20:07 (T42)	19:44	8	08:05 (T76)	18:54	31	18:30 (T77)	17:14	17:03
15	06:11		20:18 (T41)	06:40		19:22 (T42)	07:11		07:53 (T76)	07:42		18:01 (T77)	07:19	07:50
	21:04	21	20:39 (T41)	20:33	45	20:07 (T42)	19:42	16	08:09 (T76)	18:52	29	18:30 (T77)	17:13	17:03
16	06:12		20:17 (T41)	06:41		19:21 (T42)	07:12		07:50 (T76)	07:44		18:03 (T77)	07:20	07:50
	21:03	21	20:38 (T41)	20:31	45	20:06 (T42)	19:40	21	08:11 (T76)	18:50	25	18:28 (T77)	17:12	17:04
17	06:13		20:18 (T41)	06:42		19:20 (T42)	07:13		07:48 (T76)	07:45		18:04 (T77)	07:21	07:51
	21:03	19	20:37 (T41)	20:30	46	20:06 (T42)	19:39	36	18:32 (T77)	18:49	22	18:26 (T77)	17:11	17:04
18	06:14		20:18 (T41)	06:43		19:20 (T42)	07:14		07:46 (T76)	07:46		18:07 (T77)	07:22	07:52
	21:02	19	20:37 (T41)	20:29	44	20:04 (T42)	19:37	48	18:36 (T77)	18:47	17	18:24 (T77)	17:11	17:04
19	06:14		20:19 (T41)	06:44		19:20 (T42)	07:15		07:45 (T76)	07:47		18:12 (T77)	07:23	07:52
	21:01	18	20:37 (T41)	20:27	43	20:03 (T42)	19:35	56	18:39 (T77)	18:46	8	18:20 (T77)	17:10	17:05
20	06:15		20:20 (T41)	06:45		19:20 (T42)	07:16		07:43 (T76)	07:48			07:25	07:53
	21:01	16	20:36 (T41)	20:26	42	20:02 (T42)	19:33	63	18:41 (T77)	18:44			17:09	17:05
21	06:16		20:19 (T41)	06:46		19:20 (T42)	07:17		07:42 (T76)	07:49			07:26	07:53
	21:00	16	20:35 (T41)	20:24	40	20:00 (T42)	19:32	68	18:42 (T77)	18:43			17:08	17:06
22	06:17		20:20 (T41)	06:47		19:21 (T42)	07:18		07:42 (T76)	07:50			07:27	07:54
	20:59	14	20:34 (T41)	20:23	38	19:59 (T42)	19:30	71	18:43 (T77)	18:41			17:08	17:06
23	06:18		20:21 (T41)	06:48		19:21 (T42)	07:19		07:41 (T76)	07:51			07:28	07:54
	20:58	12	20:33 (T41)	20:21	36	19:57 (T42)	19:28	74	18:44 (T77)	18:40			17:07	17:07
24	06:19		20:22 (T41)	06:49		19:22 (T42)	07:20		07:40 (T76)	07:53			07:29	07:55
	20:58	11	20:33 (T41)	20:20	34	19:56 (T42)	19:27	78	18:45 (T77)	18:39			17:07	17:07
25	06:20		20:23 (T41)	06:50		19:22 (T42)	07:21		07:41 (T76)	07:54			07:30	07:55
	20:57	9	20:32 (T41)	20:18	32	19:54 (T42)	19:25	78	18:45 (T77)	18:37			17:06	17:08
26	06:21		20:25 (T41)	06:51		19:23 (T42)	07:22		07:42 (T76)	07:55			07:32	07:56
	20:56	6	20:31 (T41)	20:17	30	19:53 (T42)	19:23	78	18:46 (T77)	18:36			17:06	17:08
27	06:22		19:44 (T42)	06:52		19:24 (T42)	07:23		07:43 (T76)	07:56			07:33	07:56
	20:55	10	20:31 (T41)	20:15	27	19:51 (T42)	19:21	79	18:46 (T77)	18:34			17:05	17:09
28	06:22		19:40 (T42)	06:53		19:25 (T42)	07:24		07:44 (T76)	07:57			07:34	07:56
	20:54	15	20:30 (T41)	20:14	25	19:50 (T42)	19:20	78	18:46 (T77)	18:33			17:05	17:10
29	06:23		19:36 (T42)	06:54		19:26 (T42)	07:25		07:45 (T76)	07:58			07:35	07:57
	20:53	19	19:55 (T42)	20:12	22	19:48 (T42)	19:18	76	18:46 (T77)	18:32			17:04	17:10
30	06:24		19:34 (T42)	06:55		19:28 (T42)	07:26		07:46 (T76)	08:00			07:36	07:57
	20:52	23	19:57 (T42)	20:10	19	19:47 (T42)	19:16	75	18:46 (T77)	18:30			17:04	17:11
31	06:25		19:33 (T42)	06:56		19:30 (T42)				08:01				07:57
	20:51	26	19:59 (T42)	20:09	15	19:45 (T42)				18:29				17:12
Potential sun hours	460			429			375			345			297	287
Total, worst case		635			1130			1013			820			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.55			0.57			0.63			0.66			
Total reduction		0.36			0.35			0.38			0.32			
Total, real		231			399			382			262			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 728 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8295)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April		May	June
1	07:57	07:43		17:09 (T30)	07:07		07:37 (T31)	07:16		07:35 (T28)	06:30	06:01
	17:13	17:47	11	17:20 (T30)	18:22	57	17:28 (T30)	19:56	67	19:34 (T27)	20:27	20:57
2	07:57	07:43		17:06 (T30)	07:06		07:37 (T31)	07:14		07:33 (T28)	06:29	06:01
	17:14	17:49	18	17:24 (T30)	18:23	52	17:26 (T30)	19:57	71	19:35 (T27)	20:28	20:58
3	07:58	07:41		17:04 (T30)	07:04		07:38 (T31)	07:13		07:32 (T28)	06:28	06:00
	17:15	17:50	22	17:26 (T30)	18:24	42	17:22 (T30)	19:58	76	19:37 (T27)	20:29	20:58
4	07:58	07:40		17:02 (T30)	07:02		07:41 (T31)	07:11		07:30 (T28)	06:26	06:00
	17:15	17:51	25	17:27 (T30)	18:25	21	08:02 (T31)	19:59	79	19:37 (T27)	20:30	20:59
5	07:58	07:39		17:01 (T30)	07:01		07:43 (T31)	07:09		07:28 (T28)	06:25	06:00
	17:16	17:52	28	17:29 (T30)	18:26	16	07:59 (T31)	20:00	81	19:38 (T27)	20:31	21:00
6	07:58	07:38		16:59 (T30)	06:59		07:47 (T31)	07:08		07:27 (T28)	06:24	05:59
	17:17	17:54	30	17:29 (T30)	18:27	8	07:55 (T31)	20:00	85	19:40 (T27)	20:32	21:01
7	07:57	07:37		16:58 (T30)	06:58			07:06		07:25 (T28)	06:23	05:59
	17:18	17:55	33	17:31 (T30)	18:29			20:01	87	19:40 (T27)	20:33	21:01
8	07:57	07:36		16:57 (T30)	07:56			07:05		07:25 (T28)	06:21	05:59
	17:19	17:56	35	17:32 (T30)	19:30			20:02	89	19:42 (T27)	20:34	21:02
9	07:57	07:35		07:55 (T31)	07:54			07:03		07:24 (T28)	06:20	05:59
	17:20	17:57	41	17:34 (T30)	19:31			20:03	88	19:41 (T27)	20:35	21:02
10	07:57	07:34		07:54 (T31)	07:53			07:01		07:24 (T28)	06:19	05:58
	17:21	17:59	49	17:36 (T30)	19:32			20:05	87	19:40 (T27)	20:37	21:03
11	07:57	07:32		07:52 (T31)	07:51			07:00		07:24 (T28)	06:18	05:58
	17:22	18:00	52	17:35 (T30)	19:33			20:06	86	19:40 (T27)	20:38	21:04
12	07:56	07:31		07:51 (T31)	07:50			06:58		07:23 (T28)	06:17	05:58
	17:23	18:01	56	17:36 (T30)	19:34			20:07	84	19:38 (T27)	20:39	21:04
13	07:56	07:30		07:50 (T31)	07:48			06:56		07:24 (T28)	06:16	05:58
	17:25	18:02	61	17:37 (T30)	19:35			20:08	82	19:38 (T27)	20:40	21:05
14	07:56	07:29		07:49 (T31)	07:46			06:55		07:24 (T28)	06:15	05:58
	17:26	18:04	64	17:38 (T30)	19:36			20:09	78	19:36 (T27)	20:41	21:05
15	07:55	07:27		07:47 (T31)	07:45			06:53		07:23 (T28)	06:14	05:58
	17:27	18:05	65	17:37 (T30)	19:38			20:10	74	19:33 (T27)	20:42	21:06
16	07:55	07:26		07:46 (T31)	07:43			06:52		07:24 (T28)	06:13	05:58
	17:28	18:06	69	17:38 (T30)	19:39			20:11	69	19:32 (T27)	20:43	21:06
17	07:55	07:25		07:44 (T31)	07:41			06:50		07:24 (T28)	06:12	05:58
	17:29	18:07	71	17:37 (T30)	19:40			20:12	62	19:28 (T27)	20:44	21:06
18	07:54	07:23		07:43 (T31)	07:40			06:49		07:25 (T28)	06:11	05:58
	17:30	18:09	72	17:38 (T30)	19:41			20:13	48	08:13 (T28)	20:45	21:07
19	07:53	07:22		07:42 (T31)	07:38			06:47		07:25 (T28)	06:10	05:58
	17:31	18:10	74	17:38 (T30)	19:42			20:14	46	08:11 (T28)	20:46	21:07
20	07:53	07:21		07:40 (T31)	07:36			06:46		07:26 (T28)	06:09	05:58
	17:33	18:11	75	17:37 (T30)	19:43			20:15	45	08:11 (T28)	20:46	21:07
21	07:52	07:19		07:39 (T31)	07:35			06:44		07:26 (T28)	06:08	05:59
	17:34	18:12	76	17:37 (T30)	19:44			20:16	43	08:09 (T28)	20:47	21:08
22	07:52	07:18		07:37 (T31)	07:33			06:43		07:28 (T28)	06:08	05:59
	17:35	18:13	77	17:36 (T30)	19:45			20:17	40	08:08 (T28)	20:48	21:08
23	07:51	07:16		07:36 (T31)	07:31		07:50 (T28)	06:41		07:29 (T28)	06:07	05:59
	17:36	18:15	77	17:36 (T30)	19:46	14	08:04 (T28)	20:18	38	08:07 (T28)	20:49	21:08
24	07:50	07:15		07:34 (T31)	07:30		07:49 (T28)	06:40		07:30 (T28)	06:06	05:59
	17:37	18:16	77	17:35 (T30)	19:47	20	08:09 (T28)	20:20	34	08:04 (T28)	20:50	21:08
25	07:50	07:13		07:35 (T31)	07:28		07:47 (T28)	06:38		07:32 (T28)	06:05	06:00
	17:39	18:17	73	17:34 (T30)	19:48	24	08:11 (T28)	20:21	31	08:03 (T28)	20:51	21:08
26	07:49	07:12		07:34 (T31)	07:26		07:45 (T28)	06:37		07:33 (T28)	06:05	06:00
	17:40	18:18	72	17:33 (T30)	19:50	32	19:28 (T27)	20:22	27	08:00 (T28)	20:52	21:09
27	07:48	07:10		07:35 (T31)	07:24		07:43 (T28)	06:36		07:36 (T28)	06:04	06:00
	17:41	18:19	68	17:32 (T30)	19:51	41	19:29 (T27)	20:23	22	07:58 (T28)	20:53	21:09
28	07:47	07:09		07:36 (T31)	07:23		07:42 (T28)	06:34		07:39 (T28)	06:03	06:01
	17:42	18:20	62	17:30 (T30)	19:52	47	19:30 (T27)	20:24	15	07:54 (T28)	20:54	21:09
29	07:46				07:21		07:40 (T28)	06:33			06:03	06:01
	17:44				19:53	53	19:31 (T27)	20:25			20:55	21:09
30	07:45				07:19		07:38 (T28)	06:31			06:02	06:01
	17:45				19:54	58	19:32 (T27)	20:26			20:55	21:09
31	07:44				07:18		07:37 (T28)				06:02	
	17:46				19:55	63	19:34 (T27)				20:56	
Potential sun hours	297	297			370			399			449	453
Total, worst case			1533			548			1734			
Sun reduction			0.40			0.44			0.52			
Oper. time red.			1.00			1.00			1.00			
Wind dir. red.			0.66			0.63			0.63			
Total reduction			0.27			0.28			0.33			
Total, real			407			151			572			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 728 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8295)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August		September		October		November		December
1	06:02	06:26		06:57	07:23 (T28)	07:27		07:02	07:23 (T31)	07:37
	21:09	20:50		20:07	86 19:39 (T27)	19:15		17:28	47 17:04 (T30)	17:04
2	06:02	06:27		06:58	07:23 (T28)	07:29		07:03	07:25 (T31)	07:38
	21:08	20:49		20:06	87 19:39 (T27)	19:13		17:27	41 17:04 (T30)	17:03
3	06:03	06:28		06:59	07:22 (T28)	07:30		07:04	16:27 (T30)	07:39
	21:08	20:48		20:04	88 19:39 (T27)	19:11		17:25	35 17:02 (T30)	17:03
4	06:03	06:29		07:00	07:22 (T28)	07:31		07:06	16:28 (T30)	07:40
	21:08	20:47		20:02	89 19:39 (T27)	19:10		17:24	33 17:01 (T30)	17:03
5	06:04	06:30		07:01	07:22 (T28)	07:32		07:07	16:29 (T30)	07:41
	21:08	20:46		20:01	88 19:38 (T27)	19:08		17:23	30 16:59 (T30)	17:03
6	06:05	06:31		07:02	07:23 (T28)	07:33		07:08	16:31 (T30)	07:42
	21:08	20:45		19:57	85 19:36 (T27)	19:06		17:22	28 16:59 (T30)	17:03
7	06:05	06:32		07:03	07:24 (T28)	07:34		07:09	16:32 (T30)	07:43
	21:07	20:43		19:56	81 19:34 (T27)	19:05		17:21	25 16:57 (T30)	17:02
8	06:06	06:33		07:04	07:25 (T28)	07:35	08:20 (T31)	07:10	16:34 (T30)	07:44
	21:07	20:42		19:54	79 19:33 (T27)	19:03	13 08:33 (T31)	17:20	22 16:56 (T30)	17:02
9	06:07	06:34		07:05	07:25 (T28)	07:36	08:17 (T31)	07:12	16:37 (T30)	07:45
	21:07	20:41		19:52	76 19:30 (T27)	19:01	19 08:36 (T31)	17:19	17 16:54 (T30)	17:02
10	06:07	06:35		07:06	07:26 (T28)	07:37	08:14 (T31)	07:13	16:41 (T30)	07:46
	21:06	20:40		19:51	71 19:28 (T27)	19:00	35 17:54 (T30)	17:18	9 16:50 (T30)	17:02
11	06:08	06:36		07:07	07:27 (T28)	07:38	08:12 (T31)	07:14		07:47
	21:06	20:38		19:49	68 19:27 (T27)	18:58	46 17:58 (T30)	17:17		17:02
12	06:09	06:37		07:08	07:28 (T28)	07:39	08:10 (T31)	07:15		07:47
	21:06	20:37		19:47	64 19:25 (T27)	18:57	54 18:00 (T30)	17:16		17:03
13	06:09	06:38		07:09	07:29 (T28)	07:40	08:09 (T31)	07:16		07:48
	21:05	20:36		19:45	58 19:23 (T27)	18:55	61 18:02 (T30)	17:15		17:03
14	06:10	06:39	07:51 (T28)	07:10	07:30 (T28)	07:41	08:09 (T31)	07:18		07:49
	21:05	20:34	6 07:57 (T28)	19:44	54 19:22 (T27)	18:53	65 18:04 (T30)	17:14		17:03
15	06:11	06:40	07:45 (T28)	07:11	07:31 (T28)	07:42	08:08 (T31)	07:19		07:50
	21:04	20:33	17 08:02 (T28)	19:42	48 19:20 (T27)	18:52	68 18:05 (T30)	17:13		17:03
16	06:12	06:41	07:42 (T28)	07:12	07:32 (T28)	07:44	08:07 (T31)	07:20		07:50
	21:04	20:32	23 08:05 (T28)	19:40	41 19:18 (T27)	18:50	72 18:05 (T30)	17:12		17:03
17	06:13	06:42	07:39 (T28)	07:13	07:33 (T28)	07:45	08:06 (T31)	07:21		07:51
	21:03	20:30	28 08:07 (T28)	19:39	34 19:17 (T27)	18:49	75 18:06 (T30)	17:11		17:04
18	06:13	06:43	07:37 (T28)	07:14	07:34 (T28)	07:46	08:06 (T31)	07:22		07:52
	21:02	20:29	32 08:09 (T28)	19:37	25 07:59 (T28)	18:47	76 18:06 (T30)	17:10		17:04
19	06:14	06:44	07:35 (T28)	07:15	07:35 (T28)	07:47	08:07 (T31)	07:24		07:52
	21:02	20:27	36 08:11 (T28)	19:35	21 07:56 (T28)	18:46	77 18:07 (T30)	17:10		17:04
20	06:15	06:45	07:34 (T28)	07:16	07:36 (T28)	07:48	08:09 (T31)	07:25		07:53
	21:01	20:26	38 08:12 (T28)	19:33	15 07:51 (T28)	18:44	76 18:08 (T30)	17:09		17:05
21	06:16	06:46	07:32 (T28)	07:17		07:49	08:10 (T31)	07:26		07:53
	21:00	20:24	41 08:13 (T28)	19:32		18:43	76 18:08 (T30)	17:08		17:05
22	06:17	06:47	07:31 (T28)	07:18		07:50	08:11 (T31)	07:27		07:54
	20:59	20:23	43 08:14 (T28)	19:30		18:41	75 18:08 (T30)	17:08		17:06
23	06:18	06:48	07:30 (T28)	07:19		07:51	08:12 (T31)	07:28		07:54
	20:59	20:21	45 08:15 (T28)	19:28		18:40	74 18:08 (T30)	17:07		17:06
24	06:19	06:49	07:29 (T28)	07:20		07:53	08:13 (T31)	07:29		07:55
	20:58	20:20	46 08:15 (T28)	19:27		18:39	72 18:07 (T30)	17:07		17:07
25	06:20	06:50	07:28 (T28)	07:21		07:54	08:15 (T31)	07:31		07:55
	20:57	20:18	48 08:16 (T28)	19:25		18:37	70 18:08 (T30)	17:06		17:07
26	06:20	06:51	07:27 (T28)	07:22		07:55	08:16 (T31)	07:32		07:56
	20:56	20:17	62 19:31 (T27)	19:23		18:36	68 18:07 (T30)	17:05		17:08
27	06:21	06:52	07:26 (T28)	07:23		07:56	08:17 (T31)	07:33		07:56
	20:55	20:15	70 19:34 (T27)	19:21		18:34	66 18:07 (T30)	17:05		17:09
28	06:22	06:53	07:25 (T28)	07:24		07:57	08:18 (T31)	07:34		07:56
	20:54	20:14	74 19:35 (T27)	19:20		18:33	63 18:06 (T30)	17:05		17:09
29	06:23	06:54	07:25 (T28)	07:25		07:58	08:20 (T31)	07:35		07:57
	20:53	20:12	78 19:37 (T27)	19:18		18:32	60 18:07 (T30)	17:04		17:10
30	06:24	06:55	07:24 (T28)	07:26		08:00	08:21 (T31)	07:36		07:57
	20:52	20:10	81 19:38 (T27)	19:16		18:30	56 18:06 (T30)	17:04		17:11
31	06:25	06:56	07:23 (T28)			08:01	08:22 (T31)			07:57
	20:51	20:09	85 19:38 (T27)			18:29	51 18:05 (T30)			17:12
Potential sun hours	460	429		375		345		297		287
Total, worst case		853		1258		1468		287		
Sun reduction		0.61		0.59		0.48		0.30		
Oper. time red.		1.00		1.00		1.00		1.00		
Wind dir. red.		0.64		0.63		0.65		0.71		
Total reduction		0.39		0.37		0.31		0.21		
Total, real		332		470		457		61		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 740 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8305)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		06:50 (T36)	06:01	19:38 (T35)	06:02	19:46 (T35)	06:26	06:55 (T36)	06:57	07:27	07:02	07:37
	17:13	17:47	18:22	19:56		20:27	48	20:05 (T35)	20:57	44	20:22 (T35)	21:09	41	20:27 (T35)	20:50	73	20:25 (T35)	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:14		06:29		06:49 (T36)	06:01		19:38 (T35)	06:02		19:46 (T35)	06:27		06:54 (T36)	06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	52	20:06 (T35)	20:58	45	20:23 (T35)	21:08	41	20:27 (T35)	20:49	75	20:25 (T35)	20:06	19:13	17:27	17:03
3	07:57	07:41	07:04	07:13		06:28		06:47 (T36)	06:00		19:38 (T35)	06:03		19:46 (T35)	06:28		06:54 (T36)	06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58		20:29	56	20:06 (T35)	20:58	44	20:22 (T35)	21:08	41	20:27 (T35)	20:48	73	20:24 (T35)	20:04	19:11	17:25	17:03
4	07:58	07:40	07:02	07:11		06:26		06:46 (T36)	06:00		19:39 (T35)	06:04		19:46 (T35)	06:29		06:54 (T36)	07:00	07:31	07:06	07:40
	17:15	17:51	18:25	19:59		20:30	60	20:08 (T35)	20:59	43	20:22 (T35)	21:08	41	20:27 (T35)	20:47	70	20:22 (T35)	20:02	19:10	17:24	17:03
5	07:58	07:39	07:01	07:09		06:25		06:45 (T36)	06:00		19:40 (T35)	06:04		19:46 (T35)	06:30		06:53 (T36)	07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00		20:31	64	20:09 (T35)	21:00	43	20:23 (T35)	21:08	42	20:28 (T35)	20:46	71	20:21 (T35)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08		06:24		06:44 (T36)	05:59		19:39 (T35)	06:05		19:46 (T35)	06:31		06:53 (T36)	07:02	07:33	07:08	07:42
	17:17	17:54	18:27	20:00		20:32	67	20:10 (T35)	21:01	43	20:22 (T35)	21:08	42	20:28 (T35)	20:44	69	20:20 (T35)	19:57	19:06	17:22	17:03
7	07:57	07:37	06:58	07:06		06:23		06:43 (T36)	05:59		19:40 (T35)	06:05		19:46 (T35)	06:32		06:54 (T36)	07:03	07:34	07:09	07:43
	17:18	17:55	18:29	20:01		20:33	70	20:11 (T35)	21:01	42	20:22 (T35)	21:07	43	20:29 (T35)	20:43	66	20:19 (T35)	19:56	19:05	17:21	17:02
8	07:57	07:36	07:56	07:05		06:21		06:44 (T36)	05:59		19:41 (T35)	06:06		19:45 (T35)	06:33		06:55 (T36)	07:04	07:35	07:10	07:44
	17:19	17:56	19:30	20:02		20:34	70	20:12 (T35)	21:02	41	20:22 (T35)	21:07	43	20:28 (T35)	20:42	63	20:18 (T35)	19:54	19:03	17:20	17:02
9	07:57	07:35	07:54	07:03		06:20		06:43 (T36)	05:59		19:41 (T35)	06:07		19:46 (T35)	06:34		06:56 (T36)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03		20:35	72	20:12 (T35)	21:02	41	20:22 (T35)	21:07	43	20:29 (T35)	20:41	59	20:17 (T35)	19:52	19:01	17:19	17:02
10	07:57	07:34	07:53	07:01		06:19		06:43 (T36)	05:58		19:41 (T35)	06:07		19:46 (T35)	06:35		06:57 (T36)	07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:05		20:36	73	20:13 (T35)	21:03	41	20:22 (T35)	21:06	44	20:30 (T35)	20:40	56	20:16 (T35)	19:51	19:00	17:18	17:02
11	07:57	07:32	07:51	07:00		06:18		06:44 (T36)	05:58		19:41 (T35)	06:08		19:45 (T35)	06:36		06:58 (T36)	07:07	07:38	07:14	07:47
	17:22	18:00	19:33	20:06		20:38	73	20:14 (T35)	21:04	41	20:22 (T35)	21:06	45	20:30 (T35)	20:38	51	20:15 (T35)	19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58		06:17		06:44 (T36)	05:58		19:42 (T35)	06:09		19:45 (T35)	06:37		06:59 (T36)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:07		20:39	74	20:15 (T35)	21:04	40	20:22 (T35)	21:06	45	20:30 (T35)	20:37	45	20:13 (T35)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:56		06:16		06:45 (T36)	05:58		19:42 (T35)	06:09		19:45 (T35)	06:38		07:00 (T36)	07:09	07:40	07:16	07:48
	17:25	18:02	19:35	20:08		20:40	74	20:16 (T35)	21:05	40	20:22 (T35)	21:05	46	20:31 (T35)	20:36	39	20:12 (T35)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55		06:15		06:45 (T36)	05:58		19:42 (T35)	06:10		19:46 (T35)	06:39		07:00 (T36)	07:10	07:41	07:18	07:49
	17:26	18:04	19:36	20:09		20:41	75	20:17 (T35)	21:05	40	20:22 (T35)	21:05	45	20:31 (T35)	20:34	29	07:29 (T36)	19:44	18:53	17:14	17:03
15	07:55	07:27	07:45	06:53		06:14		06:46 (T36)	05:58		19:43 (T35)	06:11		19:45 (T35)	06:40		07:01 (T36)	07:11	07:42	07:19	07:50
	17:27	18:05	19:38	20:10		20:42	74	20:18 (T35)	21:06	39	20:22 (T35)	21:04	46	20:31 (T35)	20:33	27	07:28 (T36)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52		06:13		06:47 (T36)	05:58		19:43 (T35)	06:12		19:45 (T35)	06:41		07:02 (T36)	07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11		20:43	73	20:19 (T35)	21:06	39	20:22 (T35)	21:03	46	20:31 (T35)	20:31	26	07:28 (T36)	19:40	18:50	17:12	17:03
17	07:54	07:25	07:41	06:50		06:12		06:49 (T36)	05:58		19:43 (T35)	06:13		19:45 (T35)	06:42		07:03 (T36)	07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12		20:44	73	20:21 (T35)	21:06	39	20:22 (T35)	21:03	47	20:32 (T35)	20:30	24	07:27 (T36)	19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49		06:11		06:49 (T36)	05:58		19:43 (T35)	06:13		19:45 (T35)	06:43		07:04 (T36)	07:14	07:46	07:22	07:52
	17:30	18:09	19:41	20:13		20:45	72	20:21 (T35)	21:07	39	20:22 (T35)	21:02	47	20:32 (T35)	20:29	22	07:26 (T36)	19:37	18:47	17:11	17:04
19	07:53	07:22	07:38	06:47		06:10		06:50 (T36)	05:58		19:45 (T35)	06:14		19:46 (T35)	06:44		07:05 (T36)	07:15	07:47	07:24	07:52
	17:31	18:10	19:42	20:14		20:45	71	20:22 (T35)	21:07	38	20:23 (T35)	21:02	47	20:33 (T35)	20:27	19	07:24 (T36)	19:35	18:46	17:10	17:04
20	07:53	07:20	07:36	06:46	07:05 (T36)	06:09		06:51 (T36)	05:58		19:45 (T35)	06:15		07:10 (T36)	06:45		07:06 (T36)	07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15	7 07:12 (T36)	20:46	68	20:22 (T35)	21:07	38	20:23 (T35)	21:01	51	20:32 (T35)	20:26	17	07:23 (T36)	19:33	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44	07:03 (T36)	06:08		06:53 (T36)	05:59		19:45 (T35)	06:16		07:06 (T36)	06:46		07:07 (T36)	07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16	11 07:14 (T36)	20:47	65	20:22 (T35)	21:08	38	20:23 (T35)	21:00	59	20:32 (T35)	20:24	14	07:21 (T36)	19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43	07:02 (T36)	06:08		06:55 (T36)	05:59		19:45 (T35)	06:17		07:04 (T36)	06:47		07:08 (T36)	07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:17	14 07:16 (T36)	20:48	63	20:23 (T35)	21:08	38	20:23 (T35)	20:59	63	20:32 (T35)	20:23	10	07:18 (T36)	19:30	18:41	17:08	17:06
23	07:51	07:16	07:31	06:41	07:01 (T36)	06:07		06:58 (T36)	05:59		19:45 (T35)	06:18		07:03 (T36)	06:48		07:09 (T36)	07:19	07:51	07:28	07:54
	17:36	18:15	19:46	20:18	17 07:18 (T36)	20:49	57	20:23 (T35)	21:08	38	20:23 (T35)	20:59	67	20:33 (T35)	20:21	6	07:15 (T36)	19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:40	06:59 (T36)	06:06		19:35 (T35)	05:59		19:46 (T35)	06:19		07:02 (T36)	06:49			07:20	07:53	07:29	07:55
	17:37	18:16	19:47	20:20	20 07:19 (T36)	20:50	47	20:22 (T35)	21:08	38	20:24 (T35)	20:58	70	20:33 (T35)	20:20			19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:38	06:58 (T36)	06:05		19:36 (T35)	06:00		19:45 (T35)	06:20		07:00 (T36)	06:50			07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:21	22 07:20 (T36)	20:51	47	20:23 (T35)	21:08	39	20:24 (T35)	20:57	71	20:32 (T35)	20:18			19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37	06:56 (T36)	06:05		19:36 (T35)	06:00		19:45 (T35)	06:20		07:00 (T36)	06:51			07:22	07:55	07:32	07:56
	17:40	18:18	19:49	20:22	24 07:20 (T36)	20:52	47	20:23 (T35)	21:08	39	20:24 (T35)	20:56	72	20:32 (T35)	20:17			19:23	18:36	17:06	17:08
27	07:48	07:10	07:24	06:36	06:55 (T36)	06:04		19:36 (T35)	06:00		19:46 (T35)	06:21		06:58 (T36)	06:52			07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23	26 07:21 (T36)	20:53	46	20:22 (T35)	21:09	39	20:25 (T35)	20:55	73	20:30 (T35)	20:15			19:21	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34	06:54 (T36)	06:03		19:36 (T35)	06:01		19:46 (T35)	06:22		06:57 (T36)	06:53			07:24	07:57	07:34	07:56
	17:42	18:20	19:52	20:24	28 07:22 (T36)	20:54	47	20:23 (T35)	21:09	39	20:25 (T35)	20:54	74	20:29 (T35)	20:14			19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:52 (T36)	06:03		19:36 (T35)	06:01		19:46 (T35)	06:23		06:56 (T36)	06:54			07:25	07:58	07:35	07:57
	17:44		19:53	20:25	30 07:22 (T36)	20:55	46	20:22 (T35)	21:09	40	20:26 (T35)	20:53	74	20:28 (T35)	20:12			19:18	18:32	17:04	17:10
30	07:45		07:19	06:31	06:51 (T36)	06:02		19:37 (T35)	06:01		19:46 (T35)	06:24		06:56 (T36)	06:55			07:26	08:00	07:36	07:57
	17:45		19:54	20:26	41 20:04 (T35)	20:55	46	20:23 (T35)	21:09	40	20:26 (T35)	20:52	74	20:27 (T35)	20:10			19:16	18:30	17:04	17:11
31	07:44		07:18			06:02		19:37 (T35)				06:25		06:55 (T36)	06:56				08:01		07:57
	17:46		19:55			20:56	45	20:22 (T35)				20:51	73	20:26 (T35)	20:09				18:29		17:12
Potential sun hours	297	297	370	399		449		453		460		429		375	345	297	287	
Total, worst case				240		1915		1208		1656		1004						
Sun reduction				0.52		0.57		0.64		0.66		0.61						
Oper. time red.				1.00		1.00		1.00		1.00		1.00						
Wind dir. red.				0.68		0.60		0.56		0.58		0.64						
Total reduction				0.35		0.35		0.36		0.38		0.39						
Total, real				85		662		433		635		394						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 752 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8315)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February	March		April		May		June		
1	07:57	15:42 (T45)	07:43	07:07		07:16	18:45 (T44)	06:30	18:38 (T44)	06:01		
	17:13	52 16:34 (T45)	17:47	18:22		19:56	49 19:34 (T44)	20:27	53 19:31 (T44)	20:57		
2	07:57	15:43 (T45)	07:42	07:06		07:14	18:43 (T44)	06:29	18:39 (T44)	06:01		
	17:14	51 16:34 (T45)	17:49	18:23		19:57	52 19:35 (T44)	20:28	51 19:30 (T44)	20:58		
3	07:57	15:44 (T45)	07:41	07:04		07:13	18:42 (T44)	06:28	18:39 (T44)	06:01		06:22 (T76)
	17:15	50 16:34 (T45)	17:50	18:24		19:58	55 19:37 (T44)	20:29	49 19:28 (T44)	20:58	3	06:25 (T76)
4	07:57	15:44 (T45)	07:40	07:02		07:11	18:40 (T44)	06:26	18:40 (T44)	06:00		06:22 (T76)
	17:16	51 16:35 (T45)	17:51	18:25		19:59	57 19:37 (T44)	20:30	47 19:27 (T44)	20:59	4	06:26 (T76)
5	07:57	15:45 (T45)	07:39	07:01		07:09	18:39 (T44)	06:25	18:42 (T44)	06:00		06:22 (T76)
	17:17	50 16:35 (T45)	17:52	18:26		20:00	59 19:38 (T44)	20:31	44 19:26 (T44)	21:00	6	06:28 (T76)
6	07:57	15:45 (T45)	07:38	06:59		07:08	18:38 (T44)	06:24	18:43 (T44)	06:00		06:21 (T76)
	17:17	51 16:36 (T45)	17:54	18:27		20:00	62 19:40 (T44)	20:32	41 19:24 (T44)	21:00	7	06:28 (T76)
7	07:57	15:45 (T45)	07:37	06:58		07:06	18:37 (T44)	06:23	18:45 (T44)	05:59		06:21 (T76)
	17:18	50 16:35 (T45)	17:55	18:29		20:01	63 19:40 (T44)	20:33	38 19:23 (T44)	21:01	8	06:29 (T76)
8	07:57	15:46 (T45)	07:36	07:56		07:05	18:37 (T44)	06:22	18:47 (T44)	05:59		06:21 (T76)
	17:19	49 16:35 (T45)	17:56	19:30		20:02	63 19:40 (T44)	20:34	34 19:21 (T44)	21:02	9	06:30 (T76)
9	07:57	15:47 (T45)	07:35	07:54		07:03	18:36 (T44)	06:20	18:49 (T44)	05:59		06:21 (T76)
	17:20	49 16:36 (T45)	17:58	19:31		20:03	64 19:40 (T44)	20:35	31 19:20 (T44)	21:02	10	06:31 (T76)
10	07:57	15:48 (T45)	07:34	07:53		07:01	18:35 (T44)	06:19	18:50 (T44)	05:59		06:21 (T76)
	17:21	48 16:36 (T45)	17:59	19:32		20:05	65 19:40 (T44)	20:36	27 19:17 (T44)	21:03	11	06:32 (T76)
11	07:57	15:48 (T45)	07:32	07:51		07:00	18:35 (T44)	06:18	18:52 (T44)	05:58		06:21 (T76)
	17:23	48 16:36 (T45)	18:00	19:33		20:06	66 19:41 (T44)	20:37	22 19:14 (T44)	21:03	11	06:32 (T76)
12	07:56	15:49 (T45)	07:31	07:50		06:58	18:34 (T44)	06:17	18:56 (T44)	05:58		06:20 (T76)
	17:24	47 16:36 (T45)	18:01	19:34		20:07	66 19:40 (T44)	20:38	14 19:10 (T44)	21:04	12	06:32 (T76)
13	07:56	15:50 (T45)	07:30	07:48		06:57	18:34 (T44)	06:16		05:58		06:20 (T76)
	17:25	47 16:37 (T45)	18:02	19:35		20:08	67 19:41 (T44)	20:39		21:05	12	06:32 (T76)
14	07:56	15:50 (T45)	07:29	07:46		06:55	18:33 (T44)	06:15		05:58		06:20 (T76)
	17:26	46 16:36 (T45)	18:04	19:36		20:09	67 19:40 (T44)	20:40		21:05	13	06:33 (T76)
15	07:55	15:52 (T45)	07:27	07:45		06:53	18:32 (T44)	06:14		05:58		06:20 (T76)
	17:27	44 16:36 (T45)	18:05	19:38		20:10	68 19:40 (T44)	20:41		21:05	13	06:33 (T76)
16	07:55	15:52 (T45)	07:26	07:43		06:52	18:33 (T44)	06:13		05:58		06:20 (T76)
	17:28	44 16:36 (T45)	18:06	19:39		20:11	67 19:40 (T44)	20:42		21:06	14	06:34 (T76)
17	07:54	15:53 (T45)	07:25	07:41		06:50	18:32 (T44)	06:12		05:58		06:21 (T76)
	17:29	43 16:36 (T45)	18:07	19:40		20:12	67 19:39 (T44)	20:43		21:06	14	06:35 (T76)
18	07:54	15:54 (T45)	07:23	07:40		06:49	18:32 (T44)	06:11		05:58		06:21 (T76)
	17:30	41 16:35 (T45)	18:09	19:41		20:13	67 19:39 (T44)	20:44		21:07	14	06:35 (T76)
19	07:53	15:56 (T45)	07:22	07:38		06:47	18:32 (T44)	06:10		05:58		06:21 (T76)
	17:32	40 16:36 (T45)	18:10	19:42		20:14	67 19:39 (T44)	20:45		21:07	14	06:35 (T76)
20	07:53	15:56 (T45)	07:20	07:36		06:46	18:33 (T44)	06:09		05:59		06:21 (T76)
	17:33	39 16:35 (T45)	18:11	19:43		20:15	66 19:39 (T44)	20:46		21:07	14	06:35 (T76)
21	07:52	15:57 (T45)	07:19	07:35		06:44	18:33 (T44)	06:09		05:59		06:21 (T76)
	17:34	37 16:34 (T45)	18:12	19:44		20:16	66 19:39 (T44)	20:47		21:08	14	06:35 (T76)
22	07:52	15:59 (T45)	07:18	07:33		06:43	18:33 (T44)	06:08		05:59		06:21 (T76)
	17:35	35 16:34 (T45)	18:13	19:45		20:17	64 19:37 (T44)	20:48		21:08	14	06:35 (T76)
23	07:51	16:01 (T45)	07:16	07:31		06:41	18:33 (T44)	06:07		05:59		06:22 (T76)
	17:36	32 16:33 (T45)	18:15	19:46		20:18	64 19:37 (T44)	20:49		21:08	14	06:36 (T76)
24	07:50	16:02 (T45)	07:15	07:30		06:40	18:33 (T44)	06:06		05:59		06:22 (T76)
	17:38	29 16:31 (T45)	18:16	19:47		20:19	63 19:36 (T44)	20:50		21:08	14	06:36 (T76)
25	07:49	16:04 (T45)	07:13	07:28	19:06 (T44)	06:38	18:34 (T44)	06:06		06:00		06:22 (T76)
	17:39	26 16:30 (T45)	18:17	19:48	13 19:19 (T44)	20:21	62 19:36 (T44)	20:51		21:08	14	06:36 (T76)
26	07:49	16:06 (T45)	07:12	07:26	19:00 (T44)	06:37	18:34 (T44)	06:05		06:00		06:23 (T76)
	17:40	22 16:28 (T45)	18:18	19:50	24 19:24 (T44)	20:22	60 19:34 (T44)	20:52		21:08	14	06:37 (T76)
27	07:48	16:10 (T45)	07:10	07:24	18:56 (T44)	06:36	18:35 (T44)	06:04		06:00		06:23 (T76)
	17:41	17 16:27 (T45)	18:19	19:51	31 19:27 (T44)	20:23	59 19:34 (T44)	20:53		21:08	13	06:36 (T76)
28	07:47	16:14 (T45)	07:09	07:23	18:53 (T44)	06:34	18:36 (T44)	06:04		06:01		06:23 (T76)
	17:42	9 16:23 (T45)	18:21	19:52	37 19:30 (T44)	20:24	58 19:34 (T44)	20:54		21:08	13	06:36 (T76)
29	07:46			07:21	18:51 (T44)	06:33	18:36 (T44)	06:03		06:01		06:24 (T76)
	17:44			19:53	40 19:31 (T44)	20:25	56 19:32 (T44)	20:54		21:08	13	06:37 (T76)
30	07:45			07:19	18:48 (T44)	06:32	18:37 (T44)	06:02		06:02		06:24 (T76)
	17:45			19:54	44 19:32 (T44)	20:26	54 19:31 (T44)	20:55		21:08	12	06:36 (T76)
31	07:44			07:18	18:47 (T44)			06:02				
	17:46			19:55	47 19:34 (T44)			20:56				
Potential sun hours	297		297	370		399		448		453		
Total, worst case		1147			236		1863		451		324	
Sun reduction		0.31			0.44		0.52		0.57		0.64	
Oper. time red.		1.00			1.00		1.00		1.00		1.00	
Wind dir. red.		0.74			0.61		0.61		0.61		0.73	
Total reduction		0.24			0.28		0.33		0.36		0.48	
Total, real		272			65		610		162		155	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 752 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8315)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		06:25 (T76)	06:26		19:05 (T44)	06:57		18:34 (T44)	07:27	07:02			07:37		15:30 (T45)
	21:08	12	06:37 (T76)	20:50	18	19:23 (T44)	20:07	66	19:40 (T44)	19:15	17:28			17:04	48	16:18 (T45)
2	06:03		06:25 (T76)	06:27		19:02 (T44)	06:58		18:34 (T44)	07:29	07:03			07:38		15:30 (T45)
	21:08	11	06:36 (T76)	20:49	24	19:26 (T44)	20:06	65	19:39 (T44)	19:13	17:27			17:03	48	16:18 (T45)
3	06:03		06:26 (T76)	06:28		19:00 (T44)	06:59		18:34 (T44)	07:30	07:04			07:39		15:30 (T45)
	21:08	10	06:36 (T76)	20:48	28	19:28 (T44)	20:04	64	19:38 (T44)	19:11	17:26			17:03	49	16:19 (T45)
4	06:04		06:26 (T76)	06:29		18:57 (T44)	07:00		18:34 (T44)	07:31	07:06			07:40		15:30 (T45)
	21:08	9	06:35 (T76)	20:47	33	19:30 (T44)	20:02	64	19:38 (T44)	19:10	17:24			17:03	49	16:19 (T45)
5	06:04		06:27 (T76)	06:30		18:56 (T44)	07:01		18:34 (T44)	07:32	07:07			07:41		15:30 (T45)
	21:08	9	06:36 (T76)	20:46	36	19:32 (T44)	20:01	63	19:37 (T44)	19:08	17:23			17:03	50	16:20 (T45)
6	06:05		06:27 (T76)	06:31		18:54 (T44)	07:02		18:34 (T44)	07:33	07:08			07:42		15:31 (T45)
	21:08	8	06:35 (T76)	20:44	39	19:33 (T44)	19:57	62	19:36 (T44)	19:06	17:22			17:03	50	16:21 (T45)
7	06:05		06:28 (T76)	06:32		18:52 (T44)	07:03		18:35 (T44)	07:34	07:09			07:43		15:31 (T45)
	21:07	6	06:34 (T76)	20:43	42	19:34 (T44)	19:56	59	19:34 (T44)	19:05	17:21			17:03	50	16:21 (T45)
8	06:06		06:29 (T76)	06:33		18:51 (T44)	07:04		18:35 (T44)	07:35	07:10			07:44		15:31 (T45)
	21:07	5	06:34 (T76)	20:42	45	19:36 (T44)	19:54	58	19:33 (T44)	19:03	17:20			17:03	51	16:22 (T45)
9	06:07		06:29 (T76)	06:34		18:50 (T44)	07:05		18:36 (T44)	07:36	07:12			07:45		15:32 (T45)
	21:07	3	06:32 (T76)	20:41	47	19:37 (T44)	19:52	55	19:31 (T44)	19:02	17:19			17:03	50	16:22 (T45)
10	06:07		06:30 (T76)	06:35		18:48 (T44)	07:06		18:36 (T44)	07:37	07:13			07:46		15:32 (T45)
	21:06	1	06:31 (T76)	20:39	50	19:38 (T44)	19:51	52	19:28 (T44)	19:00	17:18			17:03	51	16:23 (T45)
11	06:08			06:36		18:47 (T44)	07:07		18:37 (T44)	07:38	07:14			07:46		15:33 (T45)
	21:06			20:38	52	19:39 (T44)	19:49	50	19:27 (T44)	18:58	17:17			17:03	51	16:24 (T45)
12	06:09			06:37		18:46 (T44)	07:08		18:38 (T44)	07:39	07:15			07:47		15:33 (T45)
	21:05			20:37	53	19:39 (T44)	19:47	47	19:25 (T44)	18:57	17:16			17:03	51	16:24 (T45)
13	06:10			06:38		18:45 (T44)	07:09		18:39 (T44)	07:40	07:16			07:48		15:34 (T45)
	21:05			20:36	55	19:40 (T44)	19:45	44	19:23 (T44)	18:55	17:15			17:03	51	16:25 (T45)
14	06:10			06:39		18:44 (T44)	07:10		18:40 (T44)	07:41	07:18		15:46 (T45)	07:49		15:33 (T45)
	21:05			20:34	57	19:41 (T44)	19:44	42	19:22 (T44)	18:54	17:14	9	15:55 (T45)	17:03	52	16:25 (T45)
15	06:11			06:40		18:43 (T44)	07:11		18:42 (T44)	07:42	07:19		15:42 (T45)	07:50		15:34 (T45)
	21:04			20:33	58	19:41 (T44)	19:42	38	19:20 (T44)	18:52	17:13	17	15:59 (T45)	17:03	52	16:26 (T45)
16	06:12			06:41		18:42 (T44)	07:12		18:45 (T44)	07:44	07:20		15:39 (T45)	07:50		15:35 (T45)
	21:03			20:31	60	19:42 (T44)	19:40	32	19:17 (T44)	18:50	17:12	22	16:01 (T45)	17:04	51	16:26 (T45)
17	06:13			06:42		18:40 (T44)	07:13		18:47 (T44)	07:45	07:21		15:38 (T45)	07:51		15:34 (T45)
	21:03			20:30	61	19:41 (T44)	19:39	26	19:13 (T44)	18:49	17:11	26	16:04 (T45)	17:04	52	16:26 (T45)
18	06:14			06:43		18:40 (T44)	07:14		18:52 (T44)	07:46	07:22		15:36 (T45)	07:52		15:35 (T45)
	21:02			20:29	62	19:42 (T44)	19:37	16	19:08 (T44)	18:47	17:11	29	16:05 (T45)	17:04	52	16:27 (T45)
19	06:14			06:44		18:39 (T44)	07:15			07:47	07:23		15:35 (T45)	07:52		15:36 (T45)
	21:01			20:27	63	19:42 (T44)	19:35			18:46	17:10	32	16:07 (T45)	17:05	52	16:28 (T45)
20	06:15			06:45		18:38 (T44)	07:16			07:48	07:25		15:33 (T45)	07:53		15:36 (T45)
	21:01			20:26	64	19:42 (T44)	19:33			18:44	17:09	35	16:08 (T45)	17:05	52	16:28 (T45)
21	06:16			06:46		18:37 (T44)	07:17			07:49	07:26		15:33 (T45)	07:53		15:37 (T45)
	21:00			20:24	65	19:42 (T44)	19:32			18:43	17:09	37	16:10 (T45)	17:06	52	16:29 (T45)
22	06:17			06:47		18:37 (T44)	07:18			07:50	07:27		15:33 (T45)	07:54		15:37 (T45)
	20:59			20:23	65	19:42 (T44)	19:30			18:41	17:08	38	16:11 (T45)	17:06	52	16:29 (T45)
23	06:18			06:48		18:36 (T44)	07:19			07:51	07:28		15:32 (T45)	07:54		15:38 (T45)
	20:58			20:21	66	19:42 (T44)	19:28			18:40	17:07	40	16:12 (T45)	17:07	52	16:30 (T45)
24	06:19			06:49		18:36 (T44)	07:20			07:53	07:29		15:31 (T45)	07:55		15:38 (T45)
	20:58			20:20	66	19:42 (T44)	19:27			18:39	17:07	41	16:12 (T45)	17:07	52	16:30 (T45)
25	06:20			06:50		18:35 (T44)	07:21			07:54	07:30		15:32 (T45)	07:55		15:38 (T45)
	20:57			20:18	67	19:42 (T44)	19:25			18:37	17:06	42	16:14 (T45)	17:08	52	16:30 (T45)
26	06:21			06:51		18:35 (T44)	07:22			07:55	07:32		15:31 (T45)	07:56		15:39 (T45)
	20:56			20:17	67	19:42 (T44)	19:23			18:36	17:06	44	16:15 (T45)	17:08	52	16:31 (T45)
27	06:22			06:52		18:35 (T44)	07:23			07:56	07:33		15:31 (T45)	07:56		15:40 (T45)
	20:55			20:15	67	19:42 (T44)	19:22			18:34	17:05	44	16:15 (T45)	17:09	51	16:31 (T45)
28	06:22			06:53		18:34 (T44)	07:24			07:57	07:34		15:30 (T45)	07:56		15:40 (T45)
	20:54			20:14	68	19:42 (T44)	19:20			18:33	17:05	46	16:16 (T45)	17:10	52	16:32 (T45)
29	06:23			06:54		18:34 (T44)	07:25			07:58	07:35		15:30 (T45)	07:57		15:40 (T45)
	20:53			20:12	67	19:41 (T44)	19:18			18:32	17:04	47	16:17 (T45)	17:10	52	16:32 (T45)
30	06:24			06:55		18:34 (T44)	07:26			08:00	07:36		15:30 (T45)	07:57		15:41 (T45)
	20:52			20:10	67	19:41 (T44)	19:16			18:31	17:04	47	16:17 (T45)	17:11	51	16:32 (T45)
31	06:25		19:10 (T44)	06:56		18:34 (T44)				08:01				07:57		15:42 (T45)
	20:51	8	19:18 (T44)	20:09	66	19:40 (T44)				18:29				17:12	51	16:33 (T45)
Potential sun hours	460			429			375			345	297			287		
Total, worst case		82			1678			903				596			1581	
Sun reduction		0.66			0.61			0.59				0.30			0.22	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.71			0.61			0.61				0.74			0.74	
Total reduction		0.48			0.38			0.37				0.23			0.17	
Total, real		40			644			335				137			266	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 770 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8329)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May		June
1	07:57		16:23 (T69)	07:43		08:08 (T68)	07:07		08:06 (T68)	07:16		07:35 (T66)	06:30		06:02
	17:13	24	16:47 (T69)	17:48	121	17:15 (T69)	18:22	64	09:10 (T68)	19:56	40	08:15 (T67)	20:27		20:57
2	07:57		16:23 (T69)	07:42		08:07 (T68)	07:06		08:06 (T68)	07:15		07:34 (T66)	06:29		06:01
	17:14	25	16:48 (T69)	17:49	124	17:16 (T69)	18:23	63	09:09 (T68)	19:57	39	08:14 (T67)	20:28		20:57
3	07:57		16:22 (T69)	07:41		08:06 (T68)	07:04		08:07 (T68)	07:13		07:32 (T66)	06:28		06:01
	17:15	26	16:48 (T69)	17:50	124	17:15 (T69)	18:24	60	09:07 (T68)	19:58	37	08:11 (T67)	20:29		20:58
4	07:57		16:22 (T69)	07:40		08:05 (T68)	07:02		08:08 (T68)	07:11		07:30 (T66)	06:27		06:01
	17:16	27	16:49 (T69)	17:51	126	17:15 (T69)	18:25	58	09:06 (T68)	19:59	32	08:08 (T67)	20:30		20:59
5	07:57		16:22 (T69)	07:39		08:05 (T68)	07:01		08:09 (T68)	07:10		07:29 (T66)	06:25		06:00
	17:17	28	16:50 (T69)	17:53	127	17:15 (T69)	18:26	55	09:04 (T68)	20:00	19	07:48 (T66)	20:31		20:59
6	07:57		16:21 (T69)	07:38		08:05 (T68)	06:59		08:11 (T68)	07:08		07:27 (T66)	06:24		06:00
	17:18	30	16:51 (T69)	17:54	127	17:15 (T69)	18:28	51	09:02 (T68)	20:00	19	07:46 (T66)	20:32		21:00
7	07:57		16:21 (T69)	07:37		08:04 (T68)	06:58		08:12 (T68)	07:06		07:26 (T66)	06:23		06:00
	17:19	32	16:53 (T69)	17:55	127	17:15 (T69)	18:29	48	09:00 (T68)	20:01	19	07:45 (T66)	20:33		21:01
8	07:57		16:21 (T69)	07:36		08:04 (T68)	07:56		09:13 (T68)	07:05		07:27 (T66)	06:22		05:59
	17:20	33	16:54 (T69)	17:56	128	17:15 (T69)	19:30	45	09:58 (T68)	20:02	17	07:44 (T66)	20:34		21:01
9	07:57		16:21 (T69)	07:35		08:04 (T68)	07:54		09:15 (T68)	07:03		07:29 (T66)	06:21		05:59
	17:21	34	16:55 (T69)	17:58	128	17:15 (T69)	19:31	41	09:56 (T68)	20:03	12	07:41 (T66)	20:35		21:02
10	07:57		16:20 (T69)	07:33		08:03 (T68)	07:53		09:17 (T68)	07:02		07:31 (T66)	06:20		05:59
	17:22	35	16:55 (T69)	17:59	127	17:14 (T69)	19:32	35	09:52 (T68)	20:04	6	07:37 (T66)	20:36		21:03
11	07:56		16:20 (T69)	07:32		08:03 (T68)	07:51		09:19 (T68)	07:00			06:18		05:59
	17:23	37	16:57 (T69)	18:00	127	17:14 (T69)	19:33	30	09:49 (T68)	20:06			20:37		21:03
12	07:56		16:20 (T69)	07:31		08:03 (T68)	07:50		09:23 (T68)	06:58			06:17		05:59
	17:24	38	16:58 (T69)	18:01	125	17:13 (T69)	19:34	22	09:45 (T68)	20:07			20:38		21:04
13	07:56		16:19 (T69)	07:30		08:03 (T68)	07:48		08:07 (T67)	06:57			06:16		05:59
	17:25	40	16:59 (T69)	18:03	125	17:13 (T69)	19:35	12	09:37 (T68)	20:08			20:39		21:04
14	07:55		16:19 (T69)	07:28		08:02 (T68)	07:46		08:05 (T67)	06:55			06:15		05:59
	17:26	41	17:00 (T69)	18:04	123	17:11 (T69)	19:37	11	08:16 (T67)	20:09			20:40		21:05
15	07:55		08:29 (T68)	07:27		08:03 (T68)	07:45		08:04 (T67)	06:54			06:14		05:59
	17:27	53	17:01 (T69)	18:05	122	17:11 (T69)	19:38	15	08:19 (T67)	20:10			20:41		21:05
16	07:55		08:26 (T68)	07:26		08:03 (T68)	07:43		08:02 (T67)	06:52			06:13		05:59
	17:28	63	17:03 (T69)	18:06	119	17:10 (T69)	19:39	18	08:20 (T67)	20:11			20:42		21:06
17	07:54		08:23 (T68)	07:25		08:02 (T68)	07:41		08:00 (T67)	06:51			06:12		05:59
	17:30	70	17:04 (T69)	18:08	116	17:08 (T69)	19:40	21	08:21 (T67)	20:12			20:43		21:06
18	07:54		08:22 (T68)	07:23		08:03 (T68)	07:40		07:59 (T67)	06:49			06:11		05:59
	17:31	75	17:05 (T69)	18:09	113	17:07 (T69)	19:41	23	08:22 (T67)	20:13			20:44		21:06
19	07:53		08:20 (T68)	07:22		08:02 (T68)	07:38		07:57 (T67)	06:47			06:11		05:59
	17:32	81	17:06 (T69)	18:10	110	17:05 (T69)	19:42	25	08:22 (T67)	20:14			20:45		21:07
20	07:53		08:19 (T68)	07:20		08:03 (T68)	07:36		07:55 (T67)	06:46			06:10		05:59
	17:33	86	17:08 (T69)	18:11	105	17:03 (T69)	19:43	28	08:23 (T67)	20:15			20:46		21:07
21	07:52		08:17 (T68)	07:19		08:03 (T68)	07:35		07:54 (T67)	06:44			06:09		05:59
	17:34	91	17:09 (T69)	18:12	100	17:01 (T69)	19:44	29	08:23 (T67)	20:16			20:47		21:07
22	07:51		08:16 (T68)	07:18		08:03 (T68)	07:33		07:52 (T67)	06:43			06:08		05:59
	17:35	95	17:10 (T69)	18:14	94	16:58 (T69)	19:45	31	08:23 (T67)	20:17			20:48		21:07
23	07:51		08:15 (T68)	07:16		08:03 (T68)	07:31		07:50 (T67)	06:42			06:07		06:00
	17:37	99	17:11 (T69)	18:15	82	16:53 (T69)	19:46	33	08:23 (T67)	20:18			20:49		21:08
24	07:50		08:14 (T68)	07:15		08:03 (T68)	07:30		07:49 (T67)	06:40			06:07		06:00
	17:38	103	17:12 (T69)	18:16	71	09:14 (T68)	19:47	34	08:23 (T67)	20:19			20:50		21:08
25	07:49		08:13 (T68)	07:13		08:04 (T68)	07:28		07:47 (T67)	06:39			06:06		06:00
	17:39	105	17:12 (T69)	18:17	70	09:14 (T68)	19:48	36	08:23 (T67)	20:20			20:51		21:08
26	07:48		08:12 (T68)	07:12		08:04 (T68)	07:26		07:46 (T67)	06:37			06:05		06:00
	17:40	108	17:12 (T69)	18:18	69	09:13 (T68)	19:50	36	08:22 (T67)	20:21			20:52		21:08
27	07:48		08:11 (T68)	07:10		08:05 (T68)	07:25		07:44 (T66)	06:36			06:05		06:01
	17:42	111	17:13 (T69)	18:20	67	09:12 (T68)	19:51	37	08:22 (T67)	20:23			20:52		21:08
28	07:47		08:10 (T68)	07:09		08:05 (T68)	07:23		07:42 (T66)	06:34			06:04		06:01
	17:43	113	17:13 (T69)	18:21	66	09:11 (T68)	19:52	39	08:21 (T67)	20:24			20:53		21:08
29	07:46		08:10 (T68)				07:21		07:40 (T66)	06:33			06:03		06:02
	17:44	116	17:15 (T69)				19:53	39	08:19 (T67)	20:25			20:54		21:08
30	07:45		08:09 (T68)				07:20		07:39 (T66)	06:32			06:03		06:02
	17:45	118	17:15 (T69)				19:54	40	08:19 (T67)	20:26			20:55		21:08
31	07:44		08:09 (T68)				07:18		07:37 (T66)				06:02		
	17:46	120	17:15 (T69)				19:55	40	08:17 (T67)				20:56		
Potential sun hours	297			297			370			399			448		452
Total, worst case		2057			3063			1119			240				
Sun reduction		0.31			0.40			0.44			0.52				
Oper. time red.		1.00			1.00			1.00			1.00				
Wind dir. red.		0.66			0.60			0.57			0.63				
Total reduction		0.21			0.24			0.25			0.33				
Total, real		425			743			285			80				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 770 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8329)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September			October			November			December		
1	06:03		06:27		06:57			07:28		09:04 (T68)	07:02		07:33 (T68)	07:37		16:02 (T69)
	21:08		20:50		20:07			19:15	17	09:21 (T68)	17:28	128	16:44 (T69)	17:04	37	16:39 (T69)
2	06:03		06:28		06:58		07:30 (T66)	07:29		08:59 (T68)	07:03		07:33 (T68)	07:38		16:03 (T69)
	21:08		20:49		20:05	6	07:36 (T66)	19:13	27	09:26 (T68)	17:27	127	16:44 (T69)	17:04	36	16:39 (T69)
3	06:04		06:29		06:59		07:27 (T66)	07:30		08:56 (T68)	07:04		07:34 (T68)	07:39		16:04 (T69)
	21:08		20:48		20:04	12	07:39 (T66)	19:11	33	09:29 (T68)	17:26	128	16:45 (T69)	17:04	34	16:38 (T69)
4	06:04		06:30		07:00		07:25 (T66)	07:31		08:53 (T68)	07:05		07:34 (T68)	07:40		16:05 (T69)
	21:08		20:47		20:02	16	07:41 (T66)	19:10	38	09:31 (T68)	17:25	128	16:45 (T69)	17:03	33	16:38 (T69)
5	06:05		06:30		07:01		07:23 (T66)	07:32		08:51 (T68)	07:07		07:35 (T68)	07:41		16:06 (T69)
	21:08		20:45		20:01	19	07:42 (T66)	19:08	43	09:34 (T68)	17:23	126	16:45 (T69)	17:03	32	16:38 (T69)
6	06:05		06:31		07:02		07:23 (T66)	07:33		08:49 (T68)	07:08		07:35 (T68)	07:42		16:07 (T69)
	21:07		20:44		19:57	19	07:42 (T66)	19:07	47	09:36 (T68)	17:22	127	16:45 (T69)	17:03	31	16:38 (T69)
7	06:06		06:32		07:03		07:24 (T66)	07:34		08:47 (T68)	07:09		07:36 (T68)	07:43		16:09 (T69)
	21:07		20:43		19:56	19	07:43 (T66)	19:05	50	09:37 (T68)	17:21	126	16:46 (T69)	17:03	29	16:38 (T69)
8	06:06		06:33		07:04		07:25 (T66)	07:35		08:45 (T68)	07:10		07:37 (T68)	07:44		16:10 (T69)
	21:07		20:42		19:54	32	08:03 (T67)	19:03	54	09:39 (T68)	17:20	124	16:46 (T69)	17:03	27	16:37 (T69)
9	06:07		06:34		07:05		07:26 (T66)	07:36		08:44 (T68)	07:11		07:37 (T68)	07:44		16:11 (T69)
	21:06		20:41		19:52	36	08:05 (T67)	19:02	56	09:40 (T68)	17:19	124	16:46 (T69)	17:03	27	16:38 (T69)
10	06:08		06:35		07:06		07:27 (T66)	07:37		08:42 (T68)	07:13		07:39 (T68)	07:45		16:13 (T69)
	21:06		20:39		19:51	39	08:07 (T67)	19:00	59	09:41 (T68)	17:18	121	16:46 (T69)	17:03	25	16:38 (T69)
11	06:09		06:36		07:07		07:28 (T66)	07:38		08:41 (T68)	07:14		07:40 (T68)	07:46		16:14 (T69)
	21:06		20:38		19:49	40	08:08 (T67)	18:58	61	09:42 (T68)	17:17	119	16:46 (T69)	17:03	24	16:38 (T69)
12	06:09		06:37		07:08		07:28 (T66)	07:39		08:39 (T68)	07:15		07:40 (T68)	07:47		16:14 (T69)
	21:05		20:37		19:47	40	08:08 (T67)	18:57	63	09:42 (T68)	17:16	118	16:46 (T69)	17:03	23	16:37 (T69)
13	06:10		06:38		07:09		07:29 (T66)	07:40		08:38 (T68)	07:16		07:41 (T68)	07:48		16:16 (T69)
	21:05		20:35		19:45	40	08:09 (T67)	18:55	65	09:43 (T68)	17:15	115	16:45 (T69)	17:03	21	16:37 (T69)
14	06:11		06:39		07:10		07:30 (T66)	07:41		08:37 (T68)	07:17		07:43 (T68)	07:49		16:17 (T69)
	21:04		20:34		19:44	39	08:09 (T67)	18:54	67	09:44 (T68)	17:14	113	16:46 (T69)	17:04	20	16:37 (T69)
15	06:12		06:40		07:11		07:31 (T66)	07:42		08:37 (T68)	07:19		07:44 (T68)	07:49		16:19 (T69)
	21:04		20:33		19:42	39	08:10 (T67)	18:52	68	09:45 (T68)	17:13	111	16:46 (T69)	17:04	18	16:37 (T69)
16	06:12		06:41		07:12		07:32 (T66)	07:43		08:36 (T68)	07:20		07:45 (T68)	07:50		16:19 (T69)
	21:03		20:31		19:40	37	08:10 (T67)	18:51	69	09:45 (T68)	17:13	108	16:45 (T69)	17:04	17	16:36 (T69)
17	06:13		06:42		07:13		07:34 (T67)	07:45		08:35 (T68)	07:21		07:46 (T68)	07:51		16:20 (T69)
	21:03		20:30		19:39	36	08:10 (T67)	18:49	71	09:46 (T68)	17:12	105	16:45 (T69)	17:04	17	16:37 (T69)
18	06:14		06:43		07:14		07:34 (T67)	07:46		08:35 (T68)	07:22		07:48 (T68)	07:51		16:22 (T69)
	21:02		20:28		19:37	36	08:10 (T67)	18:48	71	09:46 (T68)	17:11	103	16:46 (T69)	17:05	15	16:37 (T69)
19	06:15		06:44		07:15		07:35 (T67)	07:47		08:34 (T68)	07:23		07:49 (T68)	07:52		16:22 (T69)
	21:01		20:27		19:35	35	08:10 (T67)	18:46	87	17:26 (T69)	17:10	99	16:45 (T69)	17:05	14	16:36 (T69)
20	06:16		06:45		07:16		07:36 (T67)	07:48		08:33 (T68)	07:24		07:51 (T68)	07:53		16:23 (T69)
	21:01		20:26		19:34	33	08:09 (T67)	18:45	95	17:29 (T69)	17:10	95	16:45 (T69)	17:05	14	16:37 (T69)
21	06:16		06:46		07:17		07:37 (T67)	07:49		08:34 (T68)	07:26		07:52 (T68)	07:53		16:23 (T69)
	21:00		20:24		19:32	32	08:09 (T67)	18:43	101	17:33 (T69)	17:09	91	16:44 (T69)	17:06	14	16:37 (T69)
22	06:17		06:47		07:18		07:38 (T67)	07:50		08:33 (T68)	07:27		07:55 (T68)	07:54		16:24 (T69)
	20:59		20:23		19:30	30	08:08 (T67)	18:42	107	17:35 (T69)	17:08	86	16:44 (T69)	17:06	14	16:38 (T69)
23	06:18		06:48		07:19		07:39 (T67)	07:51		08:33 (T68)	07:28		07:56 (T68)	07:54		16:24 (T69)
	20:58		20:21		19:28	28	08:07 (T67)	18:40	110	17:36 (T69)	17:08	82	16:43 (T69)	17:07	14	16:38 (T69)
24	06:19		06:49		07:20		07:40 (T67)	07:52		08:32 (T68)	07:29		07:59 (T68)	07:55		16:25 (T69)
	20:57		20:20		19:27	26	08:06 (T67)	18:39	114	17:37 (T69)	17:07	75	16:42 (T69)	17:07	14	16:39 (T69)
25	06:20		06:50		07:21		07:41 (T67)	07:54		08:32 (T68)	07:30		08:01 (T68)	07:55		16:25 (T69)
	20:57		20:18		19:25	24	08:05 (T67)	18:37	117	17:38 (T69)	17:06	70	16:42 (T69)	17:08	15	16:40 (T69)
26	06:21		06:51		07:22		07:42 (T67)	07:55		08:33 (T68)	07:31		08:04 (T68)	07:55		16:24 (T69)
	20:56		20:17		19:23	21	08:03 (T67)	18:36	120	17:40 (T69)	17:06	63	16:41 (T69)	17:09	16	16:40 (T69)
27	06:22		06:52		07:23		07:43 (T67)	07:56		08:32 (T68)	07:32		08:09 (T68)	07:56		16:25 (T69)
	20:55		20:15		19:22	19	08:02 (T67)	18:35	122	17:41 (T69)	17:06	54	16:41 (T69)	17:09	17	16:42 (T69)
28	06:23		06:53		07:24		07:44 (T67)	07:57		08:32 (T68)	07:34		15:59 (T69)	07:56		16:25 (T69)
	20:54		20:13		19:20	16	08:00 (T67)	18:33	124	17:41 (T69)	17:05	42	16:41 (T69)	17:10	18	16:43 (T69)
29	06:24		06:54		07:25		07:45 (T67)	07:58		08:32 (T68)	07:35		16:00 (T69)	07:56		16:24 (T69)
	20:53		20:12		19:18	12	07:57 (T67)	18:32	126	17:42 (T69)	17:05	40	16:40 (T69)	17:11	20	16:44 (T69)
30	06:25		06:55		07:26		07:46 (T67)	07:59		08:33 (T68)	07:36		16:01 (T69)	07:56		16:24 (T69)
	20:52		20:10		19:17	8	07:54 (T67)	18:31	126	17:43 (T69)	17:04	38	16:39 (T69)	17:12	21	16:45 (T69)
31	06:26		06:56					08:01		08:33 (T68)				07:57		16:23 (T69)
	20:51		20:09					18:29	128	17:44 (T69)				17:12	23	16:46 (T69)
Potential sun hours	459		428		375			345			298			288		
Total, worst case						789			2436			2986			680	
Sun reduction						0.59			0.48			0.30			0.22	
Oper. time red.						1.00			1.00			1.00			1.00	
Wind dir. red.						0.62			0.57			0.64			0.73	
Total reduction						0.37			0.28			0.19			0.16	
Total, real						292			678			576			110	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 779 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8336)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		15:45 (T77)	07:43		08:04 (T76)	07:07		17:02 (T42)	07:16		19:19 (T41)	06:30			06:01		20:03 (T40)
	17:13	33	16:18 (T77)	17:47	33	17:22 (T42)	18:22	36	17:38 (T42)	19:56	15	19:34 (T41)	20:27			20:57	29	20:32 (T40)
2	07:57		15:46 (T77)	07:42		08:03 (T76)	07:06		17:03 (T42)	07:14		19:17 (T41)	06:29			06:01		20:04 (T40)
	17:14	32	16:18 (T77)	17:49	42	17:25 (T42)	18:23	33	17:36 (T42)	19:57	18	19:35 (T41)	20:28			20:58	29	20:33 (T40)
3	07:57		15:47 (T77)	07:41		08:02 (T76)	07:04		17:04 (T42)	07:13		19:16 (T41)	06:28			06:01		20:03 (T40)
	17:15	31	16:18 (T77)	17:50	46	17:26 (T42)	18:24	30	17:34 (T42)	19:58	21	19:37 (T41)	20:29			20:58	31	20:34 (T40)
4	07:57		15:48 (T77)	07:40		08:02 (T76)	07:02		17:07 (T42)	07:11		19:15 (T41)	06:26			06:00		20:04 (T40)
	17:16	30	16:18 (T77)	17:51	50	17:28 (T42)	18:25	25	17:32 (T42)	19:59	22	19:37 (T41)	20:30			20:59	31	20:35 (T40)
5	07:57		15:49 (T77)	07:39		08:03 (T76)	07:01		17:09 (T42)	07:09		19:13 (T41)	06:25			06:00		20:04 (T40)
	17:16	29	16:18 (T77)	17:52	52	17:29 (T42)	18:26	20	17:29 (T42)	20:00	25	19:38 (T41)	20:31			21:00	31	20:35 (T40)
6	07:57		15:50 (T77)	07:38		08:03 (T76)	06:59		17:14 (T42)	07:08		19:13 (T41)	06:24			05:59		20:04 (T40)
	17:17	28	16:18 (T77)	17:54	53	17:30 (T42)	18:27	11	17:25 (T42)	20:00	27	19:40 (T41)	20:32			21:00	31	20:35 (T40)
7	07:57		15:51 (T77)	07:37		08:03 (T76)	06:58			07:06		19:12 (T41)	06:23			05:59		20:04 (T40)
	17:18	26	16:17 (T77)	17:55	55	17:31 (T42)	18:29			20:01	28	19:40 (T41)	20:33			21:01	32	20:36 (T40)
8	07:57		15:52 (T77)	07:36		08:05 (T76)	07:56			07:05		19:12 (T41)	06:22			05:59		20:05 (T40)
	17:19	25	16:17 (T77)	17:56	55	17:33 (T42)	19:30			20:02	30	19:42 (T41)	20:34			21:02	32	20:37 (T40)
9	07:57		15:54 (T77)	07:35		08:06 (T76)	07:54			07:03		19:12 (T41)	06:20			05:59		20:05 (T40)
	17:20	22	16:16 (T77)	17:57	55	17:34 (T42)	19:31			20:03	31	19:43 (T41)	20:35			21:02	32	20:37 (T40)
10	07:57		15:56 (T77)	07:34		08:08 (T76)	07:53			07:01		19:11 (T41)	06:19			05:59		20:06 (T40)
	17:21	20	16:16 (T77)	17:59	54	17:36 (T42)	19:32			20:05	32	19:43 (T41)	20:36			21:03	31	20:37 (T40)
11	07:57		15:57 (T77)	07:32		08:09 (T76)	07:51			07:00		19:12 (T41)	06:18			05:58		20:06 (T40)
	17:23	17	16:14 (T77)	18:00	52	17:36 (T42)	19:33			20:06	33	19:45 (T41)	20:37			21:04	32	20:38 (T40)
12	07:56		15:59 (T77)	07:31		08:12 (T76)	07:50			06:58		19:11 (T41)	06:17			05:58		20:06 (T40)
	17:24	14	16:13 (T77)	18:01	49	17:38 (T42)	19:34			20:07	33	19:44 (T41)	20:38			21:04	31	20:37 (T40)
13	07:56		16:03 (T77)	07:30		16:59 (T42)	07:48			06:57		19:12 (T41)	06:16		20:11 (T40)	05:58		20:06 (T40)
	17:25	8	16:11 (T77)	18:02	41	17:40 (T42)	19:35			20:08	32	19:44 (T41)	20:39	5	20:16 (T40)	21:05	31	20:37 (T40)
14	07:56			07:29		16:58 (T42)	07:46			06:55		19:12 (T41)	06:15		20:09 (T40)	05:58		20:06 (T40)
	17:26			18:04	42	17:40 (T42)	19:36			20:09	30	19:42 (T41)	20:41	8	20:17 (T40)	21:05	31	20:37 (T40)
15	07:55			07:27		16:58 (T42)	07:45			06:53		19:12 (T41)	06:14		20:08 (T40)	05:58		20:07 (T40)
	17:27			18:05	44	17:42 (T42)	19:38			20:10	29	19:41 (T41)	20:42	10	20:18 (T40)	21:05	30	20:37 (T40)
16	07:55			07:26		16:58 (T42)	07:43			06:52		19:14 (T41)	06:13		20:07 (T40)	05:58		20:07 (T40)
	17:28			18:06	46	17:44 (T42)	19:39			20:11	26	19:40 (T41)	20:43	13	20:20 (T40)	21:06	30	20:37 (T40)
17	07:54		08:16 (T76)	07:25		16:57 (T42)	07:41			06:50		19:14 (T41)	06:12		20:06 (T40)	05:58		20:08 (T40)
	17:29	2	08:18 (T76)	18:07	47	17:44 (T42)	19:40			20:12	24	19:38 (T41)	20:43	14	20:20 (T40)	21:06	30	20:38 (T40)
18	07:54		08:15 (T76)	07:23		16:57 (T42)	07:40			06:49		19:16 (T41)	06:11		20:05 (T40)	05:58		20:08 (T40)
	17:30	4	08:19 (T76)	18:09	48	17:45 (T42)	19:41			20:13	21	19:37 (T41)	20:44	16	20:21 (T40)	21:07	30	20:38 (T40)
19	07:53		08:15 (T76)	07:22		16:57 (T42)	07:38			06:47		19:17 (T41)	06:10		20:05 (T40)	05:58		20:08 (T40)
	17:32	7	08:22 (T76)	18:10	48	17:45 (T42)	19:42			20:14	17	19:34 (T41)	20:45	17	20:22 (T40)	21:07	30	20:38 (T40)
20	07:53		08:14 (T76)	07:20		16:57 (T42)	07:36			06:46		19:21 (T41)	06:09		20:04 (T40)	05:59		20:08 (T40)
	17:33	9	08:23 (T76)	18:11	47	17:44 (T42)	19:43			20:15	10	19:31 (T41)	20:46	19	20:23 (T40)	21:07	30	20:38 (T40)
21	07:52		08:13 (T76)	07:19		16:58 (T42)	07:35			06:44			06:09		20:03 (T40)	05:59		20:08 (T40)
	17:34	11	08:24 (T76)	18:12	46	17:44 (T42)	19:44			20:16			20:47	20	20:23 (T40)	21:08	30	20:38 (T40)
22	07:52		08:13 (T76)	07:18		16:57 (T42)	07:33			06:43			06:08		20:04 (T40)	05:59		20:08 (T40)
	17:35	13	08:26 (T76)	18:13	47	17:44 (T42)	19:45			20:17			20:48	21	20:25 (T40)	21:08	30	20:38 (T40)
23	07:51		08:12 (T76)	07:16		16:58 (T42)	07:31			06:41			06:07		20:03 (T40)	05:59		20:09 (T40)
	17:36	15	08:27 (T76)	18:15	46	17:44 (T42)	19:46			20:18			20:49	22	20:25 (T40)	21:08	30	20:39 (T40)
24	07:50		08:11 (T76)	07:15		16:58 (T42)	07:30			06:40			06:06		20:03 (T40)	05:59		20:09 (T40)
	17:38	17	08:28 (T76)	18:16	44	17:42 (T42)	19:47			20:19			20:50	23	20:26 (T40)	21:08	30	20:39 (T40)
25	07:49		08:10 (T76)	07:13		16:59 (T42)	07:28			06:38			06:06		20:03 (T40)	06:00		20:09 (T40)
	17:39	18	08:28 (T76)	18:17	43	17:42 (T42)	19:48			20:21			20:51	24	20:27 (T40)	21:08	30	20:39 (T40)
26	07:49		08:09 (T76)	07:12		16:59 (T42)	07:26			06:37			06:05		20:03 (T40)	06:00		20:10 (T40)
	17:40	20	08:29 (T76)	18:18	42	17:41 (T42)	19:50			20:22			20:52	25	20:28 (T40)	21:08	30	20:40 (T40)
27	07:48		08:09 (T76)	07:10		17:00 (T42)	07:24			06:36			06:04		20:03 (T40)	06:00		20:10 (T40)
	17:41	21	08:30 (T76)	18:19	41	17:41 (T42)	19:51			20:23			20:53	26	20:29 (T40)	21:08	30	20:40 (T40)
28	07:47		08:08 (T76)	07:09		17:01 (T42)	07:23			06:34			06:04		20:03 (T40)	06:01		20:09 (T40)
	17:42	23	08:31 (T76)	18:21	38	17:39 (T42)	19:52			20:24			20:54	27	20:30 (T40)	21:09	31	20:40 (T40)
29	07:46		08:07 (T76)				07:21		19:28 (T41)	06:33			06:03		20:02 (T40)	06:01		20:10 (T40)
	17:44	24	08:31 (T76)				19:53	3	19:31 (T41)	20:25			20:54	28	20:30 (T40)	21:09	31	20:41 (T40)
30	07:45		08:06 (T76)				07:19		19:23 (T41)	06:32			06:02		20:03 (T40)	06:02		20:10 (T40)
	17:45	25	08:31 (T76)				19:54	9	19:32 (T41)	20:26			20:55	28	20:31 (T40)	21:09	31	20:41 (T40)
31	07:44		08:05 (T76)				07:18		19:21 (T41)				06:02		20:02 (T40)			
	17:46	27	08:32 (T76)				19:55	13	19:34 (T41)				20:56	29	20:31 (T40)			
Potential sun hours	297			297			370			399			448			453		
Total, worst case		551			1306			180			504			375			917	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.65			0.67			0.69			0.60			0.55			0.55	
Total reduction		0.21			0.28			0.31			0.32			0.32			0.36	
Total, real		115			359			56			163			120			329	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 779 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8336)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December		
1	06:02		20:10 (T40)	06:26			06:57		19:11 (T41)	07:27			07:02		07:36 (T76)	07:37		15:39 (T77)
	21:08	32	20:42 (T40)	20:50			20:07	33	19:44 (T41)	19:15			17:28	54	17:04 (T42)	17:04	17	15:56 (T77)
2	06:03		20:10 (T40)	06:27			06:58		19:10 (T41)	07:29			07:03		07:36 (T76)	07:38		15:38 (T77)
	21:08	31	20:41 (T40)	20:49			20:06	32	19:42 (T41)	19:13			17:27	55	17:04 (T42)	17:03	20	15:58 (T77)
3	06:03		20:11 (T40)	06:28			06:59		19:10 (T41)	07:30			07:04		07:34 (T76)	07:39		15:38 (T77)
	21:08	31	20:42 (T40)	20:48			20:04	31	19:41 (T41)	19:11			17:26	55	17:02 (T42)	17:03	22	16:00 (T77)
4	06:04		20:10 (T40)	06:29			07:00		19:09 (T41)	07:31			07:06		07:33 (T76)	07:40		15:37 (T77)
	21:08	32	20:42 (T40)	20:47			20:02	30	19:39 (T41)	19:10			17:24	55	17:01 (T42)	17:03	25	16:02 (T77)
5	06:04		20:11 (T40)	06:30			07:01		19:09 (T41)	07:32			07:07		07:32 (T76)	07:41		15:37 (T77)
	21:08	32	20:43 (T40)	20:46			20:01	28	19:37 (T41)	19:08			17:23	53	16:59 (T42)	17:03	26	16:03 (T77)
6	06:05		20:10 (T40)	06:31			07:02		19:09 (T41)	07:33			07:08		07:32 (T76)	07:42		15:36 (T77)
	21:08	32	20:42 (T40)	20:44			19:57	27	19:36 (T41)	19:06			17:22	53	16:59 (T42)	17:03	28	16:04 (T77)
7	06:05		20:11 (T40)	06:32			07:03		19:09 (T41)	07:34			07:09		07:32 (T76)	07:43		15:35 (T77)
	21:07	31	20:42 (T40)	20:43			19:56	25	19:34 (T41)	19:05			17:21	49	16:57 (T42)	17:03	29	16:04 (T77)
8	06:06		20:11 (T40)	06:33			07:04		19:10 (T41)	07:35	17:47 (T42)		07:10		07:32 (T76)	07:44		15:35 (T77)
	21:07	31	20:42 (T40)	20:42			19:54	23	19:33 (T41)	19:03	16	18:03 (T42)	17:20	46	16:56 (T42)	17:03	30	16:05 (T77)
9	06:07		20:10 (T40)	06:34			07:05		19:10 (T41)	07:36	17:43 (T42)		07:12		07:34 (T76)	07:45		15:35 (T77)
	21:07	31	20:41 (T40)	20:41			19:52	21	19:31 (T41)	19:01	23	18:06 (T42)	17:19	42	16:56 (T42)	17:03	31	16:06 (T77)
10	06:07		20:11 (T40)	06:35			07:06		19:10 (T41)	07:37	17:40 (T42)		07:13		07:35 (T76)	07:46		15:35 (T77)
	21:06	30	20:41 (T40)	20:39			19:51	18	19:28 (T41)	19:00	28	18:08 (T42)	17:18	30	16:52 (T42)	17:03	32	16:07 (T77)
11	06:08		20:11 (T40)	06:36			07:07		19:11 (T41)	07:38	17:38 (T42)		07:14		07:36 (T76)	07:46		15:35 (T77)
	21:06	30	20:41 (T40)	20:38			19:49	16	19:27 (T41)	18:58	31	18:09 (T42)	17:17	27	08:03 (T76)	17:03	33	16:08 (T77)
12	06:09		20:11 (T40)	06:37			07:08		19:12 (T41)	07:39	17:36 (T42)		07:15		07:37 (T76)	07:47		15:36 (T77)
	21:06	29	20:40 (T40)	20:37			19:47	13	19:25 (T41)	18:57	34	18:10 (T42)	17:16	25	08:02 (T76)	17:03	33	16:09 (T77)
13	06:10		20:11 (T40)	06:38			07:09		19:14 (T41)	07:40	17:34 (T42)		07:16		07:39 (T76)	07:48		15:36 (T77)
	21:05	29	20:40 (T40)	20:36			19:45	9	19:23 (T41)	18:55	37	18:11 (T42)	17:15	24	08:03 (T76)	17:03	34	16:10 (T77)
14	06:10		20:12 (T40)	06:39			07:10		19:17 (T41)	07:41	17:33 (T42)		07:18		07:40 (T76)	07:49		15:35 (T77)
	21:05	27	20:39 (T40)	20:34			19:44	5	19:22 (T41)	18:54	39	18:12 (T42)	17:14	23	08:03 (T76)	17:03	35	16:10 (T77)
15	06:11		20:12 (T40)	06:40			07:11			07:42	17:32 (T42)		07:19		07:41 (T76)	07:50		15:36 (T77)
	21:04	27	20:39 (T40)	20:33			19:42			18:52	41	18:13 (T42)	17:13	21	08:02 (T76)	17:03	35	16:11 (T77)
16	06:12		20:11 (T40)	06:41			07:12			07:44	17:31 (T42)		07:20		07:42 (T76)	07:50		15:37 (T77)
	21:03	27	20:38 (T40)	20:31			19:40			18:50	43	18:14 (T42)	17:12	20	08:02 (T76)	17:04	35	16:12 (T77)
17	06:13		20:12 (T40)	06:42			07:13			07:45	17:30 (T42)		07:21		07:44 (T76)	07:51		15:36 (T77)
	21:03	25	20:37 (T40)	20:30			19:39			18:49	44	18:14 (T42)	17:11	18	08:02 (T76)	17:04	36	16:12 (T77)
18	06:14		20:12 (T40)	06:43			07:14			07:46	17:29 (T42)		07:22		07:45 (T76)	07:52		15:37 (T77)
	21:02	25	20:37 (T40)	20:29			19:37			18:47	45	18:14 (T42)	17:11	17	08:02 (T76)	17:04	36	16:13 (T77)
19	06:14		20:13 (T40)	06:44			07:15			07:47	17:28 (T42)		07:23		07:46 (T76)	07:52		15:38 (T77)
	21:02	24	20:37 (T40)	20:27			19:35			18:46	46	18:14 (T42)	17:10	15	08:01 (T76)	17:05	36	16:14 (T77)
20	06:15		20:13 (T40)	06:45			07:16			07:48	17:28 (T42)		07:25		07:48 (T76)	07:53		15:38 (T77)
	21:01	23	20:36 (T40)	20:26			19:33			18:44	46	18:14 (T42)	17:09	13	08:01 (T76)	17:05	36	16:14 (T77)
21	06:16		20:13 (T40)	06:46			07:17			07:49	17:28 (T42)		07:26		07:49 (T76)	07:53		15:38 (T77)
	21:00	22	20:35 (T40)	20:24			19:32			18:43	47	18:15 (T42)	17:08	11	08:00 (T76)	17:05	36	16:14 (T77)
22	06:17		20:13 (T40)	06:47			07:18			07:50	17:27 (T42)		07:27		07:50 (T76)	07:54		15:38 (T77)
	20:59	21	20:34 (T40)	20:23			19:30			18:41	48	18:15 (T42)	17:08	9	07:59 (T76)	17:06	36	16:14 (T77)
23	06:18		20:14 (T40)	06:48	19:24 (T41)		07:19			07:51	17:27 (T42)		07:28		07:51 (T76)	07:54		15:39 (T77)
	20:59	19	20:33 (T40)	20:21	11	19:35 (T41)	19:28			18:40	48	18:15 (T42)	17:07	7	07:58 (T76)	17:07	36	16:15 (T77)
24	06:19		20:15 (T40)	06:49	19:21 (T41)		07:20			07:53	17:27 (T42)		07:29		07:52 (T76)	07:55		15:40 (T77)
	20:58	18	20:33 (T40)	20:20	17	19:38 (T41)	19:27			18:39	47	18:14 (T42)	17:07	5	07:57 (T76)	17:07	36	16:16 (T77)
25	06:20		20:16 (T40)	06:50	19:19 (T41)		07:21			07:54	17:28 (T42)		07:30		07:54 (T76)	07:55		15:40 (T77)
	20:57	16	20:32 (T40)	20:18	21	19:40 (T41)	19:25			18:37	47	18:15 (T42)	17:06	2	07:56 (T76)	17:08	36	16:16 (T77)
26	06:21		20:16 (T40)	06:51	19:17 (T41)		07:22			07:55	17:27 (T42)		07:32			07:56		15:41 (T77)
	20:56	15	20:31 (T40)	20:17	24	19:41 (T41)	19:23			18:36	46	18:13 (T42)	17:06			17:08	36	16:17 (T77)
27	06:22		20:17 (T40)	06:52	19:15 (T41)		07:23			07:56	17:27 (T42)		07:33			07:56		15:41 (T77)
	20:55	14	20:31 (T40)	20:15	27	19:42 (T41)	19:22			18:34	44	18:11 (T42)	17:05			17:09	36	16:17 (T77)
28	06:22		20:18 (T40)	06:53	19:14 (T41)		07:24			07:57	17:27 (T42)		07:34			07:56		15:42 (T77)
	20:54	11	20:29 (T40)	20:14	29	19:43 (T41)	19:20			18:33	43	18:10 (T42)	17:05			17:10	35	16:17 (T77)
29	06:23		20:19 (T40)	06:54	19:13 (T41)		07:25			07:58	17:28 (T42)		07:35		15:43 (T77)	07:57		15:42 (T77)
	20:53	9	20:28 (T40)	20:12	30	19:43 (T41)	19:18			18:32	40	18:08 (T42)	17:04	8	15:51 (T77)	17:10	35	16:17 (T77)
30	06:24		20:21 (T40)	06:55	19:12 (T41)		07:26			08:00	08:41 (T76)		07:36		15:40 (T77)	07:57		15:44 (T77)
	20:52	6	20:27 (T40)	20:10	32	19:44 (T41)	19:16			18:30	49	18:07 (T42)	17:04	14	15:54 (T77)	17:11	34	16:18 (T77)
31	06:25		20:23 (T40)	06:56	19:11 (T41)					08:01	08:38 (T76)					07:57		15:44 (T77)
	20:51	3	20:26 (T40)	20:09	33	19:44 (T41)				18:29	54	18:06 (T42)				17:12	34	16:18 (T77)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		733			224			311			986			751			999	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.55			0.60			0.60			0.70			0.59			0.75	
Total reduction		0.37			0.38			0.37			0.35			0.18			0.17	
Total, real		271			85			114			342			137			168	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 785 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8342)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February		March			April			May			June		
1	07:57		15:32 (T44)	07:43		07:07			07:16		07:35 (T76)	06:30		18:57 (T77)	06:01		19:54 (T42)
	17:13	51	16:23 (T44)	17:47		18:22			19:56	66	19:34 (T77)	20:27	19	19:16 (T77)	20:57	38	20:32 (T42)
2	07:57		15:33 (T44)	07:42		07:06			07:14		07:33 (T76)	06:29		19:02 (T77)	06:01		19:54 (T42)
	17:14	50	16:23 (T44)	17:49		18:23			19:57	72	19:35 (T77)	20:28	9	19:11 (T77)	20:58	39	20:33 (T42)
3	07:57		15:33 (T44)	07:41		07:04			07:13		07:32 (T76)	06:28			06:01		19:53 (T42)
	17:15	50	16:23 (T44)	17:50		18:24			19:58	75	19:37 (T77)	20:29			20:58	40	20:33 (T42)
4	07:57		15:34 (T44)	07:40		07:02			07:11		07:30 (T76)	06:26			06:00		19:54 (T42)
	17:16	49	16:23 (T44)	17:51		18:25			19:59	78	19:37 (T77)	20:30			20:59	40	20:34 (T42)
5	07:57		15:35 (T44)	07:39		07:01			07:09		07:28 (T76)	06:25			06:00		19:54 (T42)
	17:17	49	16:24 (T44)	17:52		18:26			20:00	83	19:38 (T77)	20:31			21:00	41	20:35 (T42)
6	07:57		15:36 (T44)	07:38		06:59			07:08		07:27 (T76)	06:24			05:59		19:53 (T42)
	17:17	48	16:24 (T44)	17:54		18:27			20:00	85	19:39 (T77)	20:32			21:00	42	20:35 (T42)
7	07:57		15:35 (T44)	07:37		06:58			07:06		07:25 (T76)	06:23			05:59		19:53 (T42)
	17:18	48	16:23 (T44)	17:55		18:29			20:01	88	19:39 (T77)	20:33			21:01	43	20:36 (T42)
8	07:57		15:36 (T44)	07:36		07:56			07:05		07:24 (T76)	06:22			05:59		19:54 (T42)
	17:19	48	16:24 (T44)	17:56		19:30			20:02	89	19:39 (T77)	20:34			21:02	43	20:37 (T42)
9	07:57		15:37 (T44)	07:35		07:54			07:03		07:23 (T76)	06:20			05:59		19:54 (T42)
	17:20	47	16:24 (T44)	17:57		19:31			20:03	90	19:39 (T77)	20:35			21:02	44	20:38 (T42)
10	07:57		15:39 (T44)	07:34		07:53			07:01		07:22 (T76)	06:19			05:59		19:54 (T42)
	17:21	45	16:24 (T44)	17:59		19:32			20:05	90	19:39 (T77)	20:36			21:03	44	20:38 (T42)
11	07:57		15:39 (T44)	07:32		07:51			07:00		07:23 (T76)	06:18			05:58		19:54 (T42)
	17:23	44	16:23 (T44)	18:00		19:33			20:06	89	19:39 (T77)	20:37			21:03	45	20:39 (T42)
12	07:56		15:40 (T44)	07:31		07:50			06:58		07:23 (T76)	06:17			05:58		19:54 (T42)
	17:24	44	16:24 (T44)	18:01		19:34			20:07	87	19:38 (T77)	20:38			21:04	45	20:39 (T42)
13	07:56		15:41 (T44)	07:30		07:48			06:57		07:24 (T76)	06:16			05:58		19:54 (T42)
	17:25	43	16:24 (T44)	18:02		19:35			20:08	85	19:38 (T77)	20:39			21:05	45	20:39 (T42)
14	07:56		15:42 (T44)	07:29		07:46			06:55		07:25 (T76)	06:15			05:58		19:54 (T42)
	17:26	41	16:23 (T44)	18:04		19:36			20:09	83	19:38 (T77)	20:40			21:05	45	20:39 (T42)
15	07:55		15:44 (T44)	07:27		07:45			06:53		07:26 (T76)	06:14		20:13 (T42)	05:58		19:54 (T42)
	17:27	39	16:23 (T44)	18:05		19:38			20:10	79	19:37 (T77)	20:41	5	20:18 (T42)	21:05	46	20:40 (T42)
16	07:55		15:44 (T44)	07:26		07:43			06:52		07:28 (T76)	06:13		20:08 (T42)	05:58		19:54 (T42)
	17:28	38	16:22 (T44)	18:06		19:39			20:11	75	19:37 (T77)	20:42	12	20:20 (T42)	21:06	46	20:40 (T42)
17	07:54		15:46 (T44)	07:25		07:41			06:50		07:29 (T76)	06:12		20:05 (T42)	05:58		19:55 (T42)
	17:29	36	16:22 (T44)	18:07		19:40			20:12	69	19:35 (T77)	20:43	15	20:20 (T42)	21:06	46	20:41 (T42)
18	07:54		15:47 (T44)	07:23		07:40			06:49		07:34 (T76)	06:11		20:03 (T42)	05:58		19:56 (T42)
	17:30	34	16:21 (T44)	18:09		19:41			20:13	59	19:35 (T77)	20:44	18	20:21 (T42)	21:07	46	20:42 (T42)
19	07:53		15:49 (T44)	07:22		07:38			06:47		18:42 (T77)	06:10		20:01 (T42)	05:58		19:56 (T42)
	17:32	32	16:21 (T44)	18:10		19:42			20:14	52	19:34 (T77)	20:45	21	20:22 (T42)	21:07	46	20:42 (T42)
20	07:53		15:51 (T44)	07:20		07:36			06:46		18:43 (T77)	06:09		20:00 (T42)	05:59		19:56 (T42)
	17:33	29	16:20 (T44)	18:11		19:43			20:15	51	19:34 (T77)	20:46	23	20:23 (T42)	21:07	46	20:42 (T42)
21	07:52		15:52 (T44)	07:19		07:35			06:44		18:44 (T77)	06:09		19:59 (T42)	05:59		19:56 (T42)
	17:34	26	16:18 (T44)	18:12		19:44			20:16	49	19:33 (T77)	20:47	24	20:23 (T42)	21:08	46	20:42 (T42)
22	07:52		15:55 (T44)	07:18		07:33			06:43		18:44 (T77)	06:08		19:58 (T42)	05:59		19:56 (T42)
	17:35	22	16:17 (T44)	18:13		19:45			20:17	48	19:32 (T77)	20:48	27	20:25 (T42)	21:08	46	20:42 (T42)
23	07:51		15:58 (T44)	07:16		07:31			06:41		18:45 (T77)	06:07		19:57 (T42)	05:59		19:57 (T42)
	17:36	17	16:15 (T44)	18:15		19:46			20:18	46	19:31 (T77)	20:49	28	20:25 (T42)	21:08	46	20:43 (T42)
24	07:50		16:02 (T44)	07:15		07:30		19:12 (T77)	06:40		18:45 (T77)	06:06		19:56 (T42)	05:59		19:57 (T42)
	17:38	9	16:11 (T44)	18:16		19:47	8	19:20 (T77)	20:19	44	19:29 (T77)	20:50	30	20:26 (T42)	21:08	46	20:43 (T42)
25	07:49			07:13		07:28		19:05 (T77)	06:38		18:47 (T77)	06:06		19:56 (T42)	06:00		19:56 (T42)
	17:39			18:17		19:48	21	19:26 (T77)	20:21	41	19:28 (T77)	20:51	31	20:27 (T42)	21:08	47	20:43 (T42)
26	07:49			07:12		07:26		19:01 (T77)	06:37		18:47 (T77)	06:05		19:55 (T42)	06:00		19:57 (T42)
	17:40			18:18		19:50	27	19:28 (T77)	20:22	39	19:26 (T77)	20:52	33	20:28 (T42)	21:08	46	20:43 (T42)
27	07:48			07:10		07:24		07:43 (T76)	06:36		18:49 (T77)	06:04		19:56 (T42)	06:00		19:57 (T42)
	17:41			18:19		19:51	35	19:29 (T77)	20:23	36	19:25 (T77)	20:53	33	20:29 (T42)	21:08	46	20:43 (T42)
28	07:47			07:09		07:23		07:42 (T76)	06:34		18:51 (T77)	06:04		19:55 (T42)	06:01		19:57 (T42)
	17:42			18:21		19:52	43	19:30 (T77)	20:24	32	19:23 (T77)	20:54	34	20:29 (T42)	21:09	46	20:43 (T42)
29	07:46					07:21		07:40 (T76)	06:33		18:52 (T77)	06:03		19:54 (T42)	06:01		19:58 (T42)
	17:44					19:53	50	19:31 (T77)	20:25	29	19:21 (T77)	20:54	36	20:30 (T42)	21:09	45	20:43 (T42)
30	07:45					07:19		07:38 (T76)	06:32		18:54 (T77)	06:02		19:54 (T42)	06:02		19:58 (T42)
	17:45					19:54	56	19:32 (T77)	20:26	25	19:19 (T77)	20:55	37	20:31 (T42)	21:08	45	20:43 (T42)
31	07:44					07:18		07:37 (T76)				06:02		19:54 (T42)			
	17:46					19:55	62	19:34 (T77)				20:56	37	20:31 (T42)			
Potential sun hours	297			297		370			399			448			453		
Total, worst case		939					302			1934			472			1329	
Sun reduction		0.31					0.44			0.52			0.57			0.64	
Oper. time red.		1.00					1.00			1.00			1.00			1.00	
Wind dir. red.		0.75					0.62			0.62			0.55			0.54	
Total reduction		0.24					0.28			0.34			0.32			0.36	
Total, real		225					86			650			152			477	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 785 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8342)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		19:59 (T42)	06:26			06:57			07:22 (T76)	07:27			07:37		15:21 (T44)
	21:08	44	20:43 (T42)	20:50			20:07	89		19:38 (T77)	19:15			17:04	44	16:05 (T44)
2	06:03		19:58 (T42)	06:27			06:58			07:21 (T76)	07:29			07:38		15:21 (T44)
	21:08	45	20:43 (T42)	20:49			20:06	90		19:38 (T77)	19:13			17:03	45	16:06 (T44)
3	06:03		19:59 (T42)	06:28			06:59			07:21 (T76)	07:30			07:39		15:21 (T44)
	21:08	44	20:43 (T42)	20:48			20:04	90		19:37 (T77)	19:11			17:03	46	16:07 (T44)
4	06:04		19:59 (T42)	06:29			07:00			07:21 (T76)	07:31			07:40		15:22 (T44)
	21:08	43	20:42 (T42)	20:47			20:02	90		19:37 (T77)	19:10			17:03	47	16:09 (T44)
5	06:04		20:00 (T42)	06:30			07:01			07:22 (T76)	07:32			07:41		15:22 (T44)
	21:08	42	20:42 (T42)	20:46			20:01	88		19:36 (T77)	19:08			17:03	47	16:09 (T44)
6	06:05		19:59 (T42)	06:31			07:02			07:23 (T76)	07:33			07:42		15:21 (T44)
	21:08	43	20:42 (T42)	20:44			19:57	85		19:35 (T77)	19:06			17:03	48	16:09 (T44)
7	06:05		20:00 (T42)	06:32			07:03			07:24 (T76)	07:34			07:43		15:21 (T44)
	21:07	42	20:42 (T42)	20:43			19:56	83		19:34 (T77)	19:05			17:03	49	16:10 (T44)
8	06:06		20:01 (T42)	06:33			07:04			07:25 (T76)	07:35			07:44		15:21 (T44)
	21:07	41	20:42 (T42)	20:42			19:54	79		19:33 (T77)	19:03			17:03	49	16:10 (T44)
9	06:07		20:01 (T42)	06:34			07:05			07:26 (T76)	07:36			07:45		15:21 (T44)
	21:07	40	20:41 (T42)	20:41			19:52	76		19:31 (T77)	19:01			17:03	50	16:11 (T44)
10	06:07		20:01 (T42)	06:35			07:06			07:26 (T76)	07:37			07:46		15:22 (T44)
	21:06	40	20:41 (T42)	20:39			19:51	72		19:28 (T77)	19:00			17:03	50	16:12 (T44)
11	06:08		20:02 (T42)	06:36		19:09 (T77)	07:07			07:27 (T76)	07:38			07:46		15:22 (T44)
	21:06	39	20:41 (T42)	20:38	13	19:22 (T77)	19:49	68		19:27 (T77)	18:58			17:03	51	16:13 (T44)
12	06:09		20:02 (T42)	06:37		19:05 (T77)	07:08			07:28 (T76)	07:39			07:47		15:23 (T44)
	21:05	38	20:40 (T42)	20:37	20	19:25 (T77)	19:47	62		19:25 (T77)	18:57			17:03	50	16:13 (T44)
13	06:10		20:02 (T42)	06:38		19:02 (T77)	07:09			07:29 (T76)	07:40			07:48		15:23 (T44)
	21:05	38	20:40 (T42)	20:36	26	19:28 (T77)	19:45	57		19:23 (T77)	18:55			17:03	51	16:14 (T44)
14	06:10		20:03 (T42)	06:39		19:00 (T77)	07:10			07:30 (T76)	07:41			07:49		15:23 (T44)
	21:05	36	20:39 (T42)	20:34	30	19:30 (T77)	19:44	52		19:22 (T77)	18:54			17:03	51	16:14 (T44)
15	06:11		20:04 (T42)	06:40		18:58 (T77)	07:11			07:31 (T76)	07:42			07:50		15:23 (T44)
	21:04	35	20:39 (T42)	20:33	34	19:32 (T77)	19:42	45		19:20 (T77)	18:52			17:03	52	16:15 (T44)
16	06:12		20:04 (T42)	06:41		18:55 (T77)	07:12			07:32 (T76)	07:44			07:50		15:24 (T44)
	21:03	34	20:38 (T42)	20:31	37	19:32 (T77)	19:40	36		19:18 (T77)	18:50			17:04	52	16:16 (T44)
17	06:13		20:05 (T42)	06:42		18:54 (T77)	07:13			18:49 (T77)	07:45			07:51		15:24 (T44)
	21:03	32	20:37 (T42)	20:30	39	19:33 (T77)	19:39	28		19:17 (T77)	18:49			17:04	52	16:16 (T44)
18	06:14		20:05 (T42)	06:43		18:52 (T77)	07:14			18:51 (T77)	07:46			07:52		15:24 (T44)
	21:02	32	20:37 (T42)	20:29	42	19:34 (T77)	19:37	23		19:14 (T77)	18:47			17:04	52	16:16 (T44)
19	06:14		20:06 (T42)	06:44		18:51 (T77)	07:15			18:56 (T77)	07:47			07:52		15:25 (T44)
	21:01	31	20:37 (T42)	20:27	44	19:35 (T77)	19:35	13		19:09 (T77)	18:46			17:05	52	16:17 (T44)
20	06:15		20:07 (T42)	06:45		18:50 (T77)	07:16				07:48			07:53		15:25 (T44)
	21:01	29	20:36 (T42)	20:26	46	19:36 (T77)	19:33				18:44			17:05	52	16:17 (T44)
21	06:16		20:07 (T42)	06:46		18:49 (T77)	07:17				07:49			07:53		15:26 (T44)
	21:00	28	20:35 (T42)	20:24	48	19:37 (T77)	19:32				18:43			17:06	52	16:18 (T44)
22	06:17		20:08 (T42)	06:47		18:47 (T77)	07:18				07:50			07:54		15:26 (T44)
	20:59	26	20:34 (T42)	20:23	50	19:37 (T77)	19:30				18:41			17:06	52	16:18 (T44)
23	06:18		20:10 (T42)	06:48		18:47 (T77)	07:19				07:51			07:54		15:27 (T44)
	20:58	23	20:33 (T42)	20:21	51	19:38 (T77)	19:28				18:40			17:07	52	16:19 (T44)
24	06:19		20:11 (T42)	06:49		18:46 (T77)	07:20				07:53			07:55		15:27 (T44)
	20:58	22	20:33 (T42)	20:20	52	19:38 (T77)	19:27				18:39			17:07	52	16:19 (T44)
25	06:20		20:13 (T42)	06:50		07:36 (T76)	07:21				07:54			07:55		15:27 (T44)
	20:57	19	20:32 (T42)	20:18	61	19:38 (T77)	19:25				18:37			17:08	52	16:19 (T44)
26	06:21		20:14 (T42)	06:51		07:32 (T76)	07:22				07:55			07:56		15:29 (T44)
	20:56	17	20:31 (T42)	20:17	69	19:38 (T77)	19:23				18:36			17:08	52	16:21 (T44)
27	06:22		20:17 (T42)	06:52		07:29 (T76)	07:23				07:56			07:56		15:29 (T44)
	20:55	14	20:31 (T42)	20:15	75	19:38 (T77)	19:22				18:34			17:09	52	16:21 (T44)
28	06:22		20:20 (T42)	06:53		07:27 (T76)	07:24				07:57			07:56		15:29 (T44)
	20:54	10	20:30 (T42)	20:14	80	19:39 (T77)	19:20				18:33			17:10	52	16:21 (T44)
29	06:23			06:54		07:26 (T76)	07:25				07:58			07:57		15:29 (T44)
	20:53			20:12	82	19:38 (T77)	19:18				18:32			17:10	52	16:21 (T44)
30	06:24			06:55		07:24 (T76)	07:26				08:00			07:57		15:31 (T44)
	20:52			20:10	84	19:38 (T77)	19:16				18:31			17:11	51	16:22 (T44)
31	06:25			06:56		07:23 (T76)					08:01			07:57		15:31 (T44)
	20:51			20:09	87	19:38 (T77)					18:29			17:12	51	16:22 (T44)
Potential sun hours	460			429			375				345	297		287		
Total, worst case		927			1070			1226					409		1560	
Sun reduction		0.66			0.61			0.59					0.30		0.22	
Oper. time red.		1.00			1.00			1.00					1.00		1.00	
Wind dir. red.		0.54			0.62			0.63					0.75		0.75	
Total reduction		0.37			0.39			0.38					0.23		0.17	
Total, real		343			420			469					95		265	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 827 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8377)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:58		08:21 (T25)	07:44		08:04 (T26)	07:07	07:16		07:35 (T75)	06:30			06:01		06:33 (T24)
	17:13	56	09:17 (T25)	17:48	92	09:36 (T25)	18:22	19:56	7	07:42 (T75)	20:27			20:57	58	07:31 (T24)
2	07:58		08:21 (T25)	07:43		08:03 (T26)	07:06	07:15		07:34 (T75)	06:29			06:01		06:34 (T24)
	17:14	57	09:18 (T25)	17:49	93	09:36 (T25)	18:23	19:57	11	07:45 (T75)	20:28			20:58	57	07:31 (T24)
3	07:58		08:21 (T25)	07:42		08:02 (T26)	07:04	07:13		07:32 (T75)	06:28			06:01		06:33 (T24)
	17:15	57	09:18 (T25)	17:50	94	09:36 (T25)	18:24	19:58	14	07:46 (T75)	20:29			20:59	58	07:31 (T24)
4	07:58		08:21 (T25)	07:41		08:01 (T26)	07:03	07:11		07:30 (T75)	06:26			06:00		06:34 (T24)
	17:16	58	09:19 (T25)	17:51	95	09:36 (T25)	18:25	19:59	17	07:47 (T75)	20:30			20:59	58	07:32 (T24)
5	07:58		08:21 (T25)	07:40		08:00 (T26)	07:01	07:10		07:29 (T75)	06:25			06:00		06:34 (T24)
	17:17	59	09:20 (T25)	17:53	96	09:36 (T25)	18:26	20:00	20	07:49 (T75)	20:32			21:00	58	07:32 (T24)
6	07:58		08:21 (T25)	07:39		07:59 (T26)	07:00	07:08		07:27 (T75)	06:24		06:55 (T24)	05:59		06:33 (T24)
	17:17	60	09:21 (T25)	17:54	97	09:36 (T25)	18:28	20:00	22	07:49 (T75)	20:33	13	07:08 (T24)	21:01	59	07:32 (T24)
7	07:58		08:21 (T25)	07:37		07:58 (T26)	06:58	07:06		07:25 (T75)	06:23		06:51 (T24)	05:59		06:34 (T24)
	17:18	61	09:22 (T25)	17:55	98	09:36 (T25)	18:29	20:02	24	07:49 (T75)	20:34	21	07:12 (T24)	21:01	58	07:32 (T24)
8	07:58		08:22 (T25)	07:36		07:56 (T26)	07:56	07:05		07:24 (T75)	06:22		06:49 (T24)	05:59		06:34 (T24)
	17:19	61	09:23 (T25)	17:56	99	09:35 (T25)	19:30	20:03	25	07:49 (T75)	20:35	25	07:14 (T24)	21:02	58	07:32 (T24)
9	07:57		08:21 (T25)	07:35		07:55 (T26)	07:55	07:03		07:22 (T75)	06:20		06:47 (T24)	05:59		06:34 (T24)
	17:20	62	09:23 (T25)	17:58	100	09:35 (T25)	19:31	20:04	27	07:49 (T75)	20:36	30	07:17 (T24)	21:03	59	07:33 (T24)
10	07:57		08:21 (T25)	07:34		07:54 (T26)	07:53	07:01		07:20 (T75)	06:19		06:45 (T24)	05:59		06:35 (T24)
	17:21	63	09:24 (T25)	17:59	101	09:35 (T25)	19:32	20:05	28	07:48 (T75)	20:37	33	07:18 (T24)	21:03	58	07:33 (T24)
11	07:57		08:21 (T25)	07:33		07:53 (T26)	07:51	07:00		07:19 (T75)	06:18		06:42 (T24)	05:58		06:35 (T24)
	17:23	64	09:25 (T25)	18:00	101	09:34 (T25)	19:33	20:06	30	07:49 (T75)	20:38	37	07:19 (T24)	21:04	58	07:33 (T24)
12	07:57		08:21 (T25)	07:31		07:52 (T26)	07:50	06:58		07:19 (T75)	06:17		06:41 (T24)	05:58		06:34 (T24)
	17:24	64	09:25 (T25)	18:01	101	09:33 (T25)	19:34	20:07	29	07:48 (T75)	20:39	39	07:20 (T24)	21:04	59	07:33 (T24)
13	07:56		08:21 (T25)	07:30		07:52 (T26)	07:48	06:57		07:20 (T75)	06:16		06:40 (T24)	05:58		06:35 (T24)
	17:25	66	09:27 (T25)	18:03	100	09:32 (T25)	19:36	20:08	28	07:48 (T75)	20:40	41	07:21 (T24)	21:05	58	07:33 (T24)
14	07:56		08:21 (T25)	07:29		07:53 (T26)	07:46	06:55		07:19 (T75)	06:15		06:39 (T24)	05:58		06:35 (T24)
	17:26	67	09:28 (T25)	18:04	98	09:32 (T25)	19:37	20:09	27	07:46 (T75)	20:41	43	07:22 (T24)	21:05	58	07:33 (T24)
15	07:56		08:21 (T25)	07:28		07:53 (T26)	07:45	06:54		07:21 (T75)	06:14		06:39 (T24)	05:58		06:35 (T24)
	17:27	67	09:28 (T25)	18:05	95	09:30 (T25)	19:38	20:10	25	07:46 (T75)	20:42	45	07:24 (T24)	21:06	58	07:33 (T24)
16	07:55		08:21 (T25)	07:26		07:54 (T26)	07:43	06:52		07:21 (T75)	06:13		06:38 (T24)	05:58		06:35 (T24)
	17:28	68	09:29 (T25)	18:06	93	09:30 (T25)	19:39	20:11	23	07:44 (T75)	20:43	47	07:25 (T24)	21:06	58	07:33 (T24)
17	07:55		08:21 (T25)	07:25		07:55 (T26)	07:41	06:50		07:22 (T75)	06:12		06:37 (T24)	05:58		06:36 (T24)
	17:29	69	09:30 (T25)	18:07	88	09:29 (T25)	19:40	20:12	21	07:43 (T75)	20:44	48	07:25 (T24)	21:07	59	07:35 (T24)
18	07:54		08:21 (T25)	07:24		07:55 (T26)	07:40	06:49		07:23 (T75)	06:11		06:37 (T24)	05:58		06:36 (T24)
	17:30	70	09:31 (T25)	18:09	85	09:27 (T25)	19:41	20:13	18	07:41 (T75)	20:45	49	07:26 (T24)	21:07	59	07:35 (T24)
19	07:54		08:21 (T25)	07:22		07:57 (T26)	07:38	06:47		07:25 (T75)	06:10		06:36 (T24)	05:58		06:37 (T24)
	17:32	70	09:31 (T25)	18:10	80	09:26 (T25)	19:42	20:14	14	07:39 (T75)	20:46	50	07:26 (T24)	21:07	58	07:35 (T24)
20	07:53		08:21 (T25)	07:21		07:58 (T26)	07:36	06:46		07:29 (T75)	06:09		06:35 (T24)	05:58		06:37 (T24)
	17:33	70	09:31 (T25)	18:11	73	09:24 (T25)	19:43	20:15	5	07:34 (T75)	20:47	51	07:26 (T24)	21:08	58	07:35 (T24)
21	07:53		08:21 (T25)	07:19		08:00 (T26)	07:35	06:44			06:09		06:35 (T24)	05:59		06:37 (T24)
	17:34	72	09:33 (T25)	18:12	66	09:23 (T25)	19:44	20:17			20:48	53	07:28 (T24)	21:08	58	07:35 (T24)
22	07:52		08:21 (T25)	07:18		08:04 (T26)	07:33	06:43			06:08		06:35 (T24)	05:59		06:37 (T24)
	17:35	72	09:33 (T25)	18:14	55	09:21 (T25)	19:45	20:18			20:49	53	07:28 (T24)	21:08	58	07:35 (T24)
23	07:51		08:21 (T25)	07:16		08:37 (T25)	07:31	06:41			06:07		06:34 (T24)	05:59		06:38 (T24)
	17:36	72	09:33 (T25)	18:15	41	09:18 (T25)	19:46	20:19			20:50	54	07:28 (T24)	21:08	58	07:36 (T24)
24	07:51		08:20 (T25)	07:15		08:40 (T25)	07:30	06:40			06:06		06:34 (T24)	05:59		06:37 (T24)
	17:38	73	09:33 (T25)	18:16	36	09:16 (T25)	19:48	20:20			20:50	54	07:28 (T24)	21:09	59	07:36 (T24)
25	07:50		08:21 (T25)	07:13		08:42 (T25)	07:28	06:39			06:06		06:34 (T24)	06:00		06:37 (T24)
	17:39	74	09:35 (T25)	18:17	31	09:13 (T25)	19:49	20:21			20:51	55	07:29 (T24)	21:09	59	07:36 (T24)
26	07:49		08:21 (T25)	07:12		08:46 (T25)	07:26	06:37			06:05		06:34 (T24)	06:00		06:38 (T24)
	17:40	74	09:35 (T25)	18:18	23	09:09 (T25)	19:50	20:22			20:52	55	07:29 (T24)	21:09	59	07:37 (T24)
27	07:48		08:09 (T26)	07:10		08:50 (T25)	07:25	06:36			06:04		06:34 (T24)	06:00		06:38 (T24)
	17:41	76	09:35 (T25)	18:19	13	09:03 (T25)	19:51	20:23			20:53	56	07:30 (T24)	21:09	58	07:36 (T24)
28	07:47		08:08 (T26)	07:09			07:23	06:34			06:04		06:33 (T24)	06:01		06:38 (T24)
	17:42	81	09:35 (T25)	18:21			19:52	20:24			20:54	57	07:30 (T24)	21:09	58	07:36 (T24)
29	07:47		08:07 (T26)				07:21	06:33			06:03		06:33 (T24)	06:01		06:39 (T24)
	17:44	85	09:36 (T25)				19:53	20:25			20:55	57	07:30 (T24)	21:09	58	07:37 (T24)
30	07:46		08:06 (T26)				07:20	06:32			06:02		06:33 (T24)	06:02		06:38 (T24)
	17:45	88	09:36 (T25)				19:54	20:26			20:56	57	07:30 (T24)	21:09	59	07:37 (T24)
31	07:45		08:05 (T26)				07:18				06:02		06:34 (T24)			
	17:46	90	09:36 (T25)				19:55				20:56	57	07:31 (T24)			
Potential sun hours	297			297			370	399			449			453		
Total, worst case		2126			2144				415			1180			1748	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.52			0.53				0.65			0.71			0.71	
Total reduction		0.15			0.20				0.32			0.38			0.43	
Total, real		328			432				134			454			755	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 827 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8377)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		06:39 (T24)	06:26		06:52 (T24)	06:57		07:18 (T75)	07:28			07:02		07:24 (T26)	07:37		08:03 (T25)
	21:09	59	07:38 (T24)	20:50	38	07:30 (T24)	20:07	30	07:48 (T75)	19:15			17:28	100	09:04 (T25)	17:04	64	09:07 (T25)
2	06:03		06:39 (T24)	06:27		06:54 (T24)	06:58		07:19 (T75)	07:29			07:03		07:25 (T26)	07:38		08:04 (T25)
	21:09	58	07:37 (T24)	20:49	35	07:29 (T24)	20:06	28	07:47 (T75)	19:13			17:27	100	09:05 (T25)	17:03	63	09:07 (T25)
3	06:03		06:40 (T24)	06:28		06:55 (T24)	06:59		07:20 (T75)	07:30			07:05		07:26 (T26)	07:39		08:05 (T25)
	21:09	58	07:38 (T24)	20:48	32	07:27 (T24)	20:04	27	07:47 (T75)	19:12			17:26	99	09:05 (T25)	17:03	62	09:07 (T25)
4	06:04		06:39 (T24)	06:29		06:57 (T24)	07:00		07:21 (T75)	07:31			07:06		07:27 (T26)	07:40		08:06 (T25)
	21:08	59	07:38 (T24)	20:47	28	07:25 (T24)	20:03	25	07:46 (T75)	19:10			17:24	98	09:05 (T25)	17:03	61	09:07 (T25)
5	06:04		06:40 (T24)	06:30		06:59 (T24)	07:01		07:22 (T75)	07:32			07:07		07:29 (T26)	07:41		08:06 (T25)
	21:08	58	07:38 (T24)	20:46	24	07:23 (T24)	20:01	24	07:46 (T75)	19:08			17:23	97	09:06 (T25)	17:03	61	09:07 (T25)
6	06:05		06:40 (T24)	06:31		07:02 (T24)	07:02		07:23 (T75)	07:33			07:08		07:30 (T26)	07:42		08:07 (T25)
	21:08	58	07:38 (T24)	20:45	18	07:20 (T24)	19:58	22	07:45 (T75)	19:07			17:22	96	09:06 (T25)	17:03	60	09:07 (T25)
7	06:05		06:40 (T24)	06:32		07:07 (T24)	07:03		07:24 (T75)	07:34			07:09		07:31 (T26)	07:43		08:08 (T25)
	21:08	58	07:38 (T24)	20:44	8	07:15 (T24)	19:56	20	07:44 (T75)	19:05			17:21	95	09:06 (T25)	17:03	59	09:07 (T25)
8	06:06		06:41 (T24)	06:33			07:04		07:25 (T75)	07:35			07:11		07:33 (T26)	07:44		08:09 (T25)
	21:07	58	07:39 (T24)	20:42			19:54	17	07:42 (T75)	19:03			17:20	94	09:07 (T25)	17:03	58	09:07 (T25)
9	06:07		06:40 (T24)	06:34			07:05		07:26 (T75)	07:36			07:12		07:34 (T26)	07:45		08:10 (T25)
	21:07	58	07:38 (T24)	20:41			19:52	15	07:41 (T75)	19:02			17:19	93	09:07 (T25)	17:03	57	09:07 (T25)
10	06:07		06:41 (T24)	06:35			07:06		07:27 (T75)	07:37			07:13		07:35 (T26)	07:46		08:11 (T25)
	21:07	58	07:39 (T24)	20:40			19:51	11	07:38 (T75)	19:00			17:18	92	09:07 (T25)	17:03	57	09:08 (T25)
11	06:08		06:42 (T24)	06:36			07:07		07:28 (T75)	07:38			07:14		07:36 (T26)	07:47		08:11 (T25)
	21:06	57	07:39 (T24)	20:39			19:49	7	07:35 (T75)	18:58			17:17	90	09:07 (T25)	17:03	56	09:07 (T25)
12	06:09		06:41 (T24)	06:37			07:08			07:39			07:15		07:38 (T26)	07:48		08:12 (T25)
	21:06	57	07:38 (T24)	20:37			19:47			18:57			17:16	88	09:08 (T25)	17:03	55	09:07 (T25)
13	06:10		06:42 (T24)	06:38			07:09			07:40			07:17		07:39 (T26)	07:48		08:12 (T25)
	21:05	57	07:39 (T24)	20:36			19:46			18:55			17:15	84	09:07 (T25)	17:03	56	09:08 (T25)
14	06:10		06:42 (T24)	06:39			07:10			07:42			07:18		07:40 (T26)	07:49		08:13 (T25)
	21:05	57	07:39 (T24)	20:35			19:44			18:54			17:14	81	09:07 (T25)	17:03	55	09:08 (T25)
15	06:11		06:43 (T24)	06:40			07:11			07:43		09:20 (T25)	07:19		07:42 (T26)	07:50		08:13 (T25)
	21:04	56	07:39 (T24)	20:33			19:42			18:52	18	09:38 (T25)	17:13	76	09:08 (T25)	17:03	55	09:08 (T25)
16	06:12		06:42 (T24)	06:41			07:12			07:44		09:16 (T25)	07:20		07:54 (T25)	07:51		08:14 (T25)
	21:04	56	07:38 (T24)	20:32			19:41			18:51	26	09:42 (T25)	17:12	74	09:08 (T25)	17:04	54	09:08 (T25)
17	06:13		06:43 (T24)	06:42			07:13			07:45		09:12 (T25)	07:21		07:54 (T25)	07:51		08:15 (T25)
	21:03	56	07:39 (T24)	20:30			19:39			18:49	33	09:45 (T25)	17:11	74	09:08 (T25)	17:04	54	09:09 (T25)
18	06:14		06:43 (T24)	06:43			07:14			07:46		09:09 (T25)	07:23		07:54 (T25)	07:52		08:15 (T25)
	21:03	56	07:39 (T24)	20:29			19:37			18:47	39	09:48 (T25)	17:11	73	09:07 (T25)	17:04	54	09:09 (T25)
19	06:14		06:44 (T24)	06:44			07:15			07:47		09:08 (T25)	07:24		07:56 (T25)	07:53		08:16 (T25)
	21:02	55	07:39 (T24)	20:27			19:35			18:46	43	09:51 (T25)	17:10	72	09:08 (T25)	17:05	53	09:09 (T25)
20	06:15		06:44 (T24)	06:45			07:16			07:48		08:33 (T26)	07:25		07:56 (T25)	07:53		08:17 (T25)
	21:01	55	07:39 (T24)	20:26			19:34			18:44	59	09:52 (T25)	17:09	72	09:08 (T25)	17:05	53	09:10 (T25)
21	06:16		06:44 (T24)	06:46			07:17			07:49		08:30 (T26)	07:26		07:56 (T25)	07:54		08:17 (T25)
	21:00	54	07:38 (T24)	20:25			19:32			18:43	69	09:54 (T25)	17:09	72	09:08 (T25)	17:06	53	09:10 (T25)
22	06:17		06:45 (T24)	06:47			07:18			07:51		08:28 (T26)	07:27		07:57 (T25)	07:54		08:18 (T25)
	21:00	52	07:37 (T24)	20:23			19:30			18:42	75	09:55 (T25)	17:08	70	09:07 (T25)	17:06	53	09:11 (T25)
23	06:18		06:45 (T24)	06:48		07:32 (T75)	07:19			07:52		08:26 (T26)	07:28		07:58 (T25)	07:55		08:18 (T25)
	20:59	52	07:37 (T24)	20:22	7	07:39 (T75)	19:29			18:40	81	09:56 (T25)	17:07	70	09:08 (T25)	17:07	53	09:11 (T25)
24	06:19		06:46 (T24)	06:49		07:28 (T75)	07:20			07:53		08:26 (T26)	07:30		07:58 (T25)	07:55		08:18 (T25)
	20:58	51	07:37 (T24)	20:20	14	07:42 (T75)	19:27			18:39	86	09:58 (T25)	17:07	70	09:08 (T25)	17:07	53	09:11 (T25)
25	06:20		06:47 (T24)	06:50		07:26 (T75)	07:22			07:54		08:24 (T26)	07:31		07:59 (T25)	07:56		08:19 (T25)
	20:57	50	07:37 (T24)	20:18	18	07:44 (T75)	19:25			18:37	90	09:59 (T25)	17:06	69	09:08 (T25)	17:08	53	09:12 (T25)
26	06:21		06:47 (T24)	06:51		07:24 (T75)	07:23			07:55		08:23 (T26)	07:32		07:59 (T25)	07:56		08:19 (T25)
	20:56	49	07:36 (T24)	20:17	21	07:45 (T75)	19:23			18:36	94	10:00 (T25)	17:06	68	09:07 (T25)	17:08	54	09:13 (T25)
27	06:22		06:48 (T24)	06:52		07:23 (T75)	07:24			07:56		08:22 (T26)	07:33		08:00 (T25)	07:56		08:19 (T25)
	20:55	48	07:36 (T24)	20:15	23	07:46 (T75)	19:22			18:35	96	10:00 (T25)	17:05	67	09:07 (T25)	17:09	54	09:13 (T25)
28	06:22		06:49 (T24)	06:53		07:21 (T75)	07:25			07:58		08:22 (T26)	07:34		08:00 (T25)	07:57		08:20 (T25)
	20:54	46	07:35 (T24)	20:14	26	07:47 (T75)	19:20			18:33	99	10:02 (T25)	17:05	67	09:07 (T25)	17:10	54	09:14 (T25)
29	06:23		06:49 (T24)	06:54		07:20 (T75)	07:26			07:59		08:22 (T26)	07:35		08:02 (T25)	07:57		08:20 (T25)
	20:53	44	07:33 (T24)	20:12	27	07:47 (T75)	19:18			18:32	100	10:02 (T25)	17:04	66	09:08 (T25)	17:10	55	09:15 (T25)
30	06:24		06:50 (T24)	06:55		07:20 (T75)	07:27			08:00		08:21 (T26)	07:36		08:03 (T25)	07:57		08:20 (T25)
	20:52	42	07:32 (T24)	20:11	28	07:48 (T75)	19:17			18:31	102	10:03 (T25)	17:04	65	09:08 (T25)	17:11	55	09:15 (T25)
31	06:25		06:51 (T24)	06:56		07:19 (T75)				08:01		08:22 (T26)				07:57		08:21 (T25)
	20:51	40	07:31 (T24)	20:09	29	07:48 (T75)				18:29	101	10:03 (T25)				17:12	55	09:16 (T25)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		1672			376			226			1211			2432			1739	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.71			0.68			0.65			0.53			0.52			0.52	
Total reduction		0.45			0.40			0.37			0.24			0.15			0.11	
Total, real		745			149			83			293			365			190	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 834 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8383)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		07:43	08:04 (T44)	07:07		07:16	07:35 (T77)	06:30		06:02	06:23 (T42)
	17:13		17:48	23 08:27 (T44)	18:22		19:56	34 08:09 (T77)	20:27		20:57	44 07:07 (T42)
2	07:57		07:42	08:03 (T44)	07:06		07:15	07:33 (T77)	06:29		06:01	06:23 (T42)
	17:14		17:49	25 08:28 (T44)	18:23		19:57	36 08:09 (T77)	20:28		20:58	44 07:07 (T42)
3	07:57		07:41	08:02 (T44)	07:04		07:13	07:32 (T77)	06:28		06:01	06:23 (T42)
	17:15		17:50	27 08:29 (T44)	18:24		19:58	38 08:10 (T77)	20:29		20:58	44 07:07 (T42)
4	07:57		07:40	08:01 (T44)	07:03		07:11	07:30 (T77)	06:26		06:00	06:23 (T42)
	17:16		17:51	28 08:29 (T44)	18:25		19:59	39 08:09 (T77)	20:30		20:59	44 07:07 (T42)
5	07:57		07:39	08:00 (T44)	07:01		07:10	07:29 (T77)	06:25		06:00	06:24 (T42)
	17:17		17:53	29 08:29 (T44)	18:26		20:00	40 08:09 (T77)	20:31		21:00	43 07:07 (T42)
6	07:57		07:38	07:58 (T44)	06:59		07:08	07:29 (T77)	06:24		06:00	06:23 (T42)
	17:18		17:54	30 08:28 (T44)	18:28		20:00	39 08:08 (T77)	20:32		21:01	44 07:07 (T42)
7	07:57		07:37	07:57 (T44)	06:58		07:06	07:28 (T77)	06:23		05:59	06:24 (T42)
	17:19		17:55	32 08:29 (T44)	18:29		20:01	40 08:08 (T77)	20:33		21:01	43 07:07 (T42)
8	07:57		07:36	07:56 (T44)	07:56		07:05	07:29 (T77)	06:22	06:42 (T42)	05:59	06:24 (T42)
	17:19		17:56	33 08:29 (T44)	19:30		20:02	38 08:07 (T77)	20:34	7 06:49 (T42)	21:02	44 07:08 (T42)
9	07:57		07:35	07:57 (T44)	07:55		07:03	07:29 (T77)	06:20	06:41 (T42)	05:59	06:24 (T42)
	17:21		17:58	32 08:29 (T44)	19:31		20:04	37 08:06 (T77)	20:35	11 06:52 (T42)	21:02	44 07:08 (T42)
10	07:57		07:34	07:58 (T44)	07:53		07:01	07:29 (T77)	06:19	06:40 (T42)	05:59	06:25 (T42)
	17:22		17:59	30 08:28 (T44)	19:32		20:05	36 08:05 (T77)	20:36	15 06:55 (T42)	21:03	43 07:08 (T42)
11	07:57		07:32	07:58 (T44)	07:51		07:00	07:30 (T77)	06:18	06:38 (T42)	05:58	06:25 (T42)
	17:23		18:00	29 08:27 (T44)	19:33		20:06	34 08:04 (T77)	20:38	17 06:55 (T42)	21:04	43 07:08 (T42)
12	07:56		07:31	07:59 (T44)	07:50		06:58	07:30 (T77)	06:17	06:37 (T42)	05:58	06:26 (T42)
	17:24		18:01	28 08:27 (T44)	19:34		20:07	33 08:03 (T77)	20:39	20 06:57 (T42)	21:04	43 07:09 (T42)
13	07:56		07:30	08:00 (T44)	07:48		06:57	07:31 (T77)	06:16	06:36 (T42)	05:58	06:25 (T42)
	17:25		18:03	26 08:26 (T44)	19:35		20:08	31 08:02 (T77)	20:40	22 06:58 (T42)	21:05	43 07:08 (T42)
14	07:56		07:29	08:02 (T44)	07:46		06:55	07:32 (T77)	06:15	06:36 (T42)	05:58	06:25 (T42)
	17:26		18:04	23 08:25 (T44)	19:37		20:09	28 08:00 (T77)	20:41	24 07:00 (T42)	21:05	43 07:08 (T42)
15	07:55		07:27	08:02 (T44)	07:45		06:53	07:34 (T77)	06:14	06:35 (T42)	05:58	06:25 (T42)
	17:27		18:05	21 08:23 (T44)	19:38		20:10	24 07:58 (T77)	20:42	26 07:01 (T42)	21:06	43 07:08 (T42)
16	07:55		07:26	08:05 (T44)	07:43		06:52	07:35 (T77)	06:13	06:34 (T42)	05:58	06:27 (T42)
	17:28		18:06	16 08:21 (T44)	19:39		20:11	21 07:56 (T77)	20:43	28 07:02 (T42)	21:06	42 07:09 (T42)
17	07:54		07:25	08:07 (T44)	07:41		06:50	07:38 (T77)	06:12	06:33 (T42)	05:58	06:27 (T42)
	17:29		18:07	10 08:17 (T44)	19:40		20:12	15 07:53 (T77)	20:44	29 07:02 (T42)	21:06	42 07:09 (T42)
18	07:54		07:23		07:40		06:49	07:43 (T77)	06:11	06:32 (T42)	05:58	06:27 (T42)
	17:30		18:09		19:41		20:13	4 07:47 (T77)	20:45	31 07:03 (T42)	21:07	42 07:09 (T42)
19	07:53		07:22		07:38		06:47		06:10	06:31 (T42)	05:58	06:27 (T42)
	17:32		18:10		19:42		20:14		20:45	32 07:03 (T42)	21:07	42 07:09 (T42)
20	07:53		07:21		07:36		06:46		06:09	06:30 (T42)	05:59	06:27 (T42)
	17:33		18:11		19:43		20:15		20:46	33 07:03 (T42)	21:07	42 07:09 (T42)
21	07:52		07:19		07:35		06:44		06:09	06:30 (T42)	05:59	06:27 (T42)
	17:34		18:12		19:44		20:16		20:47	34 07:04 (T42)	21:08	42 07:09 (T42)
22	07:52		07:18		07:33		06:43		06:08	06:29 (T42)	05:59	06:27 (T42)
	17:35		18:14		19:45		20:17		20:48	36 07:05 (T42)	21:08	42 07:09 (T42)
23	07:51	08:12 (T44)	07:16		07:31	07:50 (T77)	06:41		06:07	06:28 (T42)	05:59	06:28 (T42)
	17:36	4 08:16 (T44)	18:15		19:46	8 07:58 (T77)	20:18		20:49	37 07:05 (T42)	21:08	42 07:10 (T42)
24	07:50	08:11 (T44)	07:15		07:30	07:49 (T77)	06:40		06:06	06:27 (T42)	05:59	06:28 (T42)
	17:38	7 08:18 (T44)	18:16		19:47	13 08:02 (T77)	20:20		20:50	38 07:05 (T42)	21:08	42 07:10 (T42)
25	07:50	08:10 (T44)	07:13		07:28	07:47 (T77)	06:39		06:06	06:27 (T42)	06:00	06:28 (T42)
	17:39	10 08:20 (T44)	18:17		19:49	17 08:04 (T77)	20:21		20:51	38 07:05 (T42)	21:08	42 07:10 (T42)
26	07:49	08:09 (T44)	07:12		07:26	07:45 (T77)	06:37		06:05	06:26 (T42)	06:00	06:29 (T42)
	17:40	12 08:21 (T44)	18:18		19:50	20 08:05 (T77)	20:22		20:52	39 07:05 (T42)	21:08	42 07:11 (T42)
27	07:48	08:09 (T44)	07:10		07:25	07:44 (T77)	06:36		06:04	06:26 (T42)	06:00	06:28 (T42)
	17:41	14 08:23 (T44)	18:19		19:51	23 08:07 (T77)	20:23		20:53	40 07:06 (T42)	21:09	43 07:11 (T42)
28	07:47	08:08 (T44)	07:09		07:23	07:42 (T77)	06:34		06:04	06:25 (T42)	06:01	06:28 (T42)
	17:43	16 08:24 (T44)	18:21		19:52	26 08:08 (T77)	20:24		20:54	41 07:06 (T42)	21:09	43 07:11 (T42)
29	07:46	08:07 (T44)			07:21	07:40 (T77)	06:33		06:03	06:25 (T42)	06:01	06:29 (T42)
	17:44	18 08:25 (T44)			19:53	28 08:08 (T77)	20:25		20:54	42 07:07 (T42)	21:09	43 07:12 (T42)
30	07:45	08:06 (T44)			07:20	07:38 (T77)	06:32		06:03	06:24 (T42)	06:02	06:29 (T42)
	17:45	20 08:26 (T44)			19:54	30 08:08 (T77)	20:26		20:55	42 07:06 (T42)	21:09	43 07:12 (T42)
31	07:44	08:05 (T44)			07:18	07:37 (T77)			06:02	06:24 (T42)		
	17:46	22 08:27 (T44)			19:55	32 08:09 (T77)			20:56	43 07:07 (T42)		
Potential sun hours	297		297		370		399		448		453	
Total, worst case		123		442		197		567		725		1286
Sun reduction		0.31		0.40		0.44		0.52		0.57		0.64
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.54		0.54		0.64		0.64		0.71		0.71
Total reduction		0.16		0.21		0.28		0.33		0.40		0.45
Total, real		20		94		54		185		289		576

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 834 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8383)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December	
1	06:02		06:29 (T42)	06:26		06:48 (T42)	06:57		07:29 (T77)	07:28			07:02		07:26 (T44)	07:37	
	21:08	43	07:12 (T42)	20:50	19	07:07 (T42)	20:07	34	08:03 (T77)	19:15			17:28	31	07:57 (T44)	17:04	
2	06:03		06:29 (T42)	06:27		06:49 (T42)	06:58		07:28 (T77)	07:29			07:03		07:27 (T44)	07:38	
	21:08	43	07:12 (T42)	20:49	16	07:05 (T42)	20:06	36	08:04 (T77)	19:13			17:27	31	07:58 (T44)	17:03	
3	06:03		06:30 (T42)	06:28		06:50 (T42)	06:59		07:27 (T77)	07:30			07:04		07:26 (T44)	07:39	
	21:08	43	07:13 (T42)	20:48	14	07:04 (T42)	20:04	37	08:04 (T77)	19:11			17:26	32	07:58 (T44)	17:03	
4	06:04		06:29 (T42)	06:29		06:51 (T42)	07:00		07:26 (T77)	07:31			07:06		07:27 (T44)	07:40	
	21:08	44	07:13 (T42)	20:47	10	07:01 (T42)	20:02	38	08:04 (T77)	19:10			17:24	31	07:58 (T44)	17:03	
5	06:04		06:30 (T42)	06:30		06:52 (T42)	07:01		07:25 (T77)	07:32			07:07		07:28 (T44)	07:41	
	21:08	43	07:13 (T42)	20:46	4	06:56 (T42)	20:01	40	08:05 (T77)	19:08			17:23	30	07:58 (T44)	17:03	
6	06:05		06:29 (T42)	06:31			07:02		07:25 (T77)	07:33			07:08		07:30 (T44)	07:42	
	21:08	44	07:13 (T42)	20:44			19:57	40	08:05 (T77)	19:06			17:22	29	07:59 (T44)	17:03	
7	06:06		06:30 (T42)	06:32			07:03		07:24 (T77)	07:34			07:09		07:31 (T44)	07:43	
	21:07	44	07:14 (T42)	20:43			19:56	40	08:04 (T77)	19:05			17:21	28	07:59 (T44)	17:03	
8	06:06		06:30 (T42)	06:33			07:04		07:25 (T77)	07:35			07:10		07:32 (T44)	07:44	
	21:07	44	07:14 (T42)	20:42			19:54	39	08:04 (T77)	19:03			17:20	26	07:58 (T44)	17:03	
9	06:07		06:30 (T42)	06:34			07:05		07:26 (T77)	07:36			07:12		07:34 (T44)	07:45	
	21:07	44	07:14 (T42)	20:41			19:52	38	08:04 (T77)	19:02			17:19	25	07:59 (T44)	17:03	
10	06:08		06:30 (T42)	06:35			07:06		07:27 (T77)	07:37			07:13		07:35 (T44)	07:46	
	21:06	44	07:14 (T42)	20:40			19:51	36	08:03 (T77)	19:00			17:18	23	07:58 (T44)	17:03	
11	06:08		06:31 (T42)	06:36			07:07		07:28 (T77)	07:38			07:14		07:36 (T44)	07:47	
	21:06	44	07:15 (T42)	20:38			19:49	35	08:03 (T77)	18:58			17:17	22	07:58 (T44)	17:03	
12	06:09		06:31 (T42)	06:37			07:08		07:28 (T77)	07:39			07:15		07:37 (T44)	07:47	
	21:06	43	07:14 (T42)	20:37			19:47	33	08:01 (T77)	18:57			17:16	20	07:57 (T44)	17:03	
13	06:10		06:32 (T42)	06:38			07:09		07:29 (T77)	07:40			07:16		07:39 (T44)	07:48	
	21:05	43	07:15 (T42)	20:36			19:46	31	08:00 (T77)	18:55			17:15	18	07:57 (T44)	17:03	
14	06:10		06:33 (T42)	06:39			07:10		07:30 (T77)	07:41			07:18		07:40 (T44)	07:49	
	21:05	42	07:15 (T42)	20:34			19:44	29	07:59 (T77)	18:54			17:14	16	07:56 (T44)	17:03	
15	06:11		06:34 (T42)	06:40			07:11		07:31 (T77)	07:43			07:19		07:41 (T44)	07:50	
	21:04	41	07:15 (T42)	20:33			19:42	26	07:57 (T77)	18:52			17:13	14	07:55 (T44)	17:03	
16	06:12		06:34 (T42)	06:41			07:12		07:32 (T77)	07:44			07:20		07:43 (T44)	07:50	
	21:03	41	07:15 (T42)	20:32			19:40	24	07:56 (T77)	18:50			17:12	12	07:55 (T44)	17:04	
17	06:13		06:35 (T42)	06:42			07:13		07:33 (T77)	07:45			07:21		07:44 (T44)	07:51	
	21:03	40	07:15 (T42)	20:30			19:39	21	07:54 (T77)	18:49			17:11	10	07:54 (T44)	17:04	
18	06:14		06:36 (T42)	06:43			07:14		07:34 (T77)	07:46			07:22		07:45 (T44)	07:52	
	21:02	39	07:15 (T42)	20:29			19:37	18	07:52 (T77)	18:47			17:11	7	07:52 (T44)	17:04	
19	06:14		06:37 (T42)	06:44			07:15		07:35 (T77)	07:47			07:24		07:46 (T44)	07:52	
	21:02	38	07:15 (T42)	20:27			19:35	14	07:49 (T77)	18:46			17:10	4	07:50 (T44)	17:05	
20	06:15		06:38 (T42)	06:45			07:16		07:36 (T77)	07:48			07:25			07:53	
	21:01	37	07:15 (T42)	20:26			19:34	9	07:45 (T77)	18:44			17:09			17:05	
21	06:16		06:38 (T42)	06:46			07:17			07:49			07:26			07:53	
	21:00	36	07:14 (T42)	20:24			19:32			18:43			17:09			17:06	
22	06:17		06:39 (T42)	06:47			07:18			07:50			07:27			07:54	
	20:59	35	07:14 (T42)	20:23			19:30			18:42			17:08			17:06	
23	06:18		06:40 (T42)	06:48			07:19			07:52			07:28			07:54	
	20:59	34	07:14 (T42)	20:21			19:28			18:40			17:07			17:07	
24	06:19		06:41 (T42)	06:49			07:20			07:53			07:29			07:55	
	20:58	33	07:14 (T42)	20:20			19:27			18:39			17:07			17:07	
25	06:20		06:42 (T42)	06:50		07:44 (T77)	07:21			07:54		08:37 (T44)	07:30			07:55	
	20:57	31	07:13 (T42)	20:18	7	07:51 (T77)	19:25			18:37	12	08:49 (T44)	17:06			17:08	
26	06:21		06:43 (T42)	06:51		07:40 (T77)	07:22			07:55		08:34 (T44)	07:32			07:56	
	20:56	30	07:13 (T42)	20:17	15	07:55 (T77)	19:23			18:36	17	08:51 (T44)	17:06			17:08	
27	06:22		06:44 (T42)	06:52		07:37 (T77)	07:23			07:56		08:32 (T44)	07:33			07:56	
	20:55	28	07:12 (T42)	20:15	21	07:58 (T77)	19:22			18:35	21	08:53 (T44)	17:05			17:09	
28	06:23		06:45 (T42)	06:53		07:34 (T77)	07:24			07:57		08:30 (T44)	07:34			07:56	
	20:54	27	07:12 (T42)	20:14	26	08:00 (T77)	19:20			18:33	24	08:54 (T44)	17:05			17:10	
29	06:23		06:45 (T42)	06:54		07:33 (T77)	07:25			07:58		08:30 (T44)	07:35			07:57	
	20:53	25	07:10 (T42)	20:12	28	08:01 (T77)	19:18			18:32	26	08:56 (T44)	17:04			17:10	
30	06:24		06:46 (T42)	06:55		07:31 (T77)	07:27			08:00		08:28 (T44)	07:36			07:57	
	20:52	23	07:09 (T42)	20:10	31	08:02 (T77)	19:16			18:31	28	08:56 (T44)	17:04			17:11	
31	06:25		06:47 (T42)	06:56		07:30 (T77)				08:01		08:27 (T44)				07:57	
	20:51	21	07:08 (T42)	20:09	33	08:03 (T77)				18:29	30	08:57 (T44)				17:12	
Potential sun hours	460			429			375			345			297			287	
Total, worst case		1167			224			618			158			409			
Sun reduction		0.66			0.61			0.59			0.48			0.30			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.71			0.66			0.64			0.54			0.54			
Total reduction		0.46			0.39			0.37			0.25			0.16			
Total, real		539			88			228			40			65			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 855 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8401)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February			March			April			May			June
1	07:57	07:43			07:07		17:11 (T19)	07:16		18:10 (T19)	06:30		19:19 (T17)	06:01
	17:13	17:47			18:21	49	18:00 (T19)	19:56	38	18:48 (T19)	20:27	42	20:01 (T17)	20:57
2	07:57	07:42			07:06		17:09 (T19)	07:14		18:12 (T19)	06:29		19:18 (T17)	06:01
	17:13	17:48			18:23	52	18:01 (T19)	19:57	33	18:45 (T19)	20:28	42	20:00 (T17)	20:58
3	07:58	07:41			07:04		17:07 (T19)	07:13		18:15 (T19)	06:27		19:19 (T17)	06:00
	17:14	17:50			18:24	55	18:02 (T19)	19:58	27	18:42 (T19)	20:29	41	20:00 (T17)	20:59
4	07:58	07:40			07:02		17:07 (T19)	07:11		18:18 (T19)	06:26		19:19 (T17)	06:00
	17:15	17:51			18:25	56	18:03 (T19)	19:59	20	18:38 (T19)	20:30	40	19:59 (T17)	20:59
5	07:58	07:39			07:01		17:05 (T19)	07:09		18:24 (T19)	06:25		19:20 (T17)	05:59
	17:16	17:52			18:26	59	18:04 (T19)	20:00	7	18:31 (T19)	20:31	39	19:59 (T17)	21:00
6	07:58	07:38			06:59		17:05 (T19)	07:08			06:24		19:20 (T17)	05:59
	17:17	17:53			18:27	60	18:05 (T19)	20:00			20:32	38	19:58 (T17)	21:01
7	07:57	07:37			06:58		17:04 (T19)	07:06			06:22		19:20 (T17)	05:59
	17:18	17:55			18:28	62	18:06 (T19)	20:01			20:33	37	19:57 (T17)	21:01
8	07:57	07:36			07:56		18:03 (T19)	07:04			06:21		19:21 (T17)	05:58
	17:19	17:56			19:30	63	19:06 (T19)	20:02			20:34	35	19:56 (T17)	21:02
9	07:57	07:35			07:54		18:03 (T19)	07:03			06:20		19:22 (T17)	05:58
	17:20	17:57			19:31	63	19:06 (T19)	20:03			20:35	33	19:55 (T17)	21:03
10	07:57	07:34			07:53		18:02 (T19)	07:01			06:19		19:23 (T17)	05:58
	17:21	17:58			19:32	64	19:06 (T19)	20:04			20:36	31	19:54 (T17)	21:03
11	07:57	07:32			07:51		18:01 (T19)	06:59			06:18		19:24 (T17)	05:58
	17:22	18:00			19:33	65	19:06 (T19)	20:06			20:38	29	19:53 (T17)	21:04
12	07:56	07:31			07:49		18:01 (T19)	06:58			06:17		19:25 (T17)	05:58
	17:23	18:01			19:34	66	19:07 (T19)	20:07			20:39	27	19:52 (T17)	21:04
13	07:56	07:30			07:48		18:00 (T19)	06:56		19:36 (T17)	06:16		19:27 (T17)	05:58
	17:24	18:02			19:35	66	19:06 (T19)	20:08	10	19:46 (T17)	20:40	24	19:51 (T17)	21:05
14	07:56	07:29			07:46		18:00 (T19)	06:55		19:33 (T17)	06:15		19:28 (T17)	05:58
	17:25	18:03			19:36	66	19:06 (T19)	20:09	15	19:48 (T17)	20:41	21	19:49 (T17)	21:05
15	07:55	07:27			07:44		18:00 (T19)	06:53		19:30 (T17)	06:14		19:30 (T17)	05:58
	17:26	18:05			19:37	66	19:06 (T19)	20:10	18	19:48 (T17)	20:42	17	19:47 (T17)	21:06
16	07:55	07:26			07:43		18:00 (T19)	06:52		19:28 (T17)	06:13		19:33 (T17)	05:58
	17:28	18:06			19:38	66	19:06 (T19)	20:11	22	19:50 (T17)	20:43	11	19:44 (T17)	21:06
17	07:55	07:25			07:41		17:59 (T19)	06:50		19:26 (T17)	06:12			05:58
	17:29	18:07			19:40	66	19:05 (T19)	20:12	24	19:50 (T17)	20:44			21:06
18	07:54	07:23			07:39		18:00 (T19)	06:48		19:25 (T17)	06:11			05:58
	17:30	18:08			19:41	65	19:05 (T19)	20:13	27	19:52 (T17)	20:45			21:07
19	07:53	07:22			07:38		18:00 (T19)	06:47		19:23 (T17)	06:10			05:58
	17:31	18:10			19:42	64	19:04 (T19)	20:14	29	19:52 (T17)	20:46			21:07
20	07:53	07:20			07:36		18:00 (T19)	06:45		19:23 (T17)	06:09			05:58
	17:32	18:11			19:43	63	19:03 (T19)	20:15	31	19:54 (T17)	20:46			21:07
21	07:52	07:19			07:34		17:59 (T19)	06:44		19:21 (T17)	06:08			05:58
	17:33	18:12			19:44	63	19:02 (T19)	20:16	33	19:54 (T17)	20:47			21:08
22	07:52	07:18		17:28 (T19)	07:33		18:00 (T19)	06:42		19:21 (T17)	06:07			05:58
	17:35	18:13	17	17:45 (T19)	19:45	62	19:02 (T19)	20:17	35	19:56 (T17)	20:48			21:08
23	07:51	07:16		17:24 (T19)	07:31		18:01 (T19)	06:41		19:19 (T17)	06:07			05:59
	17:36	18:14	26	17:50 (T19)	19:46	60	19:01 (T19)	20:18	37	19:56 (T17)	20:49			21:08
24	07:50	07:15		17:20 (T19)	07:29		18:01 (T19)	06:40		19:19 (T17)	06:06			05:59
	17:37	18:16	32	17:52 (T19)	19:47	59	19:00 (T19)	20:19	39	19:58 (T17)	20:50			21:08
25	07:50	07:13		17:18 (T19)	07:28		18:02 (T19)	06:38		19:19 (T17)	06:05			05:59
	17:38	18:17	37	17:55 (T19)	19:48	57	18:59 (T19)	20:21	40	19:59 (T17)	20:51			21:08
26	07:49	07:12		17:15 (T19)	07:26		18:03 (T19)	06:37		19:18 (T17)	06:04			06:00
	17:40	18:18	41	17:56 (T19)	19:49	55	18:58 (T19)	20:22	42	20:00 (T17)	20:52			21:09
27	07:48	07:10		17:14 (T19)	07:24		18:03 (T19)	06:35		19:18 (T17)	06:04			06:00
	17:41	18:19	43	17:57 (T19)	19:50	53	18:56 (T19)	20:23	43	20:01 (T17)	20:53			21:09
28	07:47	07:09		17:12 (T19)	07:23		18:05 (T19)	06:34		19:18 (T17)	06:03			06:00
	17:42	18:20	46	17:58 (T19)	19:52	50	18:55 (T19)	20:24	43	20:01 (T17)	20:54			21:09
29	07:46				07:21		18:06 (T19)	06:33		19:18 (T17)	06:03			06:01
	17:43				19:53	47	18:53 (T19)	20:25	43	20:01 (T17)	20:55			21:09
30	07:45				07:19		18:06 (T19)	06:31		19:18 (T17)	06:02			06:01
	17:45				19:54	45	18:51 (T19)	20:26	43	20:01 (T17)	20:55			21:09
31	07:44				07:18		18:09 (T19)				06:01			
	17:46				19:55	41	18:50 (T19)				20:56			
Potential sun hours	297	297			370			399			449			453
Total, worst case			242			1828			699			507		
Sun reduction			0.40			0.44			0.52			0.57		
Oper. time red.			1.00			1.00			1.00			1.00		
Wind dir. red.			0.67			0.67			0.59			0.57		
Total reduction			0.27			0.30			0.31			0.33		
Total, real			66			544			216			167		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 855 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8401)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November	December		
1	06:02			06:26		19:35 (T17)	06:57			07:27		17:39 (T19)	07:02	07:37		
	21:09			20:50	28	20:03 (T17)	20:07			19:15	66	18:45 (T19)	17:28	17:03		
2	06:02			06:27		19:34 (T17)	06:58			07:28		17:39 (T19)	07:03	07:38		
	21:09			20:49	30	20:04 (T17)	20:05			19:13	66	18:45 (T19)	17:26	17:03		
3	06:03			06:28		19:33 (T17)	06:59			07:29		17:39 (T19)	07:04	07:39		
	21:08			20:48	32	20:05 (T17)	20:04			19:11	65	18:44 (T19)	17:25	17:03		
4	06:03			06:29		19:32 (T17)	07:00			07:31		17:39 (T19)	07:06	07:40		
	21:08			20:47	34	20:06 (T17)	20:02			19:10	64	18:43 (T19)	17:24	17:03		
5	06:04			06:30		19:31 (T17)	07:01			07:32		17:39 (T19)	07:07	07:41		
	21:08			20:46	36	20:07 (T17)	20:01			19:08	63	18:42 (T19)	17:23	17:02		
6	06:04			06:31		19:31 (T17)	07:02			07:33		17:40 (T19)	07:08	07:42		
	21:08			20:45	37	20:08 (T17)	19:57			19:06	63	18:43 (T19)	17:22	17:02		
7	06:05			06:32		19:30 (T17)	07:03		18:21 (T19)	07:34		17:40 (T19)	07:09	07:43		
	21:08			20:43	38	20:08 (T17)	19:56	3	18:24 (T19)	19:05	62	18:42 (T19)	17:21	17:02		
8	06:06			06:33		19:28 (T17)	07:04		18:12 (T19)	07:35		17:41 (T19)	07:10	07:44		
	21:07			20:42	40	20:08 (T17)	19:54	20	18:32 (T19)	19:03	59	18:40 (T19)	17:20	17:02		
9	06:06			06:34		19:28 (T17)	07:05		18:08 (T19)	07:36		17:41 (T19)	07:12	07:45		
	21:07			20:41	40	20:08 (T17)	19:52	27	18:35 (T19)	19:01	58	18:39 (T19)	17:18	17:02		
10	06:07			06:35		19:27 (T17)	07:06		18:05 (T19)	07:37		17:41 (T19)	07:13	07:46		
	21:07			20:40	41	20:08 (T17)	19:50	33	18:38 (T19)	19:00	56	18:37 (T19)	17:17	17:02		
11	06:08			06:36		19:27 (T17)	07:07		18:02 (T19)	07:38		17:42 (T19)	07:14	07:47		
	21:06			20:38	42	20:09 (T17)	19:49	37	18:39 (T19)	18:58	53	18:35 (T19)	17:16	17:02		
12	06:08			06:37		19:26 (T17)	07:08		18:00 (T19)	07:39		17:43 (T19)	07:15	07:47		
	21:06			20:37	43	20:09 (T17)	19:47	41	18:41 (T19)	18:56	51	18:34 (T19)	17:15	17:02		
13	06:09			06:38		19:26 (T17)	07:09		17:58 (T19)	07:40		17:44 (T19)	07:16	07:48		
	21:05			20:36	43	20:09 (T17)	19:45	44	18:42 (T19)	18:55	48	18:32 (T19)	17:14	17:02		
14	06:10			06:39		19:26 (T17)	07:10		17:56 (T19)	07:41		17:45 (T19)	07:18	07:49		14:50 (T20)
	21:05			20:34	43	20:09 (T17)	19:44	47	18:43 (T19)	18:53	45	18:30 (T19)	17:14	17:03	7	14:57 (T20)
15	06:11			06:40		19:25 (T17)	07:11		17:54 (T19)	07:42		17:47 (T19)	07:19	07:50		14:48 (T20)
	21:04			20:33	44	20:09 (T17)	19:42	50	18:44 (T19)	18:52	42	18:29 (T19)	17:13	17:03	11	14:59 (T20)
16	06:11			06:41		19:25 (T17)	07:12		17:53 (T19)	07:43		17:49 (T19)	07:20	07:50		14:48 (T20)
	21:04			20:31	42	20:07 (T17)	19:40	52	18:45 (T19)	18:50	39	18:28 (T19)	17:12	17:03	13	15:01 (T20)
17	06:12			06:42		19:25 (T17)	07:13		17:51 (T19)	07:45		17:50 (T19)	07:21	07:51		14:48 (T20)
	21:03			20:30	41	20:06 (T17)	19:38	55	18:46 (T19)	18:49	36	18:26 (T19)	17:11	17:03	14	15:02 (T20)
18	06:13			06:43		19:25 (T17)	07:14		17:50 (T19)	07:46		17:53 (T19)	07:22	07:52		14:47 (T20)
	21:02			20:29	40	20:05 (T17)	19:37	56	18:46 (T19)	18:47	30	18:23 (T19)	17:10	17:04	16	15:03 (T20)
19	06:14			06:44		19:25 (T17)	07:15		17:48 (T19)	07:47		17:56 (T19)	07:24	07:52		14:48 (T20)
	21:02			20:27	38	20:03 (T17)	19:35	59	18:47 (T19)	18:46	23	18:19 (T19)	17:09	17:04	16	15:04 (T20)
20	06:15			06:45		19:25 (T17)	07:16		17:47 (T19)	07:48		18:01 (T19)	07:25	07:53		14:47 (T20)
	21:01			20:26	37	20:02 (T17)	19:33	60	18:47 (T19)	18:44	12	18:13 (T19)	17:09	17:05	17	15:04 (T20)
21	06:16			06:46		19:26 (T17)	07:17		17:46 (T19)	07:49			07:26	07:54		14:48 (T20)
	21:00			20:24	35	20:01 (T17)	19:32	61	18:47 (T19)	18:43			17:08	17:05	17	15:05 (T20)
22	06:17			06:47		19:26 (T17)	07:18		17:45 (T19)	07:50			07:27	07:54		14:48 (T20)
	20:59			20:23	33	19:59 (T17)	19:30	62	18:47 (T19)	18:41			17:07	17:06	17	15:05 (T20)
23	06:17			06:48		19:26 (T17)	07:19		17:44 (T19)	07:51			07:28	07:55		14:49 (T20)
	20:59			20:21	32	19:58 (T17)	19:28	64	18:48 (T19)	18:40			17:07	17:06	17	15:06 (T20)
24	06:18			06:49		19:27 (T17)	07:20		17:43 (T19)	07:53			07:29	07:55		14:49 (T20)
	20:58			20:20	29	19:56 (T17)	19:26	65	18:48 (T19)	18:38			17:06	17:07	17	15:06 (T20)
25	06:19			06:50		19:28 (T17)	07:21		17:42 (T19)	07:54			07:31	07:55		14:51 (T20)
	20:57			20:18	27	19:55 (T17)	19:25	65	18:47 (T19)	18:37			17:06	17:07	16	15:07 (T20)
26	06:20			06:51		19:29 (T17)	07:22		17:42 (T19)	07:55			07:32	07:56		14:52 (T20)
	20:56			20:17	24	19:53 (T17)	19:23	65	18:47 (T19)	18:36			17:05	17:08	15	15:07 (T20)
27	06:21		19:46 (T17)	06:52		19:30 (T17)	07:23		17:41 (T19)	07:56			07:33	07:56		14:53 (T20)
	20:55	6	19:52 (T17)	20:15	22	19:52 (T17)	19:21	66	18:47 (T19)	18:34			17:05	17:08	13	15:06 (T20)
28	06:22		19:42 (T17)	06:53		19:32 (T17)	07:24		17:41 (T19)	07:57			07:34	07:56		14:54 (T20)
	20:54	14	19:56 (T17)	20:14	18	19:50 (T17)	19:20	66	18:47 (T19)	18:33			17:04	17:09	11	15:05 (T20)
29	06:23		19:40 (T17)	06:54		19:34 (T17)	07:25		17:40 (T19)	07:58			07:35	07:57		14:57 (T20)
	20:53	18	19:58 (T17)	20:12	15	19:49 (T17)	19:18	66	18:46 (T19)	18:31			17:04	17:10	8	15:05 (T20)
30	06:24		19:38 (T17)	06:55		19:37 (T17)	07:26		17:40 (T19)	08:00			07:36	07:57		15:00 (T20)
	20:52	22	20:00 (T17)	20:10	10	19:47 (T17)	19:16	66	18:46 (T19)	18:30			17:04	17:11	2	15:02 (T20)
31	06:25		19:37 (T17)	06:56						08:01				07:57		
	20:51	25	20:02 (T17)	20:09						18:29				17:11		
Potential sun hours	460			429			375			345			297	287		
Total, worst case		85			1014			1230			1001				227	
Sun reduction		0.66			0.61			0.59			0.48				0.22	
Oper. time red.		1.00			1.00			1.00			1.00				1.00	
Wind dir. red.		0.57			0.57			0.67			0.67				0.73	
Total reduction		0.38			0.35			0.40			0.32				0.16	
Total, real		32			357			491			325				37	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 857 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8402)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		15:52 (T26)	07:44			07:07		17:30 (T25)	07:16		18:42 (T75)	06:30		18:31 (T75)	06:01		
	17:13	48	16:40 (T26)	17:47			18:22	24	17:54 (T25)	19:56	44	19:26 (T75)	20:27	55	19:26 (T75)	20:57		
2	07:58		15:52 (T26)	07:43			07:06		17:31 (T25)	07:15		18:41 (T75)	06:29		18:32 (T75)	06:01		
	17:14	48	16:40 (T26)	17:49			18:23	21	17:52 (T25)	19:57	47	19:28 (T75)	20:28	53	19:25 (T75)	20:58		
3	07:58		15:53 (T26)	07:42			07:04		17:33 (T25)	07:13		18:39 (T75)	06:28		18:33 (T75)	06:00		
	17:15	48	16:41 (T26)	17:50			18:24	17	17:50 (T25)	19:58	50	19:29 (T75)	20:29	50	19:23 (T75)	20:59		
4	07:58		15:53 (T26)	07:41			07:03		17:35 (T25)	07:11		18:37 (T75)	06:26		18:34 (T75)	06:00		
	17:16	48	16:41 (T26)	17:51			18:25	12	17:47 (T25)	19:59	59	19:37 (T24)	20:30	48	19:22 (T75)	20:59		
5	07:58		15:54 (T26)	07:40			07:01			07:10		18:36 (T75)	06:25		18:35 (T75)	06:00		
	17:16	47	16:41 (T26)	17:52			18:26			20:00	63	19:39 (T24)	20:31	46	19:21 (T75)	21:00		
6	07:58		15:54 (T26)	07:38			06:59			07:08		18:35 (T75)	06:24		18:36 (T75)	05:59		
	17:17	48	16:42 (T26)	17:54			18:28			20:00	65	19:40 (T24)	20:32	44	19:20 (T75)	21:01		
7	07:58		15:55 (T26)	07:37			06:58			07:06		18:33 (T75)	06:23		18:38 (T75)	05:59		
	17:18	47	16:42 (T26)	17:55			18:29			20:01	67	19:40 (T24)	20:34	41	19:19 (T75)	21:01		
8	07:57		15:56 (T26)	07:36			07:56			07:05		18:33 (T75)	06:22		18:39 (T75)	05:59		
	17:19	47	16:43 (T26)	17:56			19:30			20:03	69	19:42 (T24)	20:35	39	19:18 (T75)	21:02		
9	07:57		15:56 (T26)	07:35			07:55			07:03		18:31 (T75)	06:20		18:41 (T75)	05:59		
	17:20	46	16:42 (T26)	17:57			19:31			20:04	72	19:43 (T24)	20:36	35	19:16 (T75)	21:03		
10	07:57		15:57 (T26)	07:34			07:53			07:01		18:30 (T75)	06:19		18:42 (T75)	05:58		
	17:21	46	16:43 (T26)	17:59			19:32			20:05	73	19:43 (T24)	20:37	32	19:14 (T75)	21:03		
11	07:57		15:58 (T26)	07:33			07:51			07:00		18:30 (T75)	06:18		18:44 (T75)	05:58		
	17:22	45	16:43 (T26)	18:00			19:33			20:06	75	19:45 (T24)	20:38	28	19:12 (T75)	21:04		
12	07:57		15:58 (T26)	07:31			07:50			06:58		18:29 (T75)	06:17		18:46 (T75)	05:58		
	17:24	45	16:43 (T26)	18:01			19:34			20:07	77	19:46 (T24)	20:39	23	19:09 (T75)	21:04		
13	07:56		15:59 (T26)	07:30			07:48			06:57		18:29 (T75)	06:16		18:49 (T75)	05:58		
	17:25	44	16:43 (T26)	18:02			19:35			20:08	78	19:47 (T24)	20:40	18	19:07 (T75)	21:05		
14	07:56		16:00 (T26)	07:29		17:36 (T25)	07:46			06:55		18:28 (T75)	06:15		18:53 (T75)	05:58		
	17:26	44	16:44 (T26)	18:04	5	17:41 (T25)	19:37			20:09	80	19:48 (T24)	20:41	9	19:02 (T75)	21:05		
15	07:56		16:00 (T26)	07:28		17:33 (T25)	07:45			06:53		18:28 (T75)	06:14			05:58		
	17:27	43	16:43 (T26)	18:05	9	17:42 (T25)	19:38			20:10	80	19:48 (T24)	20:42			21:06		
16	07:55		16:01 (T26)	07:26		17:32 (T25)	07:43			06:52		18:28 (T75)	06:13			05:58		
	17:28	43	16:44 (T26)	18:06	11	17:43 (T25)	19:39			20:11	79	19:47 (T24)	20:43			21:06		
17	07:55		16:02 (T26)	07:25		17:31 (T25)	07:41			06:50		18:27 (T75)	06:12			05:58		
	17:29	41	16:43 (T26)	18:07	14	17:45 (T25)	19:40			20:12	79	19:46 (T24)	20:44			21:07		
18	07:54		16:02 (T26)	07:23		17:30 (T25)	07:40			06:49		18:27 (T75)	06:11			05:58		
	17:30	41	16:43 (T26)	18:09	16	17:46 (T25)	19:41			20:13	79	19:46 (T24)	20:45			21:07		
19	07:54		16:04 (T26)	07:22		17:29 (T25)	07:38			06:47		18:27 (T75)	06:10			05:58		
	17:31	39	16:43 (T26)	18:10	19	17:48 (T25)	19:42			20:14	78	19:45 (T24)	20:46			21:07		
20	07:53		16:04 (T26)	07:21		17:28 (T25)	07:36			06:46		18:27 (T75)	06:09			05:58		
	17:33	38	16:42 (T26)	18:11	20	17:48 (T25)	19:43			20:15	77	19:44 (T24)	20:47			21:08		
21	07:52		16:06 (T26)	07:19		17:28 (T25)	07:35			06:44		18:28 (T75)	06:08			05:59		
	17:34	37	16:43 (T26)	18:12	22	17:50 (T25)	19:44			20:16	75	19:43 (T24)	20:48			21:08		
22	07:52		16:07 (T26)	07:18		17:27 (T25)	07:33			06:43		18:27 (T75)	06:08			05:59		
	17:35	35	16:42 (T26)	18:13	24	17:51 (T25)	19:45			20:18	74	19:41 (T24)	20:49			21:08		
23	07:51		16:08 (T26)	07:16		17:28 (T25)	07:31			06:41		18:28 (T75)	06:07			05:59		
	17:36	33	16:41 (T26)	18:15	25	17:53 (T25)	19:46			20:19	72	19:40 (T24)	20:49			21:08		
24	07:50		16:09 (T26)	07:15		17:27 (T25)	07:30			06:40		18:27 (T75)	06:06			05:59		
	17:37	31	16:40 (T26)	18:16	26	17:53 (T25)	19:47			20:20	70	19:37 (T24)	20:50			21:08		
25	07:50		16:11 (T26)	07:13		17:28 (T25)	07:28			06:38		18:28 (T75)	06:05			06:00		
	17:39	29	16:40 (T26)	18:17	27	17:55 (T25)	19:49			20:21	65	19:33 (T24)	20:51			21:09		
26	07:49		16:13 (T26)	07:12		17:28 (T25)	07:26			06:37		18:28 (T75)	06:05			06:00		
	17:40	25	16:38 (T26)	18:18	28	17:56 (T25)	19:50			20:22	61	19:29 (T75)	20:52			21:09		
27	07:48		16:15 (T26)	07:10		17:29 (T25)	07:25		19:00 (T75)	06:36		18:29 (T75)	06:04			06:00		
	17:41	21	16:36 (T26)	18:19	27	17:56 (T25)	19:51	13	19:13 (T75)	20:23	59	19:28 (T75)	20:53			21:09		
28	07:47		16:18 (T26)	07:09		17:29 (T25)	07:23		18:54 (T75)	06:34		18:30 (T75)	06:03			06:01		
	17:42	16	16:34 (T26)	18:21	25	17:54 (T25)	19:52	24	19:18 (T75)	20:24	58	19:28 (T75)	20:54			21:09		
29	07:46		16:23 (T26)				07:21		18:50 (T75)	06:33		18:29 (T75)	06:03			06:01		
	17:44	7	16:30 (T26)				19:53	31	19:21 (T75)	20:25	58	19:27 (T75)	20:55			21:09		
30	07:46						07:20		18:47 (T75)	06:32		18:30 (T75)	06:02			06:02		
	17:45						19:54	37	19:24 (T75)	20:26	56	19:26 (T75)	20:56			21:09		
31	07:45						07:18		18:45 (T75)				06:02					
	17:46						19:55	40	19:25 (T75)				20:56					
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1130			298			219			2039			521				
Sun reduction		0.31			0.40			0.44			0.52			0.57				
Oper. time red.		1.00			1.00			1.00			1.00			1.00				
Wind dir. red.		0.74			0.69			0.64			0.61			0.61				
Total reduction		0.24			0.28			0.29			0.33			0.36				
Total, real		267			85			64			665			188				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 857 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8402)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26	18:55 (T75)	06:57	18:29 (T75)	07:28		07:02		07:37	15:40 (T26)
	21:09		20:50	26 19:21 (T75)	20:07	75 19:44 (T24)	19:15		17:28		17:04	45 16:25 (T26)
2	06:03		06:27	18:53 (T75)	06:58	18:29 (T75)	07:29		07:03		07:38	15:40 (T26)
	21:09		20:49	30 19:23 (T75)	20:06	73 19:42 (T24)	19:13		17:27		17:03	46 16:26 (T26)
3	06:03		06:28	18:51 (T75)	06:59	18:29 (T75)	07:30		07:05		07:39	15:40 (T26)
	21:09		20:48	34 19:25 (T75)	20:04	72 19:41 (T24)	19:11		17:26		17:03	46 16:26 (T26)
4	06:04		06:29	18:50 (T75)	07:00	18:30 (T75)	07:31		07:06		07:40	15:40 (T26)
	21:08		20:47	36 19:26 (T75)	20:02	69 19:39 (T24)	19:10		17:24		17:03	47 16:27 (T26)
5	06:04		06:30	18:48 (T75)	07:01	18:30 (T75)	07:32		07:07		07:41	15:40 (T26)
	21:08		20:46	40 19:28 (T75)	20:01	68 19:38 (T24)	19:08		17:23		17:03	47 16:27 (T26)
6	06:05		06:31	18:47 (T75)	07:02	18:31 (T75)	07:33		07:08		07:42	15:41 (T26)
	21:08		20:45	42 19:29 (T75)	19:57	65 19:36 (T24)	19:06		17:22		17:03	47 16:28 (T26)
7	06:05		06:32	18:45 (T75)	07:03	18:31 (T75)	07:34		07:09		07:43	15:41 (T26)
	21:08		20:43	45 19:30 (T75)	19:56	63 19:34 (T24)	19:05		17:21		17:03	47 16:28 (T26)
8	06:06		06:33	18:44 (T75)	07:04	18:32 (T75)	07:35		07:11		07:44	15:41 (T26)
	21:07		20:42	47 19:31 (T75)	19:54	60 19:33 (T24)	19:03		17:20		17:02	48 16:29 (T26)
9	06:07		06:34	18:43 (T75)	07:05	18:33 (T75)	07:36	18:13 (T25)	07:12		07:45	15:42 (T26)
	21:07		20:41	49 19:32 (T75)	19:52	50 19:23 (T75)	19:02	6 18:19 (T25)	17:19		17:02	48 16:30 (T26)
10	06:07		06:35	18:42 (T75)	07:06	18:34 (T75)	07:37	18:08 (T25)	07:13		07:46	15:41 (T26)
	21:07		20:40	51 19:33 (T75)	19:51	48 19:22 (T75)	19:00	15 18:23 (T25)	17:18		17:03	48 16:29 (T26)
11	06:08		06:36	18:41 (T75)	07:07	18:35 (T75)	07:38	18:06 (T25)	07:14		07:47	15:42 (T26)
	21:06		20:38	53 19:34 (T75)	19:49	45 19:20 (T75)	18:58	19 18:25 (T25)	17:17		17:03	48 16:30 (T26)
12	06:09		06:37	18:40 (T75)	07:08	18:35 (T75)	07:39	18:04 (T25)	07:15		07:48	15:42 (T26)
	21:06		20:37	54 19:34 (T75)	19:47	42 19:17 (T75)	18:57	22 18:26 (T25)	17:16		17:03	48 16:30 (T26)
13	06:10		06:38	18:39 (T75)	07:09	18:37 (T75)	07:40	18:03 (T25)	07:17	15:54 (T26)	07:48	15:43 (T26)
	21:05		20:36	56 19:35 (T75)	19:46	37 19:14 (T75)	18:55	25 18:28 (T25)	17:15	8 16:02 (T26)	17:03	48 16:31 (T26)
14	06:10		06:39	18:38 (T75)	07:10	18:39 (T75)	07:42	18:02 (T25)	07:18	15:50 (T26)	07:49	15:44 (T26)
	21:05		20:34	58 19:36 (T75)	19:44	32 19:11 (T75)	18:54	26 18:28 (T25)	17:14	16 16:06 (T26)	17:03	48 16:32 (T26)
15	06:11		06:40	18:37 (T75)	07:11	18:42 (T75)	07:43	18:01 (T25)	07:19	15:47 (T26)	07:50	15:43 (T26)
	21:04		20:33	59 19:36 (T75)	19:42	26 19:08 (T75)	18:52	27 18:28 (T25)	17:13	21 16:08 (T26)	17:03	49 16:32 (T26)
16	06:12		06:41	18:36 (T75)	07:12	18:47 (T75)	07:44	18:00 (T25)	07:20	15:46 (T26)	07:51	15:44 (T26)
	21:04		20:32	60 19:36 (T75)	19:40	16 19:03 (T75)	18:50	28 18:28 (T25)	17:12	25 16:11 (T26)	17:04	48 16:32 (T26)
17	06:13		06:42	18:35 (T75)	07:13		07:45	17:59 (T25)	07:21	15:44 (T26)	07:51	15:45 (T26)
	21:03		20:30	61 19:36 (T75)	19:39		18:49	27 18:26 (T25)	17:11	29 16:13 (T26)	17:04	48 16:33 (T26)
18	06:13		06:43	18:34 (T75)	07:14		07:46	17:59 (T25)	07:23	15:43 (T26)	07:52	15:45 (T26)
	21:02		20:29	66 19:40 (T24)	19:37		18:47	25 18:24 (T25)	17:11	31 16:14 (T26)	17:04	48 16:33 (T26)
19	06:14		06:44	18:33 (T75)	07:15		07:47	17:58 (T25)	07:24	15:43 (T26)	07:53	15:46 (T26)
	21:02		20:27	70 19:43 (T24)	19:35		18:46	25 18:23 (T25)	17:10	33 16:16 (T26)	17:05	48 16:34 (T26)
20	06:15		06:45	18:33 (T75)	07:16		07:48	17:59 (T25)	07:25	15:42 (T26)	07:53	15:46 (T26)
	21:01		20:26	72 19:45 (T24)	19:34		18:44	23 18:22 (T25)	17:09	35 16:17 (T26)	17:05	48 16:34 (T26)
21	06:16		06:46	18:32 (T75)	07:17		07:49	17:59 (T25)	07:26	15:41 (T26)	07:54	15:46 (T26)
	21:00		20:24	74 19:46 (T24)	19:32		18:43	21 18:20 (T25)	17:08	37 16:18 (T26)	17:05	49 16:35 (T26)
22	06:17		06:47	18:31 (T75)	07:18		07:50	17:59 (T25)	07:27	15:40 (T26)	07:54	15:46 (T26)
	21:00		20:23	76 19:47 (T24)	19:30		18:41	19 18:18 (T25)	17:08	38 16:18 (T26)	17:06	49 16:35 (T26)
23	06:18		06:48	18:31 (T75)	07:19		07:52	17:59 (T25)	07:28	15:40 (T26)	07:55	15:48 (T26)
	20:59		20:21	77 19:48 (T24)	19:28		18:40	18 18:17 (T25)	17:07	39 16:19 (T26)	17:06	48 16:36 (T26)
24	06:19		06:49	18:30 (T75)	07:20		07:53	18:01 (T25)	07:30	15:40 (T26)	07:55	15:48 (T26)
	20:58		20:20	79 19:49 (T24)	19:27		18:39	15 18:16 (T25)	17:07	41 16:21 (T26)	17:07	48 16:36 (T26)
25	06:20		06:50	18:30 (T75)	07:21		07:54	18:01 (T25)	07:31	15:40 (T26)	07:56	15:49 (T26)
	20:57		20:18	79 19:49 (T24)	19:25		18:37	13 18:14 (T25)	17:06	41 16:21 (T26)	17:08	48 16:37 (T26)
26	06:21		06:51	18:30 (T75)	07:22		07:55	18:02 (T25)	07:32	15:39 (T26)	07:56	15:49 (T26)
	20:56		20:17	79 19:49 (T24)	19:23		18:36	11 18:13 (T25)	17:06	43 16:22 (T26)	17:08	48 16:37 (T26)
27	06:21		06:52	18:29 (T75)	07:23		07:56	18:03 (T25)	07:33	15:39 (T26)	07:56	15:49 (T26)
	20:55		20:15	80 19:49 (T24)	19:22		18:34	8 18:11 (T25)	17:05	43 16:22 (T26)	17:09	48 16:37 (T26)
28	06:22		06:53	18:29 (T75)	07:25		07:57	18:05 (T25)	07:34	15:39 (T26)	07:57	15:49 (T26)
	20:54		20:14	80 19:49 (T24)	19:20		18:33	4 18:09 (T25)	17:05	44 16:23 (T26)	17:10	49 16:38 (T26)
29	06:23		06:54	18:29 (T75)	07:26		07:59		07:35	15:39 (T26)	07:57	15:51 (T26)
	20:53		20:12	80 19:49 (T24)	19:18		18:32		17:04	44 16:23 (T26)	17:10	48 16:39 (T26)
30	06:24	19:02 (T75)	06:55	18:29 (T75)	07:27		08:00		07:36	15:40 (T26)	07:57	15:51 (T26)
	20:52	13 19:15 (T75)	20:11	78 19:47 (T24)	19:17		18:31		17:04	45 16:25 (T26)	17:11	48 16:39 (T26)
31	06:25	18:58 (T75)	06:56	18:29 (T75)			08:01				07:57	15:51 (T26)
	20:51	20 19:18 (T75)	20:09	76 19:45 (T24)			18:29				17:12	48 16:39 (T26)
Potential sun hours	460		429		375		345		297		287	
Total, worst case		33		1867		841		377		613		1481
Sun reduction		0.66		0.61		0.59		0.48		0.30		0.22
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.61		0.61		0.61		0.69		0.74		0.74
Total reduction		0.42		0.38		0.37		0.34		0.23		0.17
Total, real		14		716		312		129		140		248

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 860 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8403)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March	April	May	June	July	August	September	October		November		December	
1	07:57	15:21 (T23)	07:43	15:26 (T23)	07:07	07:16	06:30	06:01	06:02	06:26	06:57	07:27		07:02	15:00 (T23)	07:37	15:05 (T23)
	17:13 67	16:28 (T23)	17:47 78	16:44 (T23)	18:22	19:56	20:27	20:57	21:09	20:50	20:07	19:15		17:28 72	16:12 (T23)	17:03 73	16:18 (T23)
2	07:57	15:21 (T23)	07:43	15:27 (T23)	07:06	07:14	06:29	06:01	06:02	06:27	06:58	07:28		07:03	15:00 (T23)	07:38	15:05 (T23)
	17:14 68	16:29 (T23)	17:48 77	16:44 (T23)	18:23	19:57	20:28	20:58	21:09	20:49	20:06	19:13		17:27 73	16:13 (T23)	17:03 73	16:18 (T23)
3	07:58	15:21 (T23)	07:41	15:27 (T23)	07:04	07:13	06:27	06:00	06:03	06:28	06:59	07:30		07:04	15:00 (T23)	07:39	15:06 (T23)
	17:14 69	16:30 (T23)	17:50 78	16:45 (T23)	18:24	19:58	20:29	20:58	21:08	20:48	20:04	19:11		17:25 73	16:13 (T23)	17:03 72	16:18 (T23)
4	07:58	15:21 (T23)	07:40	15:28 (T23)	07:02	07:11	06:26	06:00	06:03	06:29	07:00	07:31		07:06	14:59 (T23)	07:40	15:07 (T23)
	17:15 69	16:30 (T23)	17:51 77	16:45 (T23)	18:25	19:59	20:30	20:59	21:08	20:47	20:02	19:10		17:24 74	16:13 (T23)	17:03 71	16:18 (T23)
5	07:58	15:22 (T23)	07:39	15:28 (T23)	07:01	07:09	06:25	06:00	06:04	06:30	07:01	07:32		07:07	14:58 (T23)	07:41	15:07 (T23)
	17:16 69	16:31 (T23)	17:52 76	16:44 (T23)	18:26	20:00	20:31	21:00	21:08	20:46	20:01	19:08		17:23 75	16:13 (T23)	17:03 71	16:18 (T23)
6	07:58	15:22 (T23)	07:38	15:28 (T23)	06:59	07:08	06:24	05:59	06:05	06:31	07:02	07:33		07:08	14:58 (T23)	07:42	15:08 (T23)
	17:17 70	16:32 (T23)	17:54 75	16:43 (T23)	18:27	20:00	20:32	21:01	21:08	20:45	19:57	19:06		17:22 76	16:14 (T23)	17:02 70	16:18 (T23)
7	07:57	15:22 (T23)	07:37	15:29 (T23)	06:58	07:06	06:22	05:59	06:05	06:32	07:03	07:34		07:09	14:58 (T23)	07:43	15:09 (T23)
	17:18 71	16:33 (T23)	17:55 74	16:43 (T23)	18:29	20:01	20:33	21:01	21:08	20:43	19:56	19:05		17:21 76	16:14 (T23)	17:02 69	16:18 (T23)
8	07:57	15:22 (T23)	07:36	15:30 (T23)	07:56	07:04	06:21	05:59	06:06	06:33	07:04	07:35		07:10	14:57 (T23)	07:44	15:09 (T23)
	17:19 71	16:33 (T23)	17:56 73	16:43 (T23)	19:30	20:02	20:34	21:02	21:07	20:42	19:54	19:03		17:20 77	16:14 (T23)	17:02 69	16:18 (T23)
9	07:57	15:22 (T23)	07:35	15:31 (T23)	07:54	07:03	06:20	05:58	06:06	06:34	07:05	07:36		07:12	14:58 (T23)	07:45	15:09 (T23)
	17:20 72	16:34 (T23)	17:57 72	16:43 (T23)	19:31	20:03	20:35	21:03	21:07	20:41	19:52	19:01		17:19 77	16:15 (T23)	17:02 69	16:18 (T23)
10	07:57	15:22 (T23)	07:34	15:32 (T23)	07:53	07:01	06:19	05:58	06:07	06:35	07:06	07:37		07:13	14:57 (T23)	07:46	15:10 (T23)
	17:21 73	16:35 (T23)	17:59 71	16:43 (T23)	19:32	20:05	20:37	21:03	21:07	20:40	19:51	19:00		17:18 78	16:15 (T23)	17:02 68	16:18 (T23)
11	07:57	15:23 (T23)	07:32	15:32 (T23)	07:51	07:00	06:18	05:58	06:08	06:36	07:07	07:38		07:14	14:57 (T23)	07:47	15:11 (T23)
	17:22 73	16:36 (T23)	18:00 69	16:41 (T23)	19:33	20:06	20:38	21:04	21:06	20:38	19:49	18:58		17:17 78	16:15 (T23)	17:02 67	16:18 (T23)
12	07:56	15:22 (T23)	07:31	15:33 (T23)	07:50	06:58	06:17	05:58	06:09	06:37	07:08	07:39		07:15	14:56 (T23)	07:47	15:12 (T23)
	17:23 74	16:36 (T23)	18:01 68	16:41 (T23)	19:34	20:07	20:39	21:04	21:06	20:37	19:47	18:57		17:16 79	16:15 (T23)	17:03 67	16:19 (T23)
13	07:56	15:23 (T23)	07:30	15:34 (T23)	07:48	06:56	06:16	05:58	06:09	06:38	07:09	07:40		07:16	14:57 (T23)	07:48	15:12 (T23)
	17:24 74	16:37 (T23)	18:02 67	16:41 (T23)	19:35	20:08	20:40	21:05	21:05	20:36	19:45	18:55		17:15 79	16:16 (T23)	17:03 67	16:19 (T23)
14	07:56	15:22 (T23)	07:29	15:36 (T23)	07:46	06:55	06:15	05:58	06:10	06:39	07:10	07:41		07:18	14:57 (T23)	07:49	15:13 (T23)
	17:26 75	16:37 (T23)	18:04 64	16:40 (T23)	19:36	20:09	20:41	21:05	21:05	20:34	19:44	18:53		17:14 79	16:16 (T23)	17:03 67	16:20 (T23)
15	07:55	15:23 (T23)	07:27	15:36 (T23)	07:45	06:53	06:14	05:58	06:11	06:40	07:11	07:42		07:19	14:57 (T23)	07:50	15:13 (T23)
	17:27 75	16:38 (T23)	18:05 63	16:39 (T23)	19:37	20:10	20:42	21:06	21:04	20:33	19:42	18:52		17:13 79	16:16 (T23)	17:03 66	16:19 (T23)
16	07:55	15:22 (T23)	07:26	15:38 (T23)	07:43	06:52	06:13	05:58	06:12	06:41	07:12	07:44	16:35 (T23)	07:20	14:58 (T23)	07:50	15:14 (T23)
	17:28 76	16:38 (T23)	18:06 60	16:38 (T23)	19:39	20:11	20:43	21:06	21:04	20:32	19:40	18:50 12	16:47 (T23)	17:12 79	16:17 (T23)	17:03 66	16:20 (T23)
17	07:55	15:23 (T23)	07:25	15:39 (T23)	07:41	06:50	06:12	05:58	06:12	06:42	07:13	07:45	16:29 (T23)	07:21	14:58 (T23)	07:51	15:15 (T23)
	17:29 76	16:39 (T23)	18:07 57	16:36 (T23)	19:40	20:12	20:44	21:06	21:03	20:30	19:39	18:49 23	16:52 (T23)	17:11 78	16:16 (T23)	17:04 66	16:21 (T23)
18	07:54	15:23 (T23)	07:23	15:41 (T23)	07:40	06:49	06:11	05:58	06:13	06:43	07:14	07:46	16:24 (T23)	07:22	14:58 (T23)	07:52	15:15 (T23)
	17:30 76	16:39 (T23)	18:08 54	16:35 (T23)	19:41	20:13	20:45	21:07	21:02	20:29	19:37	18:47 31	16:55 (T23)	17:10 78	16:16 (T23)	17:04 65	16:20 (T23)
19	07:53	15:23 (T23)	07:22	15:43 (T23)	07:38	06:47	06:10	05:58	06:14	06:44	07:15	07:47	16:21 (T23)	07:24	14:58 (T23)	07:52	15:16 (T23)
	17:31 77	16:40 (T23)	18:10 51	16:34 (T23)	19:42	20:14	20:46	21:07	21:02	20:27	19:35	18:46 37	16:58 (T23)	17:10 78	16:16 (T23)	17:04 65	16:21 (T23)
20	07:53	15:23 (T23)	07:20	15:44 (T23)	07:36	06:46	06:09	05:58	06:15	06:45	07:16	07:48	16:19 (T23)	07:25	14:59 (T23)	07:53	15:16 (T23)
	17:32 78	16:41 (T23)	18:11 48	16:32 (T23)	19:43	20:15	20:46	21:07	21:01	20:26	19:33	18:44 41	17:00 (T23)	17:09 78	16:17 (T23)	17:05 65	16:21 (T23)
21	07:52	15:23 (T23)	07:19	15:46 (T23)	07:35	06:44	06:08	05:58	06:16	06:46	07:17	07:49	16:16 (T23)	07:26	14:59 (T23)	07:54	15:17 (T23)
	17:34 78	16:41 (T23)	18:12 45	16:31 (T23)	19:44	20:16	20:47	21:08	21:00	20:24	19:32	18:43 46	17:02 (T23)	17:08 78	16:17 (T23)	17:05 65	16:22 (T23)
22	07:52	15:24 (T23)	07:18	15:48 (T23)	07:33	06:43	06:07	05:59	06:17	06:47	07:18	07:50	16:14 (T23)	07:27	14:59 (T23)	07:54	15:17 (T23)
	17:35 78	16:42 (T23)	18:13 40	16:28 (T23)	19:45	20:17	20:48	21:08	20:59	20:23	19:30	18:41 49	17:03 (T23)	17:08 78	16:17 (T23)	17:06 65	16:22 (T23)
23	07:51	15:24 (T23)	07:16	15:51 (T23)	07:31	06:41	06:07	05:59	06:18	06:48	07:19	07:51	16:12 (T23)	07:28	14:59 (T23)	07:55	15:18 (T23)
	17:36 78	16:42 (T23)	18:14 35	16:26 (T23)	19:46	20:18	20:49	21:08	20:59	20:21	19:28	18:40 52	17:04 (T23)	17:07 78	16:17 (T23)	17:06 65	16:23 (T23)
24	07:50	15:24 (T23)	07:15	15:54 (T23)	07:29	06:40	06:06	05:59	06:19	06:49	07:20	07:53	16:10 (T23)	07:29	15:01 (T23)	07:55	15:18 (T23)
	17:37 78	16:42 (T23)	18:16 29	16:23 (T23)	19:47	20:20	20:50	21:08	20:58	20:20	19:27	18:38 55	17:05 (T23)	17:06 76	16:17 (T23)	17:07 65	16:23 (T23)
25	07:50	15:24 (T23)	07:13	15:59 (T23)	07:28	06:38	06:05	05:59	06:19	06:50	07:21	07:54	16:09 (T23)	07:31	15:01 (T23)	07:55	15:18 (T23)
	17:39 79	16:43 (T23)	18:17 20	16:19 (T23)	19:48	20:21	20:51	21:08	20:57	20:18	19:25	18:37 58	17:07 (T23)	17:06 76	16:17 (T23)	17:07 65	16:23 (T23)
26	07:49	15:25 (T23)	07:12		07:26	06:37	06:05	06:00	06:20	06:51	07:22	07:55	16:07 (T23)	07:32	15:01 (T23)	07:56	15:19 (T23)
	17:40 79	16:44 (T23)	18:18		19:49	20:22	20:52	21:09	20:56	20:17	19:23	18:36 61	17:08 (T23)	17:05 76	16:17 (T23)	17:08 66	16:25 (T23)
27	07:48	15:25 (T23)	07:10		07:24	06:35	06:04	06:00	06:21	06:52	07:23	07:56	16:06 (T23)	07:33	15:02 (T23)	07:56	15:19 (T23)
	17:41 79	16:44 (T23)	18:19		19:51	20:23	20:53	21:09	20:55	20:15	19:21	18:34 63	17:09 (T23)	17:05 75	16:17 (T23)	17:09 66	16:25 (T23)
28	07:47	15:25 (T23)	07:09		07:23	06:34	06:03	06:00	06:22	06:53	07:24	07:57	16:04 (T23)	07:34	15:02 (T23)	07:56	15:19 (T23)
	17:42 79	16:44 (T23)	18:20		19:52	20:24	20:54	21:09	20:54	20:14	19:20	18:33 65	17:09 (T23)	17:04 75	16:17 (T23)	17:09 66	16:25 (T23)
29	07:46	15:25 (T23)			07:21	06:33	06:03	06:01	06:23	06:54	07:25	07:58	16:04 (T23)	07:35	15:03 (T23)	07:57	15:20 (T23)
	17:43 79	16:44 (T23)			19:53	20:25	20:55	21:09	20:53	20:12	19:18	18:32 67	17:11 (T23)	17:04 74	16:17 (T23)	17:10 67	16:27 (T23)
30	07:45	15:26 (T23)			07:19	06:31	06:02	06:01	06:24	06:55	07:26	08:00	16:03 (T23)	07:36	15:03 (T23)	07:57	15:20 (T23)
	17:45 78	16:44 (T23)			19:54	20:26	20:55	21:09	20:52	20:10	19:16	18:30 68	17:11 (T23)	17:04 74	16:17 (T23)	17:11 67	16:27 (T23)
31	07:44	15:26 (T23)			07:18		06:02		06:25	06:56		08:01	16:01 (T23)			07:57	15:21 (T23)
	17:46 78	16:44 (T23)			19:55		20:56		20:51	20:09		18:29 70	17:11 (T23)			17:12 67	16:28 (T23)
Potential sun hours	297		297		370	399	449	453	460	429	375	345		297		287	
Total, worst case		2316		1521									798		2296		2090
Sun reduction		0.31		0.40									0.48		0.30		0.22
Oper. time red.		1.00		1.00									1.00		1.00		1.00
Wind dir. red.		0.74		0.74									0.74		0.74		0.74
Total reduction		0.23		0.30									0.36		0.22		0.16
Total, real		532		451									284		511		341

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 869 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8411)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June	
1	07:57		08:20 (T76)	07:43		16:25 (T42)	07:07			07:16		18:56 (T41)	06:30		19:46 (T40)	06:01	
	17:13	40	16:47 (T42)	17:47	43	17:08 (T42)	18:22			19:56	24	19:20 (T41)	20:27	19	20:05 (T40)	20:57	
2	07:57		08:20 (T76)	07:42		16:25 (T42)	07:06			07:14		18:57 (T41)	06:29		19:45 (T40)	06:01	
	17:14	41	16:48 (T42)	17:49	42	17:07 (T42)	18:23			19:57	21	19:18 (T41)	20:28	21	20:06 (T40)	20:58	
3	07:57		08:20 (T76)	07:41		16:26 (T42)	07:04			07:13		18:59 (T41)	06:28		19:43 (T40)	06:01	
	17:15	43	16:49 (T42)	17:50	41	17:07 (T42)	18:24			19:58	17	19:16 (T41)	20:29	23	20:06 (T40)	20:58	
4	07:57		08:20 (T76)	07:40		16:27 (T42)	07:02			07:11		19:03 (T41)	06:26		19:43 (T40)	06:00	
	17:16	45	16:50 (T42)	17:51	39	17:06 (T42)	18:25			19:59	9	19:12 (T41)	20:30	25	20:08 (T40)	20:59	
5	07:57		08:20 (T76)	07:39		16:29 (T42)	07:01			07:09			06:25		19:42 (T40)	06:00	
	17:16	47	16:51 (T42)	17:52	37	17:06 (T42)	18:26			20:00			20:31	27	20:09 (T40)	21:00	
6	07:57		08:20 (T76)	07:38		16:29 (T42)	06:59			07:08			06:24		19:42 (T40)	05:59	
	17:17	49	16:52 (T42)	17:54	35	17:04 (T42)	18:27			20:00			20:32	28	20:10 (T40)	21:00	
7	07:57		08:19 (T76)	07:37		16:31 (T42)	06:58			07:06			06:23		19:42 (T40)	05:59	
	17:18	50	16:52 (T42)	17:55	32	17:03 (T42)	18:29			20:01			20:33	29	20:11 (T40)	21:01	
8	07:57		08:19 (T76)	07:36		16:32 (T42)	07:56			07:05			06:22		19:42 (T40)	05:59	
	17:19	51	16:53 (T42)	17:56	30	17:02 (T42)	19:30			20:02			20:34	30	20:12 (T40)	21:02	
9	07:57		08:19 (T76)	07:35		16:35 (T42)	07:54			07:03			06:20		19:42 (T40)	05:59	
	17:20	53	16:54 (T42)	17:57	25	17:00 (T42)	19:31			20:03			20:35	31	20:13 (T40)	21:02	
10	07:57		08:19 (T76)	07:34		16:37 (T42)	07:53			07:01			06:19		19:41 (T40)	05:59	
	17:21	56	16:56 (T42)	17:59	21	16:58 (T42)	19:32			20:05			20:36	32	20:13 (T40)	21:03	
11	07:57		08:18 (T76)	07:32		16:40 (T42)	07:51			07:00			06:18		19:41 (T40)	05:58	
	17:23	57	16:56 (T42)	18:00	14	16:54 (T42)	19:33			20:06			20:37	33	20:14 (T40)	21:04	
12	07:56		08:18 (T76)	07:31			07:50			06:58			06:17		19:41 (T40)	05:58	
	17:24	60	16:58 (T42)	18:01			19:34			20:07			20:38	34	20:15 (T40)	21:04	
13	07:56		08:18 (T76)	07:30			07:48		19:10 (T41)	06:57			06:16		19:41 (T40)	05:58	
	17:25	61	16:59 (T42)	18:02			19:35	4	19:14 (T41)	20:08			20:39	35	20:16 (T40)	21:05	
14	07:56		08:17 (T76)	07:29			07:46		19:05 (T41)	06:55			06:15		19:41 (T40)	05:58	
	17:26	64	17:00 (T42)	18:04			19:36	10	19:15 (T41)	20:09			20:41	34	20:15 (T40)	21:05	
15	07:55		08:17 (T76)	07:27			07:45		19:03 (T41)	06:53			06:14		19:42 (T40)	05:58	
	17:27	65	17:01 (T42)	18:05			19:38	13	19:16 (T41)	20:10			20:42	33	20:15 (T40)	21:05	
16	07:55		08:16 (T76)	07:26			07:43		19:00 (T41)	06:52			06:13		19:43 (T40)	05:58	
	17:28	68	17:02 (T42)	18:06			19:39	17	19:17 (T41)	20:11			20:43	32	20:15 (T40)	21:06	
17	07:54		08:16 (T76)	07:25			07:41		18:58 (T41)	06:50			06:12		19:43 (T40)	05:58	
	17:29	70	17:04 (T42)	18:07			19:40	20	19:18 (T41)	20:12			20:43	32	20:15 (T40)	21:06	
18	07:54		08:15 (T76)	07:23			07:40		18:58 (T41)	06:49			06:11		19:43 (T40)	05:58	
	17:30	71	17:05 (T42)	18:09			19:41	22	19:20 (T41)	20:13			20:44	31	20:14 (T40)	21:07	
19	07:53		08:15 (T76)	07:22			07:38		18:56 (T41)	06:47			06:10		19:44 (T40)	05:58	
	17:32	72	17:06 (T42)	18:10			19:42	25	19:21 (T41)	20:14			20:45	30	20:14 (T40)	21:07	
20	07:53		08:14 (T76)	07:20			07:36		18:55 (T41)	06:46			06:09		19:44 (T40)	05:58	
	17:33	75	17:07 (T42)	18:11			19:43	26	19:21 (T41)	20:15			20:46	29	20:13 (T40)	21:07	
21	07:52		08:13 (T76)	07:19			07:35		18:55 (T41)	06:44			06:09		19:45 (T40)	05:59	
	17:34	76	17:07 (T42)	18:12			19:44	28	19:23 (T41)	20:16			20:47	27	20:12 (T40)	21:08	
22	07:52		08:14 (T76)	07:18			07:33		18:54 (T41)	06:43			06:08		19:46 (T40)	05:59	
	17:35	75	17:08 (T42)	18:13			19:45	30	19:24 (T41)	20:17			20:48	26	20:12 (T40)	21:08	
23	07:51		08:15 (T76)	07:16			07:31		18:53 (T41)	06:41			06:07		19:47 (T40)	05:59	
	17:36	74	17:08 (T42)	18:15			19:46	32	19:25 (T41)	20:18			20:49	24	20:11 (T40)	21:08	
24	07:50		08:15 (T76)	07:15			07:30		18:53 (T41)	06:40			06:06		19:48 (T40)	05:59	
	17:38	74	17:08 (T42)	18:16			19:47	33	19:26 (T41)	20:19			20:50	22	20:10 (T40)	21:08	
25	07:49		08:16 (T76)	07:13			07:28		18:53 (T41)	06:38			06:06		19:49 (T40)	06:00	
	17:39	72	17:08 (T42)	18:17			19:48	34	19:27 (T41)	20:21			20:51	21	20:10 (T40)	21:08	
26	07:49		08:17 (T76)	07:12			07:26		18:52 (T41)	06:37		19:56 (T40)	06:05		19:50 (T40)	06:00	
	17:40	69	17:08 (T42)	18:18			19:50	35	19:27 (T41)	20:22	3	19:59 (T40)	20:52	19	20:09 (T40)	21:08	
27	07:48		08:19 (T76)	07:10			07:24		18:52 (T41)	06:36		19:52 (T40)	06:04		19:52 (T40)	06:00	
	17:41	67	17:09 (T42)	18:19			19:51	34	19:26 (T41)	20:23	9	20:01 (T40)	20:53	16	20:08 (T40)	21:08	
28	07:47		08:20 (T76)	07:09			07:23		18:53 (T41)	06:34		19:50 (T40)	06:04		19:53 (T40)	06:01	
	17:42	65	17:09 (T42)	18:21			19:52	33	19:26 (T41)	20:24	12	20:02 (T40)	20:54	13	20:06 (T40)	21:09	
29	07:46		08:22 (T76)				07:21		18:53 (T41)	06:33		19:48 (T40)	06:03		19:55 (T40)	06:01	
	17:44	60	17:08 (T42)				19:53	32	19:25 (T41)	20:25	14	20:02 (T40)	20:54	9	20:04 (T40)	21:09	
30	07:45		08:24 (T76)				07:19		18:53 (T41)	06:32		19:47 (T40)	06:02			06:02	
	17:45	56	17:08 (T42)				19:54	30	19:23 (T41)	20:26	17	20:04 (T40)	20:55			21:09	
31	07:44		16:24 (T42)				07:18		18:55 (T41)				06:02				
	17:46	44	17:08 (T42)				19:55	28	19:23 (T41)				20:56				
Potential sun hours	297			297			370			399			449			453	
Total, worst case		1870			359			486			126			765			
Sun reduction		0.31			0.40			0.44			0.52			0.57			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.66			0.73			0.64			0.61			0.56			
Total reduction		0.21			0.30			0.29			0.32			0.33			
Total, real		391			107			140			41			251			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 869 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8411)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02			06:26		19:52 (T40)	06:57			07:27			07:02		16:05 (T42)	07:37		08:00 (T76)
	21:08			20:50	33	20:25 (T40)	20:07			19:15			17:28	23	16:28 (T42)	17:04	57	16:38 (T42)
2	06:03			06:27		19:51 (T40)	06:58			07:29			07:03		16:04 (T42)	07:38		08:01 (T76)
	21:08			20:49	33	20:24 (T40)	20:06			19:13			17:27	26	16:30 (T42)	17:03	56	16:38 (T42)
3	06:03			06:28		19:51 (T40)	06:59			07:30			07:04		16:02 (T42)	07:39		08:03 (T76)
	21:08			20:48	32	20:23 (T40)	20:04			19:11			17:26	30	16:32 (T42)	17:03	53	16:38 (T42)
4	06:04			06:29		19:51 (T40)	07:00			07:31			07:06		16:00 (T42)	07:40		08:04 (T76)
	21:08			20:47	31	20:22 (T40)	20:02			19:10			17:24	33	16:33 (T42)	17:03	52	16:38 (T42)
5	06:04			06:30		19:52 (T40)	07:01			07:32			07:07		15:59 (T42)	07:41		08:05 (T76)
	21:08			20:46	29	20:21 (T40)	20:01			19:08			17:23	35	16:34 (T42)	17:03	50	16:38 (T42)
6	06:05			06:31		19:52 (T40)	07:02			07:33			07:08		15:58 (T42)	07:42		08:06 (T76)
	21:08			20:44	28	20:20 (T40)	19:57			19:06			17:22	38	16:36 (T42)	17:03	49	16:38 (T42)
7	06:05			06:32		19:52 (T40)	07:03			07:34			07:09		15:57 (T42)	07:43		08:06 (T76)
	21:07			20:43	27	20:19 (T40)	19:56			19:05			17:21	39	16:36 (T42)	17:03	47	16:37 (T42)
8	06:06			06:33		19:52 (T40)	07:04		18:58 (T41)	07:35			07:10		15:56 (T42)	07:44		08:07 (T76)
	21:07			20:42	26	20:18 (T40)	19:54	8	19:06 (T41)	19:03			17:20	41	16:37 (T42)	17:03	45	16:37 (T42)
9	06:07			06:34		19:53 (T40)	07:05		18:54 (T41)	07:36			07:12		15:56 (T42)	07:45		08:08 (T76)
	21:07			20:41	24	20:17 (T40)	19:52	16	19:10 (T41)	19:01			17:19	42	16:38 (T42)	17:03	43	16:37 (T42)
10	06:07			06:35		19:53 (T40)	07:06		18:50 (T41)	07:37			07:13		15:55 (T42)	07:46		08:09 (T76)
	21:06			20:40	23	20:16 (T40)	19:51	21	19:11 (T41)	19:00			17:18	44	16:39 (T42)	17:03	42	16:37 (T42)
11	06:08			06:36		19:54 (T40)	07:07		18:48 (T41)	07:38			07:14		15:55 (T42)	07:46		08:10 (T76)
	21:06			20:38	20	20:14 (T40)	19:49	24	19:12 (T41)	18:58			17:17	44	16:39 (T42)	17:03	40	16:37 (T42)
12	06:09			06:37		19:55 (T40)	07:08		18:46 (T41)	07:39			07:15		07:55 (T76)	07:47		08:11 (T76)
	21:06			20:37	18	20:13 (T40)	19:47	28	19:14 (T41)	18:57			17:16	56	16:39 (T42)	17:03	38	16:37 (T42)
13	06:10			06:38		19:56 (T40)	07:09		18:45 (T41)	07:40			07:16		07:54 (T76)	07:48		08:12 (T76)
	21:05			20:36	16	20:12 (T40)	19:45	29	19:14 (T41)	18:55			17:15	60	16:40 (T42)	17:03	38	16:38 (T42)
14	06:10		20:06 (T40)	06:39		19:57 (T40)	07:10		18:43 (T41)	07:41			07:18		07:52 (T76)	07:49		08:12 (T76)
	21:05	6	20:12 (T40)	20:34	14	20:11 (T40)	19:44	32	19:15 (T41)	18:54			17:14	65	16:41 (T42)	17:03	37	16:37 (T42)
15	06:11		20:03 (T40)	06:40		19:58 (T40)	07:11		18:42 (T41)	07:42			07:19		07:51 (T76)	07:50		08:13 (T76)
	21:04	12	20:15 (T40)	20:33	11	20:09 (T40)	19:42	33	19:15 (T41)	18:52			17:13	67	16:41 (T42)	17:03	35	16:37 (T42)
16	06:12		20:01 (T40)	06:41		20:00 (T40)	07:12		18:42 (T41)	07:44			07:20		07:50 (T76)	07:50		08:14 (T76)
	21:03	15	20:16 (T40)	20:31	7	20:07 (T40)	19:40	33	19:15 (T41)	18:50			17:12	69	16:41 (T42)	17:04	35	16:38 (T42)
17	06:13		20:00 (T40)	06:42		20:04 (T40)	07:13		18:41 (T41)	07:45			07:21		07:50 (T76)	07:51		08:14 (T76)
	21:03	17	20:17 (T40)	20:30	2	20:06 (T40)	19:39	34	19:15 (T41)	18:49			17:11	72	16:42 (T42)	17:04	35	16:38 (T42)
18	06:14		19:59 (T40)	06:43			07:14		18:40 (T41)	07:46			07:22		07:49 (T76)	07:52		08:15 (T76)
	21:02	20	20:19 (T40)	20:29			19:37	35	19:15 (T41)	18:47			17:11	74	16:42 (T42)	17:04	33	16:38 (T42)
19	06:14		19:58 (T40)	06:44			07:15		18:40 (T41)	07:47			07:23		07:49 (T76)	07:52		08:16 (T76)
	21:02	22	20:20 (T40)	20:27			19:35	33	19:13 (T41)	18:46			17:10	74	16:42 (T42)	17:05	33	16:39 (T42)
20	06:15		19:58 (T40)	06:45			07:16		18:39 (T41)	07:48			07:25		07:49 (T76)	07:53		08:16 (T76)
	21:01	23	20:21 (T40)	20:26			19:33	32	19:11 (T41)	18:44			17:09	75	16:43 (T42)	17:05	33	16:39 (T42)
21	06:16		19:56 (T40)	06:46			07:17		18:39 (T41)	07:49			07:26		07:49 (T76)	07:53		08:17 (T76)
	21:00	25	20:21 (T40)	20:24			19:32	31	19:10 (T41)	18:43			17:08	76	16:43 (T42)	17:05	33	16:40 (T42)
22	06:17		19:56 (T40)	06:47			07:18		18:39 (T41)	07:50			07:27		07:50 (T76)	07:54		08:17 (T76)
	20:59	26	20:22 (T40)	20:23			19:30	29	19:08 (T41)	18:41			17:08	75	16:43 (T42)	17:06	33	16:40 (T42)
23	06:18		19:55 (T40)	06:48			07:19		18:39 (T41)	07:51			07:28		07:51 (T76)	07:54		08:18 (T76)
	20:59	28	20:23 (T40)	20:21			19:28	27	19:06 (T41)	18:40			17:07	73	16:43 (T42)	17:07	33	16:41 (T42)
24	06:19		19:55 (T40)	06:49			07:20		18:39 (T41)	07:53			07:29		07:52 (T76)	07:55		08:18 (T76)
	20:58	29	20:24 (T40)	20:20			19:27	25	19:04 (T41)	18:39			17:07	71	16:42 (T42)	17:07	33	16:41 (T42)
25	06:20		19:54 (T40)	06:50			07:21		18:40 (T41)	07:54			07:30		07:54 (T76)	07:55		08:18 (T76)
	20:57	31	20:25 (T40)	20:18			19:25	23	19:03 (T41)	18:37			17:06	70	16:42 (T42)	17:08	33	16:41 (T42)
26	06:21		19:54 (T40)	06:51			07:22		18:40 (T41)	07:55			07:32		07:55 (T76)	07:56		08:19 (T76)
	20:56	31	20:25 (T40)	20:17			19:23	21	19:01 (T41)	18:36			17:06	68	16:41 (T42)	17:08	33	16:42 (T42)
27	06:22		19:54 (T40)	06:52			07:23		18:41 (T41)	07:56			07:33		07:56 (T76)	07:56		08:19 (T76)
	20:55	32	20:26 (T40)	20:15			19:22	18	18:59 (T41)	18:34			17:05	65	16:40 (T42)	17:09	35	16:43 (T42)
28	06:22		19:52 (T40)	06:53			07:24		18:43 (T41)	07:57			07:34		07:57 (T76)	07:56		08:19 (T76)
	20:54	33	20:25 (T40)	20:14			19:20	14	18:57 (T41)	18:33			17:05	64	16:40 (T42)	17:10	35	16:43 (T42)
29	06:23		19:52 (T40)	06:54			07:25		18:44 (T41)	07:58			07:35		07:58 (T76)	07:57		08:19 (T76)
	20:53	34	20:26 (T40)	20:12			19:18	12	18:56 (T41)	18:32			17:04	61	16:39 (T42)	17:10	37	16:44 (T42)
30	06:24		19:52 (T40)	06:55			07:26		18:47 (T41)	08:00		17:15 (T42)	07:36		07:59 (T76)	07:57		08:20 (T76)
	20:52	34	20:26 (T40)	20:10			19:16	7	18:54 (T41)	18:30	5	17:20 (T42)	17:04	60	16:39 (T42)	17:11	37	16:45 (T42)
31	06:25		19:52 (T40)	06:56						08:01		17:09 (T42)				07:57		08:20 (T76)
	20:51	34	20:26 (T40)	20:09						18:29	16	17:25 (T42)				17:12	39	16:46 (T42)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		452			374			565			21			1690			1232	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.56			0.56			0.64			0.73			0.67			0.67	
Total reduction		0.38			0.35			0.39			0.36			0.21			0.15	
Total, real		171			131			219			7			349			186	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 870 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8412)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57			07:44		16:57 (T32)	07:07		16:51 (T32)	07:16			06:30		06:50 (T27)	06:01		19:05 (T29)
	17:13			17:47	26	17:23 (T32)	18:22	43	17:34 (T32)	19:56			20:27	82	19:57 (T29)	20:57	52	19:57 (T29)
2	07:58			07:43		16:55 (T32)	07:06		16:52 (T32)	07:15			06:29		06:50 (T27)	06:01		19:06 (T29)
	17:14			17:49	30	17:25 (T32)	18:23	40	17:32 (T32)	19:57			20:28	83	19:58 (T29)	20:58	51	19:57 (T29)
3	07:58			07:42		16:54 (T32)	07:04		16:53 (T32)	07:13			06:28		06:50 (T27)	06:00		19:06 (T29)
	17:15			17:50	32	17:26 (T32)	18:24	38	17:31 (T32)	19:58			20:29	83	19:58 (T29)	20:59	50	19:56 (T29)
4	07:58			07:41		16:53 (T32)	07:03		16:55 (T32)	07:11			06:26		06:51 (T27)	06:00		19:07 (T29)
	17:16			17:51	34	17:27 (T32)	18:25	33	17:28 (T32)	19:59			20:30	81	19:58 (T29)	20:59	49	19:56 (T29)
5	07:58			07:39		16:52 (T32)	07:01		16:56 (T32)	07:10			06:25		06:52 (T27)	06:00		19:08 (T29)
	17:16			17:52	37	17:29 (T32)	18:26	30	17:26 (T32)	20:00			20:31	80	19:59 (T29)	21:00	48	19:56 (T29)
6	07:58			07:38		16:51 (T32)	06:59		16:59 (T32)	07:08			06:24		06:53 (T27)	05:59		19:07 (T29)
	17:17			17:54	39	17:30 (T32)	18:28	25	17:24 (T32)	20:00			20:32	79	19:59 (T29)	21:01	48	19:55 (T29)
7	07:58			07:37		16:49 (T32)	06:58		17:02 (T32)	07:06			06:23		06:55 (T27)	05:59		19:08 (T29)
	17:18			17:55	42	17:31 (T32)	18:29	18	17:20 (T32)	20:01			20:33	75	19:59 (T29)	21:01	47	19:55 (T29)
8	07:57			07:36		16:49 (T32)	07:56			07:05			06:22		06:57 (T27)	05:59		19:09 (T29)
	17:19			17:56	43	17:32 (T32)	19:30			20:03			20:35	72	20:00 (T29)	21:02	47	19:56 (T29)
9	07:57			07:35		16:48 (T32)	07:55			07:03			06:20		07:01 (T27)	05:59		19:10 (T29)
	17:20			17:57	46	17:34 (T32)	19:31			20:04			20:36	64	20:00 (T29)	21:03	46	19:56 (T29)
10	07:57			07:34		16:48 (T32)	07:53			07:01			06:19		18:58 (T29)	05:58		19:10 (T29)
	17:21			17:59	48	17:36 (T32)	19:32			20:05			20:37	61	19:59 (T29)	21:03	46	19:56 (T29)
11	07:57			07:33		16:48 (T32)	07:51			07:00			06:18		18:58 (T29)	05:58		19:10 (T29)
	17:22			18:00	49	17:37 (T32)	19:33			20:06			20:38	61	19:59 (T29)	21:04	45	19:55 (T29)
12	07:57			07:31		16:47 (T32)	07:50			06:58			06:17		18:58 (T29)	05:58		19:10 (T29)
	17:24			18:01	51	17:38 (T32)	19:34			20:07			20:39	61	19:59 (T29)	21:04	45	19:55 (T29)
13	07:56			07:30		16:47 (T32)	07:48			06:57			06:16		18:58 (T29)	05:58		19:11 (T29)
	17:25			18:02	52	17:39 (T32)	19:35			20:08			20:40	61	19:59 (T29)	21:05	44	19:55 (T29)
14	07:56			07:29		16:47 (T32)	07:46			06:55			06:15		18:58 (T29)	05:58		19:11 (T29)
	17:26			18:04	53	17:40 (T32)	19:37			20:09			20:41	61	19:59 (T29)	21:05	44	19:55 (T29)
15	07:56			07:27		16:46 (T32)	07:45			06:53			06:14		18:58 (T29)	05:58		19:12 (T29)
	17:27			18:05	53	17:39 (T32)	19:38			20:10			20:42	61	19:59 (T29)	21:06	43	19:55 (T29)
16	07:55			07:26		16:46 (T32)	07:43			06:52			06:13		18:59 (T29)	05:58		19:12 (T29)
	17:28			18:06	54	17:40 (T32)	19:39			20:11			20:43	61	20:00 (T29)	21:06	43	19:55 (T29)
17	07:55			07:25		16:46 (T32)	07:41			06:50			06:12		18:59 (T29)	05:58		19:12 (T29)
	17:29			18:07	54	17:40 (T32)	19:40			20:12			20:44	61	20:00 (T29)	21:07	43	19:55 (T29)
18	07:54			07:23		16:45 (T32)	07:40			06:49		07:08 (T27)	06:11		18:59 (T29)	05:58		19:14 (T29)
	17:30			18:09	55	17:40 (T32)	19:41			20:13	5	07:13 (T27)	20:45	60	19:59 (T29)	21:07	42	19:56 (T29)
19	07:54			07:22		16:46 (T32)	07:38			06:47		07:06 (T27)	06:10		18:59 (T29)	05:58		19:14 (T29)
	17:31			18:10	54	17:40 (T32)	19:42			20:14	26	19:40 (T29)	20:46	60	19:59 (T29)	21:07	42	19:56 (T29)
20	07:53			07:21		16:45 (T32)	07:36			06:46		07:05 (T27)	06:09		18:59 (T29)	05:58		19:14 (T29)
	17:33			18:11	54	17:39 (T32)	19:43			20:15	36	19:44 (T29)	20:47	60	19:59 (T29)	21:08	42	19:56 (T29)
21	07:52			07:19		16:46 (T32)	07:35			06:44		07:04 (T27)	06:09		19:00 (T29)	05:59		19:14 (T29)
	17:34			18:12	53	17:39 (T32)	19:44			20:16	44	19:47 (T29)	20:48	58	19:58 (T29)	21:08	42	19:56 (T29)
22	07:52			07:18		16:46 (T32)	07:33			06:43		07:02 (T27)	06:08		19:01 (T29)	05:59		19:14 (T29)
	17:35			18:13	53	17:39 (T32)	19:45			20:18	51	19:49 (T29)	20:48	58	19:59 (T29)	21:08	42	19:56 (T29)
23	07:51			07:16		16:47 (T32)	07:31			06:41		07:01 (T27)	06:07		19:01 (T29)	05:59		19:15 (T29)
	17:36			18:15	52	17:39 (T32)	19:46			20:19	56	19:51 (T29)	20:49	57	19:58 (T29)	21:08	42	19:57 (T29)
24	07:50			07:15		16:46 (T32)	07:30			06:40		06:59 (T27)	06:06		19:01 (T29)	05:59		19:15 (T29)
	17:37			18:16	51	17:37 (T32)	19:47			20:20	61	19:51 (T29)	20:50	57	19:58 (T29)	21:08	42	19:57 (T29)
25	07:50			07:13		16:47 (T32)	07:28			06:38		06:58 (T27)	06:05		19:02 (T29)	06:00		19:14 (T29)
	17:39			18:17	50	17:37 (T32)	19:49			20:21	65	19:53 (T29)	20:51	56	19:58 (T29)	21:09	43	19:57 (T29)
26	07:49			07:12		16:48 (T32)	07:26			06:37		06:56 (T27)	06:05		19:02 (T29)	06:00		19:15 (T29)
	17:40			18:18	48	17:36 (T32)	19:50			20:22	69	19:53 (T29)	20:52	56	19:58 (T29)	21:09	43	19:58 (T29)
27	07:48			07:10		16:49 (T32)	07:25			06:36		06:55 (T27)	06:04		19:02 (T29)	06:00		19:15 (T29)
	17:41			18:19	47	17:36 (T32)	19:51			20:23	72	19:54 (T29)	20:53	55	19:57 (T29)	21:09	43	19:58 (T29)
28	07:47			07:09		16:49 (T32)	07:23			06:34		06:54 (T27)	06:04		19:03 (T29)	06:01		19:15 (T29)
	17:42			18:21	45	17:34 (T32)	19:52			20:24	75	19:56 (T29)	20:54	54	19:57 (T29)	21:09	43	19:58 (T29)
29	07:46		17:04 (T32)				07:21			06:33		06:52 (T27)	06:03		19:03 (T29)	06:01		19:15 (T29)
	17:44	14	17:18 (T32)				19:53			20:25	78	19:56 (T29)	20:55	54	19:57 (T29)	21:09	44	19:59 (T29)
30	07:45		17:01 (T32)				07:20			06:32		06:51 (T27)	06:02		19:04 (T29)	06:02		19:15 (T29)
	17:45	19	17:20 (T32)				19:54			20:26	81	19:57 (T29)	20:55	53	19:57 (T29)	21:09	44	19:59 (T29)
31	07:45		16:58 (T32)				07:18						06:02		19:04 (T29)			
	17:46	24	17:22 (T32)				19:55						20:56	52	19:56 (T29)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		57			1305			227			719			1977			1345	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.71			0.71			0.71			0.60			0.58			0.57	
Total reduction		0.22			0.29			0.32			0.32			0.34			0.37	
Total, real		13			378			72			230			664			499	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 870 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8412)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September	October		November		December
1	06:02	19:15 (T29)	06:26	19:09 (T29)	06:57	07:28		07:02	16:17 (T32)	07:37
	21:09	45 20:00 (T29)	20:50	61 20:10 (T29)	20:07	19:15		17:28	47 17:04 (T32)	17:04
2	06:03	19:15 (T29)	06:27	19:09 (T29)	06:58	07:29		07:03	16:18 (T32)	07:38
	21:09	45 20:00 (T29)	20:49	61 20:10 (T29)	20:06	19:13		17:27	46 17:04 (T32)	17:03
3	06:03	19:15 (T29)	06:28	19:09 (T29)	06:59	07:30		07:05	16:19 (T32)	07:39
	21:08	46 20:01 (T29)	20:48	61 20:10 (T29)	20:04	19:11		17:26	43 17:02 (T32)	17:03
4	06:04	19:14 (T29)	06:29	07:09 (T27)	07:00	07:31		07:06	16:19 (T32)	07:40
	21:08	47 20:01 (T29)	20:47	67 20:09 (T29)	20:02	19:10		17:24	42 17:01 (T32)	17:03
5	06:04	19:15 (T29)	06:30	07:06 (T27)	07:01	07:32		07:07	16:21 (T32)	07:41
	21:08	46 20:01 (T29)	20:46	73 20:09 (T29)	20:01	19:08		17:23	39 17:00 (T32)	17:03
6	06:05	19:14 (T29)	06:31	07:04 (T27)	07:02	07:33	17:41 (T32)	07:08	16:22 (T32)	07:42
	21:08	47 20:01 (T29)	20:45	77 20:09 (T29)	19:57	19:06	13 17:54 (T32)	17:22	37 16:59 (T32)	17:03
7	06:05	19:14 (T29)	06:32	07:02 (T27)	07:03	07:34	17:37 (T32)	07:09	16:23 (T32)	07:43
	21:08	48 20:02 (T29)	20:43	80 20:09 (T29)	19:56	19:05	21 17:58 (T32)	17:21	34 16:57 (T32)	17:03
8	06:06	19:14 (T29)	06:33	07:01 (T27)	07:04	07:35	17:33 (T32)	07:11	16:24 (T32)	07:44
	21:07	49 20:03 (T29)	20:42	81 20:08 (T29)	19:54	19:03	27 18:00 (T32)	17:20	32 16:56 (T32)	17:03
9	06:07	19:13 (T29)	06:34	07:00 (T27)	07:05	07:36	17:30 (T32)	07:12	16:26 (T32)	07:45
	21:07	50 20:03 (T29)	20:41	82 20:08 (T29)	19:52	19:02	32 18:02 (T32)	17:19	29 16:55 (T32)	17:03
10	06:07	19:13 (T29)	06:35	06:59 (T27)	07:06	07:37	17:28 (T32)	07:13	16:28 (T32)	07:46
	21:07	51 20:04 (T29)	20:40	83 20:07 (T29)	19:51	19:00	36 18:04 (T32)	17:18	26 16:54 (T32)	17:03
11	06:08	19:14 (T29)	06:36	06:59 (T27)	07:07	07:38	17:26 (T32)	07:14	16:29 (T32)	07:47
	21:06	51 20:05 (T29)	20:38	83 20:07 (T29)	19:49	18:58	39 18:05 (T32)	17:17	24 16:53 (T32)	17:03
12	06:09	19:13 (T29)	06:37	06:59 (T27)	07:08	07:39	17:24 (T32)	07:15	16:33 (T32)	07:47
	21:06	51 20:04 (T29)	20:37	81 20:06 (T29)	19:47	18:57	42 18:06 (T32)	17:16	19 16:52 (T32)	17:03
13	06:10	19:13 (T29)	06:38	07:00 (T27)	07:09	07:40	17:23 (T32)	07:17	16:36 (T32)	07:48
	21:05	52 20:05 (T29)	20:36	80 20:05 (T29)	19:46	18:55	43 18:06 (T32)	17:15	14 16:50 (T32)	17:03
14	06:10	19:13 (T29)	06:39	07:01 (T27)	07:10	07:41	17:22 (T32)	07:18		07:49
	21:05	53 20:06 (T29)	20:34	77 20:04 (T29)	19:44	18:54	46 18:08 (T32)	17:14		17:03
15	06:11	19:13 (T29)	06:40	07:02 (T27)	07:11	07:43	17:21 (T32)	07:19		07:50
	21:04	54 20:07 (T29)	20:33	75 20:03 (T29)	19:42	18:52	47 18:08 (T32)	17:13		17:03
16	06:12	19:12 (T29)	06:41	07:03 (T27)	07:12	07:44	17:20 (T32)	07:20		07:50
	21:04	54 20:06 (T29)	20:32	72 20:02 (T29)	19:40	18:50	49 18:09 (T32)	17:12		17:04
17	06:13	19:12 (T29)	06:42	07:03 (T27)	07:13	07:45	17:19 (T32)	07:21		07:51
	21:03	55 20:07 (T29)	20:30	68 20:00 (T29)	19:39	18:49	50 18:09 (T32)	17:11		17:04
18	06:14	19:11 (T29)	06:43	07:04 (T27)	07:14	07:46	17:18 (T32)	07:23		07:52
	21:02	57 20:08 (T29)	20:29	64 19:58 (T29)	19:37	18:47	51 18:09 (T32)	17:11		17:04
19	06:14	19:11 (T29)	06:44	07:05 (T27)	07:15	07:47	17:17 (T32)	07:24		07:52
	21:02	57 20:08 (T29)	20:27	60 19:57 (T29)	19:35	18:46	52 18:09 (T32)	17:10		17:05
20	06:15	19:11 (T29)	06:45	07:06 (T27)	07:16	07:48	17:17 (T32)	07:25		07:53
	21:01	58 20:09 (T29)	20:26	55 19:55 (T29)	19:34	18:44	53 18:10 (T32)	17:09		17:05
21	06:16	19:10 (T29)	06:46	07:07 (T27)	07:17	07:49	17:17 (T32)	07:26		07:54
	21:00	58 20:08 (T29)	20:24	50 19:53 (T29)	19:32	18:43	53 18:10 (T32)	17:08		17:05
22	06:17	19:10 (T29)	06:47	07:08 (T27)	07:18	07:50	17:16 (T32)	07:27		07:54
	21:00	59 20:09 (T29)	20:23	44 19:51 (T29)	19:30	18:41	54 18:10 (T32)	17:08		17:06
23	06:18	19:10 (T29)	06:48	07:09 (T27)	07:19	07:52	17:15 (T32)	07:28		07:55
	20:59	59 20:09 (T29)	20:21	35 19:48 (T29)	19:28	18:40	55 18:10 (T32)	17:07		17:06
24	06:19	19:10 (T29)	06:49	07:10 (T27)	07:20	07:53	17:15 (T32)	07:29		07:55
	20:58	59 20:09 (T29)	20:20	24 19:43 (T29)	19:27	18:39	54 18:09 (T32)	17:07		17:07
25	06:20	19:10 (T29)	06:50	07:11 (T27)	07:21	07:54	17:16 (T32)	07:31		07:55
	20:57	60 20:10 (T29)	20:18	4 07:15 (T27)	19:25	18:37	54 18:10 (T32)	17:06		17:08
26	06:21	19:10 (T29)	06:51		07:22	07:55	17:16 (T32)	07:32		07:56
	20:56	60 20:10 (T29)	20:17		19:23	18:36	53 18:09 (T32)	17:06		17:08
27	06:21	19:10 (T29)	06:52		07:23	07:56	17:15 (T32)	07:33		07:56
	20:55	60 20:10 (T29)	20:15		19:22	18:34	54 18:09 (T32)	17:05		17:09
28	06:22	19:09 (T29)	06:53		07:24	07:57	17:15 (T32)	07:34		07:56
	20:54	60 20:09 (T29)	20:14		19:20	18:33	53 18:08 (T32)	17:05		17:10
29	06:23	19:09 (T29)	06:54		07:26	07:59	17:16 (T32)	07:35		07:57
	20:53	61 20:10 (T29)	20:12		19:18	18:32	53 18:09 (T32)	17:04		17:10
30	06:24	19:09 (T29)	06:55		07:27	08:00	17:16 (T32)	07:36		07:57
	20:52	61 20:10 (T29)	20:11		19:16	18:31	51 18:07 (T32)	17:04		17:11
31	06:25	19:09 (T29)	06:56			08:01	17:17 (T32)			07:57
	20:51	61 20:10 (T29)	20:09			18:29	49 18:06 (T32)			17:12
Potential sun hours	460		429		375	345		297		287
Total, worst case		1674		1598			1184		432	
Sun reduction		0.66		0.61			0.48		0.30	
Oper. time red.		1.00		1.00			1.00		1.00	
Wind dir. red.		0.57		0.60			0.71		0.71	
Total reduction		0.38		0.37			0.35		0.22	
Total, real		641		592			412		94	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 879 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8421)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June	
1	07:57		08:20 (T41)	07:44		08:12 (T41)	07:07			07:16		07:36 (T40)	06:30		07:11 (T40)	06:01	
	17:13	37	08:57 (T42)	17:48	58	09:10 (T41)	18:22			19:56	30	08:06 (T40)	20:27	63	08:14 (T40)	20:57	
2	07:57		08:20 (T41)	07:43		08:12 (T41)	07:06			07:15		07:33 (T40)	06:29		07:12 (T40)	06:01	
	17:14	38	08:58 (T42)	17:49	59	09:11 (T41)	18:23			19:57	35	08:08 (T40)	20:28	62	08:14 (T40)	20:58	
3	07:57		08:20 (T41)	07:42		08:12 (T41)	07:04			07:13		07:32 (T40)	06:28		07:12 (T40)	06:01	
	17:15	38	08:58 (T42)	17:50	59	09:11 (T41)	18:24			19:58	39	08:11 (T40)	20:29	60	08:12 (T40)	20:58	
4	07:58		08:20 (T41)	07:40		08:13 (T41)	07:03			07:11		07:30 (T40)	06:26		07:12 (T40)	06:00	
	17:16	38	08:58 (T42)	17:51	58	09:11 (T41)	18:25			19:59	42	08:12 (T40)	20:30	60	08:12 (T40)	20:59	
5	07:58		08:20 (T41)	07:39		08:13 (T41)	07:01			07:10		07:29 (T40)	06:25		07:13 (T40)	06:00	
	17:17	38	08:58 (T42)	17:53	58	09:11 (T41)	18:26			20:00	45	08:14 (T40)	20:31	58	08:11 (T40)	21:00	
6	07:57		08:20 (T41)	07:38		08:12 (T41)	06:59			07:08		07:27 (T40)	06:24		07:14 (T40)	06:00	
	17:18	38	08:58 (T42)	17:54	58	09:10 (T41)	18:28			20:00	48	08:15 (T40)	20:32	56	08:10 (T40)	21:01	
7	07:57		08:19 (T41)	07:37		08:13 (T41)	06:58			07:06		07:25 (T40)	06:23		07:15 (T40)	05:59	
	17:18	39	08:58 (T42)	17:55	56	09:09 (T41)	18:29			20:01	51	08:16 (T40)	20:33	55	08:10 (T40)	21:01	
8	07:57		08:19 (T41)	07:36		08:14 (T41)	07:56			07:05		07:24 (T40)	06:22		07:16 (T40)	05:59	
	17:19	39	08:58 (T42)	17:56	55	09:09 (T41)	19:30			20:02	53	08:17 (T40)	20:34	53	08:09 (T40)	21:02	
9	07:57		08:19 (T41)	07:35		08:14 (T41)	07:55			07:03		07:22 (T40)	06:20		07:16 (T40)	05:59	
	17:20	39	08:58 (T42)	17:58	55	09:09 (T41)	19:31			20:04	55	08:17 (T40)	20:35	52	08:08 (T40)	21:02	
10	07:57		08:19 (T41)	07:34		08:15 (T41)	07:53			07:01		07:20 (T40)	06:19		07:17 (T40)	05:59	
	17:22	39	08:58 (T42)	17:59	54	09:09 (T41)	19:32			20:05	58	08:18 (T40)	20:37	50	08:07 (T40)	21:03	
11	07:57		08:18 (T41)	07:32		08:15 (T41)	07:51			07:00		07:19 (T40)	06:18		07:17 (T40)	05:58	
	17:23	39	08:57 (T42)	18:00	52	09:07 (T41)	19:33			20:06	60	08:19 (T40)	20:38	48	08:05 (T40)	21:04	
12	07:56		08:18 (T41)	07:31		08:16 (T41)	07:50			06:58		07:17 (T40)	06:17		07:18 (T40)	05:58	
	17:24	40	08:58 (T41)	18:01	51	09:07 (T41)	19:34			20:07	62	08:19 (T40)	20:39	46	08:04 (T40)	21:04	
13	07:56		08:18 (T41)	07:30		08:17 (T41)	07:48			06:57		07:16 (T40)	06:16		07:19 (T40)	05:58	
	17:25	41	08:59 (T41)	18:03	49	09:06 (T41)	19:35			20:08	64	08:20 (T40)	20:40	44	08:03 (T40)	21:05	
14	07:56		08:17 (T41)	07:29		08:19 (T41)	07:46			06:55		07:15 (T40)	06:15		07:21 (T40)	05:58	
	17:26	43	09:00 (T41)	18:04	46	09:05 (T41)	19:37			20:09	64	08:19 (T40)	20:41	40	08:01 (T40)	21:05	
15	07:55		08:17 (T41)	07:27		08:19 (T41)	07:45			06:53		07:15 (T40)	06:14		07:23 (T40)	05:58	
	17:27	44	09:01 (T41)	18:05	44	09:03 (T41)	19:38			20:10	65	08:20 (T40)	20:42	38	08:01 (T40)	21:06	
16	07:55		08:16 (T41)	07:26		08:21 (T41)	07:43			06:52		07:13 (T40)	06:13		07:24 (T40)	05:58	
	17:28	46	09:02 (T41)	18:06	41	09:02 (T41)	19:39			20:11	67	08:20 (T40)	20:43	35	07:59 (T40)	21:06	
17	07:55		08:16 (T41)	07:25		08:21 (T41)	07:41			06:50		07:13 (T40)	06:12		07:26 (T40)	05:58	
	17:29	47	09:03 (T41)	18:07	39	09:00 (T41)	19:40			20:12	67	08:20 (T40)	20:44	32	07:58 (T40)	21:06	
18	07:54		08:15 (T41)	07:23		08:23 (T41)	07:40			06:49		07:12 (T40)	06:11		07:27 (T40)	05:58	
	17:30	48	09:03 (T41)	18:09	36	08:59 (T41)	19:41			20:13	68	08:20 (T40)	20:45	29	07:56 (T40)	21:07	
19	07:53		08:15 (T41)	07:22		08:26 (T41)	07:38			06:47		07:12 (T40)	06:10		07:29 (T40)	05:58	
	17:32	50	09:05 (T41)	18:10	31	08:57 (T41)	19:42			20:14	68	08:20 (T40)	20:46	24	07:53 (T40)	21:07	
20	07:53		08:14 (T41)	07:21		08:27 (T41)	07:36			06:46		07:11 (T40)	06:09		07:31 (T40)	05:59	
	17:33	51	09:05 (T41)	18:11	27	08:54 (T41)	19:43			20:15	68	08:19 (T40)	20:46	20	07:51 (T40)	21:07	
21	07:52		08:13 (T41)	07:19		08:31 (T41)	07:35			06:44		07:12 (T40)	06:09		07:35 (T40)	05:59	
	17:34	52	09:05 (T41)	18:12	20	08:51 (T41)	19:44			20:16	67	08:19 (T40)	20:47	13	07:48 (T40)	21:08	
22	07:52		08:13 (T41)	07:18		08:36 (T41)	07:33			06:43		07:11 (T40)	06:08			05:59	
	17:35	54	09:07 (T41)	18:13	9	08:45 (T41)	19:45			20:17	68	08:19 (T40)	20:48			21:08	
23	07:51		08:12 (T41)	07:16			07:31			06:41		07:11 (T40)	06:07			05:59	
	17:36	55	09:07 (T41)	18:15			19:46			20:18	68	08:19 (T40)	20:49			21:08	
24	07:50		08:11 (T41)	07:15			07:30			06:40		07:10 (T40)	06:06			05:59	
	17:38	56	09:07 (T41)	18:16			19:47			20:20	68	08:18 (T40)	20:50			21:08	
25	07:50		08:11 (T41)	07:13			07:28			06:39		07:11 (T40)	06:06			06:00	
	17:39	57	09:08 (T41)	18:17			19:49			20:21	67	08:18 (T40)	20:51			21:08	
26	07:49		08:11 (T41)	07:12			07:26			06:37		07:11 (T40)	06:05			06:00	
	17:40	58	09:09 (T41)	18:18			19:50			20:22	67	08:18 (T40)	20:52			21:08	
27	07:48		08:11 (T41)	07:10			07:25			06:36		07:10 (T40)	06:04			06:00	
	17:41	58	09:09 (T41)	18:19			19:51			20:23	66	08:16 (T40)	20:53			21:09	
28	07:47		08:11 (T41)	07:09			07:23			06:34		07:11 (T40)	06:04			06:01	
	17:43	59	09:10 (T41)	18:21			19:52			20:24	65	08:16 (T40)	20:54			21:09	
29	07:46		08:11 (T41)				07:21			06:33		07:11 (T40)	06:03			06:01	
	17:44	59	09:10 (T41)				19:53			20:25	65	08:16 (T40)	20:55			21:09	
30	07:45		08:11 (T41)				07:20		07:46 (T40)	06:32		07:11 (T40)	06:02			06:02	
	17:45	59	09:10 (T41)				19:54	10	07:56 (T40)	20:26	64	08:15 (T40)	20:55			21:09	
31	07:44		08:11 (T41)				07:18		07:40 (T40)				06:02				
	17:46	59	09:10 (T41)				19:55	23	08:03 (T40)				20:56				
Potential sun hours	297			297			370			399			449			453	
Total, worst case		1458			1015			33			1774			938			
Sun reduction		0.31			0.40			0.44			0.52			0.57			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.52			0.52			0.65			0.65			0.65			
Total reduction		0.16			0.20			0.28			0.33			0.36			
Total, real		226			203			9			583			338			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 879 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8421)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26	07:29 (T40)	06:57	07:18 (T40)	07:28		07:02	07:44 (T41)	07:37	08:00 (T41)
	21:09		20:50	46 08:15 (T40)	20:07	60 08:18 (T40)	19:15		17:28	53 08:37 (T41)	17:04	39 08:39 (T42)
2	06:03		06:27	07:28 (T40)	06:58	07:19 (T40)	07:29		07:03	07:44 (T41)	07:38	08:02 (T41)
	21:08		20:49	48 08:16 (T40)	20:06	58 08:17 (T40)	19:13		17:27	55 08:39 (T41)	17:03	39 08:41 (T42)
3	06:03		06:28	07:27 (T40)	06:59	07:20 (T40)	07:30		07:04	07:43 (T41)	07:39	08:03 (T41)
	21:08		20:48	50 08:17 (T40)	20:04	55 08:15 (T40)	19:11		17:26	56 08:39 (T41)	17:03	39 08:42 (T42)
4	06:04		06:29	07:26 (T40)	07:00	07:21 (T40)	07:31		07:06	07:43 (T41)	07:40	08:04 (T41)
	21:08		20:47	52 08:18 (T40)	20:02	53 08:14 (T40)	19:10		17:24	56 08:39 (T41)	17:03	39 08:43 (T42)
5	06:04		06:30	07:25 (T40)	07:01	07:22 (T40)	07:32		07:07	07:42 (T41)	07:41	08:05 (T41)
	21:08		20:46	54 08:19 (T40)	20:01	51 08:13 (T40)	19:08		17:23	57 08:39 (T41)	17:03	39 08:44 (T42)
6	06:05		06:31	07:24 (T40)	07:02	07:23 (T40)	07:33		07:08	07:43 (T41)	07:42	08:06 (T41)
	21:08		20:45	56 08:20 (T40)	19:57	48 08:11 (T40)	19:06		17:22	57 08:40 (T41)	17:03	38 08:44 (T42)
7	06:06		06:32	07:23 (T40)	07:03	07:24 (T40)	07:34		07:09	07:42 (T41)	07:43	08:07 (T41)
	21:07		20:43	57 08:20 (T40)	19:56	45 08:09 (T40)	19:05		17:21	58 08:40 (T41)	17:03	38 08:45 (T42)
8	06:06		06:33	07:23 (T40)	07:04	07:25 (T40)	07:35		07:10	07:42 (T41)	07:44	08:07 (T41)
	21:07		20:42	58 08:21 (T40)	19:54	42 08:07 (T40)	19:03		17:20	58 08:40 (T41)	17:03	38 08:45 (T42)
9	06:07		06:34	07:22 (T40)	07:05	07:26 (T40)	07:36		07:12	07:43 (T41)	07:45	08:08 (T41)
	21:07		20:41	60 08:22 (T40)	19:52	39 08:05 (T40)	19:02		17:19	58 08:41 (T41)	17:03	38 08:46 (T42)
10	06:08		06:35	07:21 (T40)	07:06	07:27 (T40)	07:37		07:13	07:43 (T41)	07:46	08:09 (T41)
	21:06		20:40	61 08:22 (T40)	19:51	36 08:03 (T40)	19:00		17:18	58 08:41 (T41)	17:03	38 08:47 (T42)
11	06:08		06:36	07:21 (T40)	07:07	07:29 (T40)	07:38		07:14	07:42 (T41)	07:47	08:10 (T41)
	21:06		20:38	62 08:23 (T40)	19:49	31 08:00 (T40)	18:58		17:17	59 08:41 (T41)	17:03	37 08:47 (T42)
12	06:09		06:37	07:20 (T40)	07:08	07:31 (T40)	07:39		07:15	07:42 (T41)	07:47	08:11 (T41)
	21:06		20:37	63 08:23 (T40)	19:47	24 07:55 (T40)	18:57		17:16	59 08:41 (T41)	17:03	37 08:48 (T42)
13	06:10		06:38	07:20 (T40)	07:09	07:36 (T40)	07:40		07:16	07:43 (T41)	07:48	08:12 (T41)
	21:05		20:36	64 08:24 (T40)	19:46	13 07:49 (T40)	18:55		17:15	59 08:42 (T41)	17:03	37 08:49 (T42)
14	06:10		06:39	07:19 (T40)	07:10		07:41		07:18	07:43 (T41)	07:49	08:12 (T41)
	21:05		20:34	65 08:24 (T40)	19:44		18:54		17:14	59 08:42 (T41)	17:03	37 08:49 (T42)
15	06:11		06:40	07:19 (T40)	07:11		07:43		07:19	07:43 (T41)	07:50	08:13 (T41)
	21:04		20:33	65 08:24 (T40)	19:42		18:52		17:13	58 08:41 (T41)	17:03	37 08:50 (T42)
16	06:12		06:41	07:18 (T40)	07:12		07:44		07:20	07:44 (T41)	07:50	08:14 (T41)
	21:04		20:32	66 08:24 (T40)	19:40		18:50		17:12	58 08:42 (T41)	17:04	36 08:50 (T42)
17	06:13		06:42	07:18 (T40)	07:13		07:45		07:21	07:45 (T41)	07:51	08:14 (T41)
	21:03		20:30	66 08:24 (T40)	19:39		18:49		17:11	57 08:42 (T41)	17:04	36 08:50 (T42)
18	06:14		06:43	07:16 (T40)	07:14		07:46		07:22	07:45 (T41)	07:52	08:15 (T41)
	21:02		20:29	68 08:24 (T40)	19:37		18:47		17:11	56 08:41 (T41)	17:04	36 08:51 (T42)
19	06:14		06:44	07:16 (T40)	07:15		07:47		07:24	07:46 (T41)	07:52	08:16 (T41)
	21:02		20:27	68 08:24 (T40)	19:35		18:46		17:10	55 08:41 (T41)	17:05	36 08:52 (T42)
20	06:15		06:45	07:16 (T40)	07:16		07:48	09:05 (T41)	07:25	07:48 (T41)	07:53	08:16 (T41)
	21:01		20:26	68 08:24 (T40)	19:34		18:44	14 09:19 (T41)	17:09	54 08:42 (T41)	17:05	36 08:52 (T42)
21	06:16		06:46	07:16 (T40)	07:17		07:49	09:00 (T41)	07:26	07:49 (T41)	07:53	08:17 (T41)
	21:00		20:24	67 08:23 (T40)	19:32		18:43	23 09:23 (T41)	17:09	52 08:41 (T41)	17:06	36 08:53 (T42)
22	06:17	07:47 (T40)	06:47	07:15 (T40)	07:18		07:50	08:57 (T41)	07:27	07:50 (T41)	07:54	08:17 (T41)
	20:59	8 07:55 (T40)	20:23	68 08:23 (T40)	19:30		18:42	28 09:25 (T41)	17:08	51 08:41 (T41)	17:06	36 08:53 (T42)
23	06:18	07:43 (T40)	06:48	07:15 (T40)	07:19		07:52	08:55 (T41)	07:28	07:51 (T41)	07:54	08:18 (T41)
	20:59	17 08:00 (T40)	20:21	68 08:23 (T40)	19:28		18:40	32 09:27 (T41)	17:07	50 08:41 (T41)	17:07	36 08:54 (T42)
24	06:19	07:41 (T40)	06:49	07:15 (T40)	07:20		07:53	08:53 (T41)	07:29	07:52 (T41)	07:55	08:18 (T41)
	20:58	22 08:03 (T40)	20:20	68 08:23 (T40)	19:27		18:39	36 09:29 (T41)	17:07	48 08:40 (T41)	17:07	36 08:54 (T42)
25	06:20	07:39 (T40)	06:50	07:15 (T40)	07:21		07:54	08:52 (T41)	07:31	07:54 (T41)	07:55	08:18 (T41)
	20:57	26 08:05 (T40)	20:18	67 08:22 (T40)	19:25		18:37	39 09:31 (T41)	17:06	47 08:41 (T41)	17:08	36 08:54 (T42)
26	06:21	07:37 (T40)	06:51	07:15 (T40)	07:22		07:55	08:50 (T41)	07:32	07:55 (T41)	07:56	08:19 (T41)
	20:56	30 08:07 (T40)	20:17	67 08:22 (T40)	19:23		18:36	42 09:32 (T41)	17:06	46 08:41 (T41)	17:08	36 08:55 (T42)
27	06:22	07:35 (T40)	06:52	07:15 (T40)	07:23		07:56	08:48 (T41)	07:33	07:56 (T41)	07:56	08:19 (T41)
	20:55	34 08:09 (T40)	20:15	66 08:21 (T40)	19:22		18:35	45 09:33 (T41)	17:05	44 08:40 (T41)	17:09	36 08:55 (T42)
28	06:23	07:34 (T40)	06:53	07:15 (T40)	07:24		07:57	08:47 (T41)	07:34	07:57 (T41)	07:56	08:19 (T41)
	20:54	37 08:11 (T40)	20:14	66 08:21 (T40)	19:20		18:33	47 09:34 (T41)	17:05	43 08:40 (T41)	17:10	37 08:56 (T42)
29	06:23	07:32 (T40)	06:54	07:16 (T40)	07:25		07:59	08:47 (T41)	07:35	07:58 (T41)	07:57	08:19 (T41)
	20:53	39 08:11 (T40)	20:12	64 08:20 (T40)	19:18		18:32	49 09:36 (T41)	17:04	41 08:39 (T41)	17:10	37 08:56 (T42)
30	06:24	07:31 (T40)	06:55	07:16 (T40)	07:27		08:00	08:46 (T41)	07:36	07:59 (T41)	07:57	08:20 (T41)
	20:52	41 08:12 (T40)	20:10	63 08:19 (T40)	19:16		18:31	51 09:37 (T41)	17:04	40 08:39 (T41)	17:11	37 08:57 (T42)
31	06:25	07:30 (T40)	06:56	07:17 (T40)			08:01	08:45 (T41)			07:57	08:20 (T41)
	20:51	44 08:14 (T40)	20:09	62 08:19 (T40)			18:29	52 09:37 (T41)			17:12	37 08:57 (T42)
Potential sun hours	460		429		375		345		297		287	
Total, worst case		298		1923		555		458		1602		1150
Sun reduction		0.66		0.61		0.59		0.48		0.30		0.22
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.65		0.65		0.65		0.52		0.52		0.52
Total reduction		0.42		0.39		0.37		0.24		0.15		0.11
Total, real		124		742		207		110		240		128

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 880 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8422)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May	June
1	07:57	07:43	07:07	17:26 (T77)	07:16	06:30	19:14 (T42)	06:01	20:08 (T41)
	17:13	17:47	18:22	34	18:00 (T77)	19:56	20:27	44	19:58 (T42)	20:57	24	20:32 (T41)
2	07:57	07:42	07:06	17:24 (T77)	07:14	06:29	19:15 (T42)	06:01	20:09 (T41)
	17:14	17:49	18:23	37	18:01 (T77)	19:57	20:28	42	19:57 (T42)	20:58	24	20:33 (T41)
3	07:57	07:41	07:04	17:23 (T77)	07:13	06:28	19:15 (T42)	06:01	20:08 (T41)
	17:15	17:50	18:24	39	18:02 (T77)	19:58	20:29	41	19:56 (T42)	20:58	25	20:33 (T41)
4	07:57	07:40	07:02	17:22 (T77)	07:11	06:26	19:15 (T42)	06:00	20:09 (T41)
	17:16	17:51	18:25	42	18:04 (T77)	19:59	20:30	41	19:56 (T42)	20:59	25	20:34 (T41)
5	07:57	07:39	07:01	17:21 (T77)	07:09	06:25	19:16 (T42)	06:00	20:09 (T41)
	17:17	17:52	18:26	43	18:04 (T77)	20:00	20:31	39	19:55 (T42)	21:00	26	20:35 (T41)
6	07:57	07:38	06:59	17:21 (T77)	07:08	06:24	19:17 (T42)	05:59	20:09 (T41)
	17:17	17:54	18:27	45	18:06 (T77)	20:00	20:32	38	19:55 (T42)	21:00	26	20:35 (T41)
7	07:57	07:37	06:58	07:17 (T76)	07:06	06:23	19:18 (T42)	05:59	20:09 (T41)
	17:18	17:55	18:29	54	18:07 (T77)	20:01	20:33	36	19:54 (T42)	21:01	27	20:36 (T41)
8	07:57	07:36	07:56	08:15 (T76)	07:05	06:22	19:19 (T42)	05:59	20:10 (T41)
	17:19	17:56	19:30	61	19:08 (T77)	20:02	20:34	34	19:53 (T42)	21:02	27	20:37 (T41)
9	07:57	07:35	07:54	08:14 (T76)	07:03	06:20	19:20 (T42)	05:59	20:10 (T41)
	17:20	17:57	19:31	65	19:08 (T77)	20:03	20:35	32	19:52 (T42)	21:02	28	20:38 (T41)
10	07:57	07:34	07:53	08:12 (T76)	07:01	06:19	19:20 (T42)	05:59	20:10 (T41)
	17:21	17:59	19:32	68	19:08 (T77)	20:05	20:36	30	19:50 (T42)	21:03	28	20:38 (T41)
11	07:57	07:32	07:51	08:10 (T76)	07:00	19:33 (T42)	06:18	19:21 (T42)	05:58	20:11 (T41)
	17:23	18:00	19:33	70	19:07 (T77)	20:06	12	19:45 (T42)	20:37	28	19:49 (T42)	21:03	28	20:39 (T41)
12	07:56	07:31	07:50	08:09 (T76)	06:58	19:29 (T42)	06:17	19:23 (T42)	05:58	20:10 (T41)
	17:24	18:01	19:34	73	19:08 (T77)	20:07	16	19:45 (T42)	20:38	24	19:47 (T42)	21:04	29	20:39 (T41)
13	07:56	07:30	07:48	08:07 (T76)	06:57	19:27 (T42)	06:16	19:25 (T42)	05:58	20:10 (T41)
	17:25	18:02	19:35	75	19:07 (T77)	20:08	20	19:47 (T42)	20:39	20	19:45 (T42)	21:05	29	20:39 (T41)
14	07:56	07:29	07:46	08:05 (T76)	06:55	19:24 (T42)	06:15	19:27 (T42)	05:58	20:11 (T41)
	17:26	18:04	19:36	76	19:06 (T77)	20:09	24	19:48 (T42)	20:40	16	19:43 (T42)	21:05	28	20:39 (T41)
15	07:55	07:27	07:45	08:04 (T76)	06:53	19:22 (T42)	06:14	19:30 (T42)	05:58	20:11 (T41)
	17:27	18:05	19:38	77	19:06 (T77)	20:10	26	19:48 (T42)	20:41	11	20:18 (T41)	21:05	29	20:40 (T41)
16	07:55	07:26	07:43	08:02 (T76)	06:52	19:21 (T42)	06:13	20:15 (T41)	05:58	20:11 (T41)
	17:28	18:06	19:39	78	19:05 (T77)	20:11	29	19:50 (T42)	20:42	5	20:20 (T41)	21:06	29	20:40 (T41)
17	07:54	07:25	07:41	08:00 (T76)	06:50	19:19 (T42)	06:12	20:14 (T41)	05:58	20:12 (T41)
	17:29	18:07	19:40	78	19:04 (T77)	20:12	31	19:50 (T42)	20:43	6	20:20 (T41)	21:06	29	20:41 (T41)
18	07:54	07:23	07:40	07:59 (T76)	06:49	19:19 (T42)	06:11	20:12 (T41)	05:58	20:13 (T41)
	17:30	18:09	19:41	78	19:03 (T77)	20:13	33	19:52 (T42)	20:44	9	20:21 (T41)	21:07	28	20:41 (T41)
19	07:53	07:22	07:38	07:57 (T76)	06:47	19:17 (T42)	06:10	20:11 (T41)	05:58	20:13 (T41)
	17:32	18:10	19:42	78	19:02 (T77)	20:14	35	19:52 (T42)	20:45	11	20:22 (T41)	21:07	28	20:41 (T41)
20	07:53	07:20	07:36	07:57 (T76)	06:46	19:17 (T42)	06:09	20:10 (T41)	05:59	20:13 (T41)
	17:33	18:11	19:43	74	19:00 (T77)	20:15	37	19:54 (T42)	20:46	13	20:23 (T41)	21:07	28	20:41 (T41)
21	07:52	07:19	07:35	07:57 (T76)	06:44	19:17 (T42)	06:09	20:09 (T41)	05:59	20:13 (T41)
	17:34	18:12	19:44	71	18:59 (T77)	20:16	38	19:55 (T42)	20:47	14	20:23 (T41)	21:08	28	20:41 (T41)
22	07:52	07:18	07:33	07:57 (T76)	06:43	19:15 (T42)	06:08	20:09 (T41)	05:59	20:13 (T41)
	17:35	18:13	19:45	68	18:57 (T77)	20:17	41	19:56 (T42)	20:48	16	20:25 (T41)	21:08	28	20:41 (T41)
23	07:51	07:16	17:42 (T77)	07:31	07:57 (T76)	06:41	19:15 (T42)	06:07	20:09 (T41)	05:59	20:14 (T41)
	17:36	18:15	9	17:51 (T77)	19:46	63	18:55 (T77)	20:18	42	19:57 (T42)	20:49	16	20:25 (T41)	21:08	28	20:42 (T41)
24	07:50	07:15	17:36 (T77)	07:30	07:58 (T76)	06:40	19:14 (T42)	06:06	20:08 (T41)	05:59	20:14 (T41)
	17:38	18:16	17	17:53 (T77)	19:47	57	18:53 (T77)	20:19	44	19:58 (T42)	20:50	18	20:26 (T41)	21:08	28	20:42 (T41)
25	07:49	07:13	17:33 (T77)	07:28	07:59 (T76)	06:38	19:15 (T42)	06:06	20:08 (T41)	06:00	20:13 (T41)
	17:39	18:17	22	17:55 (T77)	19:48	48	18:50 (T77)	20:21	44	19:59 (T42)	20:51	19	20:27 (T41)	21:08	29	20:42 (T41)
26	07:49	07:12	17:31 (T77)	07:26	08:00 (T76)	06:37	19:14 (T42)	06:05	20:08 (T41)	06:00	20:14 (T41)
	17:40	18:18	25	17:56 (T77)	19:50	37	18:45 (T77)	20:22	45	19:59 (T42)	20:52	20	20:28 (T41)	21:08	29	20:43 (T41)
27	07:48	07:10	17:29 (T77)	07:24	08:01 (T76)	06:36	19:14 (T42)	06:04	20:08 (T41)	06:00	20:14 (T41)
	17:41	18:19	29	17:58 (T77)	19:51	22	08:23 (T76)	20:23	45	19:59 (T42)	20:53	21	20:29 (T41)	21:08	29	20:43 (T41)
28	07:47	07:09	17:27 (T77)	07:23	08:03 (T76)	06:34	19:14 (T42)	06:04	20:08 (T41)	06:01	20:14 (T41)
	17:42	18:21	32	17:59 (T77)	19:52	18	08:21 (T76)	20:24	45	19:59 (T42)	20:54	21	20:29 (T41)	21:09	29	20:43 (T41)
29	07:46			07:21	08:06 (T76)	06:33	19:14 (T42)	06:03	20:07 (T41)	06:01	20:15 (T41)
	17:44			19:53	11	08:17 (T76)	20:25	44	19:58 (T42)	20:54	23	20:30 (T41)	21:09	28	20:43 (T41)
30	07:45			07:19			06:32	19:14 (T42)	06:02	20:08 (T41)	06:02	20:14 (T41)
	17:45			19:54			20:26	44	19:58 (T42)	20:55	23	20:31 (T41)	21:08	29	20:43 (T41)
31	07:44			07:18						06:02		20:07 (T41)			
	17:46			19:55						20:56	24	20:31 (T41)			
Potential sun hours	297	297		370			399			448			453		
Total, worst case			134		1640			695			735			830	
Sun reduction			0.40		0.44			0.52			0.57			0.64	
Oper. time red.			1.00		1.00			1.00			1.00			1.00	
Wind dir. red.			0.67		0.64			0.57			0.56			0.54	
Total reduction			0.27		0.29			0.30			0.32			0.35	
Total, real			36		468			209			238			291	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 880 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8422)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November	December
1	06:02		20:15 (T41)	06:26		19:33 (T42)	06:57		19:32 (T42)	07:27		07:47 (T76)	07:02	07:37
	21:08	28	20:43 (T41)	20:50	25	19:58 (T42)	20:07	12	19:44 (T42)	19:15	74	18:46 (T77)	17:28	17:04
2	06:03		20:15 (T41)	06:27		19:31 (T42)	06:58			07:29		07:48 (T76)	07:03	07:38
	21:08	28	20:43 (T41)	20:49	29	20:00 (T42)	20:06			19:13	71	18:46 (T77)	17:27	17:03
3	06:03		20:15 (T41)	06:28		19:30 (T42)	06:59			07:30		07:49 (T76)	07:04	07:39
	21:08	28	20:43 (T41)	20:48	31	20:01 (T42)	20:04			19:11	69	18:45 (T77)	17:26	17:03
4	06:04		20:15 (T41)	06:29		19:29 (T42)	07:00			07:31		07:50 (T76)	07:06	07:40
	21:08	27	20:42 (T41)	20:47	33	20:02 (T42)	20:02			19:10	66	18:45 (T77)	17:24	17:03
5	06:04		20:15 (T41)	06:30		19:28 (T42)	07:01			07:32		07:52 (T76)	07:07	07:41
	21:08	28	20:43 (T41)	20:46	35	20:03 (T42)	20:01			19:08	62	18:45 (T77)	17:23	17:03
6	06:05		20:15 (T41)	06:31		19:27 (T42)	07:02			07:33		07:53 (T76)	07:08	07:42
	21:08	27	20:42 (T41)	20:44	37	20:04 (T42)	19:57			19:06	58	18:44 (T77)	17:22	17:03
7	06:05		20:15 (T41)	06:32		19:26 (T42)	07:03			07:34		07:54 (T76)	07:09	07:43
	21:07	27	20:42 (T41)	20:43	38	20:04 (T42)	19:56			19:05	50	18:43 (T77)	17:21	17:03
8	06:06		20:16 (T41)	06:33		19:26 (T42)	07:04			07:35		17:57 (T77)	07:10	07:44
	21:07	26	20:42 (T41)	20:42	39	20:05 (T42)	19:54			19:03	44	18:41 (T77)	17:20	17:03
9	06:07		20:15 (T41)	06:34		19:25 (T42)	07:05			07:36		17:57 (T77)	07:12	07:45
	21:07	26	20:41 (T41)	20:41	41	20:06 (T42)	19:52			19:01	42	18:39 (T77)	17:19	17:03
10	06:07		20:16 (T41)	06:35		19:24 (T42)	07:06			07:37		17:57 (T77)	07:13	07:46
	21:06	25	20:41 (T41)	20:39	42	20:06 (T42)	19:51			19:00	40	18:37 (T77)	17:18	17:03
11	06:08		20:16 (T41)	06:36		19:24 (T42)	07:07			07:38		17:58 (T77)	07:14	07:46
	21:06	25	20:41 (T41)	20:38	42	20:06 (T42)	19:49			18:58	38	18:36 (T77)	17:17	17:03
12	06:09		20:16 (T41)	06:37		19:23 (T42)	07:08			07:39		17:58 (T77)	07:15	07:47
	21:06	24	20:40 (T41)	20:37	44	20:07 (T42)	19:47			18:57	36	18:34 (T77)	17:16	17:03
13	06:10		20:16 (T41)	06:38		19:23 (T42)	07:09			07:40		17:59 (T77)	07:16	07:48
	21:05	24	20:40 (T41)	20:36	44	20:07 (T42)	19:45			18:55	33	18:32 (T77)	17:15	17:03
14	06:10		20:17 (T41)	06:39		19:22 (T42)	07:10		07:58 (T76)	07:41		18:00 (T77)	07:18	07:49
	21:05	22	20:39 (T41)	20:34	45	20:07 (T42)	19:44	8	08:06 (T76)	18:54	30	18:30 (T77)	17:14	17:03
15	06:11		20:17 (T41)	06:40		19:22 (T42)	07:11		07:53 (T76)	07:42		18:02 (T77)	07:19	07:50
	21:04	22	20:39 (T41)	20:33	45	20:07 (T42)	19:42	17	08:10 (T76)	18:52	28	18:30 (T77)	17:13	17:03
16	06:12		20:17 (T41)	06:41		19:21 (T42)	07:12		07:50 (T76)	07:44		18:04 (T77)	07:20	07:50
	21:03	21	20:38 (T41)	20:31	45	20:06 (T42)	19:40	22	08:12 (T76)	18:50	24	18:28 (T77)	17:12	17:04
17	06:13		20:17 (T41)	06:42		19:20 (T42)	07:13		07:48 (T76)	07:45		18:06 (T77)	07:21	07:51
	21:03	20	20:37 (T41)	20:30	46	20:06 (T42)	19:39	33	18:31 (T77)	18:49	20	18:26 (T77)	17:11	17:04
18	06:14		20:18 (T41)	06:43		19:20 (T42)	07:14		07:47 (T76)	07:46		18:09 (T77)	07:22	07:52
	21:02	19	20:37 (T41)	20:29	44	20:04 (T42)	19:37	45	18:36 (T77)	18:47	15	18:24 (T77)	17:11	17:04
19	06:14		20:18 (T41)	06:44		19:20 (T42)	07:15		07:45 (T76)	07:47			07:23	07:52
	21:01	19	20:37 (T41)	20:27	43	20:03 (T42)	19:35	55	18:39 (T77)	18:46			17:10	17:05
20	06:15		20:19 (T41)	06:45		19:20 (T42)	07:16		07:44 (T76)	07:48			07:25	07:53
	21:01	17	20:36 (T41)	20:26	42	20:02 (T42)	19:33	61	18:41 (T77)	18:44			17:09	17:05
21	06:16		20:19 (T41)	06:46		19:20 (T42)	07:17		07:43 (T76)	07:49			07:26	07:53
	21:00	16	20:35 (T41)	20:24	40	20:00 (T42)	19:32	66	18:42 (T77)	18:43			17:08	17:06
22	06:17		20:19 (T41)	06:47		19:21 (T42)	07:18		07:42 (T76)	07:50			07:27	07:54
	20:59	15	20:34 (T41)	20:23	38	19:59 (T42)	19:30	70	18:43 (T77)	18:41			17:08	17:06
23	06:18		20:20 (T41)	06:48		19:21 (T42)	07:19		07:41 (T76)	07:51			07:28	07:54
	20:58	13	20:33 (T41)	20:21	36	19:57 (T42)	19:28	73	18:44 (T77)	18:40			17:07	17:07
24	06:19		20:21 (T41)	06:49		19:21 (T42)	07:20		07:40 (T76)	07:53			07:29	07:55
	20:58	12	20:33 (T41)	20:20	35	19:56 (T42)	19:27	77	18:45 (T77)	18:39			17:07	17:07
25	06:20		20:22 (T41)	06:50		19:22 (T42)	07:21		07:41 (T76)	07:54			07:30	07:55
	20:57	10	20:32 (T41)	20:18	32	19:54 (T42)	19:25	77	18:45 (T77)	18:37			17:06	17:08
26	06:21		20:23 (T41)	06:51		19:22 (T42)	07:22		07:42 (T76)	07:55			07:32	07:56
	20:56	8	20:31 (T41)	20:17	31	19:53 (T42)	19:23	78	18:46 (T77)	18:36			17:06	17:08
27	06:22		20:25 (T41)	06:52		19:23 (T42)	07:23		07:43 (T76)	07:56			07:33	07:56
	20:55	6	20:31 (T41)	20:15	28	19:51 (T42)	19:21	78	18:46 (T77)	18:34			17:05	17:09
28	06:22		19:45 (T42)	06:53		19:24 (T42)	07:24		07:44 (T76)	07:57			07:34	07:56
	20:54	6	20:30 (T41)	20:14	26	19:50 (T42)	19:20	78	18:46 (T77)	18:33			17:05	17:10
29	06:23		19:39 (T42)	06:54		19:25 (T42)	07:25		07:45 (T76)	07:58			07:35	07:57
	20:53	13	19:52 (T42)	20:12	23	19:48 (T42)	19:18	76	18:46 (T77)	18:32			17:04	17:10
30	06:24		19:36 (T42)	06:55		19:27 (T42)	07:26		07:46 (T76)	08:00			07:36	07:57
	20:52	19	19:55 (T42)	20:10	20	19:47 (T42)	19:16	75	18:46 (T77)	18:30			17:04	17:11
31	06:25		19:34 (T42)	06:56		19:29 (T42)				08:01				07:57
	20:51	23	19:57 (T42)	20:09	16	19:45 (T42)				18:29				17:12
Potential sun hours	460			429			375			345			297	287
Total, worst case		624			1115			1001			800			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.55			0.57			0.63			0.66			
Total reduction		0.36			0.35			0.38			0.32			
Total, real		227			394			376			255			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 923 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8456)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		08:34 (T38)	07:44		08:45 (T38)	07:07		07:27 (T37)	07:16			06:30			06:02		06:23 (T87)
	17:13	56	09:30 (T38)	17:48	53	09:38 (T38)	18:22	21	07:48 (T37)	19:56			20:27			20:57	56	07:19 (T34)
2	07:58		08:34 (T38)	07:43		08:46 (T38)	07:06		07:25 (T37)	07:15			06:29			06:01		06:24 (T87)
	17:14	57	09:31 (T38)	17:49	52	09:38 (T38)	18:23	23	07:48 (T37)	19:57			20:28			20:58	56	07:20 (T34)
3	07:58		08:34 (T38)	07:42		08:46 (T38)	07:04		07:24 (T37)	07:13			06:28			06:01		06:23 (T87)
	17:15	57	09:31 (T38)	17:50	51	09:37 (T38)	18:24	25	07:49 (T37)	19:58			20:29			20:59	56	07:19 (T34)
4	07:58		08:34 (T38)	07:41		08:47 (T38)	07:03		07:22 (T37)	07:11			06:27			06:00		06:24 (T87)
	17:16	58	09:32 (T38)	17:51	49	09:36 (T38)	18:25	27	07:49 (T37)	19:59			20:30			20:59	56	07:20 (T34)
5	07:58		08:35 (T38)	07:40		08:49 (T38)	07:01		07:21 (T37)	07:10			06:25			06:00		06:25 (T87)
	17:17	57	09:32 (T38)	17:53	46	09:35 (T38)	18:27	28	07:49 (T37)	20:01			20:32			21:00	56	07:21 (T34)
6	07:58		08:35 (T38)	07:39		08:50 (T38)	07:00		07:19 (T37)	07:08			06:24			06:00		06:25 (T87)
	17:18	58	09:33 (T38)	17:54	44	09:34 (T38)	18:28	30	07:49 (T37)	20:01			20:33			21:01	56	07:21 (T34)
7	07:58		08:36 (T38)	07:37		08:51 (T38)	06:58		07:19 (T37)	07:06			06:23			05:59		06:25 (T87)
	17:19	58	09:34 (T38)	17:55	42	09:33 (T38)	18:29	29	07:48 (T37)	20:02			20:34			21:02	56	07:21 (T34)
8	07:58		08:36 (T38)	07:36		08:52 (T38)	07:56		08:19 (T37)	07:05			06:22			05:59		06:25 (T87)
	17:20	59	09:35 (T38)	17:56	39	09:31 (T38)	19:30	29	08:48 (T37)	20:03			20:35			21:02	56	07:21 (T34)
9	07:57		08:35 (T38)	07:35		08:54 (T38)	07:55		08:19 (T37)	07:03			06:21		06:41 (T87)	05:59		06:26 (T87)
	17:21	59	09:34 (T38)	17:58	36	09:30 (T38)	19:31	28	08:47 (T37)	20:04			20:36	6	06:47 (T87)	21:03	56	07:22 (T34)
10	07:57		08:36 (T38)	07:34		08:56 (T38)	07:53		08:19 (T37)	07:02			06:19		06:40 (T87)	05:59		06:26 (T87)
	17:22	59	09:35 (T38)	17:59	32	09:28 (T38)	19:32	27	08:46 (T37)	20:05			20:37	9	06:49 (T87)	21:03	56	07:22 (T34)
11	07:57		08:37 (T38)	07:33		08:58 (T38)	07:52		08:20 (T37)	07:00			06:18		06:39 (T87)	05:59		06:27 (T87)
	17:23	59	09:36 (T38)	18:00	28	09:26 (T38)	19:33	25	08:45 (T37)	20:06			20:38	12	06:51 (T87)	21:04	56	07:23 (T34)
12	07:57		08:36 (T38)	07:31		09:00 (T38)	07:50		08:21 (T37)	06:58			06:17		06:38 (T87)	05:58		06:27 (T87)
	17:24	60	09:36 (T38)	18:01	22	09:22 (T38)	19:35	23	08:44 (T37)	20:07			20:39	19	06:57 (T34)	21:04	56	07:23 (T34)
13	07:56		08:37 (T38)	07:30		09:05 (T38)	07:48		08:22 (T37)	06:57			06:16		06:37 (T87)	05:58		06:28 (T87)
	17:25	60	09:37 (T38)	18:03	13	09:18 (T38)	19:36	20	08:42 (T37)	20:08			20:40	25	07:02 (T34)	21:05	55	07:23 (T34)
14	07:56		08:38 (T38)	07:29			07:47		08:24 (T37)	06:55			06:15		06:36 (T87)	05:58		06:28 (T87)
	17:26	60	09:38 (T38)	18:04			19:37	16	08:40 (T37)	20:09			20:41	28	07:04 (T34)	21:05	55	07:23 (T34)
15	07:56		08:37 (T38)	07:28			07:45		08:27 (T37)	06:54			06:14		06:35 (T87)	05:58		06:28 (T87)
	17:27	61	09:38 (T38)	18:05			19:38	9	08:36 (T37)	20:10			20:42	31	07:06 (T34)	21:06	56	07:24 (T34)
16	07:55		08:38 (T38)	07:26			07:43			06:52			06:13		06:34 (T87)	05:58		06:28 (T87)
	17:28	61	09:39 (T38)	18:06			19:39			20:11			20:43	34	07:08 (T34)	21:06	56	07:24 (T34)
17	07:55		08:38 (T38)	07:25			07:42			06:51			06:12		06:33 (T87)	05:58		06:29 (T34)
	17:29	60	09:38 (T38)	18:08			19:40			20:12			20:44	36	07:09 (T34)	21:07	55	07:24 (T34)
18	07:54		08:39 (T38)	07:24			07:40			06:49			06:11		06:32 (T87)	05:58		06:29 (T34)
	17:31	60	09:39 (T38)	18:09			19:41			20:13			20:45	38	07:10 (T34)	21:07	55	07:24 (T34)
19	07:54		08:39 (T38)	07:22			07:38			06:47			06:10		06:31 (T87)	05:59		06:29 (T87)
	17:32	60	09:39 (T38)	18:10			19:42			20:14			20:46	40	07:11 (T34)	21:07	55	07:24 (T34)
20	07:53		08:39 (T38)	07:21			07:37			06:46			06:10		06:30 (T87)	05:59		06:29 (T87)
	17:33	60	09:39 (T38)	18:11			19:43			20:16			20:47	42	07:12 (T34)	21:08	55	07:24 (T34)
21	07:53		08:40 (T38)	07:19			07:35			06:44			06:09		06:30 (T87)	05:59		06:29 (T87)
	17:34	60	09:40 (T38)	18:12			19:44			20:17			20:48	43	07:13 (T34)	21:08	55	07:24 (T34)
22	07:52		08:40 (T38)	07:18			07:33			06:43			06:08		06:29 (T87)	05:59		06:30 (T87)
	17:35	60	09:40 (T38)	18:14			19:45			20:18			20:49	45	07:14 (T34)	21:08	55	07:25 (T34)
23	07:51		08:40 (T38)	07:16			07:31			06:42			06:07		06:28 (T87)	05:59		06:30 (T87)
	17:36	60	09:40 (T38)	18:15			19:47			20:19			20:50	46	07:14 (T34)	21:08	55	07:25 (T34)
24	07:51		08:40 (T38)	07:15			07:30			06:40			06:06		06:28 (T87)	06:00		06:30 (T34)
	17:38	60	09:40 (T38)	18:16			19:48			20:20			20:50	48	07:16 (T34)	21:09	55	07:25 (T34)
25	07:50		08:41 (T38)	07:14		07:33 (T37)	07:28			06:39			06:06		06:27 (T87)	06:00		06:30 (T34)
	17:39	59	09:40 (T38)	18:17	8	07:41 (T37)	19:49			20:21			20:51	49	07:16 (T34)	21:09	55	07:25 (T34)
26	07:49		08:41 (T38)	07:12		07:32 (T37)	07:26			06:37			06:05		06:26 (T87)	06:00		06:31 (T34)
	17:40	59	09:40 (T38)	18:18	12	07:44 (T37)	19:50			20:22			20:52	50	07:16 (T34)	21:09	55	07:26 (T34)
27	07:48		08:42 (T38)	07:11		07:30 (T37)	07:25			06:36			06:04		06:26 (T87)	06:01		06:30 (T87)
	17:41	58	09:40 (T38)	18:20	16	07:46 (T37)	19:51			20:23			20:53	51	07:17 (T34)	21:09	56	07:26 (T34)
28	07:47		08:42 (T38)	07:09		07:28 (T37)	07:23			06:34			06:04		06:25 (T87)	06:01		06:30 (T87)
	17:43	58	09:40 (T38)	18:21	18	07:46 (T37)	19:52			20:24			20:54	52	07:17 (T34)	21:09	56	07:26 (T34)
29	07:47		08:43 (T38)				07:21			06:33			06:03		06:25 (T87)	06:01		06:31 (T87)
	17:44	56	09:39 (T38)				19:53			20:25			20:55	53	07:18 (T34)	21:09	55	07:26 (T34)
30	07:46		08:43 (T38)				07:20			06:32			06:03		06:24 (T87)	06:02		06:30 (T87)
	17:45	56	09:39 (T38)				19:54			20:26			20:56	54	07:18 (T34)	21:09	56	07:26 (T34)
31	07:45		08:44 (T38)				07:18						06:02		06:24 (T87)			
	17:46	55	09:39 (T38)				19:55						20:56	55	07:19 (T34)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1820			561			360						866			1667	
Sun reduction		0.31			0.40			0.44						0.57			0.64	
Oper. time red.		1.00			1.00			1.00						1.00			1.00	
Wind dir. red.		0.53			0.53			0.57						0.71			0.71	
Total reduction		0.15			0.20			0.24						0.39			0.43	
Total, real		282			113			86						334			721	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 923 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8456)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:31 (T87)	06:26		06:48 (T87)	06:58		07:28		08:01 (T37)	07:02		08:25 (T38)	07:37		08:19 (T38)
	21:09	56	07:27 (T34)	20:50	14	07:03 (T34)	20:07		19:15	22	08:23 (T37)	17:28	33	08:58 (T38)	17:04	59	09:18 (T38)
2	06:03		06:30 (T87)	06:27		06:49 (T87)	06:59		07:29		07:59 (T37)	07:04		08:23 (T38)	07:38		08:19 (T38)
	21:09	56	07:26 (T34)	20:49	11	07:00 (T87)	20:06		19:13	25	08:24 (T37)	17:27	37	09:00 (T38)	17:04	59	09:18 (T38)
3	06:03		06:31 (T87)	06:28		06:50 (T87)	07:00		07:30		07:58 (T37)	07:05		08:21 (T38)	07:39		08:20 (T38)
	21:09	56	07:27 (T34)	20:48	8	06:58 (T87)	20:04		19:12	26	08:24 (T37)	17:26	40	09:01 (T38)	17:03	59	09:19 (T38)
4	06:04		06:31 (T87)	06:29		06:51 (T87)	07:01		07:31		07:57 (T37)	07:06		08:20 (T38)	07:40		08:20 (T38)
	21:08	55	07:26 (T34)	20:47	4	06:55 (T87)	20:03		19:10	28	08:25 (T37)	17:25	42	09:02 (T38)	17:03	59	09:19 (T38)
5	06:04		06:31 (T87)	06:30			07:02		07:32		07:56 (T37)	07:07		08:20 (T38)	07:41		08:21 (T38)
	21:08	56	07:27 (T34)	20:46			20:01		19:08	29	08:25 (T37)	17:23	44	09:04 (T38)	17:03	58	09:19 (T38)
6	06:05		06:31 (T87)	06:31			07:03		07:33		07:55 (T37)	07:08		08:18 (T38)	07:42		08:21 (T38)
	21:08	56	07:27 (T34)	20:45			19:58		19:07	30	08:25 (T37)	17:22	47	09:05 (T38)	17:03	58	09:19 (T38)
7	06:06		06:31 (T87)	06:32			07:04		07:34		07:55 (T37)	07:10		08:17 (T38)	07:43		08:22 (T38)
	21:08	56	07:27 (T34)	20:44			19:56		19:05	30	08:25 (T37)	17:21	49	09:06 (T38)	17:03	58	09:20 (T38)
8	06:06		06:31 (T87)	06:33			07:05		07:35		07:55 (T37)	07:11		08:17 (T38)	07:44		08:22 (T38)
	21:07	56	07:27 (T34)	20:42			19:54		19:03	29	08:24 (T37)	17:20	51	09:08 (T38)	17:03	58	09:20 (T38)
9	06:07		06:31 (T87)	06:34			07:06		07:36		07:56 (T37)	07:12		08:16 (T38)	07:45		08:23 (T38)
	21:07	56	07:27 (T34)	20:41			19:53		19:02	28	08:24 (T37)	17:19	53	09:09 (T38)	17:03	57	09:20 (T38)
10	06:08		06:31 (T87)	06:35			07:07		07:37		07:57 (T37)	07:13		08:16 (T38)	07:46		08:24 (T38)
	21:07	56	07:27 (T34)	20:40			19:51		19:00	26	08:23 (T37)	17:18	53	09:09 (T38)	17:03	57	09:21 (T38)
11	06:08		06:31 (T87)	06:36			07:08		07:38		07:58 (T37)	07:14		08:15 (T38)	07:47		08:24 (T38)
	21:06	56	07:27 (T34)	20:39			19:49		18:59	24	08:22 (T37)	17:17	55	09:10 (T38)	17:03	56	09:20 (T38)
12	06:09		06:31 (T87)	06:37			07:09		07:39		08:00 (T37)	07:16		08:15 (T38)	07:48		08:24 (T38)
	21:06	55	07:26 (T34)	20:37			19:47		18:57	22	08:22 (T37)	17:16	56	09:11 (T38)	17:03	57	09:21 (T38)
13	06:10		06:32 (T87)	06:38			07:10		07:41		08:01 (T37)	07:17		08:15 (T38)	07:48		08:25 (T38)
	21:05	55	07:27 (T34)	20:36			19:46		18:55	20	08:21 (T37)	17:15	56	09:11 (T38)	17:03	56	09:21 (T38)
14	06:11		06:33 (T87)	06:39			07:11		07:42		08:02 (T37)	07:18		08:14 (T38)	07:49		08:26 (T38)
	21:05	54	07:27 (T34)	20:35			19:44		18:54	17	08:19 (T37)	17:14	58	09:12 (T38)	17:03	56	09:22 (T38)
15	06:11		06:34 (T87)	06:40			07:12		07:43		08:03 (T37)	07:19		08:15 (T38)	07:50		08:26 (T38)
	21:04	53	07:27 (T34)	20:33			19:42		18:52	14	08:17 (T37)	17:13	58	09:13 (T38)	17:04	55	09:21 (T38)
16	06:12		06:34 (T87)	06:41			07:13		07:44		08:04 (T37)	07:20		08:14 (T38)	07:51		08:27 (T38)
	21:04	52	07:26 (T34)	20:32			19:41		18:51	11	08:15 (T37)	17:12	59	09:13 (T38)	17:04	55	09:22 (T38)
17	06:13		06:35 (T87)	06:42			07:14		07:45		08:05 (T37)	07:21		08:14 (T38)	07:51		08:28 (T38)
	21:03	51	07:26 (T34)	20:30			19:39		18:49	6	08:11 (T37)	17:12	59	09:13 (T38)	17:04	55	09:23 (T38)
18	06:14		06:36 (T87)	06:43			07:15		07:46			07:23		08:14 (T38)	07:52		08:27 (T38)
	21:03	50	07:26 (T34)	20:29			19:37		18:48			17:11	60	09:14 (T38)	17:04	55	09:22 (T38)
19	06:15		06:37 (T87)	06:44			07:16		07:47			07:24		08:15 (T38)	07:53		08:28 (T38)
	21:02	48	07:25 (T34)	20:28			19:35		18:46			17:10	60	09:15 (T38)	17:05	55	09:23 (T38)
20	06:15		06:38 (T87)	06:45			07:17		07:48			07:25		08:15 (T38)	07:53		08:29 (T38)
	21:01	47	07:25 (T34)	20:26			19:34		18:45			17:09	60	09:15 (T38)	17:05	55	09:24 (T38)
21	06:16		06:39 (T87)	06:46			07:18		07:49			07:26		08:15 (T38)	07:54		08:29 (T38)
	21:00	46	07:25 (T34)	20:25			19:32		18:43			17:09	60	09:15 (T38)	17:06	55	09:24 (T38)
22	06:17		06:39 (T87)	06:47			07:19		07:51			07:27		08:15 (T38)	07:54		08:30 (T38)
	21:00	44	07:23 (T34)	20:23			19:30		18:42			17:08	60	09:15 (T38)	17:06	55	09:25 (T38)
23	06:18		06:40 (T87)	06:48			07:20		07:52			07:29		08:16 (T38)	07:55		08:30 (T38)
	20:59	43	07:23 (T34)	20:22			19:29		18:40			17:07	60	09:16 (T38)	17:07	55	09:25 (T38)
24	06:19		06:41 (T87)	06:49			07:21		07:53			07:30		08:16 (T38)	07:55		08:30 (T38)
	20:58	41	07:22 (T34)	20:20			19:27		18:39			17:07	60	09:16 (T38)	17:07	55	09:25 (T38)
25	06:20		06:42 (T87)	06:50			07:22		07:54			07:31		08:16 (T38)	07:56		08:31 (T38)
	20:57	39	07:21 (T34)	20:19			19:25		18:37			17:06	60	09:16 (T38)	17:08	55	09:26 (T38)
26	06:21		06:43 (T87)	06:51			07:23		07:55			07:32		08:16 (T38)	07:56		08:32 (T38)
	20:56	37	07:20 (T34)	20:17			19:23		18:36			17:06	61	09:17 (T38)	17:08	55	09:27 (T38)
27	06:22		06:44 (T87)	06:52			07:24		07:56			07:33		08:16 (T38)	07:56		08:32 (T38)
	20:55	35	07:19 (T34)	20:15			19:22		18:35			17:05	61	09:17 (T38)	17:09	55	09:27 (T38)
28	06:23		06:45 (T87)	06:53			07:25		07:58			07:34		08:17 (T38)	07:57		08:33 (T38)
	20:54	32	07:17 (T34)	20:14			19:20	2	08:14 (T37)	18:33		17:05	60	09:17 (T38)	17:10	55	09:28 (T38)
29	06:24		06:46 (T87)	06:55			07:26		08:06 (T37)	07:59	09:34 (T38)	07:35		08:18 (T38)	07:57		08:33 (T38)
	20:54	30	07:16 (T34)	20:12			19:18	13	08:19 (T37)	18:32	15 09:49 (T38)	17:05	60	09:18 (T38)	17:11	55	09:28 (T38)
30	06:25		06:47 (T87)	06:56			07:27		08:03 (T37)	08:00	09:29 (T38)	07:36		08:18 (T38)	07:57		08:33 (T38)
	20:53	27	07:14 (T34)	20:11			19:17	18	08:21 (T37)	18:31	24 09:53 (T38)	17:04	60	09:18 (T38)	17:11	56	09:29 (T38)
31	06:25		06:47 (T87)	06:57						08:01	09:27 (T38)				07:57		08:33 (T38)
	20:51	23	07:10 (T34)	20:09						18:29	28 09:55 (T38)				17:12	56	09:29 (T38)
Potential sun hours	460			429			375			345		297			287		
Total, worst case		1477			37			33			454		1632			1744	
Sun reduction		0.66			0.61			0.59			0.48		0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00		1.00			1.00	
Wind dir. red.		0.71			0.71			0.57			0.57		0.53			0.53	
Total reduction		0.45			0.41			0.32			0.26		0.15			0.11	
Total, real		659			15			11			117		244			191	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 932 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8465)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		16:25 (T77)	07:43		16:24 (T77)	07:07		07:35 (T76)	07:16		18:34 (T42)	06:30		19:39 (T41)	06:01
	17:13	22	16:47 (T77)	17:47	50	17:14 (T77)	18:22	27	08:02 (T76)	19:56	42	19:16 (T42)	20:27	26	20:05 (T41)	20:57
2	07:57		16:25 (T77)	07:42		16:24 (T77)	07:06		07:36 (T76)	07:14		18:34 (T42)	06:29		19:39 (T41)	06:01
	17:14	23	16:48 (T77)	17:49	50	17:14 (T77)	18:23	24	08:00 (T76)	19:57	40	19:14 (T42)	20:28	27	20:06 (T41)	20:58
3	07:57		16:25 (T77)	07:41		16:24 (T77)	07:04		07:36 (T76)	07:13		18:36 (T42)	06:28		19:38 (T41)	06:01
	17:15	24	16:49 (T77)	17:50	50	17:14 (T77)	18:24	22	07:58 (T76)	19:58	38	19:14 (T42)	20:29	28	20:06 (T41)	20:58
4	07:57		16:25 (T77)	07:40		16:25 (T77)	07:02		07:39 (T76)	07:11		18:37 (T42)	06:26		19:38 (T41)	06:00
	17:16	25	16:50 (T77)	17:51	49	17:14 (T77)	18:25	17	07:56 (T76)	19:59	35	19:12 (T42)	20:30	30	20:08 (T41)	20:59
5	07:57		16:25 (T77)	07:39		16:26 (T77)	07:01		07:42 (T76)	07:09		18:38 (T42)	06:25		19:38 (T41)	06:00
	17:17	26	16:51 (T77)	17:52	48	17:14 (T77)	18:26	10	07:52 (T76)	20:00	31	19:09 (T42)	20:31	31	20:09 (T41)	21:00
6	07:57		16:25 (T77)	07:38		16:25 (T77)	06:59			07:08		18:40 (T42)	06:24		19:38 (T41)	05:59
	17:17	27	16:52 (T77)	17:54	48	17:13 (T77)	18:27			20:00	28	19:08 (T42)	20:32	32	20:10 (T41)	21:00
7	07:57		16:24 (T77)	07:37		16:26 (T77)	06:58			07:06		18:42 (T42)	06:23		19:38 (T41)	05:59
	17:18	28	16:52 (T77)	17:55	47	17:13 (T77)	18:29			20:01	22	19:04 (T42)	20:33	33	20:11 (T41)	21:01
8	07:57		16:24 (T77)	07:36		16:27 (T77)	07:56		18:56 (T42)	07:05		18:46 (T42)	06:22		19:39 (T41)	05:59
	17:19	29	16:53 (T77)	17:56	45	17:12 (T77)	19:30	11	19:07 (T42)	20:02	15	19:01 (T42)	20:34	32	20:11 (T41)	21:02
9	07:57		16:24 (T77)	07:35		16:28 (T77)	07:54		18:52 (T42)	07:03			06:20		19:39 (T41)	05:59
	17:20	30	16:54 (T77)	17:57	44	17:12 (T77)	19:31	18	19:10 (T42)	20:03			20:35	32	20:11 (T41)	21:02
10	07:57		16:24 (T77)	07:34		16:29 (T77)	07:53		18:48 (T42)	07:01			06:19		19:38 (T41)	05:59
	17:21	32	16:56 (T77)	17:59	42	17:11 (T77)	19:32	22	19:10 (T42)	20:05			20:36	32	20:10 (T41)	21:03
11	07:57		16:23 (T77)	07:32		16:30 (T77)	07:51		18:45 (T42)	07:00			06:18		19:39 (T41)	05:58
	17:23	33	16:56 (T77)	18:00	40	17:10 (T77)	19:33	26	19:11 (T42)	20:06			20:37	30	20:09 (T41)	21:04
12	07:56		16:23 (T77)	07:31		07:51 (T76)	07:50		18:44 (T42)	06:58			06:17		19:39 (T41)	05:58
	17:24	35	16:58 (T77)	18:01	40	17:09 (T77)	19:34	29	19:13 (T42)	20:07			20:38	30	20:09 (T41)	21:04
13	07:56		16:23 (T77)	07:30		07:50 (T76)	07:48		18:42 (T42)	06:57			06:16		19:40 (T41)	05:58
	17:25	36	16:59 (T77)	18:02	42	17:08 (T77)	19:35	32	19:14 (T42)	20:08			20:39	28	20:08 (T41)	21:05
14	07:56		16:22 (T77)	07:29		07:48 (T76)	07:46		18:40 (T42)	06:55			06:15		19:41 (T41)	05:58
	17:26	38	17:00 (T77)	18:04	43	17:06 (T77)	19:36	35	19:15 (T42)	20:09			20:40	26	20:07 (T41)	21:05
15	07:55		16:23 (T77)	07:27		07:47 (T76)	07:45		18:39 (T42)	06:53			06:14		19:42 (T41)	05:58
	17:27	38	17:01 (T77)	18:05	41	17:04 (T77)	19:38	37	19:16 (T42)	20:10			20:42	24	20:06 (T41)	21:05
16	07:55		16:22 (T77)	07:26		07:46 (T76)	07:43		18:37 (T42)	06:52			06:13		19:44 (T41)	05:58
	17:28	40	17:02 (T77)	18:06	39	17:02 (T77)	19:39	40	19:17 (T42)	20:11			20:42	22	20:06 (T41)	21:06
17	07:54		16:23 (T77)	07:25		07:44 (T76)	07:41		18:36 (T42)	06:50			06:12		19:45 (T41)	05:58
	17:29	41	17:04 (T77)	18:07	34	16:58 (T77)	19:40	42	19:18 (T42)	20:12			20:43	20	20:05 (T41)	21:06
18	07:54		16:22 (T77)	07:23		07:43 (T76)	07:40		18:36 (T42)	06:49			06:11		19:46 (T41)	05:58
	17:30	43	17:05 (T77)	18:09	22	16:51 (T77)	19:41	44	19:20 (T42)	20:13			20:44	17	20:03 (T41)	21:07
19	07:53		16:22 (T77)	07:22		07:42 (T76)	07:38		18:35 (T42)	06:47			06:10		19:48 (T41)	05:58
	17:32	45	17:07 (T77)	18:10	23	08:05 (T76)	19:42	46	19:21 (T42)	20:14			20:45	13	20:01 (T41)	21:07
20	07:53		16:22 (T77)	07:20		07:40 (T76)	07:36		18:34 (T42)	06:46			06:09		19:50 (T41)	05:59
	17:33	45	17:07 (T77)	18:11	25	08:05 (T76)	19:43	47	19:21 (T42)	20:15			20:46	9	19:59 (T41)	21:07
21	07:52		16:22 (T77)	07:19		07:39 (T76)	07:35		18:34 (T42)	06:44			06:09			05:59
	17:34	46	17:08 (T77)	18:12	26	08:05 (T76)	19:44	49	19:23 (T42)	20:16			20:47			21:08
22	07:52		16:22 (T77)	07:18		07:37 (T76)	07:33		18:33 (T42)	06:43		19:51 (T41)	06:08			05:59
	17:35	48	17:10 (T77)	18:13	28	08:05 (T76)	19:45	50	19:23 (T42)	20:17	5	19:56 (T41)	20:48			21:08
23	07:51		16:22 (T77)	07:16		07:36 (T76)	07:31		18:32 (T42)	06:41		19:49 (T41)	06:07			05:59
	17:36	49	17:11 (T77)	18:15	29	08:05 (T76)	19:46	50	19:22 (T42)	20:18	8	19:57 (T41)	20:49			21:08
24	07:50		16:22 (T77)	07:15		07:34 (T76)	07:30		18:33 (T42)	06:40		19:46 (T41)	06:06			05:59
	17:38	50	17:12 (T77)	18:16	30	08:04 (T76)	19:47	50	19:23 (T42)	20:19	12	19:58 (T41)	20:50			21:08
25	07:49		16:22 (T77)	07:13		07:33 (T76)	07:28		18:32 (T42)	06:38		19:44 (T41)	06:06			06:00
	17:39	50	17:12 (T77)	18:17	32	08:05 (T76)	19:48	50	19:22 (T42)	20:21	15	19:59 (T41)	20:51			21:08
26	07:49		16:22 (T77)	07:12		07:33 (T76)	07:26		18:32 (T42)	06:37		19:42 (T41)	06:05			06:00
	17:40	50	17:12 (T77)	18:18	31	08:04 (T76)	19:50	49	19:21 (T42)	20:22	17	19:59 (T41)	20:52			21:08
27	07:48		16:23 (T77)	07:10		07:34 (T76)	07:24		18:32 (T42)	06:36		19:42 (T41)	06:04			06:00
	17:41	51	17:14 (T77)	18:19	29	08:03 (T76)	19:51	48	19:20 (T42)	20:23	19	20:01 (T41)	20:53			21:08
28	07:47		16:23 (T77)	07:09		07:34 (T76)	07:23		18:32 (T42)	06:34		19:41 (T41)	06:04			06:01
	17:42	51	17:14 (T77)	18:21	28	08:02 (T76)	19:52	48	19:20 (T42)	20:24	21	20:02 (T41)	20:54			21:09
29	07:46		16:23 (T77)				07:21		18:32 (T42)	06:33		19:39 (T41)	06:03			06:01
	17:44	51	17:14 (T77)				19:53	47	19:19 (T42)	20:25	23	20:02 (T41)	20:54			21:09
30	07:45		16:23 (T77)				07:19		18:32 (T42)	06:32		19:39 (T41)	06:02			06:02
	17:45	51	17:14 (T77)				19:54	46	19:18 (T42)	20:26	25	20:04 (T41)	20:55			21:08
31	07:44		16:23 (T77)				07:18		18:34 (T42)				06:02			
	17:46	51	17:14 (T77)				19:55	44	19:18 (T42)				20:56			
Potential sun hours	297			297			370			399			448			453
Total, worst case		1208			1055			1060			396			522		
Sun reduction		0.31			0.40			0.44			0.52			0.57		
Oper. time red.		1.00			1.00			1.00			1.00			1.00		
Wind dir. red.		0.73			0.67			0.64			0.62			0.57		
Total reduction		0.23			0.27			0.29			0.33			0.33		
Total, real		279			289			306			131			172		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 932 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8465)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26		19:50 (T41)	06:57			07:27		18:22 (T42)	07:02			15:58 (T77)	07:37		16:05 (T77)
	21:08		20:50	29	20:19 (T41)	20:07			19:15	30	18:52 (T42)	17:28	42		16:40 (T77)	17:04	33	16:38 (T77)
2	06:03		06:27		19:49 (T41)	06:58			07:29		18:23 (T42)	07:03			15:58 (T77)	07:38		16:06 (T77)
	21:08		20:49	31	20:20 (T41)	20:06			19:13	27	18:50 (T42)	17:27	44		16:42 (T77)	17:03	32	16:38 (T77)
3	06:03		06:28		19:49 (T41)	06:59			07:30		18:25 (T42)	07:04			15:57 (T77)	07:39		16:08 (T77)
	21:08		20:48	31	20:20 (T41)	20:04			19:11	24	18:49 (T42)	17:26	45		16:42 (T77)	17:03	31	16:39 (T77)
4	06:04		06:29		19:48 (T41)	07:00	18:43 (T42)		07:31		18:27 (T42)	07:06			15:56 (T77)	07:40		16:09 (T77)
	21:08		20:47	33	20:21 (T41)	20:02	18:58 (T42)	15	19:10	20	18:47 (T42)	17:24	47		16:43 (T77)	17:03	29	16:38 (T77)
5	06:04		06:30		19:48 (T41)	07:01	18:39 (T42)		07:32		18:31 (T42)	07:07			15:55 (T77)	07:41		16:10 (T77)
	21:08		20:46	33	20:21 (T41)	20:01	19:01 (T42)	22	19:08	15	18:46 (T42)	17:23	48		16:43 (T77)	17:03	28	16:38 (T77)
6	06:05		06:31		19:48 (T41)	07:02	18:36 (T42)		07:33			07:08			15:55 (T77)	07:42		16:11 (T77)
	21:08		20:44	32	20:20 (T41)	19:57	19:04 (T42)	28	19:06			17:22	49		16:44 (T77)	17:03	27	16:38 (T77)
7	06:05		06:32		19:48 (T41)	07:03	18:34 (T42)		07:34			07:09			15:55 (T77)	07:43		16:11 (T77)
	21:07		20:43	31	20:19 (T41)	19:56	19:05 (T42)	31	19:05			17:21	49		16:44 (T77)	17:03	26	16:37 (T77)
8	06:06		06:33		19:47 (T41)	07:04	18:32 (T42)		07:35		08:21 (T76)	07:10			15:54 (T77)	07:44		16:12 (T77)
	21:07		20:42	31	20:18 (T41)	19:54	19:07 (T42)	35	19:03	3	08:24 (T76)	17:20	50		16:44 (T77)	17:03	25	16:37 (T77)
9	06:07		06:34		19:47 (T41)	07:05	18:30 (T42)		07:36		08:15 (T76)	07:12			15:55 (T77)	07:45		16:13 (T77)
	21:07		20:41	30	20:17 (T41)	19:52	19:08 (T42)	38	19:01	14	08:29 (T76)	17:19	50		16:45 (T77)	17:03	24	16:37 (T77)
10	06:07		06:35		19:47 (T41)	07:06	18:28 (T42)		07:37		08:12 (T76)	07:13			15:54 (T77)	07:46		16:14 (T77)
	21:06		20:39	29	20:16 (T41)	19:51	19:07 (T42)	39	19:00	19	08:31 (T76)	17:18	51		16:45 (T77)	17:03	23	16:37 (T77)
11	06:08		06:36		19:48 (T41)	07:07	18:26 (T42)		07:38		08:10 (T76)	07:14			15:54 (T77)	07:46		16:15 (T77)
	21:06		20:38	26	20:14 (T41)	19:49	19:08 (T42)	42	18:58	23	08:33 (T76)	17:17	51		16:45 (T77)	17:03	22	16:37 (T77)
12	06:09		06:37		19:48 (T41)	07:08	18:25 (T42)		07:39		08:08 (T76)	07:15			15:54 (T77)	07:47		16:17 (T77)
	21:06		20:37	25	20:13 (T41)	19:47	19:09 (T42)	44	18:57	26	08:34 (T76)	17:16	51		16:45 (T77)	17:03	20	16:37 (T77)
13	06:10		06:38		19:48 (T41)	07:09	18:24 (T42)		07:40		08:07 (T76)	07:16			15:55 (T77)	07:48		16:18 (T77)
	21:05		20:36	24	20:12 (T41)	19:45	19:09 (T42)	45	18:55	27	08:34 (T76)	17:15	51		16:46 (T77)	17:03	20	16:38 (T77)
14	06:10		06:39		19:48 (T41)	07:10	18:23 (T42)		07:41		08:06 (T76)	07:18			15:55 (T77)	07:49		16:18 (T77)
	21:05		20:34	23	20:11 (T41)	19:44	19:09 (T42)	46	18:54	29	08:35 (T76)	17:14	51		16:46 (T77)	17:03	19	16:37 (T77)
15	06:11		06:40		19:49 (T41)	07:11	18:22 (T42)		07:42		08:06 (T76)	07:19			15:55 (T77)	07:50		16:19 (T77)
	21:04		20:33	20	20:09 (T41)	19:42	19:10 (T42)	48	18:52	30	08:36 (T76)	17:13	51		16:46 (T77)	17:03	18	16:37 (T77)
16	06:12		06:41		19:49 (T41)	07:12	18:21 (T42)		07:44		08:05 (T76)	07:20			15:55 (T77)	07:50		16:21 (T77)
	21:03		20:31	18	20:07 (T41)	19:40	19:10 (T42)	49	18:50	31	08:36 (T76)	17:12	50		16:45 (T77)	17:04	17	16:38 (T77)
17	06:13		06:42		19:49 (T41)	07:13	18:20 (T42)		07:45		08:05 (T76)	07:21			15:56 (T77)	07:51		16:21 (T77)
	21:03		20:30	17	20:06 (T41)	19:39	19:10 (T42)	50	18:49	31	08:36 (T76)	17:11	50		16:46 (T77)	17:04	17	16:38 (T77)
18	06:14		06:43		19:50 (T41)	07:14	18:20 (T42)		07:46		08:06 (T76)	07:22			15:56 (T77)	07:52		16:22 (T77)
	21:02		20:29	14	20:04 (T41)	19:37	19:09 (T42)	49	18:47	30	08:36 (T76)	17:11	50		16:46 (T77)	17:04	16	16:38 (T77)
19	06:14		06:44		19:52 (T41)	07:15	18:19 (T42)		07:47		08:07 (T76)	07:23			15:56 (T77)	07:52		16:23 (T77)
	21:02		20:27	11	20:03 (T41)	19:35	19:09 (T42)	50	18:46	29	08:36 (T76)	17:10	49		16:45 (T77)	17:05	16	16:39 (T77)
20	06:15		06:45		19:54 (T41)	07:16	18:19 (T42)		07:48		08:08 (T76)	07:25			15:57 (T77)	07:53		16:23 (T77)
	21:01		20:26	8	20:02 (T41)	19:33	19:09 (T42)	50	18:44	27	08:35 (T76)	17:09	48		16:45 (T77)	17:05	16	16:39 (T77)
21	06:16		06:46		19:57 (T41)	07:17	18:18 (T42)		07:49		08:10 (T76)	07:26			15:58 (T77)	07:53		16:24 (T77)
	21:00		20:24	3	20:00 (T41)	19:32	19:08 (T42)	50	18:43	26	08:36 (T76)	17:08	46		16:44 (T77)	17:05	16	16:40 (T77)
22	06:17		06:47			07:18	18:18 (T42)		07:50		08:11 (T76)	07:27			15:58 (T77)	07:54		16:24 (T77)
	20:59		20:23			19:30	19:08 (T42)	50	18:41	24	08:35 (T76)	17:08	45		16:43 (T77)	17:06	16	16:40 (T77)
23	06:18		06:48			07:19	18:18 (T42)		07:51		08:12 (T76)	07:28			15:58 (T77)	07:54		16:25 (T77)
	20:59	5	20:07 (T41)	20:21		19:28	19:06 (T42)	48	18:40	22	08:34 (T76)	17:07	45		16:43 (T77)	17:07	16	16:41 (T77)
24	06:19		19:59 (T41)	06:49		07:20	18:18 (T42)		07:53		08:13 (T76)	07:29			15:59 (T77)	07:55		16:25 (T77)
	20:58	12	20:11 (T41)	20:20		19:27	19:04 (T42)	46	18:39	28	17:24 (T77)	17:07	43		16:42 (T77)	17:07	16	16:41 (T77)
25	06:20		19:57 (T41)	06:50		07:21	18:18 (T42)		07:54		08:15 (T76)	07:30			16:01 (T77)	07:55		16:25 (T77)
	20:57	16	20:13 (T41)	20:18		19:25	19:03 (T42)	45	18:37	37	17:30 (T77)	17:06	41		16:42 (T77)	17:08	16	16:41 (T77)
26	06:21		19:56 (T41)	06:51		07:22	18:18 (T42)		07:55		08:16 (T76)	07:32			16:01 (T77)	07:56		16:26 (T77)
	20:56	19	20:15 (T41)	20:17		19:23	19:01 (T42)	43	18:36	40	17:33 (T77)	17:06	40		16:41 (T77)	17:08	16	16:42 (T77)
27	06:22		19:55 (T41)	06:52		07:23	18:19 (T42)		07:56		08:17 (T76)	07:33			16:02 (T77)	07:56		16:26 (T77)
	20:55	21	20:16 (T41)	20:15		19:22	18:59 (T42)	40	18:34	41	17:34 (T77)	17:05	39		16:41 (T77)	17:09	17	16:43 (T77)
28	06:22		19:54 (T41)	06:53		07:24	18:19 (T42)		07:57		08:18 (T76)	07:34			16:03 (T77)	07:56		16:25 (T77)
	20:54	23	20:17 (T41)	20:14		19:20	18:57 (T42)	38	18:33	43	17:36 (T77)	17:05	37		16:40 (T77)	17:10	18	16:43 (T77)
29	06:23		19:52 (T41)	06:54		07:25	18:20 (T42)		07:58		08:19 (T76)	07:35			16:03 (T77)	07:57		16:25 (T77)
	20:53	25	20:17 (T41)	20:12		19:18	18:56 (T42)	36	18:32	42	17:37 (T77)	17:04	36		16:39 (T77)	17:10	19	16:44 (T77)
30	06:24		19:51 (T41)	06:55		07:26	18:21 (T42)		08:00		17:01 (T77)	07:36			16:04 (T77)	07:57		16:26 (T77)
	20:52	27	20:18 (T41)	20:10		19:16	18:54 (T42)	33	18:30	38	17:39 (T77)	17:04	35		16:39 (T77)	17:11	19	16:45 (T77)
31	06:25		19:50 (T41)	06:56					08:01		16:59 (T77)					07:57		16:26 (T77)
	20:51	29	20:19 (T41)	20:09					18:29	41	17:40 (T77)					17:12	20	16:46 (T77)
Potential sun hours	460			429			375			345			297				287	
Total, worst case		177			499			1110			817			1384			648	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.57			0.57			0.65			0.62			0.73			0.73	
Total reduction		0.38			0.35			0.39			0.31			0.22			0.16	
Total, real		68			176			436			249			309			106	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 938 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8471)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57			07:43		08:04 (T76)	07:07		16:52 (T42)	07:16		19:18 (T41)	06:30			06:01		20:08 (T40)
	17:13			17:47	57	17:23 (T42)	18:22	29	17:21 (T42)	19:56	16	19:34 (T41)	20:27			20:57	24	20:32 (T40)
2	07:57			07:42		08:03 (T76)	07:06		16:54 (T42)	07:14		19:16 (T41)	06:29			06:01		20:09 (T40)
	17:14			17:49	62	17:25 (T42)	18:23	24	17:18 (T42)	19:57	19	19:35 (T41)	20:28			20:58	24	20:33 (T40)
3	07:57			07:41		08:02 (T76)	07:04		16:57 (T42)	07:13		19:15 (T41)	06:28			06:01		20:08 (T40)
	17:15			17:50	64	17:26 (T42)	18:24	17	17:14 (T42)	19:58	22	19:37 (T41)	20:29			20:58	26	20:34 (T40)
4	07:57			07:40		08:01 (T76)	07:02			07:11		19:13 (T41)	06:26			06:00		20:08 (T40)
	17:16			17:51	69	17:28 (T42)	18:25			19:59	24	19:37 (T41)	20:30			20:59	27	20:35 (T40)
5	07:57			07:39		08:00 (T76)	07:01			07:09		19:12 (T41)	06:25			06:00		20:09 (T40)
	17:17			17:52	71	17:29 (T42)	18:26			20:00	26	19:38 (T41)	20:31			21:00	26	20:35 (T40)
6	07:57			07:38		07:58 (T76)	06:59			07:08		19:11 (T41)	06:24			05:59		20:08 (T40)
	17:17			17:54	74	17:30 (T42)	18:27			20:00	29	19:40 (T41)	20:32			21:00	27	20:35 (T40)
7	07:57			07:37		07:57 (T76)	06:58			07:06		19:10 (T41)	06:23			05:59		20:08 (T40)
	17:18			17:55	77	17:31 (T42)	18:29			20:01	30	19:40 (T41)	20:33			21:01	28	20:36 (T40)
8	07:57			07:36		07:56 (T76)	07:56			07:05		19:10 (T41)	06:22			05:59		20:08 (T40)
	17:19			17:56	80	17:33 (T42)	19:30			20:02	32	19:42 (T41)	20:34			21:02	29	20:37 (T40)
9	07:57			07:35		07:57 (T76)	07:54			07:03		19:09 (T41)	06:20			05:59		20:09 (T40)
	17:20			17:57	80	17:34 (T42)	19:31			20:03	34	19:43 (T41)	20:35			21:02	29	20:38 (T40)
10	07:57			07:34		07:58 (T76)	07:53			07:01		19:08 (T41)	06:19			05:59		20:09 (T40)
	17:21			17:59	79	17:34 (T42)	19:32			20:05	35	19:43 (T41)	20:36			21:03	29	20:38 (T40)
11	07:57			07:32		07:58 (T76)	07:51			07:00		19:09 (T41)	06:18			05:58		20:09 (T40)
	17:23			18:00	78	17:34 (T42)	19:33			20:06	36	19:45 (T41)	20:37			21:04	30	20:39 (T40)
12	07:56			07:31		07:59 (T76)	07:50			06:58		19:08 (T41)	06:17			05:58		20:08 (T40)
	17:24			18:01	75	17:34 (T42)	19:34			20:07	37	19:45 (T41)	20:38			21:04	31	20:39 (T40)
13	07:56			07:30		08:01 (T76)	07:48			06:57		19:08 (T41)	06:16			05:58		20:09 (T40)
	17:25			18:02	72	17:34 (T42)	19:35			20:08	38	19:46 (T41)	20:39			21:05	30	20:39 (T40)
14	07:56			07:29		08:02 (T76)	07:46			06:55		19:08 (T41)	06:15			05:58		20:09 (T40)
	17:26			18:04	69	17:34 (T42)	19:36			20:09	37	19:45 (T41)	20:41			21:05	30	20:39 (T40)
15	07:55			07:27		08:06 (T76)	07:45			06:53		19:08 (T41)	06:14			05:58		20:09 (T40)
	17:27			18:05	61	17:34 (T42)	19:38			20:10	36	19:44 (T41)	20:42			21:05	31	20:40 (T40)
16	07:55			07:26		16:40 (T42)	07:43			06:52		19:09 (T41)	06:13			05:58		20:09 (T40)
	17:28			18:06	54	17:34 (T42)	19:39			20:11	34	19:43 (T41)	20:43			21:06	31	20:40 (T40)
17	07:54			07:25		16:40 (T42)	07:41			06:50		19:09 (T41)	06:12			05:58		20:10 (T40)
	17:29			18:07	53	17:33 (T42)	19:40			20:12	33	19:42 (T41)	20:43			21:06	31	20:41 (T40)
18	07:54			07:23		16:41 (T42)	07:40			06:49		19:10 (T41)	06:11			05:58		20:10 (T40)
	17:30			18:09	52	17:33 (T42)	19:41			20:13	31	19:41 (T41)	20:44			21:07	32	20:42 (T40)
19	07:53			07:22		16:41 (T42)	07:38			06:47		19:10 (T41)	06:10		20:21 (T40)	05:58		20:10 (T40)
	17:32			18:10	52	17:33 (T42)	19:42			20:14	29	19:39 (T41)	20:45	1	20:22 (T40)	21:07	32	20:42 (T40)
20	07:53			07:20		16:41 (T42)	07:36			06:46		19:12 (T41)	06:09		20:17 (T40)	05:59		20:10 (T40)
	17:33			18:11	51	17:32 (T42)	19:43			20:15	26	19:38 (T41)	20:46	6	20:23 (T40)	21:07	32	20:42 (T40)
21	07:52			07:19		16:42 (T42)	07:35			06:44		19:13 (T41)	06:09		20:15 (T40)	05:59		20:10 (T40)
	17:34			18:12	50	17:32 (T42)	19:44			20:16	24	19:37 (T41)	20:47	8	20:23 (T40)	21:08	32	20:42 (T40)
22	07:52		17:00 (T42)	07:18		16:43 (T42)	07:33			06:43		19:15 (T41)	06:08		20:14 (T40)	05:59		20:10 (T40)
	17:35	8	17:08 (T42)	18:13	48	17:31 (T42)	19:45			20:17	19	19:34 (T41)	20:48	11	20:25 (T40)	21:08	32	20:42 (T40)
23	07:51		16:56 (T42)	07:16		16:44 (T42)	07:31			06:41		19:17 (T41)	06:07		20:13 (T40)	05:59		20:11 (T40)
	17:36	15	17:11 (T42)	18:15	46	17:30 (T42)	19:46			20:18	15	19:32 (T41)	20:49	12	20:25 (T40)	21:08	32	20:43 (T40)
24	07:50		08:11 (T76)	07:15		16:44 (T42)	07:30			06:40		19:21 (T41)	06:06		20:12 (T40)	05:59		20:11 (T40)
	17:38	20	17:12 (T42)	18:16	45	17:29 (T42)	19:47			20:19	6	19:27 (T41)	20:50	14	20:26 (T40)	21:08	32	20:43 (T40)
25	07:49		08:10 (T76)	07:13		16:46 (T42)	07:28			06:38			06:06		20:11 (T40)	06:00		20:11 (T40)
	17:39	27	17:14 (T42)	18:17	42	17:28 (T42)	19:48			20:21			20:51	16	20:27 (T40)	21:08	32	20:43 (T40)
26	07:49		08:09 (T76)	07:12		16:46 (T42)	07:26			06:37			06:05		20:10 (T40)	06:00		20:12 (T40)
	17:40	33	17:15 (T42)	18:18	40	17:26 (T42)	19:50			20:22			20:52	18	20:28 (T40)	21:08	31	20:43 (T40)
27	07:48		08:09 (T76)	07:10		16:48 (T42)	07:24			06:36			06:04		20:10 (T40)	06:00		20:12 (T40)
	17:41	37	17:17 (T42)	18:19	37	17:25 (T42)	19:51			20:23			20:53	19	20:29 (T40)	21:08	31	20:43 (T40)
28	07:47		08:08 (T76)	07:09		16:50 (T42)	07:23			06:34			06:04		20:10 (T40)	06:01		20:12 (T40)
	17:42	41	17:18 (T42)	18:21	33	17:23 (T42)	19:52			20:24			20:54	20	20:30 (T40)	21:09	31	20:43 (T40)
29	07:46		08:07 (T76)				07:21			06:33			06:03		20:09 (T40)	06:01		20:13 (T40)
	17:44	46	17:19 (T42)				19:53			20:25			20:54	21	20:30 (T40)	21:09	30	20:43 (T40)
30	07:45		08:06 (T76)				07:19		19:24 (T41)	06:32			06:02		20:09 (T40)	06:02		20:13 (T40)
	17:45	51	17:21 (T42)				19:54	8	19:32 (T41)	20:26			20:55	22	20:31 (T40)	21:09	30	20:43 (T40)
31	07:44		08:05 (T76)				07:18		19:21 (T41)				06:02		20:08 (T40)			
	17:46	54	17:22 (T42)				19:55	13	19:34 (T41)				20:56	23	20:31 (T40)			
Potential sun hours	297			297			370			399			448			453		
Total, worst case		332			1671			91			668			191			892	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.68			0.68			0.69			0.60			0.54			0.54	
Total reduction		0.21			0.28			0.31			0.32			0.31			0.35	
Total, real		71			467			28			214			60			313	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 938 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8471)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August			September			October			November			December	
1	06:02		20:13 (T40)	06:26		06:57		19:07 (T41)	07:27			07:02		07:26 (T76)	07:37	
	21:08	30	20:43 (T40)	20:50		20:07	37	19:44 (T41)	19:15			17:28	79	17:03 (T42)	17:04	
2	06:03		20:13 (T40)	06:27		06:58		19:07 (T41)	07:29			07:03		07:26 (T76)	07:38	
	21:08	30	20:43 (T40)	20:49		20:06	35	19:42 (T41)	19:13			17:27	80	17:03 (T42)	17:03	
3	06:03		20:14 (T40)	06:28		06:59		19:07 (T41)	07:30			07:04		07:26 (T76)	07:39	
	21:08	29	20:43 (T40)	20:48		20:04	34	19:41 (T41)	19:11			17:26	79	17:02 (T42)	17:03	
4	06:04		20:14 (T40)	06:29		07:00		19:07 (T41)	07:31			07:06		07:27 (T76)	07:40	
	21:08	28	20:42 (T40)	20:47		20:02	32	19:39 (T41)	19:10			17:24	77	17:01 (T42)	17:03	
5	06:04		20:14 (T40)	06:30		07:01		19:07 (T41)	07:32			07:07		07:28 (T76)	07:41	
	21:08	29	20:43 (T40)	20:46		20:01	30	19:37 (T41)	19:08			17:23	73	16:59 (T42)	17:03	
6	06:05		20:14 (T40)	06:31		07:02		19:07 (T41)	07:33			07:08		07:30 (T76)	07:42	
	21:08	28	20:42 (T40)	20:44		19:57	29	19:36 (T41)	19:06			17:22	71	16:59 (T42)	17:03	
7	06:05		20:15 (T40)	06:32		07:03		19:08 (T41)	07:34			07:09		07:31 (T76)	07:43	
	21:07	27	20:42 (T40)	20:43		19:56	26	19:34 (T41)	19:05			17:21	68	16:57 (T42)	17:03	
8	06:06		20:15 (T40)	06:33		07:04		19:08 (T41)	07:35			07:10		07:32 (T76)	07:44	
	21:07	27	20:42 (T40)	20:42		19:54	25	19:33 (T41)	19:03			17:20	64	16:56 (T42)	17:03	
9	06:07		20:15 (T40)	06:34		07:05		19:09 (T41)	07:36			07:12		07:34 (T76)	07:45	
	21:07	26	20:41 (T40)	20:41		19:52	22	19:31 (T41)	19:02			17:19	62	16:56 (T42)	17:03	
10	06:07		20:16 (T40)	06:35		07:06		19:09 (T41)	07:37		17:35 (T42)	07:13		07:35 (T76)	07:46	
	21:06	25	20:41 (T40)	20:40		19:51	19	19:28 (T41)	19:00	11	17:46 (T42)	17:18	57	16:54 (T42)	17:03	
11	06:08		20:17 (T40)	06:36		07:07		19:10 (T41)	07:38		17:30 (T42)	07:14		07:36 (T76)	07:46	
	21:06	24	20:41 (T40)	20:38		19:49	17	19:27 (T41)	18:58	20	17:50 (T42)	17:17	54	16:53 (T42)	17:03	
12	06:09		20:16 (T40)	06:37		07:08		19:12 (T41)	07:39		17:26 (T42)	07:15		07:37 (T76)	07:47	
	21:06	24	20:40 (T40)	20:37		19:47	13	19:25 (T41)	18:57	27	17:53 (T42)	17:16	51	16:52 (T42)	17:03	
13	06:10		20:17 (T40)	06:38		07:09		19:15 (T41)	07:40		17:24 (T42)	07:16		07:39 (T76)	07:48	
	21:05	23	20:40 (T40)	20:36		19:45	8	19:23 (T41)	18:55	31	17:55 (T42)	17:15	46	16:51 (T42)	17:03	
14	06:10		20:18 (T40)	06:39		07:10			07:41		17:21 (T42)	07:18		07:40 (T76)	07:49	
	21:05	21	20:39 (T40)	20:34		19:44			18:54	35	17:56 (T42)	17:14	41	16:50 (T42)	17:03	
15	06:11		20:19 (T40)	06:40		07:11			07:42		17:20 (T42)	07:19		07:41 (T76)	07:50	
	21:04	20	20:39 (T40)	20:33		19:42			18:52	38	17:58 (T42)	17:13	37	16:49 (T42)	17:03	
16	06:12		20:19 (T40)	06:41		07:12			07:44		17:18 (T42)	07:20		07:42 (T76)	07:50	
	21:03	19	20:38 (T40)	20:31		19:40			18:50	41	17:59 (T42)	17:12	33	16:48 (T42)	17:04	
17	06:13		20:19 (T40)	06:42		07:13			07:45		17:17 (T42)	07:21		07:44 (T76)	07:51	
	21:03	18	20:37 (T40)	20:30		19:39			18:49	43	18:00 (T42)	17:11	27	16:48 (T42)	17:04	
18	06:14		20:20 (T40)	06:43		07:14			07:46		17:15 (T42)	07:22		07:45 (T76)	07:52	
	21:02	17	20:37 (T40)	20:29		19:37			18:47	46	18:01 (T42)	17:11	20	16:46 (T42)	17:04	
19	06:14		20:21 (T40)	06:44	19:26 (T41)	07:15			07:47		17:14 (T42)	07:23		16:30 (T42)	07:52	
	21:02	16	20:37 (T40)	20:27	8 19:34 (T41)	19:35			18:46	47	18:01 (T42)	17:10	15	16:45 (T42)	17:05	
20	06:15		20:23 (T40)	06:45	19:22 (T41)	07:16			07:48		17:13 (T42)	07:25		16:35 (T42)	07:53	
	21:01	13	20:36 (T40)	20:26	15 19:37 (T41)	19:33			18:44	49	18:02 (T42)	17:09	8	16:43 (T42)	17:05	
21	06:16		20:23 (T40)	06:46	19:19 (T41)	07:17			07:49		17:13 (T42)	07:26			07:53	
	21:00	12	20:35 (T40)	20:24	21 19:40 (T41)	19:32			18:43	50	18:03 (T42)	17:08			17:05	
22	06:17		20:24 (T40)	06:47	19:17 (T41)	07:18			07:50		17:12 (T42)	07:27			07:54	
	20:59	10	20:34 (T40)	20:23	24 19:41 (T41)	19:30			18:41	51	18:03 (T42)	17:08			17:06	
23	06:18		20:26 (T40)	06:48	19:15 (T41)	07:19			07:51		17:11 (T42)	07:28			07:54	
	20:59	7	20:33 (T40)	20:21	27 19:42 (T41)	19:28			18:40	52	18:03 (T42)	17:07			17:07	
24	06:19		20:29 (T40)	06:49	19:14 (T41)	07:20			07:53		17:10 (T42)	07:29			07:55	
	20:58	4	20:33 (T40)	20:20	29 19:43 (T41)	19:27			18:39	53	18:03 (T42)	17:07			17:07	
25	06:20			06:50	19:13 (T41)	07:21			07:54		17:10 (T42)	07:30			07:55	
	20:57			20:18	31 19:44 (T41)	19:25			18:37	54	18:04 (T42)	17:06			17:08	
26	06:21			06:51	19:11 (T41)	07:22			07:55		17:10 (T42)	07:32			07:56	
	20:56			20:17	34 19:45 (T41)	19:23			18:36	54	18:04 (T42)	17:06			17:08	
27	06:22			06:52	19:11 (T41)	07:23			07:56		08:34 (T76)	07:33			07:56	
	20:55			20:15	34 19:45 (T41)	19:22			18:34	65	18:04 (T42)	17:05			17:09	
28	06:22			06:53	19:10 (T41)	07:24			07:57		08:31 (T76)	07:34			07:56	
	20:54			20:14	35 19:45 (T41)	19:20			18:33	71	18:04 (T42)	17:05			17:10	
29	06:23			06:54	19:09 (T41)	07:25			07:58		08:29 (T76)	07:35			07:57	
	20:53			20:12	37 19:46 (T41)	19:18			18:32	73	18:03 (T42)	17:04			17:10	
30	06:24			06:55	19:08 (T41)	07:26			08:00		08:29 (T76)	07:36			07:57	
	20:52			20:10	38 19:46 (T41)	19:16			18:30	76	18:04 (T42)	17:04			17:11	
31	06:25			06:56	19:08 (T41)				08:01		08:27 (T76)				07:57	
	20:51			20:09	37 19:45 (T41)				18:29	78	18:03 (T42)				17:12	
Potential sun hours	460			429		375			345			297			287	
Total, worst case		507			370			327			1065			1042		
Sun reduction		0.66			0.61			0.59			0.48			0.30		
Oper. time red.		1.00			1.00			1.00			1.00			1.00		
Wind dir. red.		0.54			0.60			0.60			0.70			0.67		
Total reduction		0.36			0.37			0.36			0.34			0.20		
Total, real		183			139			119			367			212		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 940 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8472)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April	May			June		
1	07:57		15:21 (T53)	07:44			07:07		16:46 (T52)	07:16	06:31			06:02		06:24 (T51)
	17:13	47	16:08 (T53)	17:48			18:22	70	17:56 (T52)	19:56	20:27			20:57	24	06:48 (T51)
2	07:57		15:22 (T53)	07:43			07:06		16:45 (T52)	07:15	06:29			06:01		06:25 (T51)
	17:14	46	16:08 (T53)	17:49			18:23	71	17:56 (T52)	19:57	20:28			20:58	23	06:48 (T51)
3	07:57		15:23 (T53)	07:42			07:04		16:45 (T52)	07:13	06:28			06:01		06:26 (T51)
	17:15	45	16:08 (T53)	17:50			18:24	72	17:57 (T52)	19:58	20:29			20:58	22	06:48 (T51)
4	07:57		15:24 (T53)	07:40			07:03		16:44 (T52)	07:11	06:27			06:01		06:26 (T51)
	17:16	44	16:08 (T53)	17:52			18:25	72	17:56 (T52)	19:59	20:30			20:59	21	06:47 (T51)
5	07:57		15:25 (T53)	07:39			07:01		16:43 (T52)	07:10	06:25			06:00		06:27 (T51)
	17:17	43	16:08 (T53)	17:53			18:27	73	17:56 (T52)	20:00	20:31			21:00	20	06:47 (T51)
6	07:57		15:26 (T53)	07:38			06:59		16:44 (T52)	07:08	06:24			06:00		06:28 (T51)
	17:18	42	16:08 (T53)	17:54			18:28	73	17:57 (T52)	20:00	20:32			21:01	19	06:47 (T51)
7	07:57		15:26 (T53)	07:37			06:58		16:43 (T52)	07:06	06:23			06:00		06:29 (T51)
	17:19	41	16:07 (T53)	17:55			18:29	73	17:56 (T52)	20:01	20:33			21:01	18	06:47 (T51)
8	07:57		15:27 (T53)	07:36			07:56		17:43 (T52)	07:05	06:22			05:59		06:29 (T51)
	17:20	40	16:07 (T53)	17:57			19:30	74	18:57 (T52)	20:03	20:34			21:02	17	06:46 (T51)
9	07:57		15:29 (T53)	07:35			07:55		17:43 (T52)	07:03	06:21			05:59		06:29 (T51)
	17:21	38	16:07 (T53)	17:58			19:31	73	18:56 (T52)	20:04	20:35			21:02	17	06:46 (T51)
10	07:57		15:30 (T53)	07:34			07:53		17:42 (T52)	07:02	06:20		06:40 (T51)	05:59		06:30 (T51)
	17:22	37	16:07 (T53)	17:59			19:32	73	18:55 (T52)	20:05	20:37	3	06:43 (T51)	21:03	16	06:46 (T51)
11	07:57		15:31 (T53)	07:33			07:51		17:43 (T52)	07:00	06:19		06:39 (T51)	05:59		06:31 (T51)
	17:23	35	16:06 (T53)	18:00			19:33	73	18:56 (T52)	20:06	20:38	5	06:44 (T51)	21:04	14	06:45 (T51)
12	07:56		15:32 (T53)	07:31		17:17 (T52)	07:50		17:43 (T52)	06:58	06:17		06:38 (T51)	05:59		06:32 (T51)
	17:24	34	16:06 (T53)	18:02	10	17:27 (T52)	19:34	72	18:55 (T52)	20:07	20:39	7	06:45 (T51)	21:04	13	06:45 (T51)
13	07:56		15:34 (T53)	07:30		17:11 (T52)	07:48		17:43 (T52)	06:57	06:16		06:37 (T51)	05:59		06:32 (T51)
	17:25	32	16:06 (T53)	18:03	22	17:33 (T52)	19:36	71	18:54 (T52)	20:08	20:40	9	06:46 (T51)	21:05	13	06:45 (T51)
14	07:56		15:35 (T53)	07:29		17:08 (T52)	07:46		17:44 (T52)	06:55	06:15		06:36 (T51)	05:59		06:33 (T51)
	17:26	29	16:04 (T53)	18:04	29	17:37 (T52)	19:37	70	18:54 (T52)	20:09	20:41	11	06:47 (T51)	21:05	12	06:45 (T51)
15	07:55		15:38 (T53)	07:27		17:04 (T52)	07:45		17:43 (T52)	06:54	06:14		06:35 (T51)	05:59		06:34 (T51)
	17:27	26	16:04 (T53)	18:05	35	17:39 (T52)	19:38	70	18:53 (T52)	20:10	20:42	12	06:47 (T51)	21:06	11	06:45 (T51)
16	07:55		15:39 (T53)	07:26		17:02 (T52)	07:43		17:43 (T52)	06:52	06:13		06:34 (T51)	05:59		06:34 (T51)
	17:28	23	16:02 (T53)	18:06	40	17:42 (T52)	19:39	69	18:52 (T52)	20:11	20:43	14	06:48 (T51)	21:06	10	06:44 (T51)
17	07:54		15:42 (T53)	07:25		17:00 (T52)	07:42		17:45 (T52)	06:51	06:12		06:33 (T51)	05:59		06:35 (T51)
	17:30	19	16:01 (T53)	18:08	45	17:45 (T52)	19:40	67	18:52 (T52)	20:12	20:44	15	06:48 (T51)	21:06	9	06:44 (T51)
18	07:54		15:45 (T53)	07:23		16:58 (T52)	07:40		17:45 (T52)	06:49	06:12		06:32 (T51)	05:59		06:35 (T51)
	17:31	13	15:58 (T53)	18:09	48	17:46 (T52)	19:41	66	18:51 (T52)	20:13	20:45	16	06:48 (T51)	21:07	9	06:44 (T51)
19	07:53			07:22		16:57 (T52)	07:38		17:45 (T52)	06:48	06:11		06:31 (T51)	05:59		06:36 (T51)
	17:32			18:10	51	17:48 (T52)	19:42	64	18:49 (T52)	20:14	20:46	17	06:48 (T51)	21:07	8	06:44 (T51)
20	07:53			07:21		16:55 (T52)	07:36		17:46 (T52)	06:46	06:10		06:31 (T51)	05:59		06:36 (T51)
	17:33			18:11	53	17:48 (T52)	19:43	63	18:49 (T52)	20:15	20:46	18	06:49 (T51)	21:07	8	06:44 (T51)
21	07:52			07:19		16:54 (T52)	07:35		17:47 (T52)	06:45	06:09		06:30 (T51)	05:59		06:37 (T51)
	17:34			18:13	56	17:50 (T52)	19:44	60	18:47 (T52)	20:16	20:47	19	06:49 (T51)	21:08	8	06:45 (T51)
22	07:52			07:18		16:52 (T52)	07:33		17:47 (T52)	06:43	06:08		06:29 (T51)	05:59		06:37 (T51)
	17:35			18:14	59	17:51 (T52)	19:45	59	18:46 (T52)	20:17	20:48	20	06:49 (T51)	21:08	8	06:45 (T51)
23	07:51			07:16		16:51 (T52)	07:31		17:48 (T52)	06:42	06:07		06:28 (T51)	06:00		06:37 (T51)
	17:37			18:15	61	17:52 (T52)	19:47	56	18:44 (T52)	20:19	20:49	21	06:49 (T51)	21:08	8	06:45 (T51)
24	07:50			07:15		16:49 (T52)	07:30		17:50 (T52)	06:40	06:07		06:28 (T51)	06:00		06:36 (T51)
	17:38			18:16	63	17:52 (T52)	19:48	53	18:43 (T52)	20:20	20:50	21	06:49 (T51)	21:08	9	06:45 (T51)
25	07:50			07:13		16:49 (T52)	07:28		17:51 (T52)	06:39	06:06		06:27 (T51)	06:00		06:37 (T51)
	17:39			18:17	65	17:54 (T52)	19:49	50	18:41 (T52)	20:21	20:51	22	06:49 (T51)	21:08	9	06:46 (T51)
26	07:49			07:12		16:48 (T52)	07:26		17:52 (T52)	06:37	06:05		06:26 (T51)	06:00		06:37 (T51)
	17:40			18:18	66	17:54 (T52)	19:50	47	18:39 (T52)	20:22	20:52	23	06:49 (T51)	21:08	9	06:46 (T51)
27	07:48			07:10		16:47 (T52)	07:25		17:54 (T52)	06:36	06:05		06:26 (T51)	06:01		06:36 (T51)
	17:42			18:20	68	17:55 (T52)	19:51	43	18:37 (T52)	20:23	20:53	23	06:49 (T51)	21:09	10	06:46 (T51)
28	07:47			07:09		16:46 (T52)	07:23		17:56 (T52)	06:35	06:04		06:25 (T51)	06:01		06:36 (T51)
	17:43			18:21	69	17:55 (T52)	19:52	39	18:35 (T52)	20:24	20:54	23	06:48 (T51)	21:09	12	06:48 (T51)
29	07:46						07:21		17:58 (T52)	06:33	06:03		06:25 (T51)	06:02		06:36 (T51)
	17:44						19:53	34	18:32 (T52)	20:25	20:54	24	06:49 (T51)	21:09	12	06:48 (T51)
30	07:45						07:20		18:02 (T52)	06:32	06:03		06:24 (T51)	06:02		06:36 (T51)
	17:45						19:54	27	18:29 (T52)	20:26	20:55	24	06:48 (T51)	21:09	13	06:49 (T51)
31	07:44						07:18		18:05 (T52)		06:02		06:24 (T51)			
	17:47						19:55	19	18:24 (T52)		20:56	24	06:48 (T51)			
Potential sun hours	297			297			370			399	448			452		
Total, worst case		634			840			1896				371			402	
Sun reduction		0.31			0.40			0.44				0.57			0.64	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.75			0.69			0.69				0.71			0.71	
Total reduction		0.23			0.28			0.31				0.41			0.46	
Total, real		147			234			580				152			184	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 940 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8472)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:03		06:35 (T51)	06:27		06:49 (T51)	06:58			07:28		17:23 (T52)	07:02			07:37		15:13 (T53)
	21:08	14	06:49 (T51)	20:50	7	06:56 (T51)	20:07			19:15	71	18:34 (T52)	17:28			17:04	35	15:48 (T53)
2	06:03		06:36 (T51)	06:28		06:49 (T51)	06:59			07:29		17:22 (T52)	07:03			07:38		15:12 (T53)
	21:08	15	06:51 (T51)	20:49	4	06:53 (T51)	20:06			19:13	72	18:34 (T52)	17:27			17:04	37	15:49 (T53)
3	06:04		06:35 (T51)	06:29		06:50 (T51)	07:00			07:30		17:21 (T52)	07:04			07:39		15:13 (T53)
	21:08	16	06:51 (T51)	20:48	2	06:52 (T51)	20:04			19:12	73	18:34 (T52)	17:26			17:04	38	15:51 (T53)
4	06:04		06:35 (T51)	06:30			07:01			07:31		17:21 (T52)	07:06			07:40		15:12 (T53)
	21:08	17	06:52 (T51)	20:47			20:02			19:10	73	18:34 (T52)	17:25			17:03	40	15:52 (T53)
5	06:05		06:34 (T51)	06:31			07:02			07:32		17:20 (T52)	07:07			07:41		15:12 (T53)
	21:08	18	06:52 (T51)	20:46			20:01			19:08	73	18:33 (T52)	17:24			17:03	41	15:53 (T53)
6	06:05		06:34 (T51)	06:32			07:03			07:33		17:20 (T52)	07:08			07:42		15:12 (T53)
	21:08	19	06:53 (T51)	20:45			19:57			19:07	73	18:33 (T52)	17:22			17:03	42	15:54 (T53)
7	06:06		06:33 (T51)	06:33			07:04			07:34		17:19 (T52)	07:09			07:43		15:11 (T53)
	21:07	20	06:53 (T51)	20:43			19:56			19:05	73	18:32 (T52)	17:21			17:03	43	15:54 (T53)
8	06:07		06:33 (T51)	06:34			07:05			07:35		17:19 (T52)	07:10			07:44		15:11 (T53)
	21:07	21	06:54 (T51)	20:42			19:54			19:03	73	18:32 (T52)	17:20			17:03	44	15:55 (T53)
9	06:07		06:34 (T51)	06:35			07:06			07:36		17:19 (T52)	07:12			07:45		15:11 (T53)
	21:07	21	06:55 (T51)	20:41			19:52			19:02	72	18:31 (T52)	17:19			17:03	45	15:56 (T53)
10	06:08		06:33 (T51)	06:36			07:07			07:37		17:19 (T52)	07:13			07:46		15:11 (T53)
	21:06	22	06:55 (T51)	20:40			19:51			19:00	72	18:31 (T52)	17:18			17:03	46	15:57 (T53)
11	06:09		06:33 (T51)	06:37			07:08			07:38		17:19 (T52)	07:14			07:46		15:11 (T53)
	21:06	23	06:56 (T51)	20:38			19:49			18:59	71	18:30 (T52)	17:17			17:03	47	15:58 (T53)
12	06:09		06:33 (T51)	06:38			07:09		17:58 (T52)	07:39		17:19 (T52)	07:15			07:47		15:12 (T53)
	21:06	24	06:57 (T51)	20:37			19:47	18	18:16 (T52)	18:57	70	18:29 (T52)	17:16			17:03	47	15:59 (T53)
13	06:10		06:32 (T51)	06:39			07:10		17:53 (T52)	07:40		17:20 (T52)	07:16			07:48		15:12 (T53)
	21:05	24	06:56 (T51)	20:36			19:46	27	18:20 (T52)	18:55	69	18:29 (T52)	17:15			17:03	47	15:59 (T53)
14	06:11		06:33 (T51)	06:40			07:11		17:50 (T52)	07:42		17:20 (T52)	07:18			07:49		15:12 (T53)
	21:05	24	06:57 (T51)	20:34			19:44	32	18:22 (T52)	18:54	68	18:28 (T52)	17:14			17:04	47	15:59 (T53)
15	06:12		06:34 (T51)	06:41			07:12		17:47 (T52)	07:43		17:20 (T52)	07:19			07:50		15:12 (T53)
	21:04	24	06:58 (T51)	20:33			19:42	38	18:25 (T52)	18:52	67	18:27 (T52)	17:13			17:04	48	16:00 (T53)
16	06:12		06:35 (T51)	06:42			07:13		17:44 (T52)	07:44		17:20 (T52)	07:20			07:50		15:13 (T53)
	21:03	23	06:58 (T51)	20:32			19:41	42	18:26 (T52)	18:51	66	18:26 (T52)	17:13			17:04	48	16:01 (T53)
17	06:13		06:35 (T51)	06:43			07:14		17:41 (T52)	07:45		17:21 (T52)	07:21			07:51		15:12 (T53)
	21:03	23	06:58 (T51)	20:30			19:39	46	18:27 (T52)	18:49	64	18:25 (T52)	17:12			17:04	49	16:01 (T53)
18	06:14		06:36 (T51)	06:44			07:15		17:39 (T52)	07:46		17:21 (T52)	07:22			07:52		15:13 (T53)
	21:02	22	06:58 (T51)	20:29			19:37	49	18:28 (T52)	18:48	63	18:24 (T52)	17:11			17:05	49	16:02 (T53)
19	06:15		06:37 (T51)	06:45			07:16		17:37 (T52)	07:47		17:22 (T52)	07:24			07:52		15:14 (T53)
	21:02	22	06:59 (T51)	20:27			19:35	52	18:29 (T52)	18:46	60	18:22 (T52)	17:10			17:05	49	16:03 (T53)
20	06:16		06:38 (T51)	06:46			07:17		17:35 (T52)	07:48		17:24 (T52)	07:25			07:53		15:14 (T53)
	21:01	21	06:59 (T51)	20:26			19:34	55	18:30 (T52)	18:45	58	18:22 (T52)	17:10			17:05	49	16:03 (T53)
21	06:17		06:39 (T51)	06:47			07:18		17:33 (T52)	07:49		17:25 (T52)	07:26			07:53		15:15 (T53)
	21:00	20	06:59 (T51)	20:24			19:32	58	18:31 (T52)	18:43	55	18:20 (T52)	17:09			17:06	49	16:04 (T53)
22	06:17		06:40 (T51)	06:48			07:19		17:32 (T52)	07:50		17:26 (T52)	07:27			07:54		15:15 (T53)
	20:59	20	07:00 (T51)	20:23			19:30	60	18:32 (T52)	18:42	53	18:19 (T52)	17:08			17:06	49	16:04 (T53)
23	06:18		06:40 (T51)	06:49			07:20		17:30 (T52)	07:52		17:27 (T52)	07:28			07:54		15:16 (T53)
	20:59	19	06:59 (T51)	20:21			19:29	62	18:32 (T52)	18:40	50	18:17 (T52)	17:08			17:07	49	16:05 (T53)
24	06:19		06:41 (T51)	06:50			07:21		17:29 (T52)	07:53		17:28 (T52)	07:29		15:23 (T53)	07:55		15:16 (T53)
	20:58	18	06:59 (T51)	20:20			19:27	64	18:33 (T52)	18:39	47	18:15 (T52)	17:07	12	15:35 (T53)	17:07	49	16:05 (T53)
25	06:20		06:42 (T51)	06:51			07:22		17:27 (T52)	07:54		17:30 (T52)	07:30		15:20 (T53)	07:55		15:16 (T53)
	20:57	17	06:59 (T51)	20:18			19:25	66	18:33 (T52)	18:38	44	18:14 (T52)	17:07	19	15:39 (T53)	17:08	49	16:05 (T53)
26	06:21		06:43 (T51)	06:52			07:23		17:26 (T52)	07:55		17:32 (T52)	07:32		15:18 (T53)	07:56		15:17 (T53)
	20:56	16	06:59 (T51)	20:17			19:23	67	18:33 (T52)	18:36	39	18:11 (T52)	17:06	23	15:41 (T53)	17:09	49	16:06 (T53)
27	06:22		06:44 (T51)	06:53			07:24		17:25 (T52)	07:56		17:34 (T52)	07:33		15:17 (T53)	07:56		15:18 (T53)
	20:55	15	06:59 (T51)	20:15			19:22	68	18:33 (T52)	18:35	35	18:09 (T52)	17:06	26	15:43 (T53)	17:09	48	16:06 (T53)
28	06:23		06:45 (T51)	06:54			07:25		17:24 (T52)	07:57		17:37 (T52)	07:34		15:15 (T53)	07:56		15:18 (T53)
	20:54	13	06:58 (T51)	20:14			19:20	69	18:33 (T52)	18:33	28	18:05 (T52)	17:05	29	15:44 (T53)	17:10	48	16:06 (T53)
29	06:24		06:46 (T51)	06:55			07:26		17:23 (T52)	07:59		17:42 (T52)	07:35		15:14 (T53)	07:57		15:18 (T53)
	20:53	12	06:58 (T51)	20:12			19:18	71	18:34 (T52)	18:32	20	18:02 (T52)	17:05	32	15:46 (T53)	17:11	48	16:06 (T53)
30	06:25		06:47 (T51)	06:56			07:27		17:22 (T52)	08:00		17:49 (T52)	07:36		15:13 (T53)	07:57		15:20 (T53)
	20:52	10	06:57 (T51)	20:11			19:17	72	18:34 (T52)	18:31	5	17:54 (T52)	17:04	34	15:47 (T53)	17:12	47	16:07 (T53)
31	06:26		06:48 (T51)	06:57						08:01						07:57		15:21 (T53)
	20:51	8	06:56 (T51)	20:09						18:30						17:12	47	16:08 (T53)
Potential sun hours	459			428			375			345			297			287		
Total, worst case		581			13			1016			1757			175			1423	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.71			0.71			0.69			0.69			0.75			0.75	
Total reduction		0.47			0.44			0.41			0.33			0.23			0.17	
Total, real		275			6			417			586			39			235	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 941 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8473)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April	May			June		
1	07:57		15:28 (T53)	07:44			07:07		16:50 (T52)	07:16	06:31			06:02		06:23 (T51)
	17:13	46	16:14 (T53)	17:48			18:22	67	17:57 (T52)	19:56	20:27			20:57	25	06:48 (T51)
2	07:57		15:29 (T53)	07:43			07:06		16:49 (T52)	07:15	06:29			06:01		06:24 (T51)
	17:14	45	16:14 (T53)	17:49			18:23	67	17:56 (T52)	19:57	20:28			20:58	25	06:49 (T51)
3	07:57		15:29 (T53)	07:42			07:04		16:50 (T52)	07:13	06:28			06:01		06:25 (T51)
	17:15	46	16:15 (T53)	17:50			18:24	67	17:57 (T52)	19:58	20:29			20:58	24	06:49 (T51)
4	07:57		15:30 (T53)	07:40			07:03		16:49 (T52)	07:11	06:27			06:01		06:25 (T51)
	17:16	45	16:15 (T53)	17:52			18:25	68	17:57 (T52)	19:59	20:30			20:59	23	06:48 (T51)
5	07:57		15:31 (T53)	07:39			07:01		16:48 (T52)	07:10	06:25			06:00		06:26 (T51)
	17:17	44	16:15 (T53)	17:53			18:27	68	17:56 (T52)	20:00	20:31			21:00	22	06:48 (T51)
6	07:57		15:32 (T53)	07:38			06:59		16:48 (T52)	07:08	06:24			06:00		06:26 (T51)
	17:18	43	16:15 (T53)	17:54			18:28	69	17:57 (T52)	20:00	20:32			21:01	22	06:48 (T51)
7	07:57		15:32 (T53)	07:37			06:58		16:48 (T52)	07:06	06:23			06:00		06:27 (T51)
	17:19	42	16:14 (T53)	17:55			18:29	68	17:56 (T52)	20:01	20:33			21:01	21	06:48 (T51)
8	07:57		15:33 (T53)	07:36			07:56		17:48 (T52)	07:05	06:22			05:59		06:27 (T51)
	17:20	41	16:14 (T53)	17:57			19:30	69	18:57 (T52)	20:03	20:34			21:02	20	06:47 (T51)
9	07:57		15:35 (T53)	07:35			07:55		17:48 (T52)	07:03	06:21			05:59		06:28 (T51)
	17:21	39	16:14 (T53)	17:58			19:31	68	18:56 (T52)	20:04	20:35			21:02	19	06:47 (T51)
10	07:57		15:36 (T53)	07:34			07:53		17:48 (T52)	07:02	06:20		06:40 (T51)	05:59		06:28 (T51)
	17:22	39	16:15 (T53)	17:59			19:32	67	18:55 (T52)	20:05	20:37	2	06:42 (T51)	21:03	19	06:47 (T51)
11	07:57		15:36 (T53)	07:33			07:51		17:49 (T52)	07:00	06:19		06:39 (T51)	05:59		06:29 (T51)
	17:23	38	16:14 (T53)	18:00			19:33	66	18:55 (T52)	20:06	20:38	5	06:44 (T51)	21:04	18	06:47 (T51)
12	07:56		15:38 (T53)	07:31		17:20 (T52)	07:50		17:48 (T52)	06:58	06:17		06:38 (T51)	05:59		06:30 (T51)
	17:24	36	16:14 (T53)	18:02	9	17:29 (T52)	19:34	66	18:54 (T52)	20:07	20:39	7	06:45 (T51)	21:04	17	06:47 (T51)
13	07:56		15:40 (T53)	07:30		17:14 (T52)	07:48		17:48 (T52)	06:57	06:16		06:37 (T51)	05:59		06:30 (T51)
	17:25	33	16:13 (T53)	18:03	21	17:35 (T52)	19:36	65	18:53 (T52)	20:08	20:40	9	06:46 (T51)	21:05	17	06:47 (T51)
14	07:56		15:41 (T53)	07:29		17:11 (T52)	07:46		17:49 (T52)	06:55	06:15		06:36 (T51)	05:59		06:31 (T51)
	17:26	31	16:12 (T53)	18:04	28	17:39 (T52)	19:37	64	18:53 (T52)	20:09	20:41	11	06:47 (T51)	21:05	16	06:47 (T51)
15	07:55		15:43 (T53)	07:27		17:07 (T52)	07:45		17:49 (T52)	06:54	06:14		06:35 (T51)	05:59		06:31 (T51)
	17:27	29	16:12 (T53)	18:05	34	17:41 (T52)	19:38	63	18:52 (T52)	20:10	20:42	12	06:47 (T51)	21:06	16	06:47 (T51)
16	07:55		15:44 (T53)	07:26		17:05 (T52)	07:43		17:50 (T52)	06:52	06:13		06:34 (T51)	05:59		06:32 (T51)
	17:28	26	16:10 (T53)	18:06	39	17:44 (T52)	19:39	61	18:51 (T52)	20:11	20:43	14	06:48 (T51)	21:06	15	06:47 (T51)
17	07:54		15:46 (T53)	07:25		17:03 (T52)	07:42		17:51 (T52)	06:51	06:12		06:33 (T51)	05:59		06:32 (T51)
	17:30	24	16:10 (T53)	18:08	42	17:45 (T52)	19:40	59	18:50 (T52)	20:12	20:44	15	06:48 (T51)	21:06	15	06:47 (T51)
18	07:54		15:48 (T53)	07:23		17:01 (T52)	07:40		17:51 (T52)	06:49	06:12		06:32 (T51)	05:59		06:32 (T51)
	17:31	20	16:08 (T53)	18:09	45	17:46 (T52)	19:41	58	18:49 (T52)	20:13	20:45	16	06:48 (T51)	21:07	15	06:47 (T51)
19	07:53		15:52 (T53)	07:22		17:00 (T52)	07:38		17:52 (T52)	06:48	06:11		06:31 (T51)	05:59		06:33 (T51)
	17:32	14	16:06 (T53)	18:10	48	17:48 (T52)	19:42	55	18:47 (T52)	20:14	20:45	17	06:48 (T51)	21:07	13	06:46 (T51)
20	07:53			07:21		16:58 (T52)	07:36		17:53 (T52)	06:46	06:10		06:31 (T51)	05:59		06:33 (T51)
	17:33			18:11	51	17:49 (T52)	19:43	54	18:47 (T52)	20:15	20:46	18	06:49 (T51)	21:07	13	06:46 (T51)
21	07:52			07:19		16:57 (T52)	07:35		17:54 (T52)	06:45	06:09		06:30 (T51)	05:59		06:34 (T51)
	17:34			18:13	53	17:50 (T52)	19:44	51	18:45 (T52)	20:16	20:47	19	06:49 (T51)	21:08	13	06:47 (T51)
22	07:52			07:18		16:56 (T52)	07:33		17:55 (T52)	06:43	06:08		06:29 (T51)	05:59		06:34 (T51)
	17:35			18:14	55	17:51 (T52)	19:45	48	18:43 (T52)	20:17	20:48	20	06:49 (T51)	21:08	13	06:47 (T51)
23	07:51			07:16		16:55 (T52)	07:31		17:56 (T52)	06:42	06:07		06:28 (T51)	06:00		06:34 (T51)
	17:37			18:15	58	17:53 (T52)	19:47	45	18:41 (T52)	20:19	20:49	21	06:49 (T51)	21:08	13	06:47 (T51)
24	07:50			07:15		16:53 (T52)	07:30		17:58 (T52)	06:40	06:07		06:28 (T51)	06:00		06:33 (T51)
	17:38			18:16	60	17:53 (T52)	19:48	41	18:39 (T52)	20:20	20:50	22	06:50 (T51)	21:08	15	06:48 (T51)
25	07:50			07:13		16:53 (T52)	07:28		18:00 (T52)	06:39	06:06		06:27 (T51)	06:00		06:34 (T51)
	17:39			18:17	62	17:55 (T52)	19:49	37	18:37 (T52)	20:21	20:51	22	06:49 (T51)	21:08	15	06:49 (T51)
26	07:49			07:12		16:52 (T52)	07:26		18:02 (T52)	06:37	06:05		06:26 (T51)	06:00		06:34 (T51)
	17:40			18:18	63	17:55 (T52)	19:50	32	18:34 (T52)	20:22	20:52	23	06:49 (T51)	21:08	15	06:49 (T51)
27	07:48			07:10		16:52 (T52)	07:25		18:06 (T52)	06:36	06:05		06:26 (T51)	06:01		06:33 (T51)
	17:42			18:20	64	17:56 (T52)	19:51	25	18:31 (T52)	20:23	20:53	24	06:50 (T51)	21:09	16	06:49 (T51)
28	07:47			07:09		16:50 (T52)	07:23		18:10 (T52)	06:35	06:04		06:25 (T51)	06:01		06:34 (T51)
	17:43			18:21	66	17:56 (T52)	19:52	16	18:26 (T52)	20:24	20:54	24	06:49 (T51)	21:09	16	06:50 (T51)
29	07:46						07:21			06:33	06:03		06:25 (T51)	06:02		06:34 (T51)
	17:44						19:53			20:25	20:54	24	06:49 (T51)	21:09	16	06:50 (T51)
30	07:45						07:20			06:32	06:03		06:24 (T51)	06:02		06:34 (T51)
	17:45						19:54			20:26	20:55	25	06:49 (T51)	21:09	17	06:51 (T51)
31	07:44						07:18				06:02		06:24 (T51)			
	17:47						19:55				20:56	25	06:49 (T51)			
Potential sun hours	297			297			370			399	448			452		
Total, worst case		681			798			1584				375			524	
Sun reduction		0.31			0.40			0.44				0.57			0.64	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.75			0.69			0.69				0.71			0.71	
Total reduction		0.23			0.28			0.31				0.41			0.46	
Total, real		158			222			485				153			241	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 941 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8473)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:03		06:33 (T51)	06:27		06:49 (T51)	06:58			07:28		17:28 (T52)	07:02			07:37		15:18 (T53)
	21:08	18	06:51 (T51)	20:50	6	06:55 (T51)	20:07			19:15	66	18:34 (T52)	17:28			17:04	38	15:56 (T53)
2	06:03		06:34 (T51)	06:28		06:49 (T51)	06:59			07:29		17:27 (T52)	07:03			07:38		15:18 (T53)
	21:08	18	06:52 (T51)	20:49	4	06:53 (T51)	20:06			19:13	67	18:34 (T52)	17:27			17:04	39	15:57 (T53)
3	06:04		06:33 (T51)	06:29		06:50 (T51)	07:00			07:30		17:27 (T52)	07:04			07:39		15:19 (T53)
	21:08	19	06:52 (T51)	20:48	1	06:51 (T51)	20:04			19:12	67	18:34 (T52)	17:26			17:04	39	15:58 (T53)
4	06:04		06:33 (T51)	06:30			07:01			07:31		17:26 (T52)	07:06			07:40		15:18 (T53)
	21:08	20	06:53 (T51)	20:47			20:02			19:10	67	18:33 (T52)	17:25			17:03	41	15:59 (T53)
5	06:05		06:33 (T51)	06:31			07:02			07:32		17:25 (T52)	07:07			07:41		15:18 (T53)
	21:08	20	06:53 (T51)	20:46			20:01			19:08	68	18:33 (T52)	17:24			17:03	42	16:00 (T53)
6	06:05		06:33 (T51)	06:32			07:03			07:33		17:25 (T52)	07:08			07:42		15:18 (T53)
	21:08	21	06:54 (T51)	20:45			19:57			19:07	68	18:33 (T52)	17:22			17:03	43	16:01 (T53)
7	06:06		06:32 (T51)	06:33			07:04			07:34		17:24 (T52)	07:09			07:43		15:17 (T53)
	21:07	22	06:54 (T51)	20:43			19:56			19:05	68	18:32 (T52)	17:21			17:03	44	16:01 (T53)
8	06:07		06:32 (T51)	06:34			07:05			07:35		17:24 (T52)	07:10			07:44		15:17 (T53)
	21:07	23	06:55 (T51)	20:42			19:54			19:03	68	18:32 (T52)	17:20			17:03	45	16:02 (T53)
9	06:07		06:32 (T51)	06:35			07:06			07:36		17:23 (T52)	07:12			07:45		15:17 (T53)
	21:07	24	06:56 (T51)	20:41			19:52			19:02	68	18:31 (T52)	17:19			17:03	46	16:03 (T53)
10	06:08		06:31 (T51)	06:36			07:07			07:37		17:23 (T52)	07:13			07:46		15:18 (T53)
	21:06	25	06:56 (T51)	20:40			19:51			19:00	68	18:31 (T52)	17:18			17:03	45	16:03 (T53)
11	06:09		06:32 (T51)	06:37			07:08			07:38		17:23 (T52)	07:14			07:46		15:18 (T53)
	21:06	25	06:57 (T51)	20:38			19:49			18:59	67	18:30 (T52)	17:17			17:03	46	16:04 (T53)
12	06:09		06:32 (T51)	06:38			07:09			07:39		17:23 (T52)	07:15			07:47		15:18 (T53)
	21:06	25	06:57 (T51)	20:37			19:47			18:57	67	18:30 (T52)	17:16			17:03	47	16:05 (T53)
13	06:10		06:32 (T51)	06:39			07:10			07:40		17:24 (T52)	07:16			07:48		15:19 (T53)
	21:05	25	06:57 (T51)	20:36			19:46			18:55	66	18:30 (T52)	17:15			17:03	47	16:06 (T53)
14	06:11		06:33 (T51)	06:40			07:11			07:42		17:24 (T52)	07:18			07:49		15:18 (T53)
	21:05	25	06:58 (T51)	20:34			19:44			18:54	65	18:29 (T52)	17:14			17:04	48	16:06 (T53)
15	06:12		06:34 (T51)	06:41			07:12		18:01 (T52)	07:43		17:24 (T52)	07:19			07:50		15:19 (T53)
	21:04	24	06:58 (T51)	20:33			19:42	14	18:15 (T52)	18:52	64	18:28 (T52)	17:13			17:04	48	16:07 (T53)
16	06:12		06:35 (T51)	06:42			07:13		17:56 (T52)	07:44		17:24 (T52)	07:20			07:50		15:19 (T53)
	21:03	24	06:59 (T51)	20:32			19:41	23	18:19 (T52)	18:51	63	18:27 (T52)	17:13			17:04	49	16:08 (T53)
17	06:13		06:35 (T51)	06:43			07:13		17:51 (T52)	07:45		17:25 (T52)	07:21			07:51		15:19 (T53)
	21:03	23	06:58 (T51)	20:30			19:39	30	18:21 (T52)	18:49	61	18:26 (T52)	17:12			17:04	49	16:08 (T53)
18	06:14		06:36 (T51)	06:44			07:14		17:48 (T52)	07:46		17:25 (T52)	07:22			07:52		15:20 (T53)
	21:02	23	06:59 (T51)	20:29			19:37	35	18:23 (T52)	18:48	60	18:25 (T52)	17:11			17:05	49	16:09 (T53)
19	06:15		06:37 (T51)	06:45			07:15		17:45 (T52)	07:47		17:26 (T52)	07:24			07:52		15:21 (T53)
	21:02	22	06:59 (T51)	20:27			19:35	40	18:25 (T52)	18:46	57	18:23 (T52)	17:10			17:05	48	16:09 (T53)
20	06:16		06:38 (T51)	06:46			07:17		17:43 (T52)	07:48		17:27 (T52)	07:25			07:53		15:21 (T53)
	21:01	21	06:59 (T51)	20:26			19:34	44	18:27 (T52)	18:45	55	18:22 (T52)	17:10			17:05	48	16:09 (T53)
21	06:16		06:39 (T51)	06:47			07:18		17:41 (T52)	07:49		17:28 (T52)	07:26			07:53		15:22 (T53)
	21:00	21	07:00 (T51)	20:24			19:32	47	18:28 (T52)	18:43	53	18:21 (T52)	17:09			17:06	48	16:10 (T53)
22	06:17		06:40 (T51)	06:48			07:19		17:39 (T52)	07:50		17:29 (T52)	07:27			07:54		15:22 (T53)
	20:59	20	07:00 (T51)	20:23			19:30	50	18:29 (T52)	18:42	50	18:19 (T52)	17:08			17:06	48	16:10 (T53)
23	06:18		06:40 (T51)	06:49			07:20		17:37 (T52)	07:52		17:30 (T52)	07:28		15:28 (T53)	07:54		15:23 (T53)
	20:59	19	06:59 (T51)	20:21			19:29	53	18:30 (T52)	18:40	47	18:17 (T52)	17:08	14	15:42 (T53)	17:07	48	16:11 (T53)
24	06:19		06:41 (T51)	06:50			07:21		17:36 (T52)	07:53		17:31 (T52)	07:29		15:26 (T53)	07:55		15:23 (T53)
	20:58	18	06:59 (T51)	20:20			19:27	55	18:31 (T52)	18:39	44	18:15 (T52)	17:07	19	15:45 (T53)	17:07	48	16:11 (T53)
25	06:20		06:42 (T51)	06:51			07:22		17:34 (T52)	07:54		17:34 (T52)	07:30		15:25 (T53)	07:55		15:23 (T53)
	20:57	17	06:59 (T51)	20:18			19:25	57	18:31 (T52)	18:38	41	18:15 (T52)	17:07	23	15:48 (T53)	17:08	48	16:11 (T53)
26	06:21		06:43 (T51)	06:52			07:23		17:33 (T52)	07:55		17:36 (T52)	07:32		15:23 (T53)	07:56		15:24 (T53)
	20:56	16	06:59 (T51)	20:17			19:23	59	18:32 (T52)	18:36	37	18:13 (T52)	17:06	26	15:49 (T53)	17:09	49	16:13 (T53)
27	06:22		06:44 (T51)	06:53			07:24		17:31 (T52)	07:56		17:38 (T52)	07:33		15:22 (T53)	07:56		15:24 (T53)
	20:55	15	06:59 (T51)	20:15			19:22	61	18:32 (T52)	18:35	32	18:10 (T52)	17:06	29	15:51 (T53)	17:09	49	16:13 (T53)
28	06:23		06:45 (T51)	06:54			07:25		17:30 (T52)	07:57		17:40 (T52)	07:34		15:21 (T53)	07:56		15:25 (T53)
	20:54	13	06:58 (T51)	20:14			19:20	62	18:32 (T52)	18:33	27	18:07 (T52)	17:05	31	15:52 (T53)	17:10	48	16:13 (T53)
29	06:24		06:46 (T51)	06:55			07:26		17:29 (T52)	07:59		17:45 (T52)	07:35		15:20 (T53)	07:57		15:25 (T53)
	20:53	12	06:58 (T51)	20:12			19:18	64	18:33 (T52)	18:32	19	18:04 (T52)	17:05	33	15:53 (T53)	17:11	48	16:13 (T53)
30	06:25		06:47 (T51)	06:56			07:27		17:28 (T52)	08:00		17:53 (T52)	07:36		15:19 (T53)	07:57		15:27 (T53)
	20:52	10	06:57 (T51)	20:11			19:17	65	18:33 (T52)	18:31	2	17:55 (T52)	17:04	36	15:55 (T53)	17:12	47	16:14 (T53)
31	06:26		06:48 (T51)	06:57						08:01						07:57		15:27 (T53)
	20:51	8	06:56 (T51)	20:09						18:30						17:12	47	16:14 (T53)
Potential sun hours	459			428			375			345			297			287		
Total, worst case		616			11			759			1652			211			1429	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.71			0.71			0.69			0.69			0.75			0.75	
Total reduction		0.47			0.44			0.41			0.33			0.23			0.17	
Total, real		292			5			312			552			48			236	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 948 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8479)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February	March	April			May			June		
1	07:57		08:52 (T63)	07:43	07:07	07:16			06:31		07:04 (T61)	06:02		07:16 (T61)
	17:13	25	09:17 (T63)	17:48	18:22	19:56			20:27	80	08:24 (T61)	20:57	53	08:09 (T61)
2	07:57		08:53 (T63)	07:42	07:06	07:15			06:29		07:04 (T61)	06:01		07:17 (T61)
	17:14	24	09:17 (T63)	17:49	18:23	19:57			20:28	80	08:24 (T61)	20:58	52	08:09 (T61)
3	07:57		08:54 (T63)	07:41	07:04	07:13		07:44 (T61)	06:28		07:04 (T61)	06:01		07:18 (T61)
	17:15	23	09:17 (T63)	17:50	18:24	19:58	15	07:59 (T61)	20:29	80	08:24 (T61)	20:58	51	08:09 (T61)
4	07:57		08:55 (T63)	07:40	07:03	07:11		07:38 (T61)	06:27		07:04 (T61)	06:01		07:18 (T61)
	17:16	21	09:16 (T63)	17:52	18:25	19:59	26	08:04 (T61)	20:30	80	08:24 (T61)	20:59	50	08:08 (T61)
5	07:57		08:56 (T63)	07:39	07:01	07:10		07:34 (T61)	06:25		07:03 (T61)	06:00		07:19 (T61)
	17:17	20	09:16 (T63)	17:53	18:27	20:00	34	08:08 (T61)	20:31	79	08:22 (T61)	21:00	49	08:08 (T61)
6	07:57		08:57 (T63)	07:38	06:59	07:08		07:30 (T61)	06:24		07:04 (T61)	06:00		07:20 (T61)
	17:18	18	09:15 (T63)	17:54	18:28	20:00	41	08:11 (T61)	20:32	78	08:22 (T61)	21:00	48	08:08 (T61)
7	07:57		08:58 (T63)	07:37	06:58	07:06		07:27 (T61)	06:23		07:04 (T61)	06:00		07:21 (T61)
	17:19	16	09:14 (T63)	17:55	18:29	20:01	45	08:12 (T61)	20:33	78	08:22 (T61)	21:01	46	08:07 (T61)
8	07:57		09:00 (T63)	07:36	07:56	07:05		07:26 (T61)	06:22		07:04 (T61)	05:59		07:21 (T61)
	17:20	14	09:14 (T63)	17:57	19:30	20:02	49	08:15 (T61)	20:34	78	08:22 (T61)	21:02	45	08:06 (T61)
9	07:57		09:03 (T63)	07:35	07:55	07:03		07:23 (T61)	06:21		07:04 (T61)	05:59		07:22 (T61)
	17:21	9	09:12 (T63)	17:58	19:31	20:04	53	08:16 (T61)	20:35	77	08:21 (T61)	21:02	44	08:06 (T61)
10	07:57			07:34	07:53	07:02		07:22 (T61)	06:20		07:05 (T61)	05:59		07:23 (T61)
	17:22			17:59	19:32	20:05	56	08:18 (T61)	20:36	76	08:21 (T61)	21:03	43	08:06 (T61)
11	07:57			07:32	07:51	07:00		07:20 (T61)	06:19		07:05 (T61)	05:59		07:23 (T61)
	17:23			18:00	19:33	20:06	59	08:19 (T61)	20:37	76	08:21 (T61)	21:03	43	08:06 (T61)
12	07:56			07:31	07:50	06:58		07:17 (T61)	06:17		07:05 (T61)	05:59		07:24 (T61)
	17:24			18:02	19:34	20:07	62	08:19 (T61)	20:38	75	08:20 (T61)	21:04	42	08:06 (T61)
13	07:56			07:30	07:48	06:57		07:17 (T61)	06:16		07:06 (T61)	05:59		07:25 (T61)
	17:25			18:03	19:36	20:08	64	08:21 (T61)	20:39	74	08:20 (T61)	21:04	40	08:05 (T61)
14	07:56			07:29	07:46	06:55		07:15 (T61)	06:15		07:06 (T61)	05:59		07:25 (T61)
	17:26			18:04	19:37	20:09	66	08:21 (T61)	20:40	73	08:19 (T61)	21:05	40	08:05 (T61)
15	07:55			07:27	07:45	06:54		07:14 (T61)	06:14		07:06 (T61)	05:59		07:26 (T61)
	17:27			18:05	19:38	20:10	68	08:22 (T61)	20:41	73	08:19 (T61)	21:05	39	08:05 (T61)
16	07:55			07:26	07:43	06:52		07:12 (T61)	06:13		07:06 (T61)	05:59		07:26 (T61)
	17:28			18:06	19:39	20:11	70	08:22 (T61)	20:42	72	08:18 (T61)	21:06	39	08:05 (T61)
17	07:54			07:25	07:41	06:51		07:12 (T61)	06:12		07:07 (T61)	05:59		07:27 (T61)
	17:30			18:08	19:40	20:12	71	08:23 (T61)	20:43	70	08:17 (T61)	21:06	38	08:05 (T61)
18	07:54			07:23	07:40	06:49		07:10 (T61)	06:12		07:07 (T61)	05:59		07:27 (T61)
	17:31			18:09	19:41	20:13	73	08:23 (T61)	20:44	70	08:17 (T61)	21:07	38	08:05 (T61)
19	07:53			07:22	07:38	06:48		07:10 (T61)	06:11		07:07 (T61)	05:59		07:27 (T61)
	17:32			18:10	19:42	20:14	74	08:24 (T61)	20:45	69	08:16 (T61)	21:07	38	08:05 (T61)
20	07:53			07:21	07:36	06:46		07:09 (T61)	06:10		07:09 (T61)	05:59		07:27 (T61)
	17:33			18:11	19:43	20:15	75	08:24 (T61)	20:46	67	08:16 (T61)	21:07	38	08:05 (T61)
21	07:52			07:19	07:35	06:45		07:08 (T61)	06:09		07:09 (T61)	05:59		07:28 (T61)
	17:34			18:13	19:44	20:16	77	08:25 (T61)	20:47	66	08:15 (T61)	21:07	38	08:06 (T61)
22	07:52			07:18	07:33	06:43		07:07 (T61)	06:08		07:09 (T61)	05:59		07:28 (T61)
	17:35			18:14	19:45	20:17	77	08:24 (T61)	20:48	66	08:15 (T61)	21:08	38	08:06 (T61)
23	07:51			07:16	07:31	06:42		07:07 (T61)	06:07		07:10 (T61)	06:00		07:28 (T61)
	17:37			18:15	19:46	20:18	78	08:25 (T61)	20:49	64	08:14 (T61)	21:08	38	08:06 (T61)
24	07:50			07:15	07:30	06:40		07:07 (T61)	06:07		07:11 (T61)	06:00		07:28 (T61)
	17:38			18:16	19:48	20:20	78	08:25 (T61)	20:50	63	08:14 (T61)	21:08	38	08:06 (T61)
25	07:49			07:13	07:28	06:39		07:06 (T61)	06:06		07:11 (T61)	06:00		07:29 (T61)
	17:39			18:17	19:49	20:21	79	08:25 (T61)	20:51	62	08:13 (T61)	21:08	38	08:07 (T61)
26	07:49			07:12	07:26	06:37		07:06 (T61)	06:05		07:13 (T61)	06:01		07:28 (T61)
	17:40			18:18	19:50	20:22	79	08:25 (T61)	20:52	60	08:13 (T61)	21:08	39	08:07 (T61)
27	07:48			07:10	07:25	06:36		07:05 (T61)	06:05		07:13 (T61)	06:01		07:28 (T61)
	17:42			18:20	19:51	20:23	79	08:24 (T61)	20:53	59	08:12 (T61)	21:08	39	08:07 (T61)
28	07:47			07:09	07:23	06:35		07:05 (T61)	06:04		07:13 (T61)	06:01		07:29 (T61)
	17:43			18:21	19:52	20:24	79	08:24 (T61)	20:54	58	08:11 (T61)	21:08	39	08:08 (T61)
29	07:46				07:21	06:33		07:05 (T61)	06:03		07:14 (T61)	06:02		07:28 (T61)
	17:44				19:53	20:25	80	08:25 (T61)	20:54	57	08:11 (T61)	21:08	40	08:08 (T61)
30	07:45				07:20	06:32		07:04 (T61)	06:03		07:15 (T61)	06:02		07:28 (T61)
	17:45				19:54	20:26	80	08:24 (T61)	20:55	55	08:10 (T61)	21:08	42	08:10 (T61)
31	07:44				07:18				06:02		07:16 (T61)			
	17:47				19:55				20:56	54	08:10 (T61)			
Potential sun hours	297			297	370	399			448			452		
Total, worst case		170					1787			2169			1265	
Sun reduction		0.31					0.52			0.57			0.64	
Oper. time red.		1.00					1.00			1.00			1.00	
Wind dir. red.		0.53					0.66			0.66			0.66	
Total reduction		0.16					0.34			0.37			0.42	
Total, real		28					607			808			529	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 948 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8479)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December		
1	06:03		07:28 (T61)	06:27		07:16 (T61)	06:58		07:19 (T61)	07:28	07:02	07:37		
	21:08	42	08:10 (T61)	20:50	75	08:31 (T61)	20:07	59	08:18 (T61)	19:15	17:28	17:04		
2	06:03		07:28 (T61)	06:28		07:14 (T61)	06:59		07:20 (T61)	07:29	07:03	07:38		
	21:08	43	08:11 (T61)	20:49	76	08:30 (T61)	20:06	56	08:16 (T61)	19:13	17:27	17:04		
3	06:04		07:27 (T61)	06:29		07:14 (T61)	07:00		07:21 (T61)	07:30	07:04	07:39		08:46 (T63)
	21:08	44	08:11 (T61)	20:48	77	08:31 (T61)	20:04	53	08:14 (T61)	19:12	17:26	17:04	9	08:55 (T63)
4	06:04		07:27 (T61)	06:30		07:14 (T61)	07:01		07:23 (T61)	07:31	07:06	07:40		08:44 (T63)
	21:08	45	08:12 (T61)	20:47	77	08:31 (T61)	20:02	49	08:12 (T61)	19:10	17:25	17:03	13	08:57 (T63)
5	06:05		07:27 (T61)	06:31		07:14 (T61)	07:02		07:24 (T61)	07:32	07:07	07:41		08:43 (T63)
	21:08	45	08:12 (T61)	20:46	77	08:31 (T61)	20:01	45	08:09 (T61)	19:08	17:24	17:03	16	08:59 (T63)
6	06:05		07:27 (T61)	06:32		07:13 (T61)	07:03		07:26 (T61)	07:33	07:08	07:42		08:43 (T63)
	21:08	46	08:13 (T61)	20:44	79	08:32 (T61)	19:57	41	08:07 (T61)	19:07	17:22	17:03	18	09:01 (T63)
7	06:06		07:26 (T61)	06:33		07:13 (T61)	07:04		07:29 (T61)	07:34	07:09	07:43		08:42 (T63)
	21:07	48	08:14 (T61)	20:43	79	08:32 (T61)	19:56	35	08:04 (T61)	19:05	17:21	17:03	20	09:02 (T63)
8	06:07		07:26 (T61)	06:34		07:13 (T61)	07:05		07:32 (T61)	07:35	07:10	07:44		08:42 (T63)
	21:07	49	08:15 (T61)	20:42	79	08:32 (T61)	19:54	28	08:00 (T61)	19:03	17:20	17:03	21	09:03 (T63)
9	06:07		07:26 (T61)	06:35		07:13 (T61)	07:06		07:37 (T61)	07:36	07:12	07:45		08:42 (T63)
	21:07	50	08:16 (T61)	20:41	79	08:32 (T61)	19:52	17	07:54 (T61)	19:02	17:19	17:03	23	09:05 (T63)
10	06:08		07:25 (T61)	06:36		07:13 (T61)	07:07			07:37	07:13	07:46		08:42 (T63)
	21:06	51	08:16 (T61)	20:39	79	08:32 (T61)	19:51			19:00	17:18	17:03	24	09:06 (T63)
11	06:09		07:24 (T61)	06:37		07:13 (T61)	07:08			07:38	07:14	07:46		08:42 (T63)
	21:06	53	08:17 (T61)	20:38	79	08:32 (T61)	19:49			18:59	17:17	17:03	25	09:07 (T63)
12	06:09		07:24 (T61)	06:38		07:12 (T61)	07:08			07:39	07:15	07:47		08:42 (T63)
	21:05	54	08:18 (T61)	20:37	80	08:32 (T61)	19:47			18:57	17:16	17:03	26	09:08 (T63)
13	06:10		07:23 (T61)	06:39		07:12 (T61)	07:09			07:40	07:16	07:48		08:42 (T63)
	21:05	55	08:18 (T61)	20:36	80	08:32 (T61)	19:46			18:55	17:15	17:03	26	09:08 (T63)
14	06:11		07:23 (T61)	06:40		07:12 (T61)	07:10			07:41	07:18	07:49		08:42 (T63)
	21:04	56	08:19 (T61)	20:34	80	08:32 (T61)	19:44			18:54	17:14	17:04	27	09:09 (T63)
15	06:12		07:23 (T61)	06:41		07:12 (T61)	07:11			07:43	07:19	07:49		08:42 (T63)
	21:04	57	08:20 (T61)	20:33	80	08:32 (T61)	19:42			18:52	17:13	17:04	28	09:10 (T63)
16	06:12		07:22 (T61)	06:42		07:12 (T61)	07:12			07:44	07:20	07:50		08:43 (T63)
	21:03	59	08:21 (T61)	20:31	80	08:32 (T61)	19:40			18:51	17:13	17:04	28	09:11 (T63)
17	06:13		07:21 (T61)	06:43		07:12 (T61)	07:13			07:45	07:21	07:51		08:43 (T63)
	21:03	60	08:21 (T61)	20:30	80	08:32 (T61)	19:39			18:49	17:12	17:04	28	09:11 (T63)
18	06:14		07:21 (T61)	06:44		07:12 (T61)	07:14			07:46	07:22	07:52		08:43 (T63)
	21:02	61	08:22 (T61)	20:29	79	08:31 (T61)	19:37			18:48	17:11	17:05	29	09:12 (T63)
19	06:15		07:21 (T61)	06:45		07:13 (T61)	07:15			07:47	07:23	07:52		08:43 (T63)
	21:01	62	08:23 (T61)	20:27	78	08:31 (T61)	19:35			18:46	17:10	17:05	29	09:12 (T63)
20	06:16		07:20 (T61)	06:46		07:13 (T61)	07:16			07:48	07:25	07:53		08:44 (T63)
	21:01	64	08:24 (T61)	20:26	77	08:30 (T61)	19:34			18:45	17:10	17:06	29	09:13 (T63)
21	06:17		07:20 (T61)	06:47		07:13 (T61)	07:17			07:49	07:26	07:53		08:45 (T63)
	21:00	65	08:25 (T61)	20:24	77	08:30 (T61)	19:32			18:43	17:09	17:06	29	09:14 (T63)
22	06:17		07:20 (T61)	06:48		07:13 (T61)	07:18			07:50	07:27	07:54		08:45 (T63)
	20:59	66	08:26 (T61)	20:23	76	08:29 (T61)	19:30			18:42	17:08	17:06	29	09:14 (T63)
23	06:18		07:18 (T61)	06:49		07:14 (T61)	07:19			07:52	07:28	07:54		08:45 (T63)
	20:58	67	08:25 (T61)	20:21	75	08:29 (T61)	19:29			18:40	17:08	17:07	29	09:14 (T63)
24	06:19		07:18 (T61)	06:50		07:13 (T61)	07:20			07:53	07:29	07:55		08:46 (T63)
	20:58	68	08:26 (T61)	20:20	74	08:27 (T61)	19:27			18:39	17:07	17:08	29	09:15 (T63)
25	06:20		07:18 (T61)	06:51		07:13 (T61)	07:22			07:54	07:30	07:55		08:46 (T63)
	20:57	69	08:27 (T61)	20:18	73	08:26 (T61)	19:25			18:38	17:07	17:08	29	09:15 (T63)
26	06:21		07:18 (T61)	06:52		07:14 (T61)	07:23			07:55	07:31	07:56		08:47 (T63)
	20:56	70	08:28 (T61)	20:17	71	08:25 (T61)	19:23			18:36	17:06	17:09	28	09:15 (T63)
27	06:22		07:17 (T61)	06:53		07:14 (T61)	07:24			07:56	07:33	07:56		08:48 (T63)
	20:55	71	08:28 (T61)	20:15	70	08:24 (T61)	19:22			18:35	17:06	17:09	28	09:16 (T63)
28	06:23		07:17 (T61)	06:54		07:15 (T61)	07:25			07:57	07:34	07:56		08:48 (T63)
	20:54	72	08:29 (T61)	20:14	68	08:23 (T61)	19:20			18:33	17:05	17:10	28	09:16 (T63)
29	06:24		07:17 (T61)	06:55		07:16 (T61)	07:26			07:58	07:35	07:56		08:49 (T63)
	20:53	72	08:29 (T61)	20:12	66	08:22 (T61)	19:18			18:32	17:05	17:11	27	09:16 (T63)
30	06:25		07:16 (T61)	06:56		07:17 (T61)	07:27			08:00	07:36	07:57		08:49 (T63)
	20:52	74	08:30 (T61)	20:10	64	08:21 (T61)	19:17			18:31	17:04	17:12	27	09:16 (T63)
31	06:26		07:16 (T61)	06:57		07:17 (T61)				08:01		07:57		08:51 (T63)
	20:51	74	08:30 (T61)	20:09	62	08:19 (T61)				18:30		17:12	26	09:17 (T63)
Potential sun hours	459			428			375			345	298	288		
Total, worst case		1812			2346			383					728	
Sun reduction		0.66			0.61			0.59					0.22	
Oper. time red.		1.00			1.00			1.00					1.00	
Wind dir. red.		0.66			0.66			0.66					0.53	
Total reduction		0.43			0.40			0.39					0.12	
Total, real		781			935			148					84	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 951 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8482)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April	May		June	
1	07:57	07:43		07:07	17:32 (T46)	07:16	06:30		06:01	19:31 (T45)
	17:13	17:47		18:22	6 17:38 (T46)	19:56	20:27		20:57	61 20:32 (T45)
2	07:57	07:42		07:06		07:14	06:29		06:01	19:32 (T45)
	17:14	17:49		18:23		19:57	20:28		20:58	61 20:33 (T45)
3	07:57	07:41		07:04		07:13	06:28		06:01	19:31 (T45)
	17:15	17:50		18:24		19:58	20:29		20:58	62 20:33 (T45)
4	07:57	07:40		07:02		07:11	06:26		06:00	19:31 (T45)
	17:16	17:51		18:25		19:59	20:30		20:59	63 20:34 (T45)
5	07:57	07:39		07:01		07:10	06:25		06:00	19:32 (T45)
	17:17	17:53		18:26		20:00	20:31		21:00	62 20:34 (T45)
6	07:57	07:38		06:59		07:08	06:24		06:00	19:31 (T45)
	17:17	17:54		18:27		20:00	20:32		21:00	63 20:34 (T45)
7	07:57	07:37		06:58		07:06	06:23		05:59	19:31 (T45)
	17:18	17:55		18:29		20:01	20:33		21:01	64 20:35 (T45)
8	07:57	07:36	17:32 (T46)	07:56		07:05	06:22	19:58 (T45)	05:59	19:32 (T45)
	17:19	17:56	1 17:33 (T46)	19:30		20:02	20:34	6 20:04 (T45)	21:02	63 20:35 (T45)
9	07:57	07:35	17:29 (T46)	07:54		07:03	06:20	19:52 (T45)	05:59	19:32 (T45)
	17:20	17:58	5 17:34 (T46)	19:31		20:03	20:35	18 20:10 (T45)	21:02	64 20:36 (T45)
10	07:57	07:34	17:27 (T46)	07:53		07:01	06:19	19:48 (T45)	05:59	19:32 (T45)
	17:22	17:59	9 17:36 (T46)	19:32		20:04	20:36	25 20:13 (T45)	21:03	64 20:36 (T45)
11	07:57	07:32	17:25 (T46)	07:51		07:00	06:18	19:46 (T45)	05:58	19:32 (T45)
	17:23	18:00	11 17:36 (T46)	19:33		20:06	20:37	28 20:14 (T45)	21:03	64 20:36 (T45)
12	07:56	07:31	17:24 (T46)	07:50		06:58	06:17	19:44 (T45)	05:58	19:32 (T45)
	17:24	18:01	14 17:38 (T46)	19:34		20:07	20:38	31 20:15 (T45)	21:04	64 20:36 (T45)
13	07:56	07:30	17:23 (T46)	07:48		06:57	06:16	19:42 (T45)	05:58	19:32 (T45)
	17:25	18:02	17 17:40 (T46)	19:35		20:08	20:39	34 20:16 (T45)	21:04	64 20:36 (T45)
14	07:56	07:29	17:22 (T46)	07:46		06:55	06:15	19:40 (T45)	05:58	19:32 (T45)
	17:26	18:04	18 17:40 (T46)	19:36		20:09	20:40	37 20:17 (T45)	21:05	64 20:36 (T45)
15	07:55	07:27	17:22 (T46)	07:45		06:53	06:14	19:40 (T45)	05:58	19:32 (T45)
	17:27	18:05	20 17:42 (T46)	19:38		20:10	20:41	39 20:19 (T45)	21:05	64 20:36 (T45)
16	07:55	07:26	17:21 (T46)	07:43		06:52	06:13	19:39 (T45)	05:58	19:32 (T45)
	17:28	18:06	23 17:44 (T46)	19:39		20:11	20:42	41 20:20 (T45)	21:06	65 20:37 (T45)
17	07:54	07:25	17:21 (T46)	07:41		06:50	06:12	19:38 (T45)	05:58	19:33 (T45)
	17:29	18:07	23 17:44 (T46)	19:40		20:12	20:43	42 20:20 (T45)	21:06	65 20:38 (T45)
18	07:54	07:23	17:21 (T46)	07:40		06:49	06:11	19:37 (T45)	05:58	19:34 (T45)
	17:30	18:09	25 17:46 (T46)	19:41		20:13	20:44	44 20:21 (T45)	21:07	64 20:38 (T45)
19	07:53	07:22	17:21 (T46)	07:38		06:47	06:10	19:36 (T45)	05:58	19:34 (T45)
	17:32	18:10	27 17:48 (T46)	19:42		20:14	20:45	46 20:22 (T45)	21:07	64 20:38 (T45)
20	07:53	07:20	17:20 (T46)	07:36		06:46	06:09	19:35 (T45)	05:59	19:34 (T45)
	17:33	18:11	29 17:49 (T46)	19:43		20:15	20:46	47 20:22 (T45)	21:07	64 20:38 (T45)
21	07:52	07:19	17:21 (T46)	07:35		06:44	06:09	19:35 (T45)	05:59	19:34 (T45)
	17:34	18:12	29 17:50 (T46)	19:44		20:16	20:47	49 20:24 (T45)	21:07	64 20:38 (T45)
22	07:52	07:18	17:21 (T46)	07:33		06:43	06:08	19:34 (T45)	05:59	19:34 (T45)
	17:35	18:13	29 17:50 (T46)	19:45		20:17	20:48	51 20:25 (T45)	21:08	64 20:38 (T45)
23	07:51	07:16	17:22 (T46)	07:31		06:41	06:07	19:33 (T45)	05:59	19:35 (T45)
	17:36	18:15	28 17:50 (T46)	19:46		20:18	20:49	52 20:25 (T45)	21:08	64 20:39 (T45)
24	07:50	07:15	17:22 (T46)	07:30		06:40	06:06	19:33 (T45)	05:59	19:35 (T45)
	17:38	18:16	27 17:49 (T46)	19:47		20:19	20:50	53 20:26 (T45)	21:08	64 20:39 (T45)
25	07:49	07:13	17:23 (T46)	07:28		06:38	06:06	19:33 (T45)	06:00	19:35 (T45)
	17:39	18:17	25 17:48 (T46)	19:48		20:21	20:51	54 20:27 (T45)	21:08	64 20:39 (T45)
26	07:49	07:12	17:24 (T46)	07:26		06:37	06:05	19:32 (T45)	06:00	19:35 (T45)
	17:40	18:18	22 17:46 (T46)	19:50		20:22	20:52	56 20:28 (T45)	21:08	65 20:40 (T45)
27	07:48	07:10	17:26 (T46)	07:24		06:36	06:04	19:33 (T45)	06:00	19:35 (T45)
	17:41	18:19	19 17:45 (T46)	19:51		20:23	20:53	56 20:29 (T45)	21:08	65 20:40 (T45)
28	07:47	07:09	17:28 (T46)	07:23		06:34	06:04	19:32 (T45)	06:01	19:35 (T45)
	17:42	18:21	14 17:42 (T46)	19:52		20:24	20:54	57 20:29 (T45)	21:08	64 20:39 (T45)
29	07:46			07:21		06:33	06:03	19:31 (T45)	06:01	19:36 (T45)
	17:44			19:53		20:25	20:54	59 20:30 (T45)	21:08	64 20:40 (T45)
30	07:45			07:19		06:32	06:02	19:32 (T45)	06:02	19:36 (T45)
	17:45			19:54		20:26	20:55	59 20:31 (T45)	21:08	64 20:40 (T45)
31	07:44			07:18			06:02	19:32 (T45)		
	17:46			19:55			20:56	60 20:32 (T45)		
Potential sun hours	297	297		370		399	448		453	
Total, worst case			415		6			1044		1911
Sun reduction			0.40		0.44			0.57		0.64
Oper. time red.			1.00		1.00			1.00		1.00
Wind dir. red.			0.70		0.70			0.55		0.55
Total reduction			0.28		0.31			0.32		0.35
Total, real			118		2			330		677

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 951 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8482)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December
1	06:02		19:37 (T45)	06:26		19:55 (T45)	06:57	07:27			07:02		16:56 (T46)	07:37
	21:08	63	20:40 (T45)	20:50	30	20:25 (T45)	20:07	19:15			17:28	8	17:04 (T46)	17:04
2	06:03		19:36 (T45)	06:27		19:57 (T45)	06:58	07:29			07:03		16:59 (T46)	07:38
	21:08	64	20:40 (T45)	20:49	27	20:24 (T45)	20:06	19:13			17:27	5	17:04 (T46)	17:03
3	06:03		19:37 (T45)	06:28		20:00 (T45)	06:59	07:30			07:04			07:39
	21:08	64	20:41 (T45)	20:48	22	20:22 (T45)	20:04	19:11			17:26			17:03
4	06:04		19:37 (T45)	06:29		20:03 (T45)	07:00	07:31			07:06			07:40
	21:08	63	20:40 (T45)	20:47	15	20:18 (T45)	20:02	19:10			17:24			17:03
5	06:04		19:37 (T45)	06:30			07:01	07:32			07:07			07:41
	21:08	64	20:41 (T45)	20:46			20:01	19:08			17:23			17:03
6	06:05		19:37 (T45)	06:31			07:02	07:33			07:08			07:42
	21:08	63	20:40 (T45)	20:44			19:57	19:06			17:22			17:03
7	06:06		19:38 (T45)	06:32			07:03	07:34			07:09			07:43
	21:07	63	20:41 (T45)	20:43			19:56	19:05			17:21			17:03
8	06:06		19:39 (T45)	06:33			07:04	07:35			07:10			07:44
	21:07	62	20:41 (T45)	20:42			19:54	19:03			17:20			17:03
9	06:07		19:38 (T45)	06:34			07:05	07:36			07:12			07:45
	21:07	62	20:40 (T45)	20:41			19:52	19:02			17:19			17:03
10	06:07		19:39 (T45)	06:35			07:06	07:37			07:13			07:46
	21:06	62	20:41 (T45)	20:39			19:51	19:00			17:18			17:03
11	06:08		19:40 (T45)	06:36			07:07	07:38			07:14			07:46
	21:06	61	20:41 (T45)	20:38			19:49	18:58			17:17			17:03
12	06:09		19:39 (T45)	06:37			07:08	07:39			07:15			07:47
	21:05	61	20:40 (T45)	20:37			19:47	18:57			17:16			17:03
13	06:10		19:40 (T45)	06:38			07:09	07:40		18:03 (T46)	07:16			07:48
	21:05	60	20:40 (T45)	20:36			19:45	18:55	10	18:13 (T46)	17:15			17:03
14	06:10		19:40 (T45)	06:39			07:10	07:41		17:59 (T46)	07:18			07:49
	21:04	59	20:39 (T45)	20:34			19:44	18:54	17	18:16 (T46)	17:14			17:03
15	06:11		19:41 (T45)	06:40			07:11	07:42		17:58 (T46)	07:19			07:50
	21:04	58	20:39 (T45)	20:33			19:42	18:52	20	18:18 (T46)	17:13			17:03
16	06:12		19:41 (T45)	06:41			07:12	07:44		17:56 (T46)	07:20			07:50
	21:03	57	20:38 (T45)	20:31			19:40	18:50	23	18:19 (T46)	17:12			17:04
17	06:13		19:41 (T45)	06:42			07:13	07:45		17:54 (T46)	07:21			07:51
	21:03	56	20:37 (T45)	20:30			19:39	18:49	26	18:20 (T46)	17:11			17:04
18	06:14		19:42 (T45)	06:43			07:14	07:46		17:53 (T46)	07:22			07:52
	21:02	55	20:37 (T45)	20:29			19:37	18:47	28	18:21 (T46)	17:11			17:04
19	06:14		19:43 (T45)	06:44			07:15	07:47		17:52 (T46)	07:23			07:52
	21:01	54	20:37 (T45)	20:27			19:35	18:46	29	18:21 (T46)	17:10			17:05
20	06:15		19:44 (T45)	06:45			07:16	07:48		17:51 (T46)	07:25			07:53
	21:01	52	20:36 (T45)	20:26			19:33	18:44	30	18:21 (T46)	17:09			17:05
21	06:16		19:43 (T45)	06:46			07:17	07:49		17:52 (T46)	07:26			07:53
	21:00	52	20:35 (T45)	20:24			19:32	18:43	28	18:20 (T46)	17:09			17:06
22	06:17		19:44 (T45)	06:47			07:18	07:50		17:51 (T46)	07:27			07:54
	20:59	50	20:34 (T45)	20:23			19:30	18:41	28	18:19 (T46)	17:08			17:06
23	06:18		19:45 (T45)	06:48			07:19	07:51		17:51 (T46)	07:28			07:54
	20:58	48	20:33 (T45)	20:21			19:28	18:40	26	18:17 (T46)	17:07			17:07
24	06:19		19:46 (T45)	06:49			07:20	07:53		17:50 (T46)	07:29			07:55
	20:58	47	20:33 (T45)	20:20			19:27	18:39	25	18:15 (T46)	17:07			17:07
25	06:20		19:47 (T45)	06:50			07:21	07:54		17:50 (T46)	07:30			07:55
	20:57	45	20:32 (T45)	20:18			19:25	18:37	24	18:14 (T46)	17:06			17:08
26	06:21		19:48 (T45)	06:51			07:22	07:55		17:51 (T46)	07:32			07:56
	20:56	43	20:31 (T45)	20:17			19:23	18:36	22	18:13 (T46)	17:06			17:08
27	06:22		19:49 (T45)	06:52			07:23	07:56		17:51 (T46)	07:33			07:56
	20:55	42	20:31 (T45)	20:15			19:22	18:34	20	18:11 (T46)	17:05			17:09
28	06:22		19:50 (T45)	06:53			07:24	07:57		17:52 (T46)	07:34			07:56
	20:54	40	20:30 (T45)	20:14			19:20	18:33	18	18:10 (T46)	17:05			17:10
29	06:23		19:50 (T45)	06:54			07:25	07:58		17:52 (T46)	07:35			07:56
	20:53	38	20:28 (T45)	20:12			19:18	18:32	16	18:08 (T46)	17:04			17:10
30	06:24		19:52 (T45)	06:55			07:26	08:00		17:54 (T46)	07:36			07:57
	20:52	35	20:27 (T45)	20:10			19:16	18:31	14	18:08 (T46)	17:04			17:11
31	06:25		19:53 (T45)	06:56				08:01		17:55 (T46)				07:57
	20:51	33	20:26 (T45)	20:09				18:29	11	18:06 (T46)				17:12
Potential sun hours	460			429			375	345			297			287
Total, worst case		1676			94				415			13		
Sun reduction		0.66			0.61				0.48			0.30		
Oper. time red.		1.00			1.00				1.00			1.00		
Wind dir. red.		0.55			0.55				0.70			0.70		
Total reduction		0.37			0.34				0.34			0.21		
Total, real		613			32				141			3		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 956 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8486)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May	June
1	07:57	16:06 (T30)	07:44	08:04 (T31)	07:07		07:16	08:11 (T28)	06:30	06:01
	17:13 40	16:46 (T30)	17:47 52	16:55 (T30)	18:22		19:56 39	19:16 (T27)	20:27	20:57
2	07:57	16:06 (T30)	07:43	08:03 (T31)	07:06		07:14	18:55 (T27)	06:29	06:01
	17:14 40	16:46 (T30)	17:49 52	16:54 (T30)	18:23		19:57 18	19:13 (T27)	20:28	20:58
3	07:58	16:06 (T30)	07:42	08:02 (T31)	07:04	07:23 (T28)	07:13	18:59 (T27)	06:28	06:00
	17:15 41	16:47 (T30)	17:50 53	16:54 (T30)	18:24 12	07:35 (T28)	19:58 10	19:09 (T27)	20:29	20:58
4	07:58	16:07 (T30)	07:40	08:01 (T31)	07:02	07:22 (T28)	07:11		06:26	06:00
	17:15 41	16:48 (T30)	17:51 52	16:53 (T30)	18:25 17	07:39 (T28)	19:59		20:30	20:59
5	07:58	16:07 (T30)	07:39	08:00 (T31)	07:01	07:20 (T28)	07:09		06:25	06:00
	17:16 42	16:49 (T30)	17:52 50	16:51 (T30)	18:26 21	07:41 (T28)	20:00		20:31	21:00
6	07:58	16:07 (T30)	07:38	07:58 (T31)	06:59	07:19 (T28)	07:08		06:24	05:59
	17:17 42	16:49 (T30)	17:54 49	16:49 (T30)	18:27 25	07:44 (T28)	20:00		20:32	21:01
7	07:57	16:08 (T30)	07:37	07:57 (T31)	06:58	07:17 (T28)	07:06		06:23	05:59
	17:18 42	16:50 (T30)	17:55 45	16:47 (T30)	18:29 28	07:45 (T28)	20:01		20:33	21:01
8	07:57	16:07 (T30)	07:36	07:56 (T31)	07:56	08:15 (T28)	07:05		06:21	05:59
	17:19 43	16:50 (T30)	17:56 41	16:44 (T30)	19:30 30	08:45 (T28)	20:02		20:34	21:02
9	07:57	16:07 (T30)	07:35	07:55 (T31)	07:54	08:14 (T28)	07:03		06:20	05:59
	17:20 44	16:51 (T30)	17:57 29	08:24 (T31)	19:31 33	08:47 (T28)	20:03		20:35	21:03
10	07:57	16:08 (T30)	07:34	07:54 (T31)	07:53	08:12 (T28)	07:01		06:19	05:58
	17:21 44	16:52 (T30)	17:59 30	08:24 (T31)	19:32 35	08:47 (T28)	20:05		20:37	21:03
11	07:57	16:08 (T30)	07:32	07:52 (T31)	07:51	08:10 (T28)	07:00		06:18	05:58
	17:22 45	16:53 (T30)	18:00 31	08:23 (T31)	19:33 45	19:11 (T27)	20:06		20:38	21:04
12	07:56	16:08 (T30)	07:31	07:51 (T31)	07:50	08:09 (T28)	06:58		06:17	05:58
	17:23 45	16:53 (T30)	18:01 32	08:23 (T31)	19:34 52	19:13 (T27)	20:07		20:39	21:04
13	07:56	16:08 (T30)	07:30	07:51 (T31)	07:48	08:07 (T28)	06:56		06:16	05:58
	17:25 46	16:54 (T30)	18:02 32	08:23 (T31)	19:35 58	19:14 (T27)	20:08		20:40	21:05
14	07:56	16:08 (T30)	07:29	07:52 (T31)	07:46	08:05 (T28)	06:55		06:15	05:58
	17:26 46	16:54 (T30)	18:04 31	08:23 (T31)	19:36 62	19:15 (T27)	20:09		20:41	21:05
15	07:55	16:09 (T30)	07:27	07:52 (T31)	07:45	08:04 (T28)	06:53		06:14	05:58
	17:27 46	16:55 (T30)	18:05 30	08:22 (T31)	19:38 66	19:16 (T27)	20:10		20:42	21:06
16	07:55	16:09 (T30)	07:26	07:53 (T31)	07:43	08:02 (T28)	06:52		06:13	05:58
	17:28 45	16:54 (T30)	18:06 28	08:21 (T31)	19:39 71	19:17 (T27)	20:11		20:43	21:06
17	07:55	16:09 (T30)	07:25	07:53 (T31)	07:41	08:00 (T28)	06:50		06:12	05:58
	17:29 46	16:55 (T30)	18:07 27	08:20 (T31)	19:40 74	19:18 (T27)	20:12		20:44	21:06
18	07:54	16:09 (T30)	07:23	07:55 (T31)	07:40	08:00 (T28)	06:49		06:11	05:58
	17:30 46	16:55 (T30)	18:09 24	08:19 (T31)	19:41 77	19:20 (T27)	20:13		20:45	21:07
19	07:53	16:10 (T30)	07:22	07:57 (T31)	07:38	08:00 (T28)	06:47		06:10	05:58
	17:31 46	16:56 (T30)	18:10 20	08:17 (T31)	19:42 79	19:21 (T27)	20:14		20:46	21:07
20	07:53	16:10 (T30)	07:21	07:58 (T31)	07:36	08:00 (T28)	06:46		06:09	05:58
	17:33 46	16:56 (T30)	18:11 17	08:15 (T31)	19:43 79	19:21 (T27)	20:15		20:46	21:07
21	07:52	16:10 (T30)	07:19	08:02 (T31)	07:35	08:00 (T28)	06:44		06:08	05:59
	17:34 46	16:56 (T30)	18:12 10	08:12 (T31)	19:44 81	19:23 (T27)	20:16		20:47	21:08
22	07:52	16:11 (T30)	07:18		07:33	08:00 (T28)	06:43		06:08	05:59
	17:35 46	16:57 (T30)	18:13		19:45 81	19:24 (T27)	20:17		20:48	21:08
23	07:51	16:11 (T30)	07:16		07:31	08:00 (T28)	06:41		06:07	05:59
	17:36 46	16:57 (T30)	18:15		19:46 82	19:25 (T27)	20:18		20:49	21:08
24	07:50	16:12 (T30)	07:15		07:30	08:01 (T28)	06:40		06:06	05:59
	17:37 45	16:57 (T30)	18:16		19:47 80	19:26 (T27)	20:20		20:50	21:08
25	07:50	16:12 (T30)	07:13		07:28	08:01 (T28)	06:38		06:05	06:00
	17:39 45	16:57 (T30)	18:17		19:48 79	19:25 (T27)	20:21		20:51	21:08
26	07:49	16:13 (T30)	07:12		07:26	08:02 (T28)	06:37		06:05	06:00
	17:40 45	16:58 (T30)	18:18		19:50 75	19:24 (T27)	20:22		20:52	21:09
27	07:48	08:09 (T31)	07:10		07:24	08:02 (T28)	06:36		06:04	06:00
	17:41 44	16:57 (T30)	18:19		19:51 72	19:23 (T27)	20:23		20:53	21:09
28	07:47	08:08 (T31)	07:09		07:23	08:04 (T28)	06:34		06:03	06:01
	17:42 48	16:57 (T30)	18:20		19:52 67	19:22 (T27)	20:24		20:54	21:09
29	07:46	08:07 (T31)			07:21	08:05 (T28)	06:33		06:03	06:01
	17:44 50	16:57 (T30)			19:53 62	19:21 (T27)	20:25		20:55	21:09
30	07:45	08:06 (T31)			07:19	08:06 (T28)	06:31		06:02	06:01
	17:45 51	16:56 (T30)			19:54 56	19:19 (T27)	20:26		20:55	21:09
31	07:44	08:05 (T31)			07:18	08:09 (T28)			06:02	
	17:46 52	16:56 (T30)			19:55 48	19:18 (T27)			20:56	
Potential sun hours	297		297		370		399		449	453
Total, worst case	1394		735		1647		67			
Sun reduction	0.31		0.40		0.44		0.52			
Oper. time red.	1.00		1.00		1.00		1.00			
Wind dir. red.	0.73		0.60		0.61		0.63			
Total reduction	0.23		0.25		0.27		0.34			
Total, real	322		181		451		23			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 956 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8486)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August	September		October		November		December	
1	06:02	06:26	06:57		07:27		07:47 (T28)	07:02		07:23 (T31)	07:37		15:50 (T30)
	21:09	20:50	20:07		19:15	53	18:52 (T27)	17:28	30	07:53 (T31)	17:04	45	16:35 (T30)
2	06:02	06:27	06:58		07:29		07:48 (T28)	07:03		07:25 (T31)	07:38		15:51 (T30)
	21:08	20:49	20:06		19:13	47	18:50 (T27)	17:27	29	07:54 (T31)	17:03	44	16:35 (T30)
3	06:03	06:28	06:59		07:30		07:49 (T28)	07:04		07:26 (T31)	07:39		15:51 (T30)
	21:08	20:48	20:04		19:11	38	18:49 (T27)	17:25	41	16:14 (T30)	17:03	44	16:35 (T30)
4	06:03	06:29	07:00		07:31		07:50 (T28)	07:06		07:27 (T31)	07:40		15:52 (T30)
	21:08	20:47	20:02		19:10	34	08:24 (T28)	17:24	46	16:17 (T30)	17:03	43	16:35 (T30)
5	06:04	06:30	07:01		07:32		07:52 (T28)	07:07		07:28 (T31)	07:41		15:53 (T30)
	21:08	20:46	20:01		19:08	32	08:24 (T28)	17:23	49	16:19 (T30)	17:03	42	16:35 (T30)
6	06:05	06:31	07:02		07:33		07:53 (T28)	07:08		07:30 (T31)	07:42		15:53 (T30)
	21:08	20:45	19:57		19:06	29	08:22 (T28)	17:22	51	16:21 (T30)	17:03	42	16:35 (T30)
7	06:05	06:32	07:03		07:34		07:54 (T28)	07:09		07:31 (T31)	07:43		15:54 (T30)
	21:07	20:43	19:56		19:05	26	08:20 (T28)	17:21	52	16:23 (T30)	17:02	42	16:36 (T30)
8	06:06	06:33	07:04		07:35		07:55 (T28)	07:10		07:32 (T31)	07:44		15:55 (T30)
	21:07	20:42	19:54		19:03	23	08:18 (T28)	17:20	53	16:24 (T30)	17:02	41	16:36 (T30)
9	06:07	06:34	07:05	18:53 (T27)	07:36		07:56 (T28)	07:12		07:34 (T31)	07:45		15:54 (T30)
	21:07	20:41	19:52	9 19:02 (T27)	19:01	19	08:15 (T28)	17:19	52	16:25 (T30)	17:02	41	16:35 (T30)
10	06:07	06:35	07:06	18:48 (T27)	07:37		07:57 (T28)	07:13		07:35 (T31)	07:46		15:55 (T30)
	21:06	20:40	19:51	17 19:05 (T27)	19:00	15	08:12 (T28)	17:18	52	16:26 (T30)	17:02	41	16:36 (T30)
11	06:08	06:36	07:07	08:04 (T28)	07:38		07:58 (T28)	07:14		07:36 (T31)	07:47		15:56 (T30)
	21:06	20:38	19:49	36 19:07 (T27)	18:58	9	08:07 (T28)	17:17	52	16:27 (T30)	17:02	40	16:36 (T30)
12	06:09	06:37	07:08	08:00 (T28)	07:39			07:15		07:37 (T31)	07:47		15:57 (T30)
	21:06	20:37	19:47	48 19:09 (T27)	18:57			17:16	51	16:27 (T30)	17:03	39	16:36 (T30)
13	06:09	06:38	07:09	07:57 (T28)	07:40			07:16		07:39 (T31)	07:48		15:58 (T30)
	21:05	20:36	19:45	55 19:10 (T27)	18:55			17:15	50	16:29 (T30)	17:03	39	16:37 (T30)
14	06:10	06:39	07:10	07:55 (T28)	07:41			07:18		07:40 (T31)	07:49		15:57 (T30)
	21:05	20:34	19:44	62 19:11 (T27)	18:53			17:14	48	16:29 (T30)	17:03	39	16:36 (T30)
15	06:11	06:40	07:11	07:53 (T28)	07:42			07:19		07:41 (T31)	07:50		15:58 (T30)
	21:04	20:33	19:42	66 19:11 (T27)	18:52			17:13	44	16:29 (T30)	17:03	39	16:37 (T30)
16	06:12	06:41	07:12	07:52 (T28)	07:44			07:20		15:46 (T30)	07:50		15:59 (T30)
	21:04	20:32	19:40	71 19:12 (T27)	18:50			17:12	45	16:31 (T30)	17:03	38	16:37 (T30)
17	06:13	06:42	07:13	07:50 (T28)	07:45			07:21		15:46 (T30)	07:51		16:00 (T30)
	21:03	20:30	19:39	74 19:12 (T27)	18:49			17:11	45	16:31 (T30)	17:04	38	16:38 (T30)
18	06:13	06:43	07:14	07:49 (T28)	07:46			07:22		15:46 (T30)	07:52		16:00 (T30)
	21:02	20:29	19:37	77 19:12 (T27)	18:47			17:10	45	16:31 (T30)	17:04	38	16:38 (T30)
19	06:14	06:44	07:15	07:48 (T28)	07:47			07:24		15:45 (T30)	07:52		16:01 (T30)
	21:02	20:27	19:35	79 19:12 (T27)	18:46			17:10	46	16:31 (T30)	17:04	38	16:39 (T30)
20	06:15	06:45	07:16	07:46 (T28)	07:48			07:25		15:46 (T30)	07:53		16:01 (T30)
	21:01	20:26	19:33	82 19:11 (T27)	18:44			17:09	46	16:32 (T30)	17:05	38	16:39 (T30)
21	06:16	06:46	07:17	07:46 (T28)	07:49		08:31 (T31)	07:26		15:46 (T30)	07:53		16:02 (T30)
	21:00	20:24	19:32	81 19:10 (T27)	18:43	12	08:43 (T31)	17:08	46	16:32 (T30)	17:05	37	16:39 (T30)
22	06:17	06:47	07:18	07:45 (T28)	07:50		08:28 (T31)	07:27		15:46 (T30)	07:54		16:02 (T30)
	20:59	20:23	19:30	80 19:08 (T27)	18:41	18	08:46 (T31)	17:08	46	16:32 (T30)	17:06	37	16:39 (T30)
23	06:18	06:48	07:19	07:44 (T28)	07:51		08:26 (T31)	07:28		15:46 (T30)	07:54		16:03 (T30)
	20:59	20:21	19:28	80 19:06 (T27)	18:40	22	08:48 (T31)	17:07	46	16:32 (T30)	17:06	37	16:40 (T30)
24	06:19	06:49	07:20	07:43 (T28)	07:53		08:24 (T31)	07:29		15:47 (T30)	07:55		16:03 (T30)
	20:58	20:20	19:27	79 19:04 (T27)	18:39	25	08:49 (T31)	17:07	46	16:33 (T30)	17:07	38	16:41 (T30)
25	06:20	06:50	07:21	07:43 (T28)	07:54		08:23 (T31)	07:31		15:47 (T30)	07:55		16:03 (T30)
	20:57	20:18	19:25	77 19:03 (T27)	18:37	28	08:51 (T31)	17:06	47	16:34 (T30)	17:07	38	16:41 (T30)
26	06:20	06:51	07:22	07:43 (T28)	07:55		08:22 (T31)	07:32		15:48 (T30)	07:56		16:04 (T30)
	20:56	20:17	19:23	75 19:01 (T27)	18:36	29	08:51 (T31)	17:05	46	16:34 (T30)	17:08	38	16:42 (T30)
27	06:21	06:52	07:23	07:43 (T28)	07:56		08:21 (T31)	07:33		15:48 (T30)	07:56		16:04 (T30)
	20:55	20:15	19:21	72 18:59 (T27)	18:34	31	08:52 (T31)	17:05	46	16:34 (T30)	17:09	38	16:42 (T30)
28	06:22	06:53	07:24	07:44 (T28)	07:57		08:20 (T31)	07:34		15:48 (T30)	07:56		16:04 (T30)
	20:54	20:14	19:20	68 18:57 (T27)	18:33	32	08:52 (T31)	17:05	46	16:34 (T30)	17:09	39	16:43 (T30)
29	06:23	06:54	07:25	07:45 (T28)	07:58		08:20 (T31)	07:35		15:48 (T30)	07:57		16:05 (T30)
	20:53	20:12	19:18	64 18:56 (T27)	18:32	33	08:53 (T31)	17:04	46	16:34 (T30)	17:10	39	16:44 (T30)
30	06:24	06:55	07:26	07:46 (T28)	08:00		08:21 (T31)	07:36		15:49 (T30)	07:57		16:06 (T30)
	20:52	20:10	19:16	59 18:54 (T27)	18:30	32	08:53 (T31)	17:04	45	16:34 (T30)	17:11	39	16:45 (T30)
31	06:25	06:56			08:01		08:22 (T31)				07:57		16:06 (T30)
	20:51	20:09			18:29	31	08:53 (T31)				17:12	39	16:45 (T30)
Potential sun hours	460	429	375		345			297			287		
Total, worst case				1411		618			1387			1230	
Sun reduction				0.59		0.48			0.30			0.22	
Oper. time red.				1.00		1.00			1.00			1.00	
Wind dir. red.				0.61		0.57			0.70			0.73	
Total reduction				0.37		0.28			0.21			0.17	
Total, real				522		173			297			203	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 986 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8514)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:57 / 17:12	07:43 / 17:47	07:07 / 18:21	07:16 / 19:56	06:30 / 20:27	06:49 (T5) / 07:15 (T5)	06:01 / 20:57	06:23 (T4) / 07:05 (T4)	06:01 / 21:09	06:29 (T4) / 07:12 (T4)	06:26 / 20:50	06:54 (T5) / 07:23 (T5)	06:57 / 20:07	07:27 / 19:14	07:02 / 17:27	07:37 / 17:03
2	07:57 / 17:13	07:42 / 17:48	07:05 / 18:22	07:14 / 19:57	06:28 / 20:28	06:48 (T5) / 07:15 (T5)	06:00 / 20:58	06:24 (T4) / 07:06 (T4)	06:02 / 21:08	06:29 (T4) / 07:12 (T4)	06:27 / 20:49	06:54 (T5) / 07:23 (T5)	06:58 / 20:05	07:28 / 19:13	07:03 / 17:26	07:38 / 17:03
3	07:57 / 17:14	07:41 / 17:49	07:04 / 18:24	07:12 / 19:58	06:27 / 20:29	06:47 (T5) / 07:15 (T5)	06:00 / 20:58	06:24 (T4) / 07:07 (T4)	06:02 / 21:08	06:29 (T4) / 07:13 (T4)	06:28 / 20:48	06:53 (T5) / 07:24 (T5)	06:59 / 20:04	07:29 / 19:11	07:04 / 17:25	07:39 / 17:02
4	07:58 / 17:15	07:40 / 17:51	07:02 / 18:25	07:11 / 19:59	06:26 / 20:30	06:46 (T5) / 07:15 (T5)	05:59 / 20:59	06:23 (T4) / 07:06 (T4)	06:03 / 21:08	06:30 (T4) / 07:13 (T4)	06:29 / 20:47	06:52 (T5) / 07:23 (T5)	07:00 / 20:02	07:30 / 19:09	07:05 / 17:24	07:40 / 17:02
5	07:58 / 17:16	07:39 / 17:52	07:01 / 18:26	07:09 / 20:00	06:25 / 20:31	06:44 (T5) / 07:14 (T5)	05:59 / 21:00	06:24 (T4) / 07:07 (T4)	06:04 / 21:08	06:30 (T4) / 07:13 (T4)	06:30 / 20:46	06:51 (T5) / 07:24 (T5)	07:01 / 20:00	07:31 / 19:08	07:07 / 17:23	07:41 / 17:02
6	07:57 / 17:17	07:38 / 17:53	06:59 / 18:27	07:07 / 20:00	06:23 / 20:32	06:43 (T5) / 07:14 (T5)	05:59 / 21:01	06:24 (T4) / 07:07 (T4)	06:04 / 21:08	06:30 (T4) / 07:14 (T4)	06:31 / 20:44	06:52 (T5) / 07:24 (T5)	07:02 / 19:57	07:32 / 19:06	07:08 / 17:21	07:42 / 17:02
7	07:57 / 17:18	07:37 / 17:54	06:57 / 18:28	07:06 / 20:01	06:22 / 20:33	06:42 (T5) / 07:14 (T5)	05:58 / 21:01	06:24 (T4) / 07:07 (T4)	06:05 / 21:07	06:30 (T4) / 07:13 (T4)	06:32 / 20:43	06:53 (T5) / 07:24 (T5)	07:03 / 19:55	07:34 / 19:04	07:09 / 17:20	07:43 / 17:02
8	07:57 / 17:19	07:36 / 17:56	07:56 / 19:29	07:04 / 20:02	06:21 / 20:34	06:42 (T5) / 07:14 (T5)	05:58 / 21:02	06:24 (T4) / 07:07 (T4)	06:05 / 21:07	06:31 (T4) / 07:14 (T4)	06:33 / 20:42	06:54 (T5) / 07:24 (T5)	07:04 / 19:54	07:35 / 19:03	07:10 / 17:19	07:44 / 17:02
9	07:57 / 17:20	07:35 / 17:57	07:54 / 19:31	07:03 / 20:03	06:20 / 20:35	06:42 (T5) / 07:14 (T5)	05:58 / 21:02	06:24 (T4) / 07:08 (T4)	06:06 / 21:07	06:31 (T4) / 07:14 (T4)	06:34 / 20:41	06:55 (T5) / 07:24 (T5)	07:05 / 19:52	07:36 / 19:01	07:12 / 17:18	07:45 / 17:02
10	07:57 / 17:21	07:34 / 17:58	07:53 / 19:32	07:01 / 20:04	06:19 / 20:36	06:43 (T5) / 07:13 (T5)	05:58 / 21:03	06:25 (T4) / 07:08 (T4)	06:07 / 21:06	06:31 (T4) / 07:13 (T4)	06:35 / 20:39	06:56 (T5) / 07:24 (T5)	07:06 / 19:50	07:37 / 18:59	07:13 / 17:17	07:46 / 17:02
11	07:57 / 17:22	07:32 / 17:59	07:51 / 19:33	06:59 / 20:05	06:18 / 20:37	06:43 (T5) / 07:13 (T5)	05:58 / 21:04	06:25 (T4) / 07:08 (T4)	06:07 / 21:06	06:31 (T4) / 07:14 (T4)	06:36 / 20:38	06:57 (T5) / 07:24 (T5)	07:07 / 19:49	07:38 / 18:58	07:14 / 17:16	07:47 / 17:02
12	07:56 / 17:23	07:31 / 18:01	07:49 / 19:34	06:58 / 20:06	06:16 / 20:38	06:44 (T5) / 07:12 (T5)	05:58 / 21:04	06:25 (T4) / 07:09 (T4)	06:08 / 21:06	06:32 (T4) / 07:14 (T4)	06:37 / 20:37	06:58 (T5) / 07:23 (T5)	07:08 / 19:47	07:39 / 18:56	07:15 / 17:15	07:47 / 17:02
13	07:56 / 17:24	07:30 / 18:02	07:48 / 19:35	06:56 / 20:08	06:15 / 20:39	06:38 (T4) / 07:11 (T5)	05:57 / 21:05	06:25 (T4) / 07:09 (T4)	06:09 / 21:05	06:32 (T4) / 07:13 (T4)	06:38 / 20:36	06:59 (T5) / 07:23 (T5)	07:09 / 19:45	07:40 / 18:55	07:16 / 17:14	07:48 / 17:02
14	07:56 / 17:25	07:28 / 18:03	07:46 / 19:36	06:55 / 20:09	06:14 / 20:41	06:35 (T4) / 07:10 (T5)	05:57 / 21:05	06:26 (T4) / 07:09 (T4)	06:10 / 21:05	06:32 (T4) / 07:13 (T4)	06:39 / 20:34	07:00 (T5) / 07:22 (T5)	07:10 / 19:44	07:41 / 18:53	07:18 / 17:13	07:49 / 17:02
15	07:55 / 17:26	07:27 / 18:04	07:44 / 19:37	06:53 / 20:10	06:13 / 20:42	06:34 (T4) / 07:09 (T5)	05:57 / 21:06	06:26 (T4) / 07:09 (T4)	06:10 / 21:04	06:33 (T4) / 07:14 (T4)	06:40 / 20:33	07:01 (T5) / 07:22 (T5)	07:11 / 19:42	07:42 / 18:52	07:19 / 17:12	07:50 / 17:03
16	07:55 / 17:27	07:26 / 18:06	07:43 / 19:38	06:51 / 20:11	06:12 / 20:43	06:33 (T4) / 07:08 (T5)	05:57 / 21:06	06:26 (T4) / 07:09 (T4)	06:11 / 21:03	06:34 (T4) / 07:14 (T4)	06:41 / 20:31	07:02 (T5) / 07:21 (T5)	07:12 / 19:40	07:43 / 18:50	07:20 / 17:12	07:50 / 17:03
17	07:54 / 17:29	07:25 / 18:07	07:41 / 19:39	06:50 / 20:12	06:11 / 20:44	06:32 (T4) / 07:06 (T5)	05:57 / 21:06	06:26 (T4) / 07:09 (T4)	06:12 / 21:03	06:34 (T4) / 07:13 (T4)	06:42 / 20:30	07:03 (T5) / 07:20 (T5)	07:13 / 19:38	07:44 / 18:48	07:21 / 17:11	07:51 / 17:03
18	07:54 / 17:30	07:23 / 18:08	07:39 / 19:41	06:48 / 20:13	06:10 / 20:44	06:31 (T4) / 07:05 (T5)	05:58 / 21:07	06:26 (T4) / 07:10 (T4)	06:13 / 21:02	06:35 (T4) / 07:13 (T4)	06:43 / 20:29	07:04 (T5) / 07:18 (T5)	07:14 / 19:37	07:46 / 18:47	07:22 / 17:10	07:52 / 17:04
19	07:53 / 17:31	07:22 / 18:09	07:38 / 19:42	06:47 / 20:14	06:10 / 20:45	06:30 (T4) / 07:02 (T5)	05:58 / 21:07	06:26 (T4) / 07:10 (T4)	06:14 / 21:02	06:36 (T4) / 07:13 (T4)	06:44 / 20:27	07:05 (T5) / 07:17 (T5)	07:15 / 19:35	07:47 / 18:45	07:23 / 17:09	07:52 / 17:04
20	07:53 / 17:32	07:20 / 18:11	07:36 / 19:43	06:45 / 20:15	06:09 / 20:46	06:30 (T4) / 07:00 (T4)	05:58 / 21:07	06:26 (T4) / 07:10 (T4)	06:15 / 21:01	06:37 (T4) / 07:12 (T4)	06:45 / 20:26	07:06 (T5) / 07:15 (T5)	07:16 / 19:33	07:48 / 18:44	07:25 / 17:09	07:53 / 17:04
21	07:52 / 17:33	07:19 / 18:12	07:34 / 19:44	06:44 / 20:16	06:08 / 20:47	06:29 (T4) / 07:01 (T4)	05:58 / 21:08	06:26 (T4) / 07:10 (T4)	06:15 / 21:00	06:38 (T4) / 07:12 (T4)	06:46 / 20:24	07:07 (T5) / 07:12 (T5)	07:17 / 19:31	07:49 / 18:42	07:26 / 17:08	07:53 / 17:05
22	07:52 / 17:34	07:17 / 18:13	07:33 / 19:45	06:42 / 20:17 5	07:02 (T5) / 07:07 (T5)	06:07 / 20:48	06:28 (T4) / 07:01 (T4)	05:58 / 21:08	06:27 (T4) / 07:11 (T4)	06:16 / 20:59	06:39 (T4) / 07:12 (T4)	06:47 / 20:23	07:18 / 19:30	07:50 / 18:41	07:27 / 17:07	07:54 / 17:05
23	07:51 / 17:36	07:16 / 18:14	07:31 / 19:46	06:41 / 20:18 9	07:00 (T5) / 07:09 (T5)	06:06 / 20:49	06:27 (T4) / 07:02 (T4)	05:58 / 21:08	06:27 (T4) / 07:11 (T4)	06:17 / 20:59	06:39 (T4) / 07:10 (T4)	06:48 / 20:21	07:19 / 19:28	07:51 / 18:40	07:28 / 17:07	07:54 / 17:06
24	07:50 / 17:37	07:15 / 18:15	07:29 / 19:47	06:39 / 20:19 12	06:59 (T5) / 07:11 (T5)	06:06 / 20:50	06:27 (T4) / 07:03 (T4)	05:59 / 21:08	06:27 (T4) / 07:11 (T4)	06:18 / 20:58	06:40 (T4) / 07:11 (T5)	06:49 / 20:20	07:20 / 19:26	07:52 / 18:38	07:29 / 17:06	07:55 / 17:06
25	07:49 / 17:38	07:13 / 18:17	07:28 / 19:48	06:38 / 20:20 15	06:57 (T5) / 07:12 (T5)	06:05 / 20:51	06:26 (T4) / 07:03 (T4)	05:59 / 21:08	06:28 (T4) / 07:12 (T4)	06:19 / 20:57	06:41 (T4) / 07:14 (T5)	06:50 / 20:18	07:21 / 19:25	07:54 / 18:37	07:30 / 17:05	07:55 / 17:07
26	07:49 / 17:39	07:12 / 18:18	07:26 / 19:49	06:36 / 20:22 17	06:56 (T5) / 07:13 (T5)	06:04 / 20:52	06:25 (T4) / 07:03 (T4)	05:59 / 21:09	06:28 (T4) / 07:11 (T4)	06:20 / 20:56	06:42 (T4) / 07:16 (T5)	06:51 / 20:17	07:22 / 19:23	07:55 / 18:35	07:32 / 17:05	07:56 / 17:08
27	07:48 / 17:41	07:10 / 18:19	07:24 / 19:50	06:35 / 20:23 19	06:55 (T5) / 07:14 (T5)	06:04 / 20:53	06:25 (T4) / 07:04 (T4)	06:00 / 21:09	06:28 (T4) / 07:11 (T4)	06:21 / 20:55	06:43 (T4) / 07:18 (T5)	06:52 / 20:15	07:23 / 19:21	07:56 / 18:34	07:33 / 17:05	07:56 / 17:08
28	07:47 / 17:42	07:08 / 18:20	07:22 / 19:51	06:34 / 20:24 21	06:53 (T5) / 07:14 (T5)	06:03 / 20:54	06:24 (T4) / 07:04 (T4)	06:00 / 21:09	06:29 (T4) / 07:12 (T4)	06:22 / 20:54	06:44 (T4) / 07:19 (T5)	06:53 / 20:13	07:24 / 19:19	07:57 / 18:33	07:34 / 17:04	07:56 / 17:09
29	07:46 / 17:43		07:21 / 19:52	06:32 / 20:25 23	06:52 (T5) / 07:15 (T5)	06:02 / 20:55 41	06:24 (T4) / 07:05 (T4)	06:00 / 21:09 44	06:28 (T4) / 07:12 (T4)	06:23 / 20:53 35	06:45 (T4) / 07:20 (T5)	06:54 / 20:12	07:25 / 19:18	07:58 / 18:31	07:35 / 17:04	07:57 / 17:10
30	07:45 / 17:44		07:19 / 19:54	06:31 / 20:26 24	06:51 (T5) / 07:15 (T5)	06:02 / 20:55 42	06:23 (T4) / 07:05 (T4)	06:01 / 21:09 44	06:29 (T4) / 07:13 (T4)	06:24 / 20:52 35	06:46 (T4) / 07:21 (T5)	06:55 / 20:10	07:26 / 19:16	08:00 / 18:30	07:36 / 17:03	07:57 / 17:10
31	07:44 / 17:46		07:17 / 19:55			06:01 / 20:56 42	06:24 (T4) / 07:06 (T4)			06:25 / 20:51 32	06:50 (T4) / 07:22 (T5)	06:56 / 20:09		08:01 / 18:29		07:57 / 17:11
Potential sun hours	297	297	370	399	449	453	460	429	375	345	297	287
Total, worst case				145	1038	1301	1196	498				
Sun reduction				0.52	0.57	0.64	0.66	0.61				
Oper. time red.				1.00	1.00	1.00	1.00	1.00				
Wind dir. red.				0.69	0.70	0.71	0.71	0.69				
Total reduction				0.36	0.40	0.46	0.47	0.42				
Total, real				52	415	594	561	209				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 998 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8522)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:58	07:44	07:07	07:16	06:30	18:35 (T26) 06:01	18:35 (T26) 06:02	18:43 (T26) 06:26	18:42 (T26) 06:57	07:28	07:02	07:37
	17:13	17:47	18:22	19:56	20:27 90	20:05 (T25) 20:57 88	20:03 (T26) 21:09 85	20:08 (T26) 20:50 90	20:12 (T26) 20:07	19:15	17:28	17:04
2	07:58	07:43	07:06	07:15	06:29	18:35 (T26) 06:01	18:36 (T26) 06:03	18:43 (T26) 06:27	18:42 (T26) 06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57	20:28 91	20:06 (T25) 20:58 87	20:03 (T26) 21:09 85	20:08 (T26) 20:49 90	20:12 (T26) 20:06	19:13	17:27	17:03
3	07:58	07:42	07:04	07:13	06:28	18:34 (T26) 06:00	18:35 (T26) 06:03	18:43 (T26) 06:28	18:42 (T26) 06:59	07:30	07:05	07:39
	17:15	17:50	18:24	19:58	20:29 92	20:06 (T25) 20:59 88	20:03 (T26) 21:09 86	20:09 (T26) 20:48 91	20:13 (T25) 20:04	19:11	17:26	17:03
4	07:58	07:41	07:03	07:11	06:26	18:33 (T26) 06:00	18:36 (T26) 06:04	18:43 (T26) 06:29	18:42 (T26) 07:00	07:31	07:06	07:40
	17:16	17:51	18:25	19:59	20:30 92	20:05 (T25) 20:59 87	20:03 (T26) 21:08 86	20:09 (T26) 20:47 91	20:13 (T25) 20:02	19:10	17:24	17:03
5	07:58	07:40	07:01	07:10	06:25	18:33 (T26) 06:00	18:37 (T26) 06:04	18:43 (T26) 06:30	18:42 (T26) 07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00	20:31 92	20:05 (T25) 21:00 87	20:04 (T26) 21:08 86	20:09 (T26) 20:46 92	20:14 (T25) 20:01	19:08	17:23	17:03
6	07:58	07:38	06:59	07:08	06:24	18:33 (T26) 05:59	18:36 (T26) 06:05	18:42 (T26) 06:31	18:42 (T26) 07:02	07:33	07:08	07:42
	17:17	17:54	18:28	20:00	20:32 92	20:05 (T25) 21:01 87	20:03 (T26) 21:08 87	20:09 (T26) 20:45 92	20:14 (T25) 19:57	19:06	17:22	17:03
7	07:58	07:37	06:58	07:06	06:23	18:33 (T26) 05:59	18:37 (T26) 06:05	18:43 (T26) 06:32	18:43 (T26) 07:03	07:34	07:09	07:43
	17:18	17:55	18:29	20:01	20:34 92	20:05 (T25) 21:01 86	20:03 (T26) 21:08 87	20:10 (T26) 20:43 92	20:15 (T25) 19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05	06:22	18:32 (T26) 05:59	18:37 (T26) 06:06	18:43 (T26) 06:33	18:43 (T26) 07:04	07:35	07:11	07:44
	17:19	17:56	19:30	20:03	20:35 92	20:04 (T25) 21:02 87	20:04 (T26) 21:07 87	20:10 (T26) 20:42 92	20:15 (T25) 19:54	19:03	17:20	17:03
9	07:57	07:35	07:55	07:03	06:20	18:32 (T26) 05:59	18:38 (T26) 06:07	18:43 (T26) 06:34	18:43 (T26) 07:05	07:36	07:12	07:45
	17:20	17:58	19:31	20:04	20:36 91	20:03 (T25) 21:03 86	20:04 (T26) 21:07 87	20:10 (T26) 20:41 92	20:15 (T25) 19:52	19:02	17:19	17:03
10	07:57	07:34	07:53	07:01	06:19	18:31 (T26) 05:58	18:38 (T26) 06:07	18:43 (T26) 06:35	18:43 (T26) 07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:05	20:37 91	20:02 (T25) 21:03 86	20:04 (T26) 21:07 88	20:11 (T26) 20:40 92	20:15 (T25) 19:51	19:00	17:18	17:03
11	07:57	07:33	07:51	07:00	06:18	18:31 (T26) 05:58	18:38 (T26) 06:08	18:43 (T26) 06:36	18:44 (T26) 07:07	07:38	07:14	07:47
	17:22	18:00	19:33	20:06	20:38 90	20:01 (T26) 21:04 85	20:03 (T26) 21:06 88	20:11 (T26) 20:38 91	20:15 (T25) 19:49	18:58	17:17	17:03
12	07:57	07:31	07:50	06:58 19:14 (T26)	06:17	18:31 (T26) 05:58	18:38 (T26) 06:09	18:42 (T26) 06:37	18:44 (T26) 07:08	07:39	07:15	07:48
	17:24	18:01	19:34	20:07 13 19:27 (T26)	20:39 91	20:02 (T26) 21:04 85	20:03 (T26) 21:06 89	20:11 (T26) 20:37 89	20:13 (T25) 19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57 19:08 (T26)	06:16	18:31 (T26) 05:58	18:39 (T26) 06:10	18:43 (T26) 06:38	18:44 (T26) 07:09	07:40	07:17	07:48
	17:25	18:03	19:35	20:08 26 19:34 (T26)	20:40 91	20:02 (T26) 21:05 85	20:04 (T26) 21:05 88	20:11 (T26) 20:36 88	20:12 (T25) 19:46	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55 19:03 (T26)	06:15	18:31 (T26) 05:58	18:39 (T26) 06:10	18:43 (T26) 06:39	18:45 (T26) 07:10	07:42	07:18	07:49
	17:26	18:04	19:37	20:09 35 19:38 (T26)	20:41 91	20:02 (T26) 21:05 85	20:04 (T26) 21:05 89	20:12 (T26) 20:34 86	20:11 (T25) 19:44	18:54	17:14	17:03
15	07:56	07:28	07:45	06:53 19:00 (T26)	06:14	18:32 (T26) 05:58	18:39 (T26) 06:11	18:43 (T26) 06:40	18:46 (T26) 07:11	07:43	07:19	07:50
	17:27	18:05	19:38	20:10 41 19:41 (T26)	20:42 91	20:03 (T26) 21:06 85	20:04 (T26) 21:04 89	20:12 (T26) 20:33 84	20:10 (T25) 19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52 18:56 (T26)	06:13	18:32 (T26) 05:58	18:39 (T26) 06:12	18:42 (T26) 06:41	18:46 (T26) 07:12	07:44	07:20	07:51
	17:28	18:06	19:39	20:11 47 19:43 (T26)	20:43 91	20:03 (T26) 21:06 85	20:04 (T26) 21:04 90	20:12 (T26) 20:32 82	20:08 (T25) 19:40	18:50	17:12	17:04
17	07:55	07:25	07:41	06:50 18:54 (T26)	06:12	18:32 (T26) 05:58	18:40 (T26) 06:13	18:42 (T26) 06:42	18:47 (T26) 07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12 57 19:51 (T25)	20:44 91	20:03 (T26) 21:07 84	20:04 (T26) 21:03 90	20:12 (T26) 20:30 80	20:07 (T25) 19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49 18:52 (T26)	06:11	18:32 (T26) 05:58	18:41 (T26) 06:14	18:42 (T26) 06:43	18:47 (T26) 07:14	07:46	07:23	07:52
	17:30	18:09	19:41	20:13 60 19:52 (T25)	20:45 91	20:03 (T26) 21:07 84	20:05 (T26) 21:02 91	20:13 (T26) 20:29 78	20:05 (T25) 19:37	18:47	17:11	17:04
19	07:54	07:22	07:38	06:47 18:50 (T26)	06:10	18:32 (T26) 05:58	18:41 (T26) 06:14	18:43 (T26) 06:44	18:47 (T26) 07:15	07:47	07:24	07:53
	17:31	18:10	19:42	20:14 63 19:53 (T25)	20:46 91	20:03 (T26) 21:07 84	20:05 (T26) 21:02 90	20:13 (T26) 20:27 76	20:03 (T25) 19:35	18:46	17:10	17:05
20	07:53	07:21	07:36	06:46 18:48 (T26)	06:09	18:31 (T26) 05:58	18:41 (T26) 06:15	18:43 (T26) 06:45	18:48 (T26) 07:16	07:48	07:25	07:53
	17:33	18:11	19:43	20:15 66 19:54 (T25)	20:47 92	20:03 (T26) 21:08 84	20:05 (T26) 21:01 90	20:13 (T26) 20:26 74	20:02 (T25) 19:34	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44 18:46 (T26)	06:09	18:31 (T26) 05:59	18:41 (T26) 06:16	18:42 (T26) 06:46	18:49 (T26) 07:17	07:49	07:26	07:54
	17:34	18:12	19:44	20:16 69 19:55 (T25)	20:48 91	20:02 (T26) 21:08 84	20:05 (T26) 21:00 90	20:12 (T26) 20:24 71	20:00 (T25) 19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43 18:44 (T26)	06:08	18:32 (T26) 05:59	18:41 (T26) 06:17	18:42 (T26) 06:47	18:50 (T26) 07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:18 72 19:56 (T25)	20:49 91	20:03 (T26) 21:08 84	20:05 (T26) 21:00 91	20:13 (T26) 20:23 69	19:59 (T25) 19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:41 18:43 (T26)	06:07	18:32 (T26) 05:59	18:42 (T26) 06:18	18:42 (T26) 06:48	18:52 (T26) 07:19	07:52	07:28	07:55
	17:36	18:15	19:46	20:19 74 19:57 (T25)	20:49 91	20:03 (T26) 21:08 84	20:06 (T26) 20:59 91	20:13 (T26) 20:21 66	19:58 (T25) 19:28	18:40	17:07	17:06
24	07:50	07:15	07:30	06:40 18:41 (T26)	06:06	18:32 (T26) 05:59	18:42 (T26) 06:19	18:42 (T26) 06:49	18:53 (T26) 07:20	07:53	07:30	07:55
	17:37	18:16	19:47	20:20 77 19:58 (T25)	20:50 91	20:03 (T26) 21:08 84	20:06 (T26) 20:58 91	20:13 (T26) 20:20 63	19:56 (T25) 19:27	18:39	17:07	17:07
25	07:50	07:13	07:28	06:38 18:41 (T26)	06:05	18:33 (T26) 06:00	18:42 (T26) 06:20	18:42 (T26) 06:50	18:55 (T26) 07:21	07:54	07:31	07:56
	17:39	18:17	19:49	20:21 78 19:59 (T25)	20:51 90	20:03 (T26) 21:09 84	20:06 (T26) 20:57 91	20:13 (T26) 20:18 60	19:55 (T25) 19:25	18:37	17:06	17:08
26	07:49	07:12	07:26	06:37 18:40 (T26)	06:05	18:33 (T26) 06:00	18:42 (T26) 06:21	18:42 (T26) 06:51	18:56 (T26) 07:22	07:55	07:32	07:56
	17:40	18:18	19:50	20:22 80 20:00 (T25)	20:52 90	20:03 (T26) 21:09 85	20:07 (T26) 20:56 91	20:13 (T26) 20:17 56	19:53 (T25) 19:23	18:36	17:06	17:08
27	07:48	07:10	07:25	06:36 18:38 (T26)	06:04	18:33 (T26) 06:00	18:42 (T26) 06:21	18:42 (T26) 06:52	18:58 (T26) 07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23 83 20:01 (T25)	20:53 89	20:02 (T26) 21:09 85	20:07 (T26) 20:55 91	20:13 (T26) 20:15 47	19:45 (T26) 19:22	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34 18:38 (T26)	06:04	18:34 (T26) 06:01	18:42 (T26) 06:22	18:42 (T26) 06:53	19:01 (T26) 07:25	07:57	07:34	07:57
	17:42	18:21	19:52	20:24 84 20:02 (T25)	20:54 89	20:03 (T26) 21:09 85	20:07 (T26) 20:54 91	20:13 (T26) 20:14 41	19:42 (T26) 19:20	18:33	17:05	17:10
29	07:46		07:21	06:33 18:37 (T26)	06:03	18:33 (T26) 06:01	18:43 (T26) 06:23	18:41 (T26) 06:54	19:04 (T26) 07:26	07:59	07:35	07:57
	17:44		19:53	20:25 86 20:03 (T25)	20:55 90	20:03 (T26) 21:09 85	20:08 (T26) 20:53 91	20:12 (T26) 20:12 34	19:38 (T26) 19:18	18:32	17:04	17:10
30	07:46		07:20	06:32 18:36 (T26)	06:02	18:34 (T26) 06:02	18:42 (T26) 06:24	18:41 (T26) 06:55	19:08 (T26) 07:27	08:00	07:36	07:57
	17:45		19:54	20:26 88 20:04 (T25)	20:56 89	20:03 (T26) 21:09 86	20:08 (T26) 20:52 91	20:12 (T26) 20:11 26	19:34 (T26) 19:17	18:31	17:04	17:11
31	07:45		07:18		06:02	18:34 (T26)	06:25	18:42 (T26) 06:56	19:15 (T26)	08:01		07:57
	17:46		19:55		20:56 89	20:03 (T26)	20:51 90	20:12 (T26) 20:09 11	19:26 (T26)	18:29		17:12
Potential sun hours	297	297	370	399	449	453	460	429	375	345	297	287
Total, worst case				1199	2815	2561	2757	2286				
Sun reduction				0.52	0.57	0.64	0.66	0.61				
Oper. time red.				1.00	1.00	1.00	1.00	1.00				
Wind dir. red.				0.57	0.57	0.57	0.57	0.57				
Total reduction				0.30	0.33	0.37	0.38	0.35				
Total, real				356	917	938	1041	797				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1022 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8544)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		07:43	08:04 (T44)	07:07		07:16	07:35 (T77)	06:30	06:50 (T42)	06:02	06:33 (T42)
	17:13		17:48 18	08:22 (T44)	18:22		19:56 34	08:09 (T77)	20:27 4	06:54 (T42)	20:57 35	07:08 (T42)
2	07:57		07:43	08:03 (T44)	07:06		07:15	07:33 (T77)	06:29	06:49 (T42)	06:01	06:33 (T42)
	17:14		17:49 19	08:22 (T44)	18:23		19:57 36	08:09 (T77)	20:28 9	06:58 (T42)	20:58 35	07:08 (T42)
3	07:57		07:41	08:02 (T44)	07:04		07:13	07:32 (T77)	06:28	06:47 (T42)	06:01	06:33 (T42)
	17:15		17:50 21	08:23 (T44)	18:24		19:58 37	08:09 (T77)	20:29 13	07:00 (T42)	20:58 34	07:07 (T42)
4	07:58		07:40	08:01 (T44)	07:03		07:11	07:32 (T77)	06:26	06:46 (T42)	06:00	06:34 (T42)
	17:16		17:51 23	08:24 (T44)	18:25		19:59 36	08:08 (T77)	20:30 16	07:02 (T42)	20:59 34	07:08 (T42)
5	07:57		07:39	08:00 (T44)	07:01		07:10	07:32 (T77)	06:25	06:45 (T42)	06:00	06:35 (T42)
	17:17		17:53 24	08:24 (T44)	18:26		20:00 36	08:08 (T77)	20:31 18	07:03 (T42)	21:00 33	07:08 (T42)
6	07:57		07:38	07:58 (T44)	06:59		07:08	07:32 (T77)	06:24	06:44 (T42)	06:00	06:35 (T42)
	17:18		17:54 25	08:23 (T44)	18:28		20:00 35	08:07 (T77)	20:32 20	07:04 (T42)	21:01 32	07:07 (T42)
7	07:57		07:37	07:57 (T44)	06:58		07:06	07:32 (T77)	06:23	06:43 (T42)	05:59	06:35 (T42)
	17:19		17:55 27	08:24 (T44)	18:29		20:01 33	08:05 (T77)	20:33 22	07:05 (T42)	21:01 32	07:07 (T42)
8	07:57		07:36	07:56 (T44)	07:56		07:05	07:33 (T77)	06:22	06:42 (T42)	05:59	06:36 (T42)
	17:20		17:56 28	08:24 (T44)	19:30		20:02 32	08:05 (T77)	20:34 24	07:06 (T42)	21:02 31	07:07 (T42)
9	07:57		07:35	07:55 (T44)	07:55		07:03	07:34 (T77)	06:20	06:41 (T42)	05:59	06:37 (T42)
	17:21		17:58 29	08:24 (T44)	19:31		20:04 29	08:03 (T77)	20:35 26	07:07 (T42)	21:02 30	07:07 (T42)
10	07:57		07:34	07:54 (T44)	07:53		07:01	07:34 (T77)	06:19	06:40 (T42)	05:59	06:37 (T42)
	17:22		17:59 30	08:24 (T44)	19:32		20:05 27	08:01 (T77)	20:36 28	07:08 (T42)	21:03 30	07:07 (T42)
11	07:57		07:32	07:54 (T44)	07:51		07:00	07:36 (T77)	06:18	06:38 (T42)	05:58	06:38 (T42)
	17:23		18:00 29	08:23 (T44)	19:33		20:06 23	07:59 (T77)	20:38 29	07:07 (T42)	21:04 29	07:07 (T42)
12	07:56		07:31	07:55 (T44)	07:50		06:58	07:38 (T77)	06:17	06:37 (T42)	05:58	06:39 (T42)
	17:24		18:01 27	08:22 (T44)	19:34		20:07 19	07:57 (T77)	20:39 31	07:08 (T42)	21:04 28	07:07 (T42)
13	07:56		07:30	07:56 (T44)	07:48		06:57	07:41 (T77)	06:16	06:36 (T42)	05:58	06:38 (T42)
	17:25		18:03 26	08:22 (T44)	19:35		20:08 13	07:54 (T77)	20:40 32	07:08 (T42)	21:05 28	07:06 (T42)
14	07:56		07:29	07:57 (T44)	07:46		06:55		06:15	06:36 (T42)	05:58	06:39 (T42)
	17:26		18:04 24	08:21 (T44)	19:37		20:09		20:41 33	07:09 (T42)	21:05 27	07:06 (T42)
15	07:55		07:27	07:58 (T44)	07:45		06:53		06:14	06:35 (T42)	05:58	06:39 (T42)
	17:27		18:05 21	08:19 (T44)	19:38		20:10		20:42 34	07:09 (T42)	21:06 27	07:06 (T42)
16	07:55		07:26	08:00 (T44)	07:43		06:52		06:13	06:34 (T42)	05:58	06:40 (T42)
	17:28		18:06 18	08:18 (T44)	19:39		20:11		20:43 36	07:10 (T42)	21:06 27	07:07 (T42)
17	07:54		07:25	08:02 (T44)	07:41		06:50		06:12	06:33 (T42)	05:58	06:41 (T42)
	17:29		18:07 13	08:15 (T44)	19:40		20:12		20:44 37	07:10 (T42)	21:06 26	07:07 (T42)
18	07:54		07:23	08:07 (T44)	07:40		06:49		06:11	06:32 (T42)	05:58	06:41 (T42)
	17:30		18:09 3	08:10 (T44)	19:41		20:13		20:45 37	07:09 (T42)	21:07 26	07:07 (T42)
19	07:53		07:22		07:38		06:47		06:10	06:31 (T42)	05:58	06:41 (T42)
	17:32		18:10		19:42		20:14		20:45 38	07:09 (T42)	21:07 26	07:07 (T42)
20	07:53		07:21		07:36		06:46		06:09	06:30 (T42)	05:59	06:41 (T42)
	17:33		18:11		19:43		20:15		20:46 39	07:09 (T42)	21:07 26	07:07 (T42)
21	07:52		07:19		07:35	07:54 (T77)	06:44		06:09	06:30 (T42)	05:59	06:41 (T42)
	17:34		18:12		19:44 5	07:59 (T77)	20:16		20:47 40	07:10 (T42)	21:08 26	07:07 (T42)
22	07:52		07:18		07:33	07:52 (T77)	06:43		06:08	06:30 (T42)	05:59	06:41 (T42)
	17:35		18:14		19:45 11	08:03 (T77)	20:17		20:48 40	07:10 (T42)	21:08 26	07:07 (T42)
23	07:51		07:16		07:31	07:50 (T77)	06:41		06:07	06:29 (T42)	05:59	06:42 (T42)
	17:36		18:15		19:46 14	08:04 (T77)	20:18		20:49 40	07:09 (T42)	21:08 26	07:08 (T42)
24	07:50		07:15		07:30	07:49 (T77)	06:40		06:06	06:29 (T42)	05:59	06:42 (T42)
	17:38		18:16		19:47 18	08:07 (T77)	20:20		20:50 40	07:09 (T42)	21:08 26	07:08 (T42)
25	07:50		07:13		07:28	07:47 (T77)	06:39		06:06	06:30 (T42)	06:00	06:42 (T42)
	17:39		18:17		19:49 21	08:08 (T77)	20:21		20:51 39	07:09 (T42)	21:08 26	07:08 (T42)
26	07:49	08:09 (T44)	07:12		07:26	07:45 (T77)	06:37		06:05	06:30 (T42)	06:00	06:42 (T42)
	17:40 4	08:13 (T44)	18:18		19:50 23	08:08 (T77)	20:22		20:52 39	07:09 (T42)	21:08 27	07:09 (T42)
27	07:48	08:09 (T44)	07:10		07:25	07:44 (T77)	06:36		06:04	06:31 (T42)	06:00	06:42 (T42)
	17:41 7	08:16 (T44)	18:19		19:51 25	08:09 (T77)	20:23		20:53 38	07:09 (T42)	21:09 27	07:09 (T42)
28	07:47	08:08 (T44)	07:09		07:23	07:42 (T77)	06:34		06:04	06:31 (T42)	06:01	06:42 (T42)
	17:43 9	08:17 (T44)	18:21		19:52 27	08:09 (T77)	20:24		20:54 38	07:09 (T42)	21:09 27	07:09 (T42)
29	07:46	08:07 (T44)			07:21	07:40 (T77)	06:33		06:03	06:32 (T42)	06:01	06:42 (T42)
	17:44 12	08:19 (T44)			19:53 29	08:09 (T77)	20:25		20:54 37	07:09 (T42)	21:09 28	07:10 (T42)
30	07:45	08:06 (T44)			07:20	07:39 (T77)	06:32		06:03	06:32 (T42)	06:02	06:42 (T42)
	17:45 14	08:20 (T44)			19:54 31	08:10 (T77)	20:26		20:55 36	07:08 (T42)	21:09 28	07:10 (T42)
31	07:44	08:05 (T44)			07:18	07:37 (T77)			06:02	06:33 (T42)		
	17:46 16	08:21 (T44)			19:55 33	08:10 (T77)			20:56 36	07:09 (T42)		
Potential sun hours	297		297		370		399		448		453	
Total, worst case	62		405		237		390		949		863	
Sun reduction	0.31		0.40		0.44		0.52		0.57		0.64	
Oper. time red.	1.00		1.00		1.00		1.00		1.00		1.00	
Wind dir. red.	0.54		0.54		0.63		0.63		0.70		0.70	
Total reduction	0.17		0.21		0.27		0.32		0.40		0.44	
Total, real	10		87		65		127		375		383	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1022 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8544)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December
1	06:02		06:42 (T42)	06:26	06:48 (T42)	06:57	07:35 (T77)	07:28		07:02	07:23 (T44)	07:37
	21:09	29	07:11 (T42)	20:50	30	07:18 (T42)	20:07	24	07:59 (T77)	19:15		17:28	30	07:53 (T44)	17:04
2	06:03		06:42 (T42)	06:27	06:49 (T42)	06:58	07:33 (T77)	07:29		07:03	07:25 (T44)	07:38
	21:08	29	07:11 (T42)	20:49	29	07:18 (T42)	20:06	27	08:00 (T77)	19:13		17:27	29	07:54 (T44)	17:03
3	06:03		06:42 (T42)	06:28	06:50 (T42)	06:59	07:32 (T77)	07:30		07:04	07:26 (T44)	07:39
	21:08	30	07:12 (T42)	20:48	27	07:17 (T42)	20:04	29	08:01 (T77)	19:11		17:26	28	07:54 (T44)	17:03
4	06:04		06:41 (T42)	06:29	06:51 (T42)	07:00	07:30 (T77)	07:31		07:06	07:27 (T44)	07:40
	21:08	31	07:12 (T42)	20:47	26	07:17 (T42)	20:02	32	08:02 (T77)	19:10		17:24	27	07:54 (T44)	17:03
5	06:04		06:42 (T42)	06:30	06:52 (T42)	07:01	07:29 (T77)	07:32		07:07	07:28 (T44)	07:41
	21:08	31	07:13 (T42)	20:46	24	07:16 (T42)	20:01	33	08:02 (T77)	19:08		17:23	25	07:53 (T44)	17:03
6	06:05		06:41 (T42)	06:31	06:53 (T42)	07:02	07:28 (T77)	07:33		07:08	07:30 (T44)	07:42
	21:08	32	07:13 (T42)	20:44	22	07:15 (T42)	19:57	35	08:03 (T77)	19:06		17:22	24	07:54 (T44)	17:03
7	06:06		06:41 (T42)	06:32	06:54 (T42)	07:03	07:27 (T77)	07:34		07:09	07:31 (T44)	07:43
	21:07	33	07:14 (T42)	20:43	20	07:14 (T42)	19:56	36	08:03 (T77)	19:05		17:21	22	07:53 (T44)	17:03
8	06:06		06:41 (T42)	06:33	06:55 (T42)	07:04	07:27 (T77)	07:35		07:10	07:32 (T44)	07:44
	21:07	34	07:15 (T42)	20:42	17	07:12 (T42)	19:54	36	08:03 (T77)	19:03		17:20	21	07:53 (T44)	17:03
9	06:07		06:41 (T42)	06:34	06:56 (T42)	07:05	07:26 (T77)	07:36		07:12	07:34 (T44)	07:45
	21:07	33	07:14 (T42)	20:41	15	07:11 (T42)	19:52	37	08:03 (T77)	19:02		17:19	19	07:53 (T44)	17:03
10	06:08		06:41 (T42)	06:35	06:57 (T42)	07:06	07:27 (T77)	07:37		07:13	07:35 (T44)	07:46
	21:06	34	07:15 (T42)	20:40	12	07:09 (T42)	19:51	36	08:03 (T77)	19:00		17:18	17	07:52 (T44)	17:03
11	06:08		06:41 (T42)	06:36	06:58 (T42)	07:07	07:28 (T77)	07:38		07:14	07:36 (T44)	07:47
	21:06	35	07:16 (T42)	20:38	8	07:06 (T42)	19:49	34	08:02 (T77)	18:58		17:17	16	07:52 (T44)	17:03
12	06:09		06:40 (T42)	06:37			07:08		07:28 (T77)	07:39		07:15		07:37 (T44)	07:47
	21:06	36	07:16 (T42)	20:37			19:47	33	08:01 (T77)	18:57		17:16	14	07:51 (T44)	17:03
13	06:10		06:40 (T42)	06:38			07:09		07:29 (T77)	07:40		07:16		07:39 (T44)	07:48
	21:05	37	07:17 (T42)	20:36			19:46	31	08:00 (T77)	18:55		17:15	11	07:50 (T44)	17:03
14	06:10		06:40 (T42)	06:39			07:10		07:30 (T77)	07:41		07:18		07:40 (T44)	07:49
	21:05	37	07:17 (T42)	20:34			19:44	30	08:00 (T77)	18:54		17:14	9	07:49 (T44)	17:03
15	06:11		06:40 (T42)	06:40			07:11		07:31 (T77)	07:43		07:19		07:41 (T44)	07:50
	21:04	38	07:18 (T42)	20:33			19:42	28	07:59 (T77)	18:52		17:13	7	07:48 (T44)	17:03
16	06:12		06:39 (T42)	06:41			07:12		07:32 (T77)	07:44		07:20		07:43 (T44)	07:50
	21:03	39	07:18 (T42)	20:32			19:40	26	07:58 (T77)	18:50		17:12	4	07:47 (T44)	17:04
17	06:13		06:40 (T42)	06:42			07:13		07:33 (T77)	07:45		07:21			07:51
	21:03	38	07:18 (T42)	20:30			19:39	24	07:57 (T77)	18:49		17:12			17:04
18	06:14		06:40 (T42)	06:43			07:14		07:34 (T77)	07:46		07:22			07:52
	21:02	39	07:19 (T42)	20:29			19:37	21	07:55 (T77)	18:47		17:11			17:04
19	06:14		06:40 (T42)	06:44			07:15		07:35 (T77)	07:47		07:24			07:52
	21:02	39	07:19 (T42)	20:27			19:35	18	07:53 (T77)	18:46		17:10			17:05
20	06:15		06:40 (T42)	06:45			07:16		07:36 (T77)	07:48		07:25			07:53
	21:01	40	07:20 (T42)	20:26			19:34	15	07:51 (T77)	18:44		17:09			17:05
21	06:16		06:39 (T42)	06:46			07:17		07:37 (T77)	07:49		07:26			07:53
	21:00	40	07:19 (T42)	20:24			19:32	12	07:49 (T77)	18:43		17:09			17:06
22	06:17		06:39 (T42)	06:47			07:18		07:38 (T77)	07:50		07:27			07:54
	20:59	40	07:19 (T42)	20:23			19:30	7	07:45 (T77)	18:42		17:08			17:06
23	06:18		06:40 (T42)	06:48			07:19			07:52		07:28			07:54
	20:59	40	07:20 (T42)	20:21			19:28			18:40		17:07			17:07
24	06:19		06:41 (T42)	06:49			07:20			07:53	08:34 (T44)	07:29			07:55
	20:58	39	07:20 (T42)	20:20			19:27			18:39	8	08:42 (T44)	17:07			17:07
25	06:20		06:42 (T42)	06:50			07:21			07:54	08:32 (T44)	07:30			07:55
	20:57	38	07:20 (T42)	20:18			19:25			18:37	14	08:46 (T44)	17:06			17:08
26	06:21		06:43 (T42)	06:51			07:22			07:55	08:29 (T44)	07:32			07:56
	20:56	37	07:20 (T42)	20:17			19:23			18:36	19	08:48 (T44)	17:06			17:08
27	06:22		06:44 (T42)	06:52			07:23			07:56	08:27 (T44)	07:33			07:56
	20:55	36	07:20 (T42)	20:15			19:22			18:35	22	08:49 (T44)	17:05			17:09
28	06:23		06:45 (T42)	06:53			07:24			07:57	08:26 (T44)	07:34			07:56
	20:54	35	07:20 (T42)	20:14			19:20			18:33	24	08:50 (T44)	17:05			17:10
29	06:23		06:45 (T42)	06:54			07:25			07:58	08:26 (T44)	07:35			07:57
	20:53	34	07:19 (T42)	20:12			19:18			18:32	26	08:52 (T44)	17:04			17:10
30	06:24		06:46 (T42)	06:55	07:40 (T77)	07:27				08:00	08:24 (T44)	07:36			07:57
	20:52	33	07:19 (T42)	20:10	14	07:54 (T77)	19:16			18:31	28	08:52 (T44)	17:04			17:11
31	06:25		06:47 (T42)	06:56		07:37 (T77)				08:01		08:24 (T44)				07:57
	20:51	32	07:19 (T42)	20:09	20	07:57 (T77)				18:29	29	08:53 (T44)				17:12
Potential sun hours	460			429			375			345			297			287
Total, worst case		1098			264			604			170			303		
Sun reduction		0.66			0.61			0.59			0.48			0.30		
Oper. time red.		1.00			1.00			1.00			1.00			1.00		
Wind dir. red.		0.70			0.69			0.63			0.54			0.54		
Total reduction		0.46			0.42			0.37			0.26			0.16		
Total, real		503			110			222			44			49		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1030 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8550)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June	
1	07:57		08:20 (T4)	07:43		08:04 (T5)	07:07			07:16		07:45 (T3)	06:30		07:37 (T3)	06:01	
	17:12	17	08:37 (T4)	17:47	50	08:58 (T4)	18:21			19:56	62	08:47 (T3)	20:27	58	08:35 (T3)	20:57	
2	07:57		08:20 (T4)	07:42		08:03 (T5)	07:05			07:14		07:44 (T3)	06:28		07:38 (T3)	06:00	
	17:13	19	08:39 (T4)	17:48	51	08:58 (T4)	18:22			19:57	63	08:47 (T3)	20:28	56	08:34 (T3)	20:58	
3	07:58		08:20 (T4)	07:41		08:02 (T5)	07:04			07:12		07:42 (T3)	06:27		07:39 (T3)	06:00	
	17:14	20	08:40 (T4)	17:49	54	08:58 (T4)	18:24			19:58	65	08:47 (T3)	20:29	54	08:33 (T3)	20:58	
4	07:58		08:20 (T4)	07:40		08:01 (T5)	07:02			07:11		07:42 (T3)	06:26		07:41 (T3)	05:59	
	17:15	21	08:41 (T4)	17:51	54	08:57 (T4)	18:25			19:59	66	08:48 (T3)	20:30	51	08:32 (T3)	20:59	
5	07:58		08:20 (T4)	07:39		08:00 (T5)	07:01			07:09		07:40 (T3)	06:25		07:41 (T3)	05:59	
	17:16	22	08:42 (T4)	17:52	55	08:57 (T4)	18:26			20:00	68	08:48 (T3)	20:31	49	08:30 (T3)	21:00	
6	07:57		08:20 (T4)	07:38		07:58 (T5)	06:59			07:07		07:39 (T3)	06:23		07:42 (T3)	05:59	
	17:17	23	08:43 (T4)	17:53	55	08:55 (T4)	18:27			20:00	69	08:48 (T3)	20:32	47	08:29 (T3)	21:01	
7	07:57		08:20 (T4)	07:37		07:57 (T5)	06:57			07:06		07:39 (T3)	06:22		07:44 (T3)	05:58	
	17:18	25	08:45 (T4)	17:54	55	08:54 (T4)	18:28			20:01	70	08:49 (T3)	20:33	43	08:27 (T3)	21:01	
8	07:57		08:19 (T4)	07:36		07:56 (T5)	07:56			07:04		07:38 (T3)	06:21		07:45 (T3)	05:58	
	17:19	26	08:45 (T4)	17:56	53	08:53 (T4)	19:29			20:02	71	08:49 (T3)	20:34	41	08:26 (T3)	21:02	
9	07:57		08:19 (T4)	07:35		07:55 (T5)	07:54			07:03		07:38 (T3)	06:20		07:47 (T3)	05:58	
	17:20	27	08:46 (T4)	17:57	52	08:52 (T4)	19:30			20:03	71	08:49 (T3)	20:35	37	08:24 (T3)	21:02	
10	07:57		08:19 (T4)	07:34		07:54 (T5)	07:53			07:01		07:37 (T3)	06:19		07:48 (T3)	05:58	
	17:21	28	08:47 (T4)	17:58	51	08:51 (T4)	19:32			20:04	72	08:49 (T3)	20:36	34	08:22 (T3)	21:03	
11	07:57		08:19 (T4)	07:32		07:52 (T5)	07:51			06:59		07:36 (T3)	06:18		07:50 (T3)	05:58	
	17:22	30	08:49 (T4)	17:59	47	08:47 (T4)	19:33			20:05	72	08:48 (T3)	20:37	30	08:20 (T3)	21:04	
12	07:56		08:18 (T4)	07:31		07:51 (T5)	07:49			06:58		07:36 (T3)	06:16		07:53 (T3)	05:58	
	17:23	31	08:49 (T4)	18:01	41	08:44 (T4)	19:34			20:06	73	08:49 (T3)	20:38	25	08:18 (T3)	21:04	
13	07:56		08:18 (T4)	07:30		07:50 (T5)	07:48			06:56		07:35 (T3)	06:15		07:55 (T3)	05:57	
	17:24	32	08:50 (T4)	18:02	32	08:22 (T5)	19:35			20:08	73	08:48 (T3)	20:40	20	08:15 (T3)	21:05	
14	07:56		08:17 (T4)	07:29		07:48 (T5)	07:46			06:55		07:35 (T3)	06:14		08:00 (T3)	05:57	
	17:25	34	08:51 (T4)	18:03	33	08:21 (T5)	19:36			20:09	73	08:48 (T3)	20:41	10	08:10 (T3)	21:05	
15	07:55		08:17 (T4)	07:27		07:48 (T5)	07:44			06:53		07:34 (T3)	06:13			05:57	
	17:26	35	08:52 (T4)	18:04	33	08:21 (T5)	19:37			20:10	74	08:48 (T3)	20:42			21:06	
16	07:55		08:16 (T4)	07:26		07:49 (T5)	07:43			06:51		07:35 (T3)	06:12			05:57	
	17:27	36	08:52 (T4)	18:06	31	08:20 (T5)	19:38			20:11	73	08:48 (T3)	20:43			21:06	
17	07:54		08:16 (T4)	07:25		07:49 (T5)	07:41			06:50		07:34 (T3)	06:11			05:57	
	17:29	38	08:54 (T4)	18:07	30	08:19 (T5)	19:39			20:12	73	08:47 (T3)	20:44			21:06	
18	07:54		08:15 (T4)	07:23		07:50 (T5)	07:39			06:48		07:33 (T3)	06:10			05:58	
	17:30	39	08:54 (T4)	18:08	29	08:19 (T5)	19:41			20:13	73	08:46 (T3)	20:45			21:07	
19	07:53		08:15 (T4)	07:22		07:51 (T5)	07:38			06:47		07:34 (T3)	06:10			05:58	
	17:31	40	08:55 (T4)	18:09	26	08:17 (T5)	19:42			20:14	72	08:46 (T3)	20:45			21:07	
20	07:53		08:15 (T4)	07:20		07:52 (T5)	07:36			06:45		07:34 (T3)	06:09			05:58	
	17:32	40	08:55 (T4)	18:11	24	08:16 (T5)	19:43			20:15	71	08:45 (T3)	20:46			21:07	
21	07:52		08:15 (T4)	07:19		07:54 (T5)	07:34			06:44		07:34 (T3)	06:08			05:58	
	17:33	41	08:56 (T4)	18:12	21	08:15 (T5)	19:44			20:16	70	08:44 (T3)	20:47			21:08	
22	07:52		08:15 (T4)	07:17		07:56 (T5)	07:33		08:13 (T3)	06:42		07:34 (T3)	06:07			05:58	
	17:34	42	08:57 (T4)	18:13	16	08:12 (T5)	19:45	12	08:25 (T3)	20:17	70	08:44 (T3)	20:48			21:08	
23	07:51		08:15 (T4)	07:16		08:00 (T5)	07:31		08:06 (T3)	06:41		07:34 (T3)	06:06			05:58	
	17:36	42	08:57 (T4)	18:14	9	08:09 (T5)	19:46	25	08:31 (T3)	20:18	69	08:43 (T3)	20:49			21:08	
24	07:50		08:15 (T4)	07:15			07:29		08:02 (T3)	06:39		07:35 (T3)	06:06			05:59	
	17:37	42	08:57 (T4)	18:15			19:47	32	08:34 (T3)	20:19	67	08:42 (T3)	20:50			21:08	
25	07:49		08:15 (T4)	07:13			07:28		07:59 (T3)	06:38		07:34 (T3)	06:05			05:59	
	17:38	42	08:57 (T4)	18:17			19:48	39	08:38 (T3)	20:20	67	08:41 (T3)	20:51			21:08	
26	07:49		08:15 (T4)	07:12			07:26		07:56 (T3)	06:36		07:35 (T3)	06:04			05:59	
	17:39	42	08:57 (T4)	18:18			19:49	43	08:39 (T3)	20:22	65	08:40 (T3)	20:52			21:09	
27	07:48		08:16 (T4)	07:10			07:24		07:54 (T3)	06:35		07:36 (T3)	06:03			06:00	
	17:41	43	08:59 (T4)	18:19			19:50	47	08:41 (T3)	20:23	64	08:40 (T3)	20:53			21:09	
28	07:47		08:16 (T4)	07:09			07:22		07:51 (T3)	06:34		07:36 (T3)	06:03			06:00	
	17:42	43	08:59 (T4)	18:20			19:51	51	08:42 (T3)	20:24	62	08:38 (T3)	20:54			21:09	
29	07:46		08:17 (T4)				07:21		07:50 (T3)	06:32		07:36 (T3)	06:02			06:00	
	17:43	42	08:59 (T4)				19:52	54	08:44 (T3)	20:25	62	08:38 (T3)	20:55			21:09	
30	07:45		08:06 (T5)				07:19		07:48 (T3)	06:31		07:37 (T3)	06:02			06:01	
	17:44	45	08:59 (T4)				19:54	57	08:45 (T3)	20:26	60	08:37 (T3)	20:55			21:09	
31	07:44		08:05 (T5)				07:17		07:46 (T3)				06:01				
	17:46	48	08:58 (T4)				19:55	59	08:45 (T3)				20:56				
Potential sun hours	297			297			370			399			449			453	
Total, worst case		1055			902			419			2060			555			
Sun reduction		0.31			0.40			0.44			0.52			0.57			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.52			0.54			0.63			0.63			0.63			
Total reduction		0.16			0.21			0.27			0.32			0.35			
Total, real		165			189			114			662			195			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1030 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8550)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:01		06:26		08:02 (T3)	06:57		07:35 (T3)	07:27		07:02	07:23 (T5)	07:37	08:01 (T4)
	21:09		20:50	27	08:29 (T3)	20:07	72	08:47 (T3)	19:14		17:27	51	08:20 (T4)	17:03	30	08:31 (T4)
2	06:02		06:27		08:00 (T3)	06:58		07:35 (T3)	07:28		07:03		07:25 (T5)	07:38		08:02 (T4)
	21:08		20:49	32	08:32 (T3)	20:05	72	08:47 (T3)	19:13		17:26	53	08:22 (T4)	17:03	28	08:30 (T4)
3	06:02		06:28		07:57 (T3)	06:59		07:35 (T3)	07:29		07:04		07:26 (T5)	07:39		08:03 (T4)
	21:08		20:48	36	08:33 (T3)	20:04	71	08:46 (T3)	19:11		17:25	54	08:23 (T4)	17:02	27	08:30 (T4)
4	06:03		06:29		07:56 (T3)	07:00		07:35 (T3)	07:30		07:05		07:27 (T5)	07:40		08:04 (T4)
	21:08		20:47	38	08:34 (T3)	20:02	71	08:46 (T3)	19:09		17:24	54	08:24 (T4)	17:02	26	08:30 (T4)
5	06:04		06:30		07:54 (T3)	07:01		07:35 (T3)	07:31		07:07		07:28 (T5)	07:41		08:05 (T4)
	21:08		20:46	42	08:36 (T3)	20:00	70	08:45 (T3)	19:08		17:23	55	08:25 (T4)	17:02	25	08:30 (T4)
6	06:04		06:31		07:53 (T3)	07:02		07:35 (T3)	07:32		07:08		07:30 (T5)	07:42		08:06 (T4)
	21:08		20:44	44	08:37 (T3)	19:57	69	08:44 (T3)	19:06		17:21	55	08:27 (T4)	17:02	23	08:29 (T4)
7	06:05		06:32		07:51 (T3)	07:03		07:35 (T3)	07:34		07:09		07:31 (T5)	07:43		08:07 (T4)
	21:07		20:43	48	08:39 (T3)	19:55	68	08:43 (T3)	19:04		17:20	54	08:27 (T4)	17:02	22	08:29 (T4)
8	06:05		06:33		07:50 (T3)	07:04		07:36 (T3)	07:35		07:10		07:32 (T5)	07:44		08:08 (T4)
	21:07		20:42	50	08:40 (T3)	19:54	66	08:42 (T3)	19:03		17:19	53	08:28 (T4)	17:02	21	08:29 (T4)
9	06:06		06:34		07:49 (T3)	07:05		07:36 (T3)	07:36		07:12		07:34 (T5)	07:45		08:08 (T4)
	21:07		20:41	52	08:41 (T3)	19:52	65	08:41 (T3)	19:01		17:18	52	08:29 (T4)	17:02	20	08:28 (T4)
10	06:07		06:35		07:48 (T3)	07:06		07:37 (T3)	07:37		07:13		07:35 (T5)	07:46		08:09 (T4)
	21:06		20:39	54	08:42 (T3)	19:50	63	08:40 (T3)	18:59		17:17	49	08:29 (T4)	17:02	19	08:28 (T4)
11	06:07		06:36		07:47 (T3)	07:07		07:37 (T3)	07:38		07:14		07:36 (T5)	07:47		08:10 (T4)
	21:06		20:38	56	08:43 (T3)	19:49	62	08:39 (T3)	18:58		17:16	47	08:29 (T4)	17:02	18	08:28 (T4)
12	06:08		06:37		07:46 (T3)	07:08		07:38 (T3)	07:39		07:15		07:37 (T5)	07:47		08:11 (T4)
	21:06		20:37	58	08:44 (T3)	19:47	60	08:38 (T3)	18:56		17:15	45	08:30 (T4)	17:02	17	08:28 (T4)
13	06:09		06:38		07:45 (T3)	07:09		07:39 (T3)	07:40		07:16		07:49 (T4)	07:48		08:12 (T4)
	21:05		20:36	60	08:45 (T3)	19:45	57	08:36 (T3)	18:55		17:14	42	08:31 (T4)	17:02	15	08:27 (T4)
14	06:10		06:39		07:44 (T3)	07:10		07:40 (T3)	07:41		07:18		07:48 (T4)	07:49		08:13 (T4)
	21:05		20:34	61	08:45 (T3)	19:44	54	08:34 (T3)	18:53		17:13	43	08:31 (T4)	17:02	14	08:27 (T4)
15	06:10		06:40		07:43 (T3)	07:11		07:41 (T3)	07:42		07:19		07:48 (T4)	07:50		08:13 (T4)
	21:04		20:33	63	08:46 (T3)	19:42	51	08:32 (T3)	18:52		17:12	43	08:31 (T4)	17:03	14	08:27 (T4)
16	06:11		06:41		07:42 (T3)	07:12		07:43 (T3)	07:43		07:20		07:49 (T4)	07:50		08:14 (T4)
	21:04		20:31	65	08:47 (T3)	19:40	47	08:30 (T3)	18:50		17:12	42	08:31 (T4)	17:03	13	08:27 (T4)
17	06:12		06:42		07:42 (T3)	07:13		07:44 (T3)	07:44		07:21		07:49 (T4)	07:51		08:16 (T4)
	21:03		20:30	65	08:47 (T3)	19:38	44	08:28 (T3)	18:48		17:11	42	08:31 (T4)	17:03	11	08:27 (T4)
18	06:13		06:43		07:41 (T3)	07:14		07:46 (T3)	07:46		07:22		07:49 (T4)	07:52		08:16 (T4)
	21:02		20:29	67	08:48 (T3)	19:37	39	08:25 (T3)	18:47		17:10	42	08:31 (T4)	17:04	10	08:26 (T4)
19	06:14		06:44		07:40 (T3)	07:15		07:49 (T3)	07:47	08:29 (T5)	07:24		07:49 (T4)	07:52		08:17 (T4)
	21:02		20:27	68	08:48 (T3)	19:35	33	08:22 (T3)	18:45	12 08:41 (T5)	17:09	42	08:31 (T4)	17:04	10	08:27 (T4)
20	06:15		06:45		07:40 (T3)	07:16		07:52 (T3)	07:48	08:26 (T5)	07:25		07:50 (T4)	07:53		08:18 (T4)
	21:01		20:26	69	08:49 (T3)	19:33	26	08:18 (T3)	18:44	17 08:43 (T5)	17:09	42	08:32 (T4)	17:04	8	08:26 (T4)
21	06:15		06:46		07:39 (T3)	07:17		07:56 (T3)	07:49	08:24 (T5)	07:26		07:51 (T4)	07:53		08:19 (T4)
	21:00		20:24	70	08:49 (T3)	19:31	17	08:13 (T3)	18:42	22 08:46 (T5)	17:08	41	08:32 (T4)	17:05	8	08:27 (T4)
22	06:16		06:47		07:38 (T3)	07:18			07:50	08:22 (T5)	07:27		07:51 (T4)	07:54		08:19 (T4)
	20:59		20:23	71	08:49 (T3)	19:30			18:41	25 08:47 (T5)	17:07	40	08:31 (T4)	17:05	8	08:27 (T4)
23	06:17		06:48		07:38 (T3)	07:19			07:51	08:21 (T5)	07:28		07:51 (T4)	07:54		08:20 (T4)
	20:59		20:21	71	08:49 (T3)	19:28			18:40	27 08:48 (T5)	17:07	40	08:31 (T4)	17:06	8	08:28 (T4)
24	06:18		06:49		07:38 (T3)	07:20			07:52	08:20 (T5)	07:29		07:52 (T4)	07:55		08:19 (T4)
	20:58		20:20	72	08:50 (T3)	19:26			18:38	29 08:49 (T5)	17:06	39	08:31 (T4)	17:06	9	08:28 (T4)
25	06:19		06:50		07:37 (T3)	07:21			07:54	08:19 (T5)	07:30		07:54 (T4)	07:55		08:19 (T4)
	20:57		20:18	73	08:50 (T3)	19:25			18:37	30 08:49 (T5)	17:05	38	08:32 (T4)	17:07	10	08:29 (T4)
26	06:20		06:51		07:37 (T3)	07:22			07:55	08:19 (T5)	07:32		07:55 (T4)	07:56		08:20 (T4)
	20:56		20:17	73	08:50 (T3)	19:23			18:35	31 08:50 (T5)	17:05	36	08:31 (T4)	17:08	11	08:31 (T4)
27	06:21		06:52		07:36 (T3)	07:23			07:56	08:18 (T5)	07:33		07:56 (T4)	07:56		08:19 (T4)
	20:55		20:15	74	08:50 (T3)	19:21			18:34	32 08:50 (T5)	17:04	35	08:31 (T4)	17:08	12	08:31 (T4)
28	06:22		06:53		07:36 (T3)	07:24			07:57	08:18 (T5)	07:34		07:57 (T4)	07:56		08:19 (T4)
	20:54		20:13	73	08:49 (T3)	19:19			18:33	32 08:50 (T5)	17:04	34	08:31 (T4)	17:09	13	08:32 (T4)
29	06:23		06:54		07:36 (T3)	07:25			07:58	08:19 (T5)	07:35		07:58 (T4)	07:57		08:20 (T4)
	20:53		20:12	73	08:49 (T3)	19:18			18:31	31 08:50 (T5)	17:04	32	08:30 (T4)	17:10	14	08:34 (T4)
30	06:24	08:08 (T3)	06:55		07:36 (T3)	07:26			08:00	08:21 (T5)	07:36		07:59 (T4)	07:57		08:20 (T4)
	20:52	15 08:23 (T3)	20:10	73	08:49 (T3)	19:16			18:30	43 09:15 (T4)	17:03	31	08:30 (T4)	17:10	15	08:35 (T4)
31	06:25	08:05 (T3)	06:56		07:35 (T3)				08:01	08:22 (T5)				07:57		08:20 (T4)
	20:51	22 08:27 (T3)	20:09	73	08:48 (T3)				18:29	49 09:18 (T4)				17:11	16	08:36 (T4)
Potential sun hours	460		429			375			345		297			287		
Total, worst case		37		1851			1177			380		1326			495	
Sun reduction		0.66		0.61			0.59			0.48		0.30			0.22	
Oper. time red.		1.00		1.00			1.00			1.00		1.00			1.00	
Wind dir. red.		0.63		0.63			0.63			0.55		0.52			0.52	
Total reduction		0.41		0.38			0.36			0.26		0.15			0.11	
Total, real		15		698			429			97		202			55	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1040 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8559)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April		May		June
1	07:57	07:43		07:07		16:46 (T5)	07:16		06:30	19:33 (T3)	06:01
	17:12	17:47		18:21	73	17:59 (T4)	19:56		20:27	29	20:02 (T3)	20:57
2	07:57	07:42		07:05		16:46 (T5)	07:14		06:28		19:34 (T3)	06:00
	17:13	17:48		18:22	75	18:01 (T4)	19:57		20:28	28	20:02 (T3)	20:58
3	07:57	07:41		07:04		16:46 (T5)	07:12		06:27		19:34 (T3)	06:00
	17:14	17:49		18:24	76	18:02 (T4)	19:58		20:29	28	20:02 (T3)	20:58
4	07:57	07:40		07:02		16:46 (T5)	07:11		06:26		19:35 (T3)	05:59
	17:15	17:51		18:25	77	18:03 (T4)	19:59		20:30	26	20:01 (T3)	20:59
5	07:57	07:39		07:01		16:46 (T5)	07:09		06:24		19:35 (T3)	05:59
	17:16	17:52		18:26	78	18:04 (T4)	20:00		20:31	25	20:00 (T3)	21:00
6	07:57	07:38		06:59		16:45 (T5)	07:07		06:23		19:36 (T3)	05:59
	17:17	17:53		18:27	80	18:05 (T4)	20:00		20:32	23	19:59 (T3)	21:00
7	07:57	07:37		06:57		16:46 (T5)	07:06		06:22		19:37 (T3)	05:58
	17:18	17:54		18:28	81	18:07 (T4)	20:01		20:33	21	19:58 (T3)	21:01
8	07:57	07:36		07:56		17:46 (T5)	07:04		06:21		19:38 (T3)	05:58
	17:19	17:56		19:29	82	19:08 (T4)	20:02		20:34	19	19:57 (T3)	21:02
9	07:57	07:35		07:54		17:45 (T5)	07:02		06:20		19:40 (T3)	05:58
	17:20	17:57		19:30	83	19:08 (T4)	20:03		20:35	16	19:56 (T3)	21:02
10	07:57	07:33	17:12 (T5)	07:53		17:46 (T5)	07:01		06:19		19:42 (T3)	05:58
	17:21	17:58	17 17:29 (T5)	19:32	84	19:10 (T4)	20:04		20:36	12	19:54 (T3)	21:03
11	07:57	07:32	17:08 (T5)	07:51		17:46 (T5)	06:59		06:17		19:45 (T3)	05:58
	17:22	17:59	25 17:33 (T5)	19:33	83	19:09 (T4)	20:05		20:37	5	19:50 (T3)	21:04
12	07:56	07:31	17:05 (T5)	07:49		17:46 (T5)	06:58		06:16			05:57
	17:23	18:01	31 17:36 (T5)	19:34	83	19:09 (T4)	20:06		20:38			21:04
13	07:56	07:30	17:03 (T5)	07:48		17:48 (T5)	06:56		06:15			05:57
	17:24	18:02	36 17:39 (T5)	19:35	81	19:09 (T4)	20:07		20:39			21:05
14	07:56	07:28	17:01 (T5)	07:46		17:48 (T5)	06:54		06:14			05:57
	17:25	18:03	39 17:40 (T5)	19:36	80	19:08 (T4)	20:09		20:40			21:05
15	07:55	07:27	16:59 (T5)	07:44		17:48 (T5)	06:53		06:13			05:57
	17:26	18:04	42 17:41 (T5)	19:37	79	19:07 (T4)	20:10		20:41			21:06
16	07:55	07:26	16:58 (T5)	07:43		17:50 (T5)	06:51		06:12			05:57
	17:27	18:06	45 17:43 (T5)	19:38	77	19:07 (T4)	20:11		20:42			21:06
17	07:54	07:24	16:56 (T5)	07:41		17:50 (T5)	06:50		06:11			05:57
	17:28	18:07	48 17:44 (T5)	19:39	76	19:06 (T4)	20:12		20:43			21:06
18	07:54	07:23	16:55 (T5)	07:39		17:51 (T5)	06:48	19:48 (T3)	06:10			05:57
	17:30	18:08	51 17:46 (T5)	19:40	74	19:05 (T4)	20:13	3 19:51 (T3)	20:44			21:07
19	07:53	07:22	16:53 (T5)	07:38		17:53 (T5)	06:47	19:44 (T3)	06:10			05:58
	17:31	18:09	53 17:46 (T5)	19:42	71	19:04 (T4)	20:14	9 19:53 (T3)	20:45			21:07
20	07:53	07:20	16:53 (T5)	07:36		17:54 (T5)	06:45	19:41 (T3)	06:09			05:58
	17:32	18:10	55 17:48 (T5)	19:43	68	19:02 (T4)	20:15	12 19:53 (T3)	20:46			21:07
21	07:52	07:19	16:52 (T5)	07:34		17:55 (T5)	06:44	19:39 (T3)	06:08			05:58
	17:33	18:12	58 17:50 (T5)	19:44	65	19:00 (T4)	20:16	16 19:55 (T3)	20:47			21:08
22	07:52	07:17	16:51 (T5)	07:33		17:58 (T5)	06:42	19:38 (T3)	06:07			05:58
	17:34	18:13	59 17:50 (T5)	19:45	57	18:59 (T4)	20:17	18 19:56 (T3)	20:48			21:08
23	07:51	07:16	16:50 (T5)	07:31		18:00 (T5)	06:41	19:37 (T3)	06:06			05:58
	17:36	18:14	62 17:52 (T5)	19:46	46	18:55 (T4)	20:18	19 19:56 (T3)	20:49			21:08
24	07:50	07:14	16:49 (T5)	07:29		18:03 (T5)	06:39	19:36 (T3)	06:05			05:59
	17:37	18:15	63 17:52 (T5)	19:47	25	18:28 (T5)	20:19	22 19:58 (T3)	20:50			21:08
25	07:49	07:13	16:49 (T5)	07:27		18:06 (T5)	06:38	19:35 (T3)	06:05			05:59
	17:38	18:16	64 17:53 (T5)	19:48	17	18:23 (T5)	20:20	23 19:58 (T3)	20:51			21:08
26	07:49	07:11	16:48 (T5)	07:26			06:36	19:35 (T3)	06:04			05:59
	17:39	18:18	64 17:52 (T5)	19:49			20:21	25 20:00 (T3)	20:52			21:08
27	07:48	07:10	16:47 (T5)	07:24			06:35	19:35 (T3)	06:03			06:00
	17:41	18:19	65 17:52 (T5)	19:50			20:23	26 20:01 (T3)	20:53			21:09
28	07:47	07:08	16:47 (T5)	07:22			06:34	19:34 (T3)	06:03			06:00
	17:42	18:20	66 17:53 (T5)	19:51			20:24	27 20:01 (T3)	20:54			21:09
29	07:46			07:21			06:32	19:34 (T3)	06:02			06:00
	17:43			19:52			20:25	29 20:03 (T3)	20:54			21:09
30	07:45			07:19			06:31	19:34 (T3)	06:02			06:01
	17:44			19:53			20:26	29 20:03 (T3)	20:55			21:09
31	07:44			07:17					06:01			
	17:46			19:55					20:56			
Potential sun hours	297	297		370			399		449			453
Total, worst case			943		1771			258		232		
Sun reduction			0.40		0.44			0.52		0.57		
Oper. time red.			1.00		1.00			1.00		1.00		
Wind dir. red.			0.70		0.69			0.57		0.57		
Total reduction			0.28		0.30			0.30		0.33		
Total, real			264		538			77		76		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1040 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8559)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November			December
1	06:01	06:26			06:57			07:27		17:26 (T5)	07:02		16:43 (T5)	07:37
	21:08	20:50			20:07			19:14	82	18:48 (T4)	17:27	15	16:58 (T5)	17:03
2	06:02	06:27		19:53 (T3)	06:58			07:28		17:25 (T5)	07:03			07:38
	21:08	20:49	8	20:01 (T3)	20:05			19:13	83	18:48 (T4)	17:26			17:03
3	06:02	06:28		19:50 (T3)	06:59			07:29		17:24 (T5)	07:04			07:39
	21:08	20:48	14	20:04 (T3)	20:04			19:11	83	18:47 (T4)	17:25			17:02
4	06:03	06:29		19:49 (T3)	07:00			07:30		17:23 (T5)	07:05			07:40
	21:08	20:47	17	20:06 (T3)	20:02			19:09	84	18:47 (T4)	17:24			17:02
5	06:03	06:30		19:47 (T3)	07:01			07:31		17:22 (T5)	07:07			07:41
	21:08	20:46	20	20:07 (T3)	20:00			19:08	83	18:45 (T4)	17:23			17:02
6	06:04	06:31		19:46 (T3)	07:02			07:32		17:22 (T5)	07:08			07:42
	21:08	20:44	22	20:08 (T3)	19:57			19:06	81	18:43 (T4)	17:21			17:02
7	06:05	06:32		19:45 (T3)	07:03			07:33		17:21 (T5)	07:09			07:43
	21:07	20:43	24	20:09 (T3)	19:55			19:04	80	18:41 (T4)	17:20			17:02
8	06:05	06:33		19:44 (T3)	07:04			07:35		17:21 (T5)	07:10			07:44
	21:07	20:42	26	20:10 (T3)	19:54			19:03	80	18:41 (T4)	17:19			17:02
9	06:06	06:34		19:44 (T3)	07:05			07:36		17:21 (T5)	07:11			07:45
	21:07	20:41	26	20:10 (T3)	19:52			19:01	78	18:39 (T4)	17:18			17:02
10	06:07	06:35		19:43 (T3)	07:06			07:37		17:21 (T5)	07:13			07:46
	21:06	20:39	28	20:11 (T3)	19:50			18:59	76	18:37 (T4)	17:17			17:02
11	06:07	06:36		19:42 (T3)	07:07			07:38		17:20 (T5)	07:14			07:46
	21:06	20:38	29	20:11 (T3)	19:49			18:58	75	18:35 (T4)	17:16			17:02
12	06:08	06:37		19:42 (T3)	07:08			07:39		17:20 (T5)	07:15			07:47
	21:06	20:37	29	20:11 (T3)	19:47			18:56	74	18:34 (T4)	17:15			17:02
13	06:09	06:38		19:42 (T3)	07:09			07:40		17:20 (T5)	07:16			07:48
	21:05	20:35	29	20:11 (T3)	19:45			18:55	70	18:30 (T4)	17:14			17:02
14	06:10	06:39		19:42 (T3)	07:10			07:41		17:20 (T5)	07:17			07:49
	21:05	20:34	28	20:10 (T3)	19:43			18:53	65	18:25 (T5)	17:13			17:02
15	06:10	06:40		19:41 (T3)	07:11			07:42		17:19 (T5)	07:19			07:50
	21:04	20:33	28	20:09 (T3)	19:42			18:51	66	18:25 (T5)	17:12			17:03
16	06:11	06:41		19:41 (T3)	07:12			07:43		17:20 (T5)	07:20			07:50
	21:03	20:31	26	20:07 (T3)	19:40			18:50	65	18:25 (T5)	17:12			17:03
17	06:12	06:42		19:42 (T3)	07:13			07:44		17:21 (T5)	07:21			07:51
	21:03	20:30	24	20:06 (T3)	19:38			18:48	63	18:24 (T5)	17:11			17:03
18	06:13	06:43		19:42 (T3)	07:14		17:56 (T5)	07:46		17:21 (T5)	07:22			07:52
	21:02	20:28	23	20:05 (T3)	19:37	14	18:10 (T5)	18:47	62	18:23 (T5)	17:10			17:03
19	06:14	06:44		19:42 (T3)	07:15		17:51 (T5)	07:47		17:21 (T5)	07:23			07:52
	21:02	20:27	21	20:03 (T3)	19:35	23	18:14 (T5)	18:45	61	18:22 (T5)	17:09			17:04
20	06:14	06:45		19:43 (T3)	07:16		17:47 (T5)	07:48		17:21 (T5)	07:25			07:53
	21:01	20:26	19	20:02 (T3)	19:33	43	18:41 (T4)	18:44	60	18:21 (T5)	17:08			17:04
21	06:15	06:46		19:43 (T3)	07:17		17:44 (T5)	07:49		17:22 (T5)	07:26			07:53
	21:00	20:24	18	20:01 (T3)	19:31	54	18:43 (T4)	18:42	57	18:19 (T5)	17:08			17:05
22	06:16	06:47		19:44 (T3)	07:18		17:41 (T5)	07:50		17:23 (T5)	07:27			07:54
	20:59	20:23	15	19:59 (T3)	19:30	63	18:45 (T4)	18:41	55	18:18 (T5)	17:07			17:05
23	06:17	06:48		19:46 (T3)	07:19		17:39 (T5)	07:51		17:24 (T5)	07:28			07:54
	20:58	20:21	12	19:58 (T3)	19:28	67	18:46 (T4)	18:39	53	18:17 (T5)	17:07			17:06
24	06:18	06:49		19:48 (T3)	07:20		17:37 (T5)	07:52		17:25 (T5)	07:29			07:55
	20:58	20:20	8	19:56 (T3)	19:26	70	18:47 (T4)	18:38	50	18:15 (T5)	17:06			17:06
25	06:19	06:50			07:21		17:35 (T5)	07:54		17:26 (T5)	07:30			07:55
	20:57	20:18			19:25	73	18:48 (T4)	18:37	47	18:13 (T5)	17:05			17:07
26	06:20	06:51			07:22		17:33 (T5)	07:55		17:28 (T5)	07:32			07:56
	20:56	20:16			19:23	75	18:48 (T4)	18:35	44	18:12 (T5)	17:05			17:08
27	06:21	06:52			07:23		17:32 (T5)	07:56		17:29 (T5)	07:33			07:56
	20:55	20:15			19:21	77	18:49 (T4)	18:34	42	18:11 (T5)	17:04			17:08
28	06:22	06:53			07:24		17:30 (T5)	07:57		17:31 (T5)	07:34			07:56
	20:54	20:13			19:19	79	18:49 (T4)	18:33	38	18:09 (T5)	17:04			17:09
29	06:23	06:54			07:25		17:29 (T5)	07:58		17:33 (T5)	07:35			07:57
	20:53	20:12			19:18	80	18:49 (T4)	18:31	34	18:07 (T5)	17:04			17:10
30	06:24	06:55			07:26		17:27 (T5)	07:59		17:36 (T5)	07:36			07:57
	20:52	20:10			19:16	82	18:49 (T4)	18:30	30	18:06 (T5)	17:03			17:10
31	06:25	06:56						08:01		17:39 (T5)				07:57
	20:51	20:09						18:29	23	18:02 (T5)				17:11
Potential sun hours	460	429			375			345			297			287
Total, worst case			494			800			1944			15		
Sun reduction			0.61			0.59			0.48			0.30		
Oper. time red.			1.00			1.00			1.00			1.00		
Wind dir. red.			0.57			0.69			0.69			0.70		
Total reduction			0.35			0.41			0.33			0.21		
Total, real			173			325			649			3		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1043 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8562)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February		March			April			May			June	
1	07:57		08:32 (T71)	07:43		07:07			07:16		17:53 (T69)	06:30		06:58 (T67)	06:02	
	17:13	46	09:18 (T71)	17:48		18:22			19:56	89	19:22 (T69)	20:27	119	18:58 (T69)	20:57	
2	07:57		08:32 (T71)	07:42		07:06			07:15		07:40 (T68)	06:29		06:59 (T67)	06:01	
	17:14	46	09:18 (T71)	17:49		18:23			19:57	100	19:22 (T69)	20:28	115	18:57 (T69)	20:57	
3	07:57		08:33 (T71)	07:41		07:04			07:13		07:34 (T68)	06:28		07:00 (T67)	06:01	
	17:15	45	09:18 (T71)	17:50		18:24			19:58	112	19:22 (T69)	20:29	110	18:55 (T69)	20:58	
4	07:57		08:34 (T71)	07:40		07:02			07:11		07:30 (T68)	06:27		07:01 (T67)	06:01	
	17:16	45	09:19 (T71)	17:51		18:25			19:59	118	19:21 (T69)	20:30	103	18:52 (T69)	20:59	
5	07:57		08:34 (T71)	07:39		07:01			07:10		07:29 (T68)	06:25		07:04 (T67)	06:00	
	17:17	45	09:19 (T71)	17:53		18:26			20:00	122	19:21 (T69)	20:31	95	18:50 (T69)	20:59	
6	07:57		08:35 (T71)	07:38		06:59			07:08		07:27 (T68)	06:24		07:10 (T68)	06:00	
	17:18	44	09:19 (T71)	17:54		18:28			20:00	125	19:21 (T69)	20:32	84	18:48 (T69)	21:00	
7	07:57		08:36 (T71)	07:37		06:58			07:06		07:25 (T68)	06:23		07:11 (T68)	06:00	
	17:19	44	09:20 (T71)	17:55		18:29			20:01	128	19:20 (T69)	20:33	76	18:45 (T69)	21:01	
8	07:57		08:37 (T71)	07:36		07:56		18:34 (T69)	07:05		07:24 (T68)	06:22		07:12 (T68)	05:59	
	17:20	43	09:20 (T71)	17:57		19:30	18	18:52 (T69)	20:02	130	19:20 (T69)	20:34	66	18:41 (T69)	21:01	
9	07:57		08:38 (T71)	07:35		07:54		18:29 (T69)	07:03		07:22 (T68)	06:21		07:13 (T68)	05:59	
	17:21	42	09:20 (T71)	17:58		19:31	30	18:59 (T69)	20:03	133	19:19 (T69)	20:35	47	08:00 (T68)	21:02	
10	07:57		08:38 (T71)	07:33		07:53		18:24 (T69)	07:02		07:20 (T68)	06:20		07:14 (T68)	05:59	
	17:22	42	09:20 (T71)	17:59		19:32	38	19:02 (T69)	20:04	135	19:19 (T69)	20:36	45	07:59 (T68)	21:03	
11	07:56		08:39 (T71)	07:32		07:51		18:21 (T69)	07:00		07:19 (T68)	06:18		07:15 (T68)	05:59	
	17:23	41	09:20 (T71)	18:00		19:33	43	19:04 (T69)	20:06	137	19:19 (T69)	20:37	43	07:58 (T68)	21:03	
12	07:56		08:40 (T71)	07:31		07:50		18:18 (T69)	06:58		07:17 (T68)	06:17		07:16 (T68)	05:59	
	17:24	40	09:20 (T71)	18:01		19:34	49	19:07 (T69)	20:07	138	19:18 (T69)	20:38	41	07:57 (T68)	21:04	
13	07:56		08:40 (T71)	07:30		07:48		18:15 (T69)	06:57		07:16 (T68)	06:16		07:17 (T68)	05:59	
	17:25	39	09:19 (T71)	18:03		19:35	54	19:09 (T69)	20:08	140	19:18 (T69)	20:39	39	07:56 (T68)	21:04	
14	07:55		08:41 (T71)	07:28		07:46		18:13 (T69)	06:55		07:14 (T68)	06:15		07:18 (T68)	05:59	
	17:26	39	09:20 (T71)	18:04		19:37	58	19:11 (T69)	20:09	141	19:17 (T69)	20:40	36	07:54 (T68)	21:05	
15	07:55		08:42 (T71)	07:27		07:45		18:11 (T69)	06:54		07:13 (T68)	06:14		07:19 (T68)	05:59	
	17:27	37	09:19 (T71)	18:05		19:38	62	19:13 (T69)	20:10	141	19:16 (T69)	20:41	34	07:53 (T68)	21:05	
16	07:55		08:43 (T71)	07:26		07:43		18:09 (T69)	06:52		07:11 (T68)	06:13		07:21 (T68)	05:59	
	17:28	36	09:19 (T71)	18:06		19:39	65	19:14 (T69)	20:11	141	19:15 (T69)	20:42	30	07:51 (T68)	21:06	
17	07:54		08:44 (T71)	07:25		07:41		18:07 (T69)	06:51		07:10 (T67)	06:12		07:22 (T68)	05:59	
	17:30	34	09:18 (T71)	18:08		19:40	68	19:15 (T69)	20:12	142	19:15 (T69)	20:43	27	07:49 (T68)	21:06	
18	07:54		08:46 (T71)	07:23		07:40		18:06 (T69)	06:49		07:08 (T67)	06:11		07:24 (T68)	05:59	
	17:31	32	09:18 (T71)	18:09		19:41	70	19:16 (T69)	20:13	143	19:14 (T69)	20:44	23	07:47 (T68)	21:06	
19	07:53		08:47 (T71)	07:22		07:38		18:04 (T69)	06:47		07:07 (T67)	06:11		07:26 (T68)	05:59	
	17:32	30	09:17 (T71)	18:10		19:42	73	19:17 (T69)	20:14	142	19:13 (T69)	20:45	19	07:45 (T68)	21:07	
20	07:53		08:49 (T71)	07:20		07:36		18:03 (T69)	06:46		07:05 (T67)	06:10		07:31 (T68)	05:59	
	17:33	27	09:16 (T71)	18:11		19:43	75	19:18 (T69)	20:15	143	19:12 (T69)	20:46	11	07:42 (T68)	21:07	
21	07:52		08:50 (T71)	07:19		07:35		18:02 (T69)	06:44		07:04 (T67)	06:09			05:59	
	17:34	25	09:15 (T71)	18:12		19:44	77	19:19 (T69)	20:16	142	19:11 (T69)	20:47			21:07	
22	07:51		08:52 (T71)	07:18		07:33		18:00 (T69)	06:43		07:02 (T67)	06:08			05:59	
	17:35	21	09:13 (T71)	18:14		19:45	79	19:19 (T69)	20:17	141	19:10 (T69)	20:48			21:07	
23	07:51		08:55 (T71)	07:16		07:31		17:59 (T69)	06:42		07:01 (T67)	06:07			06:00	
	17:37	17	09:12 (T71)	18:15		19:46	81	19:20 (T69)	20:18	140	19:09 (T69)	20:49			21:08	
24	07:50		08:59 (T71)	07:15		07:30		17:59 (T69)	06:40		06:59 (T67)	06:07			06:00	
	17:38	9	09:08 (T71)	18:16		19:47	82	19:21 (T69)	20:19	139	19:07 (T69)	20:50			21:08	
25	07:49			07:13		07:28		17:57 (T69)	06:39		06:58 (T67)	06:06			06:00	
	17:39			18:17		19:48	84	19:21 (T69)	20:20	139	19:07 (T69)	20:51			21:08	
26	07:48			07:12		07:26		17:56 (T69)	06:37		06:57 (T67)	06:05			06:00	
	17:40			18:18		19:50	85	19:21 (T69)	20:21	137	19:06 (T69)	20:52			21:08	
27	07:48			07:10		07:25		17:56 (T69)	06:36		06:55 (T67)	06:05			06:01	
	17:42			18:20		19:51	86	19:22 (T69)	20:23	136	19:04 (T69)	20:52			21:08	
28	07:47			07:09		07:23		17:55 (T69)	06:35		06:56 (T67)	06:04			06:01	
	17:43			18:21		19:52	87	19:22 (T69)	20:24	132	19:03 (T69)	20:53			21:08	
29	07:46					07:21		17:54 (T69)	06:33		06:57 (T67)	06:03			06:02	
	17:44					19:53	87	19:21 (T69)	20:25	129	19:02 (T69)	20:54			21:08	
30	07:45					07:20		17:54 (T69)	06:32		06:57 (T67)	06:03			06:02	
	17:45					19:54	88	19:22 (T69)	20:26	124	18:59 (T69)	20:55			21:08	
31	07:44					07:18		17:53 (T69)				06:02				
	17:46					19:55	89	19:22 (T69)				20:56				
Potential sun hours	297			297		370			399			448			452	
Total, worst case		869					1628			3959			1163			
Sun reduction		0.31					0.44			0.52			0.57			
Oper. time red.		1.00					1.00			1.00			1.00			
Wind dir. red.		0.53					0.65			0.65			0.66			
Total reduction		0.16					0.28			0.33			0.37			
Total, real		140					457			1323			428			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1043 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8562)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:03			06:27		07:25 (T68)	06:57		07:18 (T68)	07:28		17:56 (T69)	07:02			07:37		08:21 (T71)
	21:08			20:50	42	08:07 (T68)	20:07	137	19:18 (T69)	19:15	51	18:47 (T69)	17:28			17:04	41	09:02 (T71)
2	06:03			06:28		07:24 (T68)	06:58		07:19 (T68)	07:29		17:58 (T69)	07:03			07:38		08:21 (T71)
	21:08			20:49	44	08:08 (T68)	20:05	135	19:18 (T69)	19:13	46	18:44 (T69)	17:27			17:04	42	09:03 (T71)
3	06:04			06:29		07:23 (T68)	06:59		07:20 (T68)	07:30		18:01 (T69)	07:04			07:39		08:21 (T71)
	21:08			20:48	46	08:09 (T68)	20:04	133	19:17 (T69)	19:11	40	18:41 (T69)	17:26			17:04	42	09:03 (T71)
4	06:04			06:30		07:22 (T68)	07:00		07:21 (T68)	07:31		18:04 (T69)	07:05			07:40		08:21 (T71)
	21:08			20:47	56	18:46 (T69)	20:02	130	19:17 (T69)	19:10	33	18:37 (T69)	17:25			17:03	43	09:04 (T71)
5	06:05			06:31		07:21 (T68)	07:01		07:22 (T68)	07:32		18:09 (T69)	07:07			07:41		08:21 (T71)
	21:08			20:45	70	18:52 (T69)	20:01	128	19:17 (T69)	19:08	24	18:33 (T69)	17:23			17:03	44	09:05 (T71)
6	06:05			06:31		07:20 (T68)	07:02		07:23 (T68)	07:33		18:18 (T69)	07:08			07:42		08:21 (T71)
	21:07			20:44	80	18:56 (T69)	19:57	125	19:17 (T69)	19:07	5	18:23 (T69)	17:22			17:03	44	09:05 (T71)
7	06:06			06:32		07:20 (T68)	07:03		07:24 (T68)	07:34			07:09			07:43		08:21 (T71)
	21:07			20:43	86	18:58 (T69)	19:56	123	19:17 (T69)	19:05			17:21			17:03	45	09:06 (T71)
8	06:07			06:33		07:13 (T67)	07:04		07:25 (T68)	07:35			07:10			07:44		08:22 (T71)
	21:07			20:42	98	19:01 (T69)	19:54	118	19:16 (T69)	19:03			17:20			17:03	45	09:07 (T71)
9	06:07			06:34		07:10 (T67)	07:05		07:28 (T68)	07:36			07:11			07:44		08:22 (T71)
	21:06			20:41	106	19:03 (T69)	19:52	112	19:16 (T69)	19:02			17:19			17:03	45	09:07 (T71)
10	06:08			06:35		07:09 (T67)	07:06		07:32 (T68)	07:37			07:13			07:45		08:22 (T71)
	21:06			20:39	110	19:04 (T69)	19:51	102	19:15 (T69)	19:00			17:18			17:03	46	09:08 (T71)
11	06:09			06:36		07:07 (T67)	07:07		17:46 (T69)	07:38			07:14			07:46		08:23 (T71)
	21:06			20:38	117	19:06 (T69)	19:49	89	19:15 (T69)	18:58			17:17			17:03	46	09:09 (T71)
12	06:09			06:37		07:06 (T67)	07:08		17:45 (T69)	07:39			07:15			07:47		08:22 (T71)
	21:05			20:37	121	19:07 (T69)	19:47	88	19:13 (T69)	18:57			17:16			17:03	47	09:09 (T71)
13	06:10			06:38		07:05 (T67)	07:09		17:44 (T69)	07:40			07:16			07:48		08:23 (T71)
	21:05			20:35	127	19:09 (T69)	19:45	88	19:12 (T69)	18:55			17:15			17:03	46	09:09 (T71)
14	06:11			06:39		07:04 (T67)	07:10		17:44 (T69)	07:41			07:17			07:49		08:24 (T71)
	21:04			20:34	130	19:10 (T69)	19:44	88	19:12 (T69)	18:54			17:14			17:04	46	09:10 (T71)
15	06:12			06:40		07:03 (T67)	07:11		17:44 (T69)	07:42			07:19			07:49		08:24 (T71)
	21:04			20:33	134	19:11 (T69)	19:42	87	19:11 (T69)	18:52			17:13			17:04	47	09:11 (T71)
16	06:12			06:41		07:03 (T67)	07:12		17:44 (T69)	07:44			07:20			07:50		08:24 (T71)
	21:03			20:31	136	19:12 (T69)	19:40	86	19:10 (T69)	18:51			17:13			17:04	47	09:11 (T71)
17	06:13			06:42		07:04 (T67)	07:13		17:44 (T69)	07:45			07:21			07:51		08:25 (T71)
	21:03			20:30	138	19:13 (T69)	19:39	85	19:09 (T69)	18:49			17:12			17:04	47	09:12 (T71)
18	06:14			06:43		07:05 (T67)	07:14		17:45 (T69)	07:46			07:22		08:33 (T71)	07:51		08:25 (T71)
	21:02			20:28	139	19:14 (T69)	19:37	83	19:08 (T69)	18:48			17:11	9	08:42 (T71)	17:05	47	09:12 (T71)
19	06:15			06:44		07:06 (T67)	07:15		17:45 (T69)	07:47			07:23		08:29 (T71)	07:52		08:25 (T71)
	21:01			20:27	139	19:14 (T69)	19:35	82	19:07 (T69)	18:46			17:10	17	08:46 (T71)	17:05	47	09:12 (T71)
20	06:16			06:45		07:07 (T67)	07:16		17:45 (T69)	07:48			07:24		08:27 (T71)	07:53		08:26 (T71)
	21:01			20:26	140	19:15 (T69)	19:34	81	19:06 (T69)	18:45			17:10	21	08:48 (T71)	17:05	47	09:13 (T71)
21	06:16			06:46		07:08 (T67)	07:17		17:46 (T69)	07:49			07:26		08:25 (T71)	07:53		08:26 (T71)
	21:00			20:24	142	19:16 (T69)	19:32	79	19:05 (T69)	18:43			17:09	25	08:50 (T71)	17:06	47	09:13 (T71)
22	06:17			06:47		07:08 (T67)	07:18		17:46 (T69)	07:50			07:27		08:25 (T71)	07:54		08:27 (T71)
	20:59			20:23	142	19:15 (T69)	19:30	78	19:04 (T69)	18:42			17:08	27	08:52 (T71)	17:06	47	09:14 (T71)
23	06:18		07:43 (T68)	06:48		07:09 (T67)	07:19		17:47 (T69)	07:51			07:28		08:24 (T71)	07:54		08:27 (T71)
	20:58	5	07:48 (T68)	20:21	142	19:16 (T69)	19:28	75	19:02 (T69)	18:40			17:08	30	08:54 (T71)	17:07	47	09:14 (T71)
24	06:19		07:38 (T68)	06:49		07:10 (T67)	07:20		17:47 (T69)	07:53			07:29		08:23 (T71)	07:55		08:28 (T71)
	20:57	15	07:53 (T68)	20:20	142	19:16 (T69)	19:27	74	19:01 (T69)	18:39			17:07	32	08:55 (T71)	17:07	47	09:15 (T71)
25	06:20		07:36 (T68)	06:50		07:11 (T67)	07:21		17:48 (T69)	07:54			07:30		08:22 (T71)	07:55		08:28 (T71)
	20:57	20	07:56 (T68)	20:18	142	19:16 (T69)	19:25	71	18:59 (T69)	18:37			17:06	34	08:56 (T71)	17:08	47	09:15 (T71)
26	06:21		07:34 (T68)	06:51		07:12 (T67)	07:22		17:49 (T69)	07:55			07:31		08:21 (T71)	07:55		08:29 (T71)
	20:56	25	07:59 (T68)	20:17	142	19:17 (T69)	19:23	69	18:58 (T69)	18:36			17:06	36	08:57 (T71)	17:09	47	09:16 (T71)
27	06:22		07:32 (T68)	06:52		07:13 (T68)	07:23		17:50 (T69)	07:56			07:32		08:22 (T71)	07:56		08:30 (T71)
	20:55	29	08:01 (T68)	20:15	141	19:17 (T69)	19:22	66	18:56 (T69)	18:35			17:06	37	08:59 (T71)	17:09	47	09:17 (T71)
28	06:23		07:31 (T68)	06:53		07:14 (T68)	07:24		17:51 (T69)	07:57			07:34		08:22 (T71)	07:56		08:30 (T71)
	20:54	32	08:03 (T68)	20:13	141	19:17 (T69)	19:20	63	18:54 (T69)	18:33			17:05	38	09:00 (T71)	17:10	47	09:17 (T71)
29	06:24		07:29 (T68)	06:54		07:15 (T68)	07:25		17:53 (T69)	07:58			07:35		08:21 (T71)	07:56		08:30 (T71)
	20:53	35	08:04 (T68)	20:12	140	19:17 (T69)	19:18	59	18:52 (T69)	18:32			17:05	39	09:00 (T71)	17:11	47	09:17 (T71)
30	06:25		07:28 (T68)	06:55		07:16 (T68)	07:26		17:54 (T69)	07:59			07:36		08:21 (T71)	07:56		08:31 (T71)
	20:52	38	08:06 (T68)	20:10	140	19:18 (T69)	19:17	56	18:50 (T69)	18:31			17:04	40	09:01 (T71)	17:12	46	09:17 (T71)
31	06:26		07:27 (T68)	06:56		07:17 (T68)				08:01						07:57		08:31 (T71)
	20:51	40	08:07 (T68)	20:09	139	19:18 (T69)				18:29						17:12	46	09:17 (T71)
Potential sun hours	459			428			375			345			298			288		
Total, worst case		239			3612			2790			199			385			1419	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.66			0.65			0.65			0.65			0.53			0.53	
Total reduction		0.43			0.39			0.38			0.31			0.16			0.11	
Total, real		102			1420			1052			61			60			162	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1056 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8573)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		08:57 (T12)	07:44		08:04 (T13)	07:07			07:16		18:53 (T11)	06:30		06:50 (T10)	06:01		06:37 (T10)
	17:13	65	10:02 (T12)	17:47	35	08:39 (T13)	18:22			19:56	41	19:34 (T11)	20:27	55	19:19 (T11)	20:57	58	07:35 (T10)
2	07:58		08:57 (T12)	07:43		08:03 (T13)	07:06			07:14		18:51 (T11)	06:29		06:49 (T10)	06:01		06:36 (T10)
	17:14	66	10:03 (T12)	17:49	37	08:40 (T13)	18:23			19:57	44	19:35 (T11)	20:28	48	19:15 (T11)	20:58	58	07:34 (T10)
3	07:58		08:58 (T12)	07:42		08:02 (T13)	07:04			07:13		18:50 (T11)	06:27		06:47 (T10)	06:00		06:37 (T10)
	17:14	65	10:03 (T12)	17:50	38	08:40 (T13)	18:24			19:58	47	19:37 (T11)	20:29	40	07:27 (T10)	20:59	58	07:35 (T10)
4	07:58		08:59 (T12)	07:41		08:02 (T13)	07:03			07:11		18:49 (T11)	06:26		06:46 (T10)	06:00		06:37 (T10)
	17:15	64	10:03 (T12)	17:51	38	08:40 (T13)	18:25			19:59	48	19:37 (T11)	20:30	42	07:28 (T10)	21:00	58	07:35 (T10)
5	07:58		08:59 (T12)	07:40		08:03 (T13)	07:01			07:09		18:48 (T11)	06:25		06:45 (T10)	06:00		06:37 (T10)
	17:16	64	10:03 (T12)	17:52	37	08:40 (T13)	18:26			20:00	50	19:38 (T11)	20:32	44	07:29 (T10)	21:00	57	07:34 (T10)
6	07:58		09:00 (T12)	07:39		08:03 (T13)	06:59			07:08		18:47 (T11)	06:24		06:44 (T10)	05:59		06:38 (T10)
	17:17	64	10:04 (T12)	17:54	37	08:40 (T13)	18:27			20:00	53	19:40 (T11)	20:33	46	07:30 (T10)	21:01	57	07:35 (T10)
7	07:58		09:01 (T12)	07:37		08:04 (T13)	06:58			07:06		18:46 (T11)	06:23		06:43 (T10)	05:59		06:38 (T10)
	17:18	63	10:04 (T12)	17:55	36	08:40 (T13)	18:29			20:01	54	19:40 (T11)	20:34	48	07:31 (T10)	21:02	57	07:35 (T10)
8	07:58		09:02 (T12)	07:36		08:04 (T13)	07:56			07:05		18:46 (T11)	06:21		06:41 (T10)	05:59		06:21 (T8)
	17:19	62	10:04 (T12)	17:56	35	08:39 (T13)	19:30			20:03	55	19:41 (T11)	20:35	49	07:30 (T10)	21:02	57	07:35 (T10)
9	07:57		09:02 (T12)	07:35		08:05 (T13)	07:55			07:03		18:45 (T11)	06:20		06:40 (T10)	05:58		06:21 (T8)
	17:20	62	10:04 (T12)	17:57	33	08:38 (T13)	19:31			20:04	56	19:41 (T11)	20:36	51	07:31 (T10)	21:03	58	07:35 (T10)
10	07:57		09:03 (T12)	07:34		08:06 (T13)	07:53			07:01		18:45 (T11)	06:19		06:39 (T10)	05:58		06:20 (T8)
	17:21	61	10:04 (T12)	17:59	32	08:38 (T13)	19:32			20:05	55	19:40 (T11)	20:37	53	07:32 (T10)	21:03	59	07:35 (T10)
11	07:57		09:04 (T12)	07:33		08:07 (T13)	07:51			07:00		18:45 (T11)	06:18		06:38 (T10)	05:58		06:20 (T8)
	17:22	60	10:04 (T12)	18:00	30	08:37 (T13)	19:33			20:06	56	19:41 (T11)	20:38	54	07:32 (T10)	21:04	59	07:35 (T10)
12	07:57		09:04 (T12)	07:31		08:07 (T13)	07:50			06:58		18:44 (T11)	06:17		06:37 (T10)	05:58		06:20 (T8)
	17:23	59	10:03 (T12)	18:01	28	08:35 (T13)	19:34			20:07	56	19:40 (T11)	20:39	56	07:33 (T10)	21:04	60	07:35 (T10)
13	07:56		09:05 (T12)	07:30		08:09 (T13)	07:48			06:57		18:45 (T11)	06:16		06:36 (T10)	05:58		06:20 (T8)
	17:24	59	10:04 (T12)	18:02	25	08:34 (T13)	19:35			20:08	55	19:40 (T11)	20:40	57	07:33 (T10)	21:05	60	07:35 (T10)
14	07:56		09:07 (T12)	07:29		08:11 (T13)	07:46			06:55		18:44 (T11)	06:15		06:36 (T10)	05:58		06:20 (T8)
	17:26	57	10:04 (T12)	18:04	22	08:33 (T13)	19:37			20:09	56	19:40 (T11)	20:41	57	07:33 (T10)	21:05	60	07:35 (T10)
15	07:56		08:17 (T13)	07:28		08:12 (T13)	07:45			06:53		18:44 (T11)	06:14		06:35 (T10)	05:58		06:20 (T8)
	17:27	58	10:03 (T12)	18:05	18	08:30 (T13)	19:38			20:10	55	19:39 (T11)	20:42	58	07:33 (T10)	21:06	60	07:35 (T10)
16	07:55		08:17 (T13)	07:26		08:16 (T13)	07:43			06:52		18:44 (T11)	06:13		06:35 (T10)	05:58		06:20 (T8)
	17:28	60	10:03 (T12)	18:06	11	08:27 (T13)	19:39			20:11	55	19:39 (T11)	20:43	58	07:33 (T10)	21:06	60	07:35 (T10)
17	07:55		08:16 (T13)	07:25			07:41			06:50		18:44 (T11)	06:12		06:36 (T10)	05:58		06:20 (T8)
	17:29	62	10:02 (T12)	18:07			19:40			20:12	54	19:38 (T11)	20:44	58	07:34 (T10)	21:07	61	07:36 (T10)
18	07:54		08:16 (T13)	07:24			07:40			06:49		18:45 (T11)	06:11		06:35 (T10)	05:58		06:20 (T8)
	17:30	62	10:02 (T12)	18:09			19:41			20:13	53	19:38 (T11)	20:45	60	07:35 (T10)	21:07	61	07:36 (T10)
19	07:54		08:15 (T13)	07:22			07:38			06:47		18:45 (T11)	06:10		06:35 (T10)	05:58		06:21 (T8)
	17:31	64	10:01 (T12)	18:10			19:42			20:14	51	19:36 (T11)	20:46	59	07:34 (T10)	21:07	61	07:37 (T10)
20	07:53		08:14 (T13)	07:21			07:36			06:46		18:45 (T11)	06:09		06:35 (T10)	05:58		06:21 (T8)
	17:32	64	10:00 (T12)	18:11			19:43			20:15	51	19:36 (T11)	20:47	59	07:34 (T10)	21:08	62	07:37 (T10)
21	07:53		08:14 (T13)	07:19			07:35			06:44		18:45 (T11)	06:08		06:34 (T10)	05:58		06:21 (T8)
	17:34	64	10:00 (T12)	18:12			19:44			20:17	50	19:35 (T11)	20:48	60	07:34 (T10)	21:08	62	07:37 (T10)
22	07:52		08:13 (T13)	07:18			07:33			06:43		18:47 (T11)	06:08		06:35 (T10)	05:59		06:21 (T8)
	17:35	64	09:59 (T12)	18:13			19:45			20:18	47	19:34 (T11)	20:49	60	07:35 (T10)	21:08	62	07:37 (T10)
23	07:51		08:12 (T13)	07:16			07:31			06:41		18:48 (T11)	06:07		06:35 (T10)	05:59		06:21 (T8)
	17:36	64	09:58 (T12)	18:15			19:46			20:19	45	19:33 (T11)	20:50	60	07:35 (T10)	21:08	62	07:37 (T10)
24	07:51		08:11 (T13)	07:15			07:30			06:40		18:48 (T11)	06:06		06:35 (T10)	05:59		06:22 (T8)
	17:37	61	09:56 (T12)	18:16			19:47			20:20	44	19:32 (T11)	20:51	60	07:35 (T10)	21:09	61	07:38 (T10)
25	07:50		08:11 (T13)	07:13			07:28		19:12 (T11)	06:38		18:49 (T11)	06:05		06:35 (T10)	05:59		06:22 (T8)
	17:39	60	09:55 (T12)	18:17			19:49	12	19:24 (T11)	20:21	42	19:31 (T11)	20:51	60	07:35 (T10)	21:09	61	07:38 (T10)
26	07:49		08:10 (T13)	07:12			07:26		19:06 (T11)	06:37		07:04 (T10)	06:05		06:35 (T10)	06:00		06:22 (T8)
	17:40	58	09:53 (T12)	18:18			19:50	22	19:28 (T11)	20:22	43	19:29 (T11)	20:52	60	07:35 (T10)	21:09	61	07:38 (T10)
27	07:48		08:09 (T13)	07:10			07:25		19:03 (T11)	06:36		06:57 (T10)	06:04		06:35 (T10)	06:00		06:23 (T8)
	17:41	54	09:51 (T12)	18:19			19:51	27	19:30 (T11)	20:23	55	19:28 (T11)	20:53	60	07:35 (T10)	21:09	61	07:38 (T10)
28	07:47		08:08 (T13)	07:09			07:23		19:00 (T11)	06:34		06:54 (T10)	06:03		06:36 (T10)	06:00		06:23 (T8)
	17:42	50	09:48 (T12)	18:21			19:52	30	19:30 (T11)	20:24	58	19:26 (T11)	20:54	59	07:35 (T10)	21:09	60	07:38 (T10)
29	07:47		08:07 (T13)				07:21		18:58 (T11)	06:33		06:52 (T10)	06:03		06:35 (T10)	06:01		06:24 (T8)
	17:44	41	09:43 (T12)				19:53	33	19:31 (T11)	20:25	59	19:24 (T11)	20:55	60	07:35 (T10)	21:09	60	07:39 (T10)
30	07:46		08:06 (T13)				07:19		18:55 (T11)	06:31		06:51 (T10)	06:02		06:36 (T10)	06:01		06:24 (T8)
	17:45	33	08:39 (T13)				19:54	37	19:32 (T11)	20:26	57	19:22 (T11)	20:56	59	07:35 (T10)	21:09	59	07:39 (T10)
31	07:45		08:05 (T13)				07:18		18:54 (T11)				06:02		06:36 (T10)			
	17:46	34	08:39 (T13)				19:55	40	19:34 (T11)				20:56	59	07:35 (T10)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1824			492			201			1545			1709			1790	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.53			0.53			0.61			0.62			0.70			0.70	
Total reduction		0.16			0.21			0.26			0.31			0.38			0.43	
Total, real		288			101			52			480			654			772	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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US-SYRACUSE, NY 13202
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1056 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8573)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:24 (T8)	06:26		06:48 (T10)	06:57		18:44 (T11)	07:28		
	21:09	60	07:39 (T10)	20:50	55	07:43 (T10)	20:07	56	19:40 (T11)	19:15		
2	06:02		06:25 (T8)	06:27		06:49 (T10)	06:58		18:44 (T11)	07:29		
	21:09	59	07:40 (T10)	20:49	54	07:43 (T10)	20:06	55	19:39 (T11)	19:13		
3	06:03		06:25 (T8)	06:28		06:50 (T10)	06:59		18:43 (T11)	07:30		
	21:09	59	07:40 (T10)	20:48	52	07:42 (T10)	20:04	56	19:39 (T11)	19:11		
4	06:03		06:26 (T8)	06:29		06:51 (T10)	07:00		18:43 (T11)	07:31		
	21:09	57	07:40 (T10)	20:47	50	07:41 (T10)	20:02	55	19:38 (T11)	19:10		
5	06:04		06:44 (T10)	06:30		06:52 (T10)	07:01		18:43 (T11)	07:32		
	21:08	57	07:41 (T10)	20:46	49	07:41 (T10)	20:01	55	19:38 (T11)	19:08		
6	06:05		06:44 (T10)	06:31		06:53 (T10)	07:02		18:44 (T11)	07:33		
	21:08	57	07:41 (T10)	20:45	47	07:40 (T10)	19:57	52	19:36 (T11)	19:06		
7	06:05		06:44 (T10)	06:32		06:54 (T10)	07:03		18:44 (T11)	07:34		
	21:08	58	07:42 (T10)	20:44	45	07:39 (T10)	19:56	50	19:34 (T11)	19:05		
8	06:06		06:44 (T10)	06:33		06:55 (T10)	07:04		18:44 (T11)	07:35		
	21:08	57	07:41 (T10)	20:42	43	07:38 (T10)	19:54	49	19:33 (T11)	19:03		
9	06:07		06:44 (T10)	06:34		06:56 (T10)	07:05		18:44 (T11)	07:36		
	21:07	58	07:42 (T10)	20:41	41	07:37 (T10)	19:52	47	19:31 (T11)	19:02		
10	06:07		06:44 (T10)	06:35		06:57 (T10)	07:06		18:45 (T11)	07:37		
	21:07	59	07:43 (T10)	20:40	39	07:36 (T10)	19:51	44	19:29 (T11)	19:00		
11	06:08		06:44 (T10)	06:36		06:58 (T10)	07:07		18:45 (T11)	07:38		
	21:06	58	07:42 (T10)	20:39	50	19:25 (T11)	19:49	42	19:27 (T11)	18:58		
12	06:09		06:44 (T10)	06:37		06:59 (T10)	07:08		18:45 (T11)	07:39		
	21:06	59	07:43 (T10)	20:37	55	19:28 (T11)	19:47	40	19:25 (T11)	18:57		
13	06:09		06:44 (T10)	06:38		07:00 (T10)	07:09		18:46 (T11)	07:40		
	21:05	59	07:43 (T10)	20:36	57	19:31 (T11)	19:46	37	19:23 (T11)	18:55		
14	06:10		06:45 (T10)	06:39		07:00 (T10)	07:10		18:48 (T11)	07:42		
	21:05	59	07:44 (T10)	20:35	59	19:32 (T11)	19:44	34	19:22 (T11)	18:54		
15	06:11		06:44 (T10)	06:40		07:01 (T10)	07:11		18:49 (T11)	07:43		
	21:04	59	07:43 (T10)	20:33	58	19:33 (T11)	19:42	31	19:20 (T11)	18:52		
16	06:12		06:44 (T10)	06:41		07:05 (T10)	07:12		18:51 (T11)	07:44		
	21:04	60	07:44 (T10)	20:32	53	19:35 (T11)	19:40	27	19:18 (T11)	18:50		
17	06:12		06:45 (T10)	06:42		18:56 (T11)	07:13		18:54 (T11)	07:45		
	21:03	59	07:44 (T10)	20:30	40	19:36 (T11)	19:39	23	19:17 (T11)	18:49		
18	06:13		06:45 (T10)	06:43		18:55 (T11)	07:14		18:57 (T11)	07:46		
	21:03	60	07:45 (T10)	20:29	42	19:37 (T11)	19:37	16	19:13 (T11)	18:47		
19	06:14		06:45 (T10)	06:44		18:54 (T11)	07:15			07:47		
	21:02	60	07:45 (T10)	20:27	44	19:38 (T11)	19:35			18:46		
20	06:15		06:44 (T10)	06:45		18:52 (T11)	07:16			07:48		
	21:01	60	07:44 (T10)	20:26	46	19:38 (T11)	19:34			18:44		
21	06:16		06:45 (T10)	06:46		18:51 (T11)	07:17			07:49		
	21:00	59	07:44 (T10)	20:25	48	19:39 (T11)	19:32			18:43		
22	06:17		06:45 (T10)	06:47		18:50 (T11)	07:18			07:51		
	21:00	60	07:45 (T10)	20:23	49	19:39 (T11)	19:30			18:41		
23	06:18		06:45 (T10)	06:48		18:49 (T11)	07:19			07:52		
	20:59	60	07:45 (T10)	20:22	51	19:40 (T11)	19:28			18:40		
24	06:19		06:45 (T10)	06:49		18:48 (T11)	07:20			07:53		
	20:58	60	07:45 (T10)	20:20	52	19:40 (T11)	19:27			18:39		
25	06:19		06:46 (T10)	06:50		18:48 (T11)	07:21			07:54		
	20:57	59	07:45 (T10)	20:18	52	19:40 (T11)	19:25			18:37		
26	06:20		06:46 (T10)	06:51		18:47 (T11)	07:22			07:55	08:45 (T13)	
	20:56	59	07:45 (T10)	20:17	54	19:41 (T11)	19:23			18:36	13	08:58 (T13)
27	06:21		06:45 (T10)	06:52		18:46 (T11)	07:23			07:56		08:41 (T13)
	20:55	59	07:44 (T10)	20:15	55	19:41 (T11)	19:22			18:34	19	09:00 (T13)
28	06:22		06:46 (T10)	06:53		18:46 (T11)	07:24			07:58		08:40 (T13)
	20:54	58	07:44 (T10)	20:14	55	19:41 (T11)	19:20			18:33	23	09:03 (T13)
29	06:23		06:46 (T10)	06:54		18:45 (T11)	07:26			07:59		08:38 (T13)
	20:54	58	07:44 (T10)	20:12	56	19:41 (T11)	19:18			18:32	26	09:04 (T13)
30	06:24		06:46 (T10)	06:55		18:45 (T11)	07:27			08:00		08:37 (T13)
	20:53	58	07:44 (T10)	20:11	55	19:40 (T11)	19:16			18:30	28	09:05 (T13)
31	06:25		06:47 (T10)	06:56		18:44 (T11)				08:01		08:35 (T13)
	20:51	56	07:43 (T10)	20:09	56	19:40 (T11)				18:29	31	09:06 (T13)
Potential sun hours	460			429			375			345		
Total, worst case		1820			1562			769			140	
Sun reduction		0.66			0.61			0.59			0.48	
Oper. time red.		1.00			1.00			1.00			1.00	
Wind dir. red.		0.70			0.65			0.61			0.53	
Total reduction		0.44			0.38			0.35			0.25	
Total, real		808			595			268			34	

07:04	59	09:45 (T12)	17:11	66	10:02 (T12)
07:36		08:46 (T12)	07:57		08:56 (T12)
07:04	59	09:45 (T12)	17:12	66	10:02 (T12)
07:32		07:55 (T13)	07:56		08:54 (T12)
07:05	60	09:41 (T12)	17:08	66	10:00 (T12)
07:33		07:56 (T13)	07:56		08:54 (T12)
07:05	59	09:42 (T12)	17:09	66	10:00 (T12)
07:34		08:47 (T12)	07:57		08:55 (T12)
07:05	57	09:44 (T12)	17:09	67	10:02 (T12)
07:35		08:46 (T12)	07:57		08:55 (T12)
07:04	59	09:45 (T12)	17:10	67	10:02 (T12)
07:36		08:46 (T12)	07:57		08:56 (T12)
07:04	59	09:45 (T12)	17:11	66	10:02 (T12)
			07:57		08:56 (T12)
297			287		
	1491			2027	
	0.30			0.22	
	1.00			1.00	
	0.53			0.53	
	0.15			0.11	
	228			227	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1067 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8582)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57	16:21 (T35)	07:43	16:18 (T35)	07:07	07:37 (T36)	07:16		06:30	06:50 (T31)	06:01	
	17:13	26 16:47 (T35)	17:47	57 17:15 (T35)	18:22	21 07:58 (T36)	19:56		20:27	23 07:13 (T31)	20:57	
2	07:57	16:21 (T35)	07:43	16:18 (T35)	07:06	07:38 (T36)	07:14		06:29	06:49 (T31)	06:01	
	17:14	26 16:47 (T35)	17:49	57 17:15 (T35)	18:23	18 07:56 (T36)	19:57		20:28	24 07:13 (T31)	20:58	
3	07:58	16:20 (T35)	07:41	16:18 (T35)	07:04	07:40 (T36)	07:13		06:28	06:47 (T31)	06:00	
	17:15	28 16:48 (T35)	17:50	57 17:15 (T35)	18:24	12 07:52 (T36)	19:58		20:29	26 07:13 (T31)	20:58	
4	07:58	16:20 (T35)	07:40	16:19 (T35)	07:02		07:11		06:26	06:46 (T31)	06:00	
	17:15	29 16:49 (T35)	17:51	56 17:15 (T35)	18:25		19:59		20:30	27 07:13 (T31)	20:59	
5	07:58	16:20 (T35)	07:39	16:19 (T35)	07:01		07:09		06:25	06:45 (T31)	06:00	
	17:16	30 16:50 (T35)	17:52	56 17:15 (T35)	18:26		20:00		20:31	28 07:13 (T31)	21:00	
6	07:57	16:20 (T35)	07:38	16:19 (T35)	06:59		07:08		06:24	06:44 (T31)	05:59	
	17:17	31 16:51 (T35)	17:54	55 17:14 (T35)	18:27		20:00		20:32	30 07:14 (T31)	21:01	
7	07:57	16:20 (T35)	07:37	16:20 (T35)	06:58		07:06		06:23	06:43 (T31)	05:59	
	17:18	33 16:53 (T35)	17:55	54 17:14 (T35)	18:29		20:01		20:33	31 07:14 (T31)	21:01	
8	07:57	16:19 (T35)	07:36	16:20 (T35)	07:56		07:05		06:21	06:42 (T31)	05:59	
	17:19	34 16:53 (T35)	17:56	54 17:14 (T35)	19:30		20:02		20:34	32 07:14 (T31)	21:02	
9	07:57	16:19 (T35)	07:35	16:21 (T35)	07:54		07:03		06:20	06:40 (T31)	05:59	
	17:20	35 16:54 (T35)	17:57	53 17:14 (T35)	19:31		20:03		20:35	33 07:13 (T31)	21:02	
10	07:57	16:19 (T35)	07:34	16:22 (T35)	07:53		07:01		06:19	06:39 (T31)	05:58	
	17:21	36 16:55 (T35)	17:59	51 17:13 (T35)	19:32		20:05		20:36	33 07:12 (T31)	21:03	
11	07:57	16:18 (T35)	07:32	16:22 (T35)	07:51		07:00		06:18	06:38 (T31)	05:58	
	17:22	38 16:56 (T35)	18:00	50 17:12 (T35)	19:33		20:06		20:38	34 07:12 (T31)	21:04	
12	07:56	16:18 (T35)	07:31	07:51 (T36)	07:50		06:58		06:17	06:38 (T31)	05:58	
	17:23	39 16:57 (T35)	18:01	54 17:12 (T35)	19:34		20:07		20:39	34 07:12 (T31)	21:04	
13	07:56	16:19 (T35)	07:30	07:50 (T36)	07:48		06:56		06:16	06:39 (T31)	05:58	
	17:25	40 16:59 (T35)	18:02	54 17:11 (T35)	19:35		20:08		20:40	32 07:11 (T31)	21:05	
14	07:56	16:18 (T35)	07:29	07:49 (T36)	07:46		06:55		06:15	06:39 (T31)	05:58	
	17:26	42 17:00 (T35)	18:04	55 17:10 (T35)	19:36		20:09		20:41	32 07:11 (T31)	21:05	
15	07:55	16:18 (T35)	07:27	07:47 (T36)	07:45		06:53		06:14	06:40 (T31)	05:58	
	17:27	43 17:01 (T35)	18:05	55 17:08 (T35)	19:38		20:10		20:42	30 07:10 (T31)	21:06	
16	07:55	16:17 (T35)	07:26	07:46 (T36)	07:43		06:52		06:13	06:40 (T31)	05:58	
	17:28	45 17:02 (T35)	18:06	54 17:07 (T35)	19:39		20:11		20:43	29 07:09 (T31)	21:06	
17	07:55	16:18 (T35)	07:25	07:44 (T36)	07:41		06:50		06:12	06:42 (T31)	05:58	
	17:29	46 17:04 (T35)	18:07	53 17:05 (T35)	19:40		20:12		20:44	28 07:10 (T31)	21:06	
18	07:54	16:17 (T35)	07:23	07:43 (T36)	07:40		06:49		06:11	06:42 (T31)	05:58	
	17:30	47 17:04 (T35)	18:09	52 17:04 (T35)	19:41		20:13		20:45	27 07:09 (T31)	21:07	
19	07:53	16:18 (T35)	07:22	07:42 (T36)	07:38		06:47		06:10	06:43 (T31)	05:58	
	17:31	48 17:06 (T35)	18:10	49 17:02 (T35)	19:42		20:14		20:46	25 07:08 (T31)	21:07	
20	07:53	16:17 (T35)	07:21	07:40 (T36)	07:36		06:46		06:09	06:44 (T31)	05:58	
	17:33	50 17:07 (T35)	18:11	44 16:58 (T35)	19:43		20:15		20:46	23 07:07 (T31)	21:07	
21	07:52	16:17 (T35)	07:19	07:39 (T36)	07:35		06:44		06:08	06:45 (T31)	05:59	
	17:34	51 17:08 (T35)	18:12	37 16:54 (T35)	19:44		20:16		20:47	20 07:05 (T31)	21:08	
22	07:52	16:17 (T35)	07:18	07:37 (T36)	07:33		06:43		06:08	06:47 (T31)	05:59	
	17:35	53 17:10 (T35)	18:13	26 08:03 (T36)	19:45		20:17		20:48	18 07:05 (T31)	21:08	
23	07:51	16:17 (T35)	07:16	07:36 (T36)	07:31		06:41		06:07	06:48 (T31)	05:59	
	17:36	54 17:11 (T35)	18:15	27 08:03 (T36)	19:46		20:18		20:49	15 07:03 (T31)	21:08	
24	07:50	16:17 (T35)	07:15	07:34 (T36)	07:30		06:40	06:59 (T31)	06:06	06:50 (T31)	05:59	
	17:37	55 17:12 (T35)	18:16	29 08:03 (T36)	19:47		20:20	5 07:04 (T31)	20:50	11 07:01 (T31)	21:08	
25	07:50	16:17 (T35)	07:13	07:33 (T36)	07:28		06:38	06:58 (T31)	06:05	06:54 (T31)	06:00	
	17:39	55 17:12 (T35)	18:17	29 08:02 (T36)	19:48		20:21	9 07:07 (T31)	20:51	4 06:58 (T31)	21:08	
26	07:49	16:17 (T35)	07:12	07:33 (T36)	07:26		06:37	06:56 (T31)	06:05		06:00	
	17:40	56 17:13 (T35)	18:18	28 08:01 (T36)	19:50		20:22	12 07:08 (T31)	20:52		21:09	
27	07:48	16:17 (T35)	07:10	07:34 (T36)	07:24		06:36	06:55 (T31)	06:04		06:00	
	17:41	57 17:14 (T35)	18:19	27 08:01 (T36)	19:51		20:23	15 07:10 (T31)	20:53		21:09	
28	07:47	16:17 (T35)	07:09	07:35 (T36)	07:23		06:34	06:54 (T31)	06:03		06:01	
	17:42	57 17:14 (T35)	18:20	24 07:59 (T36)	19:52		20:24	17 07:11 (T31)	20:54		21:09	
29	07:46	16:17 (T35)			07:21		06:33	06:52 (T31)	06:03		06:01	
	17:44	57 17:14 (T35)			19:53		20:25	19 07:11 (T31)	20:55		21:09	
30	07:45	16:17 (T35)			07:19		06:31	06:51 (T31)	06:02		06:01	
	17:45	57 17:14 (T35)			19:54		20:26	21 07:12 (T31)	20:55		21:09	
31	07:44	16:18 (T35)			07:18				06:02			
	17:46	57 17:15 (T35)			19:55				20:56			
Potential sun hours	297		297		370		399		449		453	
Total, worst case		1355		1297		51		98		649		
Sun reduction		0.31		0.40		0.44		0.52		0.57		
Oper. time red.		1.00		1.00		1.00		1.00		1.00		
Wind dir. red.		0.73		0.68		0.56		0.69		0.69		
Total reduction		0.23		0.28		0.25		0.36		0.40		
Total, real		308		358		13		36		258		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1067 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8582)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02			06:26		06:49 (T31)	06:57	07:27			07:02		15:51 (T35)	07:37		16:01 (T35)
	21:09			20:50	34	07:23 (T31)	20:07	19:15			17:28	51	16:42 (T35)	17:04	38	16:39 (T35)
2	06:02			06:27		06:49 (T31)	06:58	07:29			07:03		15:51 (T35)	07:38		16:02 (T35)
	21:08			20:49	34	07:23 (T31)	20:06	19:13			17:27	52	16:43 (T35)	17:03	37	16:39 (T35)
3	06:03			06:28		06:50 (T31)	06:59	07:30			07:04		15:50 (T35)	07:39		16:03 (T35)
	21:08			20:48	33	07:23 (T31)	20:04	19:11			17:25	54	16:44 (T35)	17:03	35	16:38 (T35)
4	06:04			06:29		06:51 (T31)	07:00	07:31			07:06		15:49 (T35)	07:40		16:04 (T35)
	21:08			20:47	32	07:23 (T31)	20:02	19:10			17:24	55	16:44 (T35)	17:03	34	16:38 (T35)
5	06:04			06:30		06:52 (T31)	07:01	07:32			07:07		15:49 (T35)	07:41		16:05 (T35)
	21:08			20:46	31	07:23 (T31)	20:01	19:08			17:23	55	16:44 (T35)	17:03	33	16:38 (T35)
6	06:05			06:31		06:53 (T31)	07:02	07:33			07:08		15:49 (T35)	07:42		16:06 (T35)
	21:08			20:45	30	07:23 (T31)	19:57	19:06			17:22	56	16:45 (T35)	17:03	32	16:38 (T35)
7	06:05			06:32		06:54 (T31)	07:03	07:34			07:09		15:49 (T35)	07:43		16:07 (T35)
	21:07			20:43	29	07:23 (T31)	19:56	19:05			17:21	56	16:45 (T35)	17:02	30	16:37 (T35)
8	06:06			06:33		06:55 (T31)	07:04	07:35			07:10		15:48 (T35)	07:44		16:08 (T35)
	21:07			20:42	28	07:23 (T31)	19:54	19:03			17:20	57	16:45 (T35)	17:02	29	16:37 (T35)
9	06:07			06:34		06:56 (T31)	07:05	07:36			07:12		15:49 (T35)	07:45		16:08 (T35)
	21:07			20:41	27	07:23 (T31)	19:52	19:01			17:19	57	16:46 (T35)	17:02	28	16:36 (T35)
10	06:07			06:35		06:57 (T31)	07:06	07:37		08:17 (T36)	07:13		15:49 (T35)	07:46		16:10 (T35)
	21:06			20:40	25	07:22 (T31)	19:51	19:00	8	08:25 (T36)	17:18	57	16:46 (T35)	17:02	27	16:37 (T35)
11	06:08			06:36		06:58 (T31)	07:07	07:38		08:13 (T36)	07:14		15:48 (T35)	07:47		16:11 (T35)
	21:06			20:38	24	07:22 (T31)	19:49	18:58	15	08:28 (T36)	17:17	57	16:45 (T35)	17:03	26	16:37 (T35)
12	06:09			06:37		06:59 (T31)	07:08	07:39		08:10 (T36)	07:15		15:48 (T35)	07:47		16:12 (T35)
	21:06			20:37	22	07:21 (T31)	19:47	18:57	20	08:30 (T36)	17:16	57	16:45 (T35)	17:03	25	16:37 (T35)
13	06:09			06:38		07:00 (T31)	07:09	07:40		08:08 (T36)	07:16		15:49 (T35)	07:48		16:13 (T35)
	21:05			20:36	20	07:20 (T31)	19:45	18:55	23	08:31 (T36)	17:15	57	16:46 (T35)	17:03	24	16:37 (T35)
14	06:10			06:39		07:00 (T31)	07:10	07:41		08:08 (T36)	07:18		15:49 (T35)	07:49		16:13 (T35)
	21:05			20:34	18	07:18 (T31)	19:44	18:53	25	08:33 (T36)	17:14	57	16:46 (T35)	17:03	24	16:37 (T35)
15	06:11			06:40		07:01 (T31)	07:11	07:42		08:06 (T36)	07:19		15:49 (T35)	07:50		16:15 (T35)
	21:04			20:33	16	07:17 (T31)	19:42	18:52	28	08:34 (T36)	17:13	57	16:46 (T35)	17:03	22	16:37 (T35)
16	06:12			06:41		07:02 (T31)	07:12	07:44		08:05 (T36)	07:20		15:50 (T35)	07:50		16:16 (T35)
	21:04			20:32	14	07:16 (T31)	19:40	18:50	29	08:34 (T36)	17:12	56	16:46 (T35)	17:03	22	16:38 (T35)
17	06:13			06:42		07:03 (T31)	07:13	07:45		08:05 (T36)	07:21		15:50 (T35)	07:51		16:17 (T35)
	21:03			20:30	11	07:14 (T31)	19:39	18:49	29	08:34 (T36)	17:11	56	16:46 (T35)	17:04	21	16:38 (T35)
18	06:13			06:43		07:04 (T31)	07:14	07:46		08:06 (T36)	07:22		15:51 (T35)	07:52		16:17 (T35)
	21:02			20:29	8	07:12 (T31)	19:37	18:47	28	08:34 (T36)	17:11	55	16:46 (T35)	17:04	21	16:38 (T35)
19	06:14		07:02 (T31)	06:44		07:05 (T31)	07:15	07:47		08:07 (T36)	07:24		15:51 (T35)	07:52		16:18 (T35)
	21:02	8	07:10 (T31)	20:27	4	07:09 (T31)	19:35	18:46	27	08:34 (T36)	17:10	54	16:45 (T35)	17:04	21	16:39 (T35)
20	06:15		06:59 (T31)	06:45			07:16	07:48		08:09 (T36)	07:25		15:52 (T35)	07:53		16:18 (T35)
	21:01	13	07:12 (T31)	20:26			19:33	18:44	26	08:35 (T36)	17:09	53	16:45 (T35)	17:05	21	16:39 (T35)
21	06:16		06:57 (T31)	06:46			07:17	07:49		08:10 (T36)	07:26		15:53 (T35)	07:53		16:19 (T35)
	21:00	17	07:14 (T31)	20:24			19:32	18:43	40	17:27 (T35)	17:08	51	16:44 (T35)	17:05	20	16:39 (T35)
22	06:17		06:56 (T31)	06:47			07:18	07:50		08:11 (T36)	07:27		15:53 (T35)	07:54		16:19 (T35)
	20:59	19	07:15 (T31)	20:23			19:30	18:41	46	17:30 (T35)	17:08	50	16:43 (T35)	17:06	20	16:39 (T35)
23	06:18		06:55 (T31)	06:48			07:19	07:51		08:12 (T36)	07:28		15:54 (T35)	07:54		16:20 (T35)
	20:59	22	07:17 (T31)	20:21			19:28	18:40	50	17:32 (T35)	17:07	48	16:42 (T35)	17:06	21	16:41 (T35)
24	06:19		06:54 (T31)	06:49			07:20	07:53		08:13 (T36)	07:29		15:54 (T35)	07:55		16:20 (T35)
	20:58	24	07:18 (T31)	20:20			19:27	18:39	52	17:34 (T35)	17:07	47	16:41 (T35)	17:07	21	16:41 (T35)
25	06:20		06:53 (T31)	06:50			07:21	07:54		08:15 (T36)	07:31		15:56 (T35)	07:55		16:20 (T35)
	20:57	26	07:19 (T31)	20:18			19:25	18:37	53	17:36 (T35)	17:06	46	16:42 (T35)	17:08	21	16:41 (T35)
26	06:20		06:53 (T31)	06:51			07:22	07:55		08:16 (T36)	07:32		15:56 (T35)	07:56		16:21 (T35)
	20:56	27	07:20 (T31)	20:17			19:23	18:36	54	17:37 (T35)	17:06	45	16:41 (T35)	17:08	21	16:42 (T35)
27	06:21		06:51 (T31)	06:52			07:23	07:56		08:17 (T36)	07:33		15:57 (T35)	07:56		16:21 (T35)
	20:55	29	07:20 (T31)	20:15			19:21	18:34	55	17:38 (T35)	17:05	43	16:40 (T35)	17:09	22	16:43 (T35)
28	06:22		06:51 (T31)	06:53			07:24	07:57		08:18 (T36)	07:34		15:58 (T35)	07:56		16:21 (T35)
	20:54	29	07:20 (T31)	20:14			19:20	18:33	54	17:39 (T35)	17:05	42	16:40 (T35)	17:09	22	16:43 (T35)
29	06:23		06:50 (T31)	06:54			07:25	07:58		08:20 (T36)	07:35		15:59 (T35)	07:57		16:20 (T35)
	20:53	31	07:21 (T31)	20:12			19:18	18:32	54	17:41 (T35)	17:04	40	16:39 (T35)	17:10	23	16:43 (T35)
30	06:24		06:50 (T31)	06:55			07:26	08:00		08:21 (T36)	07:36		15:59 (T35)	07:57		16:21 (T35)
	20:52	32	07:22 (T31)	20:10			19:16	18:30	52	17:41 (T35)	17:04	39	16:38 (T35)	17:11	24	16:45 (T35)
31	06:25		06:49 (T31)	06:56				08:01		16:52 (T35)				07:57		16:21 (T35)
	20:51	33	07:22 (T31)	20:09				18:29	50	17:42 (T35)				17:12	25	16:46 (T35)
Potential sun hours	460			429			375	345			297			287		
Total, worst case		310			440				818			1560			790	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.69			0.69				0.65			0.73			0.73	
Total reduction		0.46			0.43				0.31			0.22			0.16	
Total, real		143			187				256			344			128	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1085 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8598)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May	June
1	07:57		15:02 (T79)	07:43		16:28 (T62)	07:07			07:16		18:54 (T60)	06:30	06:02
	17:13	67	16:47 (T62)	17:47	33	17:01 (T62)	18:22			19:56	40	19:34 (T60)	20:27	20:56
2	07:57		15:03 (T79)	07:42		16:29 (T62)	07:05			07:14		18:53 (T60)	06:29	06:01
	17:14	66	16:47 (T62)	17:49	31	17:00 (T62)	18:23			19:57	42	19:35 (T60)	20:28	20:57
3	07:57		15:04 (T79)	07:41		16:30 (T62)	07:04			07:13		18:52 (T60)	06:28	06:01
	17:15	65	16:48 (T62)	17:50	29	16:59 (T62)	18:24			19:58	45	19:37 (T60)	20:29	20:58
4	07:57		15:05 (T79)	07:40		16:32 (T62)	07:02			07:11		18:51 (T60)	06:26	06:00
	17:16	65	16:49 (T62)	17:51	26	16:58 (T62)	18:25			19:59	46	19:37 (T60)	20:30	20:59
5	07:57		15:07 (T79)	07:39		16:34 (T62)	07:01			07:09		18:50 (T60)	06:25	06:00
	17:17	64	16:50 (T62)	17:53	23	16:57 (T62)	18:26			20:00	48	19:38 (T60)	20:31	20:59
6	07:57		15:08 (T79)	07:38		16:36 (T62)	06:59			07:08		18:50 (T60)	06:24	06:00
	17:18	64	16:51 (T62)	17:54	19	16:55 (T62)	18:27			20:00	50	19:40 (T60)	20:32	21:00
7	07:57		15:10 (T79)	07:37		16:39 (T62)	06:58			07:06		18:49 (T60)	06:23	05:59
	17:19	63	16:53 (T62)	17:55	14	16:53 (T62)	18:29			20:01	51	19:40 (T60)	20:33	21:01
8	07:57		15:11 (T79)	07:36		16:46 (T62)	07:56			07:05		18:48 (T60)	06:22	05:59
	17:20	62	16:54 (T62)	17:56	1	16:47 (T62)	19:30			20:02	51	19:39 (T60)	20:34	21:01
9	07:57		15:13 (T79)	07:35			07:54			07:03		18:49 (T60)	06:20	05:59
	17:21	60	16:55 (T62)	17:58			19:31			20:03	50	19:39 (T60)	20:35	21:02
10	07:56		15:15 (T79)	07:33			07:53			07:01		18:48 (T60)	06:19	05:59
	17:22	57	16:55 (T62)	17:59			19:32			20:04	51	19:39 (T60)	20:36	21:03
11	07:56		15:18 (T79)	07:32			07:51			07:00		18:48 (T60)	06:18	05:59
	17:23	54	16:57 (T62)	18:00			19:33			20:05	51	19:39 (T60)	20:37	21:03
12	07:56		15:21 (T79)	07:31			07:49			06:58		18:48 (T60)	06:17	05:58
	17:24	50	16:58 (T62)	18:01			19:34			20:06	50	19:38 (T60)	20:38	21:04
13	07:56		16:20 (T62)	07:30			07:48			06:57		18:48 (T60)	06:16	05:58
	17:25	38	16:58 (T62)	18:02			19:35			20:07	50	19:38 (T60)	20:39	21:04
14	07:55		16:21 (T62)	07:28			07:46			06:55		18:48 (T60)	06:15	05:58
	17:26	38	16:59 (T62)	18:04			19:36			20:09	49	19:37 (T60)	20:40	21:05
15	07:55		16:21 (T62)	07:27			07:44			06:53		18:48 (T60)	06:14	05:58
	17:27	38	16:59 (T62)	18:05			19:37			20:10	48	19:36 (T60)	20:41	21:05
16	07:55		16:21 (T62)	07:26			07:43			06:52		18:49 (T60)	06:13	05:58
	17:28	39	17:00 (T62)	18:06			19:39			20:11	47	19:36 (T60)	20:42	21:05
17	07:54		16:21 (T62)	07:24			07:41			06:50		18:49 (T60)	06:12	05:58
	17:29	39	17:00 (T62)	18:07			19:40			20:12	45	19:34 (T60)	20:43	21:06
18	07:54		16:22 (T62)	07:23			07:39			06:49		18:50 (T60)	06:11	05:58
	17:30	39	17:01 (T62)	18:09			19:41			20:13	44	19:34 (T60)	20:44	21:06
19	07:53		16:21 (T62)	07:22			07:38			06:47		18:50 (T60)	06:10	05:59
	17:32	40	17:01 (T62)	18:10			19:42			20:14	42	19:32 (T60)	20:45	21:07
20	07:52		16:22 (T62)	07:20			07:36			06:46		18:51 (T60)	06:09	05:59
	17:33	40	17:02 (T62)	18:11			19:43			20:15	40	19:31 (T60)	20:46	21:07
21	07:52		16:22 (T62)	07:19			07:34			06:44		18:52 (T60)	06:09	05:59
	17:34	40	17:02 (T62)	18:12			19:44			20:16	38	19:30 (T60)	20:47	21:07
22	07:51		16:22 (T62)	07:17			07:33			06:43		18:53 (T60)	06:08	05:59
	17:35	40	17:02 (T62)	18:13			19:45			20:17	36	19:29 (T60)	20:48	21:07
23	07:51		16:22 (T62)	07:16			07:31			06:41		18:55 (T60)	06:07	05:59
	17:36	40	17:02 (T62)	18:15			19:46			20:18	32	19:27 (T60)	20:49	21:08
24	07:50		16:23 (T62)	07:14			07:29		19:15 (T60)	06:40		18:56 (T60)	06:06	06:00
	17:38	40	17:03 (T62)	18:16			19:47	7	19:22 (T60)	20:19	29	19:25 (T60)	20:50	21:08
25	07:49		16:24 (T62)	07:13			07:28		19:09 (T60)	06:38		18:58 (T60)	06:06	06:00
	17:39	39	17:03 (T62)	18:17			19:48	18	19:27 (T60)	20:20	25	19:23 (T60)	20:51	21:08
26	07:48		16:24 (T62)	07:11			07:26		19:05 (T60)	06:37		19:00 (T60)	06:05	06:00
	17:40	39	17:03 (T62)	18:18			19:49	23	19:28 (T60)	20:21	20	19:20 (T60)	20:51	21:08
27	07:48		16:24 (T62)	07:10			07:24		19:02 (T60)	06:36		19:04 (T60)	06:04	06:01
	17:41	39	17:03 (T62)	18:19			19:50	27	19:29 (T60)	20:22	12	19:16 (T60)	20:52	21:08
28	07:47		16:25 (T62)	07:08			07:23		19:01 (T60)	06:34			06:04	06:01
	17:43	38	17:03 (T62)	18:20			19:51	29	19:30 (T60)	20:23			20:53	21:08
29	07:46		16:25 (T62)				07:21		18:58 (T60)	06:33			06:03	06:01
	17:44	37	17:02 (T62)				19:53	33	19:31 (T60)	20:25			20:54	21:08
30	07:45		16:26 (T62)				07:19		18:56 (T60)	06:32			06:03	06:02
	17:45	36	17:02 (T62)				19:54	36	19:32 (T60)	20:26			20:55	21:08
31	07:44		16:27 (T62)				07:18		18:56 (T60)				06:02	
	17:46	34	17:01 (T62)				19:55	38	19:34 (T60)				20:56	
Potential sun hours	297			297			370			399			448	452
Total, worst case		1470			176			211			1132			
Sun reduction		0.31			0.40			0.44			0.52			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.73			0.73			0.62			0.62			
Total reduction		0.23			0.30			0.28			0.33			
Total, real		344			53			59			374			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1085 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8598)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October	November			December		
1	06:02	06:26			06:57		18:47 (T60)	07:27	07:02			07:37		15:00 (T79)
	21:08	20:50			20:07	51	19:38 (T60)	19:15	17:28			17:04	54	16:39 (T62)
2	06:03	06:27			06:58		18:47 (T60)	07:28	07:03			07:38		14:58 (T79)
	21:08	20:49			20:05	51	19:38 (T60)	19:13	17:27			17:04	57	16:38 (T62)
3	06:03	06:28			06:59		18:47 (T60)	07:29	07:04		16:12 (T62)	07:39		14:57 (T79)
	21:08	20:48			20:04	50	19:37 (T60)	19:11	17:26	6	16:18 (T62)	17:03	59	16:38 (T62)
4	06:04	06:29			07:00		18:46 (T60)	07:30	07:05		16:08 (T62)	07:40		14:56 (T79)
	21:08	20:46			20:02	51	19:37 (T60)	19:10	17:24	15	16:23 (T62)	17:03	61	16:38 (T62)
5	06:04	06:30			07:01		18:46 (T60)	07:32	07:06		16:05 (T62)	07:41		14:55 (T79)
	21:07	20:45			20:00	51	19:37 (T60)	19:08	17:23	21	16:26 (T62)	17:03	63	16:38 (T62)
6	06:05	06:31			07:02		18:46 (T60)	07:33	07:08		16:03 (T62)	07:42		14:54 (T79)
	21:07	20:44			19:57	50	19:36 (T60)	19:06	17:22	24	16:27 (T62)	17:03	64	16:37 (T62)
7	06:06	06:32			07:03		18:46 (T60)	07:34	07:09		16:03 (T62)	07:43		14:54 (T79)
	21:07	20:43			19:55	48	19:34 (T60)	19:05	17:21	26	16:29 (T62)	17:03	64	16:37 (T62)
8	06:06	06:33			07:04		18:45 (T60)	07:35	07:10		16:01 (T62)	07:43		14:53 (T79)
	21:07	20:42			19:54	46	19:31 (T60)	19:03	17:20	29	16:30 (T62)	17:03	65	16:37 (T62)
9	06:07	06:34			07:05		18:45 (T60)	07:36	07:11		16:00 (T62)	07:44		14:53 (T79)
	21:06	20:40			19:52	45	19:30 (T60)	19:01	17:19	31	16:31 (T62)	17:03	65	16:37 (T62)
10	06:08	06:35			07:06		18:46 (T60)	07:37	07:12		15:59 (T62)	07:45		14:53 (T79)
	21:06	20:39			19:50	42	19:28 (T60)	19:00	17:18	33	16:32 (T62)	17:03	66	16:37 (T62)
11	06:08	06:36			07:07		18:46 (T60)	07:38	07:14		15:59 (T62)	07:46		14:53 (T79)
	21:06	20:38			19:49	41	19:27 (T60)	18:58	17:17	34	16:33 (T62)	17:03	67	16:38 (T62)
12	06:09	06:37			07:08		18:47 (T60)	07:39	07:15		15:58 (T62)	07:47		14:52 (T79)
	21:05	20:37			19:47	38	19:25 (T60)	18:57	17:16	36	16:34 (T62)	17:03	67	16:37 (T62)
13	06:10	06:38			07:09		18:47 (T60)	07:40	07:16		15:57 (T62)	07:48		14:52 (T79)
	21:05	20:35			19:45	36	19:23 (T60)	18:55	17:15	37	16:34 (T62)	17:03	67	16:37 (T62)
14	06:10	06:39			07:10		18:48 (T60)	07:41	07:17		15:58 (T62)	07:48		14:53 (T79)
	21:04	20:34			19:44	34	19:22 (T60)	18:53	17:14	38	16:36 (T62)	17:03	67	16:38 (T62)
15	06:11	06:40			07:11		18:50 (T60)	07:42	07:18		15:57 (T62)	07:49		14:53 (T79)
	21:04	20:33			19:42	30	19:20 (T60)	18:52	17:13	39	16:36 (T62)	17:03	67	16:38 (T62)
16	06:12	06:41		19:10 (T60)	07:12		18:51 (T60)	07:43	07:20		15:57 (T62)	07:50		14:53 (T79)
	21:03	20:31	14	19:24 (T60)	19:40	27	19:18 (T60)	18:50	17:12	39	16:36 (T62)	17:04	67	16:38 (T62)
17	06:13	06:42		19:06 (T60)	07:13		18:53 (T60)	07:44	07:21		15:57 (T62)	07:51		14:53 (T79)
	21:02	20:30	21	19:27 (T60)	19:38	24	19:17 (T60)	18:49	17:11	39	16:36 (T62)	17:04	67	16:38 (T62)
18	06:14	06:43		19:03 (T60)	07:14		18:56 (T60)	07:46	07:22		15:57 (T62)	07:51		14:54 (T79)
	21:02	20:28	26	19:29 (T60)	19:37	19	19:15 (T60)	18:47	17:11	40	16:37 (T62)	17:04	67	16:39 (T62)
19	06:15	06:44		19:01 (T60)	07:15		19:00 (T60)	07:47	07:23		15:57 (T62)	07:52		14:54 (T79)
	21:01	20:27	30	19:31 (T60)	19:35	11	19:11 (T60)	18:46	17:10	40	16:37 (T62)	17:05	67	16:39 (T62)
20	06:15	06:45		18:59 (T60)	07:16			07:48	07:24		15:57 (T62)	07:52		14:54 (T79)
	21:00	20:25	33	19:32 (T60)	19:33			18:44	17:09	40	16:37 (T62)	17:05	68	16:40 (T62)
21	06:16	06:46		18:58 (T60)	07:17			07:49	07:25		15:57 (T62)	07:53		14:54 (T79)
	21:00	20:24	36	19:34 (T60)	19:32			18:43	17:09	40	16:37 (T62)	17:06	67	16:39 (T62)
22	06:17	06:47		18:56 (T60)	07:18			07:50	07:27		15:58 (T62)	07:53		14:55 (T79)
	20:59	20:22	39	19:35 (T60)	19:30			18:41	17:08	40	16:38 (T62)	17:06	67	16:40 (T62)
23	06:18	06:48		18:55 (T60)	07:19			07:51	07:28		15:58 (T62)	07:54		14:55 (T79)
	20:58	20:21	40	19:35 (T60)	19:28			18:40	17:07	40	16:38 (T62)	17:07	67	16:40 (T62)
24	06:19	06:49		18:54 (T60)	07:20			07:52	07:29		15:59 (T62)	07:54		14:57 (T79)
	20:57	20:19	42	19:36 (T60)	19:26			18:39	17:07	39	16:38 (T62)	17:07	67	16:42 (T62)
25	06:20	06:50		18:53 (T60)	07:21			07:53	07:30		15:59 (T62)	07:55		14:57 (T79)
	20:56	20:18	44	19:37 (T60)	19:25			18:37	17:06	39	16:38 (T62)	17:08	67	16:42 (T62)
26	06:21	06:51		18:52 (T60)	07:22			07:55	07:31		15:59 (T62)	07:55		14:57 (T79)
	20:56	20:16	45	19:37 (T60)	19:23			18:36	17:06	39	16:38 (T62)	17:08	67	16:42 (T62)
27	06:22	06:52		18:51 (T60)	07:23			07:56	07:32		16:01 (T62)	07:56		14:57 (T79)
	20:55	20:15	47	19:38 (T60)	19:21			18:34	17:05	38	16:39 (T62)	17:09	67	16:42 (T62)
28	06:23	06:53		18:50 (T60)	07:24			07:57	07:33		16:01 (T62)	07:56		14:59 (T79)
	20:54	20:13	48	19:38 (T60)	19:20			18:33	17:05	38	16:39 (T62)	17:10	67	16:44 (T62)
29	06:23	06:54		18:49 (T60)	07:25			07:58	07:34		16:01 (T62)	07:56		15:00 (T79)
	20:53	20:12	49	19:38 (T60)	19:18			18:32	17:04	38	16:39 (T62)	17:11	66	16:44 (T62)
30	06:24	06:55		18:48 (T60)	07:26			07:59	07:36		15:02 (T79)	07:56		15:00 (T79)
	20:52	20:10	50	19:38 (T60)	19:16			18:31	17:04	50	16:39 (T62)	17:11	67	16:45 (T62)
31	06:25	06:56		18:48 (T60)				08:01				07:57		15:01 (T79)
	20:51	20:09	50	19:38 (T60)				18:29				17:12	67	16:46 (T62)
Potential sun hours	459	428			375			345	298			288		
Total, worst case			614			745				968			2025	
Sun reduction			0.61			0.59				0.30			0.22	
Oper. time red.			1.00			1.00				1.00			1.00	
Wind dir. red.			0.62			0.62				0.73			0.74	
Total reduction			0.39			0.37				0.23			0.17	
Total, real			238			279				218			338	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1106 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8618)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		08:20 (T39)	07:44			07:07		17:13 (T37)	07:16		18:08 (T37)	06:30			06:02		19:55 (T34)
	17:13	10	08:30 (T39)	17:48			18:22	47	18:00 (T38)	19:56	36	18:44 (T37)	20:27			20:57	26	20:21 (T34)
2	07:58		08:20 (T39)	07:43			07:06		17:11 (T37)	07:15		18:11 (T37)	06:29			06:01		19:56 (T34)
	17:14	11	08:31 (T39)	17:49			18:23	50	18:01 (T38)	19:57	31	18:42 (T37)	20:28			20:58	25	20:21 (T34)
3	07:58		08:20 (T39)	07:42			07:04		17:10 (T37)	07:13		18:13 (T37)	06:28			06:01		19:56 (T34)
	17:15	11	08:31 (T39)	17:50			18:24	53	18:03 (T38)	19:58	26	18:39 (T37)	20:29			20:59	24	20:20 (T34)
4	07:58		08:20 (T39)	07:41			07:03		17:08 (T37)	07:11		18:16 (T37)	06:26		20:03 (T34)	06:00		19:57 (T34)
	17:16	12	08:32 (T39)	17:51			18:25	56	18:04 (T38)	19:59	18	18:34 (T37)	20:30	5	20:08 (T34)	20:59	23	20:20 (T34)
5	07:58		08:20 (T39)	07:40			07:01		17:06 (T37)	07:10			06:25		20:00 (T34)	06:00		19:58 (T34)
	17:17	13	08:33 (T39)	17:53			18:27	58	18:04 (T38)	20:00			20:31	9	20:09 (T34)	21:00	22	20:20 (T34)
6	07:58		08:20 (T39)	07:39			07:00		17:06 (T37)	07:08			06:24		19:58 (T34)	06:00		19:58 (T34)
	17:18	13	08:33 (T39)	17:54			18:28	60	18:06 (T38)	20:00			20:33	12	20:10 (T34)	21:01	21	20:19 (T34)
7	07:58		08:20 (T39)	07:37			06:58		17:04 (T37)	07:06			06:23		19:56 (T34)	05:59		19:59 (T34)
	17:19	14	08:34 (T39)	17:55			18:29	63	18:07 (T38)	20:02			20:34	15	20:11 (T34)	21:01	19	20:18 (T34)
8	07:58		08:20 (T39)	07:36			07:56		18:04 (T37)	07:05			06:22		19:55 (T34)	05:59		20:00 (T34)
	17:20	15	08:35 (T39)	17:56			19:30	65	19:09 (T38)	20:03			20:35	17	20:12 (T34)	21:02	18	20:18 (T34)
9	07:57		08:19 (T39)	07:35			07:55		18:03 (T37)	07:03			06:20		19:54 (T34)	05:59		20:01 (T34)
	17:21	16	08:35 (T39)	17:58			19:31	66	19:09 (T38)	20:04			20:36	19	20:13 (T34)	21:03	17	20:18 (T34)
10	07:57		08:19 (T39)	07:34			07:53		18:02 (T37)	07:02			06:19		19:54 (T34)	05:59		20:02 (T34)
	17:22	16	08:35 (T39)	17:59			19:32	66	19:08 (T38)	20:05			20:37	20	20:14 (T34)	21:03	16	20:18 (T34)
11	07:57		08:19 (T39)	07:33			07:51		18:02 (T37)	07:00			06:18		19:53 (T34)	05:58		20:03 (T34)
	17:23	17	08:36 (T39)	18:00			19:33	66	19:08 (T38)	20:06			20:38	22	20:15 (T34)	21:04	14	20:17 (T34)
12	07:57		08:18 (T39)	07:31			07:50		18:01 (T37)	06:58			06:17		19:52 (T34)	05:58		20:04 (T34)
	17:24	18	08:36 (T39)	18:01			19:34	65	19:06 (T38)	20:07			20:39	24	20:16 (T34)	21:04	13	20:17 (T34)
13	07:56		08:18 (T39)	07:30			07:48		18:00 (T37)	06:57			06:16		19:52 (T34)	05:58		20:04 (T34)
	17:25	18	08:36 (T39)	18:03			19:36	65	19:05 (T38)	20:08			20:40	25	20:17 (T34)	21:05	12	20:16 (T34)
14	07:56		08:18 (T39)	07:29			07:46		18:00 (T37)	06:55			06:15		19:51 (T34)	05:58		20:04 (T34)
	17:26	19	08:37 (T39)	18:04			19:37	64	19:04 (T38)	20:09			20:41	27	20:18 (T34)	21:05	12	20:16 (T34)
15	07:56		08:17 (T39)	07:28			07:45		18:00 (T37)	06:54			06:14		19:51 (T34)	05:58		20:05 (T34)
	17:27	20	08:37 (T39)	18:05			19:38	61	19:01 (T37)	20:10			20:42	28	20:19 (T34)	21:06	10	20:15 (T34)
16	07:55		08:17 (T39)	07:26			07:43		17:59 (T37)	06:52			06:13		19:51 (T34)	05:58		20:07 (T34)
	17:28	20	08:37 (T39)	18:06			19:39	62	19:01 (T37)	20:11			20:43	29	20:20 (T34)	21:06	9	20:16 (T34)
17	07:55		08:17 (T39)	07:25			07:41		17:59 (T37)	06:50			06:12		19:51 (T34)	05:58		20:08 (T34)
	17:29	20	08:37 (T39)	18:08			19:40	62	19:01 (T37)	20:12			20:44	30	20:21 (T34)	21:07	7	20:15 (T34)
18	07:54		08:17 (T39)	07:24			07:40		17:59 (T37)	06:49			06:11		19:50 (T34)	05:58		20:08 (T34)
	17:30	19	08:36 (T39)	18:09			19:41	61	19:00 (T37)	20:13			20:45	31	20:21 (T34)	21:07	7	20:15 (T34)
19	07:54		08:19 (T39)	07:22			07:38		17:59 (T37)	06:47			06:10		19:50 (T34)	05:58		20:09 (T34)
	17:32	17	08:36 (T39)	18:10			19:42	61	19:00 (T37)	20:14			20:46	32	20:22 (T34)	21:07	6	20:15 (T34)
20	07:53		08:19 (T39)	07:21			07:36		18:00 (T37)	06:46			06:09		19:50 (T34)	05:59		20:09 (T34)
	17:33	17	08:36 (T39)	18:11			19:43	60	19:00 (T37)	20:15			20:47	33	20:23 (T34)	21:08	5	20:14 (T34)
21	07:53		08:21 (T39)	07:19			07:35		17:59 (T37)	06:44			06:09		19:51 (T34)	05:59		20:09 (T34)
	17:34	15	08:36 (T39)	18:12			19:44	60	18:59 (T37)	20:17			20:48	32	20:23 (T34)	21:08	5	20:14 (T34)
22	07:52		08:23 (T39)	07:18			07:33		17:59 (T37)	06:43			06:08		19:51 (T34)	05:59		20:09 (T34)
	17:35	11	08:34 (T39)	18:14			19:45	59	18:58 (T37)	20:18			20:49	32	20:23 (T34)	21:08	5	20:14 (T34)
23	07:51		08:25 (T39)	07:16			07:31		17:59 (T37)	06:41			06:07		19:51 (T34)	05:59		20:10 (T34)
	17:36	7	08:32 (T39)	18:15			19:46	58	18:57 (T37)	20:19			20:49	32	20:23 (T34)	21:08	6	20:16 (T34)
24	07:50			07:15			07:30		18:01 (T37)	06:40			06:06		19:51 (T34)	05:59		20:09 (T34)
	17:38			18:16			19:48	55	18:56 (T37)	20:20			20:50	31	20:22 (T34)	21:08	7	20:16 (T34)
25	07:50			07:13		17:25 (T37)	07:28		18:01 (T37)	06:39			06:06		19:52 (T34)	06:00		20:09 (T34)
	17:39			18:17	18	17:43 (T37)	19:49	54	18:55 (T37)	20:21			20:51	31	20:23 (T34)	21:09	7	20:16 (T34)
26	07:49			07:12		17:20 (T37)	07:26		18:01 (T37)	06:37			06:05		19:52 (T34)	06:00		20:09 (T34)
	17:40			18:18	26	17:46 (T37)	19:50	53	18:54 (T37)	20:22			20:52	30	20:22 (T34)	21:09	9	20:18 (T34)
27	07:48			07:10		17:18 (T37)	07:25		18:03 (T37)	06:36			06:04		19:53 (T34)	06:00		20:09 (T34)
	17:41			18:20	36	17:58 (T38)	19:51	50	18:53 (T37)	20:23			20:53	29	20:22 (T34)	21:09	9	20:18 (T34)
28	07:47			07:09		17:15 (T37)	07:23		18:03 (T37)	06:34			06:04		19:53 (T34)	06:01		20:08 (T34)
	17:43			18:21	43	17:58 (T38)	19:52	48	18:51 (T37)	20:24			20:54	29	20:22 (T34)	21:09	10	20:18 (T34)
29	07:46						07:21		18:04 (T37)	06:33			06:03		19:54 (T34)	06:01		20:08 (T34)
	17:44						19:53	45	18:49 (T37)	20:25			20:55	28	20:22 (T34)	21:09	12	20:20 (T34)
30	07:46						07:20		18:06 (T37)	06:32			06:03		19:54 (T34)	06:02		20:07 (T34)
	17:45						19:54	42	18:48 (T37)	20:26			20:56	27	20:21 (T34)	21:09	13	20:20 (T34)
31	07:45						07:18		18:07 (T37)				06:02		19:55 (T34)			
	17:46						19:55	39	18:46 (T37)				20:56	26	20:21 (T34)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		349			123			1774			111			705			389	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.52			0.67			0.67			0.67			0.56			0.56	
Total reduction		0.16			0.27			0.29			0.35			0.32			0.36	
Total, real		56			33			523			39			223			138	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1106 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8618)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		20:07 (T34)	06:26		20:02 (T34)	06:57			07:28		17:40 (T37)	07:02			07:37		08:01 (T39)
	21:09	14	20:21 (T34)	20:50	23	20:25 (T34)	20:07			19:15	66	18:46 (T38)	17:28			17:04	17	08:18 (T39)
2	06:03		20:06 (T34)	06:27		20:03 (T34)	06:58			07:29		17:40 (T37)	07:03			07:38		08:02 (T39)
	21:09	16	20:22 (T34)	20:49	22	20:25 (T34)	20:06			19:13	66	18:46 (T38)	17:27			17:04	16	08:18 (T39)
3	06:03		20:06 (T34)	06:28		20:03 (T34)	06:59			07:30		17:40 (T37)	07:05			07:39		08:03 (T39)
	21:09	17	20:23 (T34)	20:48	21	20:24 (T34)	20:04			19:12	66	18:46 (T38)	17:26			17:03	16	08:19 (T39)
4	06:04		20:06 (T34)	06:29		20:04 (T34)	07:00			07:31		17:40 (T37)	07:06			07:40		08:04 (T39)
	21:08	17	20:23 (T34)	20:47	18	20:22 (T34)	20:02			19:10	66	18:46 (T38)	17:24			17:03	15	08:19 (T39)
5	06:04		20:06 (T34)	06:30		20:05 (T34)	07:01			07:32		17:40 (T37)	07:07			07:41		08:05 (T39)
	21:08	18	20:24 (T34)	20:46	16	20:21 (T34)	20:01			19:08	66	18:46 (T38)	17:23			17:03	14	08:19 (T39)
6	06:05		20:05 (T34)	06:31		20:07 (T34)	07:02			07:33		17:41 (T37)	07:08			07:42		08:06 (T39)
	21:08	19	20:24 (T34)	20:45	13	20:20 (T34)	19:58			19:07	63	18:44 (T38)	17:22			17:03	13	08:19 (T39)
7	06:06		20:05 (T34)	06:32		20:08 (T34)	07:03			07:34		17:41 (T37)	07:09			07:43		08:07 (T39)
	21:08	21	20:26 (T34)	20:44	11	20:19 (T34)	19:56			19:05	62	18:43 (T38)	17:21			17:03	13	08:20 (T39)
8	06:06		20:05 (T34)	06:33		20:10 (T34)	07:04		18:12 (T37)	07:35		17:42 (T37)	07:11			07:44		08:08 (T39)
	21:07	22	20:27 (T34)	20:42	8	20:18 (T34)	19:54	17	18:29 (T37)	19:03	59	18:41 (T38)	17:20			17:03	12	08:20 (T39)
9	06:07		20:04 (T34)	06:34		20:15 (T34)	07:05		18:07 (T37)	07:36		17:42 (T37)	07:12			07:45		08:09 (T39)
	21:07	23	20:27 (T34)	20:41	2	20:17 (T34)	19:52	25	18:32 (T37)	19:02	57	18:39 (T38)	17:19			17:03	11	08:20 (T39)
10	06:08		20:04 (T34)	06:35			07:06		18:04 (T37)	07:37		17:43 (T37)	07:13			07:46		08:09 (T39)
	21:07	24	20:28 (T34)	20:40			19:51	31	18:35 (T37)	19:00	54	18:37 (T38)	17:18			17:03	11	08:20 (T39)
11	06:08		20:04 (T34)	06:36			07:07		18:02 (T37)	07:38		17:44 (T37)	07:14			07:47		08:10 (T39)
	21:06	25	20:29 (T34)	20:38			19:49	35	18:37 (T37)	18:58	52	18:36 (T38)	17:17			17:03	10	08:20 (T39)
12	06:09		20:03 (T34)	06:37			07:08		17:59 (T37)	07:39		17:45 (T37)	07:15			07:48		08:11 (T39)
	21:06	25	20:28 (T34)	20:37			19:47	39	18:38 (T37)	18:57	49	18:34 (T38)	17:16			17:03	10	08:21 (T39)
13	06:10		20:03 (T34)	06:38			07:09		17:57 (T37)	07:40		17:48 (T37)	07:17			07:48		08:12 (T39)
	21:05	26	20:29 (T34)	20:36			19:46	42	18:39 (T37)	18:55	45	18:33 (T38)	17:15			17:03	9	08:21 (T39)
14	06:10		20:03 (T34)	06:39			07:10		17:55 (T37)	07:42		17:49 (T37)	07:18			07:49		08:13 (T39)
	21:05	27	20:30 (T34)	20:34			19:44	45	18:40 (T37)	18:54	42	18:31 (T38)	17:14			17:03	9	08:22 (T39)
15	06:11		20:03 (T34)	06:40			07:11		17:53 (T37)	07:43		17:51 (T37)	07:19			07:50		08:13 (T39)
	21:04	28	20:31 (T34)	20:33			19:42	47	18:40 (T37)	18:52	32	18:30 (T38)	17:13			17:03	8	08:21 (T39)
16	06:12		20:02 (T34)	06:41			07:12		17:51 (T37)	07:44		17:54 (T37)	07:20			07:51		08:14 (T39)
	21:04	29	20:31 (T34)	20:32			19:41	50	18:41 (T37)	18:51	23	18:17 (T37)	17:12			17:04	8	08:22 (T39)
17	06:13		20:02 (T34)	06:42			07:13		17:50 (T37)	07:45		17:59 (T37)	07:21			07:51		08:15 (T39)
	21:03	29	20:31 (T34)	20:30			19:39	52	18:42 (T37)	18:49	13	18:12 (T37)	17:12			17:04	8	08:23 (T39)
18	06:14		20:01 (T34)	06:43			07:14		17:48 (T37)	07:46			07:23			07:52		08:15 (T39)
	21:02	31	20:32 (T34)	20:29			19:37	54	18:42 (T37)	18:48			17:11			17:04	7	08:22 (T39)
19	06:14		20:02 (T34)	06:44			07:15		17:47 (T37)	07:47			07:24		08:00 (T39)	07:53		08:16 (T39)
	21:02	30	20:32 (T34)	20:27			19:35	56	18:43 (T37)	18:46			17:10	7	08:07 (T39)	17:05	7	08:23 (T39)
20	06:15		20:02 (T34)	06:45			07:16		17:46 (T37)	07:48			07:25		07:58 (T39)	07:53		08:16 (T39)
	21:01	31	20:33 (T34)	20:26			19:34	57	18:43 (T37)	18:45			17:09	11	08:09 (T39)	17:05	7	08:23 (T39)
21	06:16		20:01 (T34)	06:46			07:17		17:45 (T37)	07:49			07:26		07:56 (T39)	07:54		08:17 (T39)
	21:00	31	20:32 (T34)	20:25			19:32	58	18:43 (T37)	18:43			17:09	15	08:11 (T39)	17:06	7	08:24 (T39)
22	06:17		20:01 (T34)	06:47			07:18		17:44 (T37)	07:51			07:27		07:55 (T39)	07:54		08:17 (T39)
	21:00	32	20:33 (T34)	20:23			19:30	59	18:43 (T37)	18:42			17:08	17	08:12 (T39)	17:06	7	08:24 (T39)
23	06:18		20:01 (T34)	06:48			07:19		17:43 (T37)	07:52			07:28		07:56 (T39)	07:55		08:18 (T39)
	20:59	32	20:33 (T34)	20:22			19:29	60	18:43 (T37)	18:40			17:07	17	08:13 (T39)	17:07	7	08:25 (T39)
24	06:19		20:01 (T34)	06:49			07:21		17:42 (T37)	07:53			07:30		07:55 (T39)	07:55		08:18 (T39)
	20:58	32	20:33 (T34)	20:20			19:27	61	18:43 (T37)	18:39			17:07	19	08:14 (T39)	17:07	7	08:25 (T39)
25	06:20		20:01 (T34)	06:50			07:22		17:42 (T37)	07:54			07:31		07:55 (T39)	07:56		08:19 (T39)
	20:57	31	20:32 (T34)	20:18			19:25	61	18:43 (T37)	18:37			17:06	20	08:15 (T39)	17:08	7	08:26 (T39)
26	06:21		20:01 (T34)	06:51			07:23		17:41 (T37)	07:55			07:32		07:55 (T39)	07:56		08:19 (T39)
	20:56	31	20:32 (T34)	20:17			19:23	62	18:43 (T37)	18:36			17:06	20	08:15 (T39)	17:08	8	08:27 (T39)
27	06:22		20:01 (T34)	06:52			07:24		17:41 (T37)	07:56			07:33		07:56 (T39)	07:56		08:19 (T39)
	20:55	30	20:31 (T34)	20:15			19:22	61	18:42 (T37)	18:35			17:05	20	08:16 (T39)	17:09	8	08:27 (T39)
28	06:23		20:02 (T34)	06:53			07:25		17:40 (T37)	07:58			07:34		07:57 (T39)	07:57		08:19 (T39)
	20:54	28	20:30 (T34)	20:14			19:20	62	18:42 (T37)	18:33			17:05	19	08:16 (T39)	17:10	8	08:27 (T39)
29	06:24		20:02 (T34)	06:54			07:26		17:40 (T37)	07:59			07:35		07:59 (T39)	07:57		08:20 (T39)
	20:53	27	20:29 (T34)	20:12			19:18	63	18:43 (T38)	18:32			17:04	18	08:17 (T39)	17:10	9	08:29 (T39)
30	06:24		20:01 (T34)	06:55			07:27		17:39 (T37)	08:00			07:36		08:00 (T39)	07:57		08:20 (T39)
	20:52	26	20:27 (T34)	20:11			19:17	65	18:44 (T38)	18:31			17:04	18	08:18 (T39)	17:11	9	08:29 (T39)
31	06:25		20:02 (T34)	06:56						08:01						07:57		08:20 (T39)
	20:51	24	20:26 (T34)	20:09						18:29						17:12	10	08:30 (T39)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		796			134			1162			881			201			308	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.56			0.56			0.67			0.67			0.52			0.52	
Total reduction		0.37			0.34			0.40			0.32			0.15			0.11	
Total, real		292			45			459			283			31			35	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1136 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8645)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June	
1	07:57		08:31 (T36)	07:43			07:07		07:27 (T31)	07:16			06:30		06:59 (T28)	06:01	
	17:13	16	08:47 (T36)	17:47			18:22	70	17:54 (T30)	19:56			20:27	72	19:50 (T27)	20:57	
2	07:57		08:32 (T36)	07:43			07:06		07:25 (T31)	07:14			06:29		07:00 (T28)	06:01	
	17:14	15	08:47 (T36)	17:49			18:23	73	17:53 (T30)	19:57			20:28	67	19:48 (T27)	20:58	
3	07:58		08:33 (T36)	07:41			07:04		07:23 (T31)	07:13			06:28		06:59 (T28)	06:00	
	17:15	14	08:47 (T36)	17:50			18:24	75	17:53 (T30)	19:58			20:29	64	19:46 (T27)	20:58	
4	07:58		08:34 (T36)	07:40			07:02		07:22 (T31)	07:11			06:26		07:00 (T28)	06:00	
	17:15	13	08:47 (T36)	17:51			18:25	77	17:53 (T30)	19:59			20:30	57	19:43 (T27)	20:59	
5	07:58		08:36 (T36)	07:39			07:01		07:20 (T31)	07:09			06:25		07:01 (T28)	06:00	
	17:16	10	08:46 (T36)	17:52			18:26	78	17:53 (T30)	20:00			20:31	49	19:40 (T27)	21:00	
6	07:58		08:38 (T36)	07:38			06:59		07:19 (T31)	07:08			06:24		07:02 (T28)	05:59	
	17:17	7	08:45 (T36)	17:54			18:27	80	17:53 (T30)	20:00			20:32	39	07:41 (T28)	21:01	
7	07:57			07:37			06:58		07:17 (T31)	07:06			06:23		07:03 (T28)	05:59	
	17:18			17:55			18:29	81	17:52 (T30)	20:01			20:33	37	07:40 (T28)	21:01	
8	07:57			07:36			07:56		08:15 (T31)	07:05		07:24 (T28)	06:21		07:03 (T28)	05:59	
	17:19			17:56			19:30	81	18:51 (T30)	20:02	15	19:42 (T27)	20:34	35	07:38 (T28)	21:02	
9	07:57			07:35			07:54		08:14 (T31)	07:03		07:22 (T28)	06:20		07:04 (T28)	05:59	
	17:20			17:57			19:31	81	18:51 (T30)	20:03	27	19:43 (T27)	20:35	33	07:37 (T28)	21:02	
10	07:57			07:34			07:53		08:12 (T31)	07:01		07:20 (T28)	06:19		07:05 (T28)	05:58	
	17:21			17:59			19:32	81	18:50 (T30)	20:05	34	19:43 (T27)	20:37	31	07:36 (T28)	21:03	
11	07:57			07:32			07:51		08:11 (T31)	07:00		07:19 (T28)	06:18		07:06 (T28)	05:58	
	17:22			18:00			19:33	80	18:49 (T30)	20:06	40	19:45 (T27)	20:38	28	07:34 (T28)	21:04	
12	07:56			07:31			07:50		08:12 (T31)	06:58		07:17 (T28)	06:17		07:08 (T28)	05:58	
	17:23			18:01			19:34	77	18:48 (T30)	20:07	46	19:46 (T27)	20:39	25	07:33 (T28)	21:04	
13	07:56			07:30			07:48		08:13 (T31)	06:56		07:16 (T28)	06:16		07:10 (T28)	05:58	
	17:25			18:02			19:35	72	18:47 (T30)	20:08	51	19:47 (T27)	20:40	21	07:31 (T28)	21:05	
14	07:56			07:29			07:46		08:13 (T31)	06:55		07:14 (T28)	06:15		07:12 (T28)	05:58	
	17:26			18:04			19:36	69	18:45 (T30)	20:09	56	19:48 (T27)	20:41	16	07:28 (T28)	21:05	
15	07:55			07:27		17:23 (T30)	07:45		08:15 (T31)	06:53		07:12 (T28)	06:14		07:16 (T28)	05:58	
	17:27			18:05	12	17:35 (T30)	19:38	63	18:44 (T30)	20:10	60	19:48 (T27)	20:42	9	07:25 (T28)	21:06	
16	07:55			07:26		17:19 (T30)	07:43		08:16 (T31)	06:52		07:11 (T28)	06:13			05:58	
	17:28			18:06	20	17:39 (T30)	19:39	57	18:42 (T30)	20:11	65	19:50 (T27)	20:43			21:06	
17	07:55			07:25		17:16 (T30)	07:41		08:17 (T31)	06:50		07:09 (T28)	06:12			05:58	
	17:29			18:07	26	17:42 (T30)	19:40	48	18:39 (T30)	20:12	68	19:50 (T27)	20:44			21:06	
18	07:54			07:23		17:14 (T30)	07:40		08:21 (T31)	06:49		07:08 (T28)	06:11			05:58	
	17:30			18:09	30	17:44 (T30)	19:41	37	18:37 (T30)	20:13	72	19:52 (T27)	20:45			21:07	
19	07:53			07:22		17:13 (T30)	07:38		18:15 (T30)	06:47		07:06 (T28)	06:10			05:58	
	17:31			18:10	33	17:46 (T30)	19:42	19	18:34 (T30)	20:14	74	19:52 (T27)	20:46			21:07	
20	07:53			07:21		17:10 (T30)	07:36		18:20 (T30)	06:46		07:05 (T28)	06:09			05:58	
	17:33			18:11	37	17:47 (T30)	19:43	7	18:27 (T30)	20:15	78	19:54 (T27)	20:46			21:07	
21	07:52			07:19		17:09 (T30)	07:35			06:44		07:03 (T28)	06:08			05:59	
	17:34			18:12	40	17:49 (T30)	19:44			20:16	79	19:54 (T27)	20:47			21:08	
22	07:52			07:18		17:08 (T30)	07:33			06:43		07:02 (T28)	06:08			05:59	
	17:35			18:13	41	17:49 (T30)	19:45			20:17	83	19:56 (T27)	20:48			21:08	
23	07:51			07:16		17:07 (T30)	07:31			06:41		07:01 (T28)	06:07			05:59	
	17:36			18:15	44	17:51 (T30)	19:46			20:18	85	19:57 (T27)	20:49			21:08	
24	07:50			07:15		07:34 (T31)	07:30			06:40		06:59 (T28)	06:06			05:59	
	17:37			18:16	46	17:51 (T30)	19:47			20:20	85	19:56 (T27)	20:50			21:08	
25	07:50			07:13		07:33 (T31)	07:28			06:38		06:59 (T28)	06:05			06:00	
	17:39			18:17	54	17:52 (T30)	19:48			20:21	84	19:55 (T27)	20:51			21:08	
26	07:49			07:12		07:31 (T31)	07:26			06:37		06:58 (T28)	06:05			06:00	
	17:40			18:18	59	17:52 (T30)	19:50			20:22	84	19:54 (T27)	20:52			21:09	
27	07:48			07:10		07:30 (T31)	07:24			06:36		06:58 (T28)	06:04			06:00	
	17:41			18:19	63	17:53 (T30)	19:51			20:23	83	19:54 (T27)	20:53			21:09	
28	07:47			07:09		07:28 (T31)	07:23			06:34		06:59 (T28)	06:03			06:01	
	17:42			18:20	67	17:53 (T30)	19:52			20:24	80	19:53 (T27)	20:54			21:09	
29	07:46						07:21			06:33		06:58 (T28)	06:03			06:01	
	17:44						19:53			20:25	77	19:51 (T27)	20:55			21:09	
30	07:45						07:19			06:31		06:58 (T28)	06:02			06:01	
	17:45						19:54			20:26	76	19:51 (T27)	20:55			21:09	
31	07:44						07:18						06:02				
	17:46						19:55						20:56				
Potential sun hours	297			297			370			399			449			453	
Total, worst case		75			572			1306			1502			583			
Sun reduction		0.31			0.40			0.44			0.52			0.57			
Oper. time red.		1.00			1.00			1.00			1.00			1.00			
Wind dir. red.		0.53			0.68			0.65			0.63			0.65			
Total reduction		0.16			0.27			0.28			0.32			0.37			
Total, real		12			155			371			487			215			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1136 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8645)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02			06:26		07:18 (T28)	06:57		07:18 (T28)	07:27		07:51 (T31)	07:02		07:37			
	21:09			20:50	26	07:44 (T28)	20:07	40	19:44 (T27)	19:15	75	18:26 (T30)	17:28		17:04			
2	06:02			06:27		07:16 (T28)	06:58		07:19 (T28)	07:29		07:50 (T31)	07:03		07:38			
	21:08			20:49	30	07:46 (T28)	20:06	34	19:42 (T27)	19:13	78	18:27 (T30)	17:27		17:03			
3	06:03			06:28		07:15 (T28)	06:59		07:20 (T28)	07:30		07:49 (T31)	07:04		07:39			
	21:08			20:48	32	07:47 (T28)	20:04	27	19:41 (T27)	19:11	81	18:27 (T30)	17:25		17:03			
4	06:04			06:29		07:14 (T28)	07:00		07:21 (T28)	07:31		07:50 (T31)	07:06		07:40			
	21:08			20:47	34	07:48 (T28)	20:02	15	19:39 (T27)	19:10	81	18:27 (T30)	17:24		17:03			
5	06:04			06:30		07:13 (T28)	07:01			07:32		07:52 (T31)	07:07		07:41			
	21:08			20:46	36	07:49 (T28)	20:01			19:08	81	18:28 (T30)	17:23		17:03			
6	06:05			06:31		07:12 (T28)	07:02			07:33		07:53 (T31)	07:08		07:42		08:24 (T36)	
	21:08			20:45	38	07:50 (T28)	19:57			19:06	80	18:28 (T30)	17:22		17:03	7	08:31 (T36)	
7	06:05			06:32		07:11 (T28)	07:03			07:34		07:54 (T31)	07:09		07:43		08:23 (T36)	
	21:07			20:43	40	07:51 (T28)	19:56			19:05	80	18:28 (T30)	17:21		17:02	10	08:33 (T36)	
8	06:06			06:33		07:10 (T28)	07:04			07:35		07:55 (T31)	07:10		07:44		08:22 (T36)	
	21:07			20:42	53	19:51 (T27)	19:54			19:03	79	18:28 (T30)	17:20		17:02	13	08:35 (T36)	
9	06:07			06:34		07:09 (T28)	07:05			07:36		07:56 (T31)	07:12		07:45		08:21 (T36)	
	21:07			20:41	60	19:54 (T27)	19:52			19:01	78	18:28 (T30)	17:19		17:02	14	08:35 (T36)	
10	06:07			06:35		07:09 (T28)	07:06			07:37		07:57 (T31)	07:13		07:46		08:21 (T36)	
	21:06			20:40	65	19:56 (T27)	19:51			19:00	77	18:28 (T30)	17:18		17:02	15	08:36 (T36)	
11	06:08			06:36		07:08 (T28)	07:07			07:38		07:58 (T31)	07:14		07:47		08:21 (T36)	
	21:06			20:38	69	19:57 (T27)	19:49			18:58	74	18:27 (T30)	17:17		17:02	16	08:37 (T36)	
12	06:09			06:37		07:08 (T28)	07:08			07:39		07:59 (T31)	07:15		07:47		08:21 (T36)	
	21:06			20:37	73	19:59 (T27)	19:47			18:57	72	18:27 (T30)	17:16		17:03	17	08:38 (T36)	
13	06:09			06:38		07:07 (T28)	07:09			07:40		08:00 (T31)	07:16		07:48		08:21 (T36)	
	21:05			20:36	76	20:00 (T27)	19:45			18:55	68	18:26 (T30)	17:15		17:03	18	08:39 (T36)	
14	06:10			06:39		07:06 (T28)	07:10			07:41		08:02 (T31)	07:18		07:49		08:21 (T36)	
	21:05			20:34	77	19:59 (T27)	19:44			18:53	66	18:26 (T30)	17:14		17:03	18	08:39 (T36)	
15	06:11			06:40		07:05 (T28)	07:11			07:42		08:03 (T31)	07:19		07:50		08:21 (T36)	
	21:04			20:33	80	20:00 (T27)	19:42			18:52	61	18:25 (T30)	17:13		17:03	19	08:40 (T36)	
16	06:12			06:41		07:05 (T28)	07:12			07:44		08:04 (T31)	07:20		07:50		08:22 (T36)	
	21:04			20:32	82	20:01 (T27)	19:40			18:50	56	18:24 (T30)	17:12		17:03	19	08:41 (T36)	
17	06:13			06:42		07:05 (T28)	07:13			07:45		08:05 (T31)	07:21		07:51		08:22 (T36)	
	21:03			20:30	83	20:01 (T27)	19:39			18:49	51	18:23 (T30)	17:11		17:04	20	08:42 (T36)	
18	06:13			06:43		07:04 (T28)	07:14			07:46		17:37 (T30)	07:22		07:52		08:22 (T36)	
	21:02			20:29	85	20:01 (T27)	19:37			18:47	45	18:22 (T30)	17:11		17:04	20	08:42 (T36)	
19	06:14			06:44		07:05 (T28)	07:15			07:47		17:38 (T30)	07:24		07:52		08:23 (T36)	
	21:02			20:27	84	20:01 (T27)	19:35			18:46	43	18:21 (T30)	17:10		17:04	20	08:43 (T36)	
20	06:15			06:45		07:06 (T28)	07:16			07:48		17:40 (T30)	07:25		07:53		08:23 (T36)	
	21:01			20:26	85	20:02 (T27)	19:33			18:44	41	18:21 (T30)	17:09		17:05	20	08:43 (T36)	
21	06:16			06:46		07:07 (T28)	07:17			07:49		17:40 (T30)	07:26		07:53		08:24 (T36)	
	21:00			20:24	82	20:00 (T27)	19:32			18:43	39	18:19 (T30)	17:08		17:05	20	08:44 (T36)	
22	06:17			06:47		07:08 (T28)	07:18			07:50		17:41 (T30)	07:27		07:54		08:24 (T36)	
	20:59			20:23	80	19:59 (T27)	19:30			18:41	36	18:17 (T30)	17:08		17:06	20	08:44 (T36)	
23	06:18			06:48		07:09 (T28)	07:19			07:51		17:43 (T30)	07:28		07:54		08:25 (T36)	
	20:59			20:21	78	19:58 (T27)	19:28			18:40	32	18:15 (T30)	17:07		17:06	20	08:45 (T36)	
24	06:19			06:49		07:10 (T28)	07:20		18:00 (T30)	07:53		17:44 (T30)	07:29		07:55		08:25 (T36)	
	20:58			20:20	74	19:56 (T27)	19:27	16	18:16 (T30)	18:39	29	18:13 (T30)	17:07		17:07	20	08:45 (T36)	
25	06:20			06:50		07:11 (T28)	07:21		08:05 (T31)	07:54		17:47 (T30)	07:31		07:55		08:25 (T36)	
	20:57			20:18	71	19:55 (T27)	19:25	32	18:19 (T30)	18:37	25	18:12 (T30)	17:06		17:08	20	08:45 (T36)	
26	06:20			06:51		07:12 (T28)	07:22		08:01 (T31)	07:55		17:50 (T30)	07:32		07:56		08:26 (T36)	
	20:56			20:17	67	19:53 (T27)	19:23	44	18:21 (T30)	18:36	18	18:08 (T30)	17:05		17:08	20	08:46 (T36)	
27	06:21			06:52		07:13 (T28)	07:23		07:58 (T31)	07:56		17:55 (T30)	07:33		07:56		08:26 (T36)	
	20:55			20:15	64	19:52 (T27)	19:21	54	18:23 (T30)	18:34	7	18:02 (T30)	17:05		17:09	20	08:46 (T36)	
28	06:22			06:53		07:14 (T28)	07:24		07:56 (T31)	07:57			07:34		07:56		08:27 (T36)	
	20:54			20:14	59	19:50 (T27)	19:20	61	18:24 (T30)	18:33			17:05		17:09	19	08:46 (T36)	
29	06:23		07:25 (T28)	06:54		07:15 (T28)	07:25		07:54 (T31)	07:58			07:35		07:57		08:28 (T36)	
	20:53	12	07:37 (T28)	20:12	56	19:49 (T27)	19:18	67	18:25 (T30)	18:32			17:04		17:10	19	08:47 (T36)	
30	06:24		07:22 (T28)	06:55		07:16 (T28)	07:26		07:53 (T31)	08:00			07:36		07:57		08:29 (T36)	
	20:52	18	07:40 (T28)	20:10	51	19:47 (T27)	19:16	71	18:26 (T30)	18:30			17:04		17:11	18	08:47 (T36)	
31	06:25		07:20 (T28)	06:56		07:17 (T28)				08:01					07:57		08:30 (T36)	
	20:51	22	07:42 (T28)	20:09	45	19:45 (T27)				18:29					17:12	17	08:47 (T36)	
Potential sun hours	460			429			375			345			297		287			
Total, worst case		52			1935			461			1553					459		
Sun reduction		0.66			0.61			0.59			0.48					0.22		
Oper. time red.		1.00			1.00			1.00			1.00					1.00		
Wind dir. red.		0.66			0.63			0.64			0.66					0.53		
Total reduction		0.44			0.38			0.38			0.32					0.12		
Total, real		23			744			174			490					53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1146 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8653)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April			May			June			July			August			September	October	November	December
1	07:57	07:43	07:07	07:16			06:30		19:18 (T23)	06:01		19:14 (T23)	06:02		19:22 (T23)	06:26		19:21 (T23)	06:57	07:27	07:02	07:37
	17:13	17:47	18:22	19:56			20:27	43	20:01 (T23)	20:57	53	20:07 (T23)	21:09	48	20:10 (T23)	20:50	56	20:17 (T23)	20:07	19:15	17:28	17:03
2	07:57	07:42	07:06	07:14			06:29		19:16 (T23)	06:01		19:14 (T23)	06:02		19:22 (T23)	06:27		19:21 (T23)	06:58	07:28	07:03	07:38
	17:14	17:48	18:23	19:57			20:28	45	20:01 (T23)	20:58	52	20:06 (T23)	21:08	49	20:11 (T23)	20:49	56	20:17 (T23)	20:06	19:13	17:27	17:03
3	07:58	07:41	07:04	07:13			06:27		19:15 (T23)	06:00		19:15 (T23)	06:03		19:22 (T23)	06:28		19:22 (T23)	06:59	07:30	07:04	07:39
	17:14	17:50	18:24	19:58			20:29	47	20:02 (T23)	20:58	52	20:07 (T23)	21:08	49	20:11 (T23)	20:48	54	20:16 (T23)	20:04	19:11	17:25	17:03
4	07:58	07:40	07:02	07:11			06:26		19:15 (T23)	06:00		19:15 (T23)	06:03		19:22 (T23)	06:29		19:22 (T23)	07:00	07:31	07:06	07:40
	17:15	17:51	18:25	19:59			20:30	48	20:03 (T23)	20:59	52	20:07 (T23)	21:08	50	20:12 (T23)	20:47	54	20:16 (T23)	20:02	19:10	17:24	17:03
5	07:58	07:39	07:01	07:09			06:25		19:14 (T23)	06:00		19:15 (T23)	06:04		19:23 (T23)	06:30		19:22 (T23)	07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00			20:31	50	20:04 (T23)	21:00	51	20:06 (T23)	21:08	50	20:13 (T23)	20:46	53	20:15 (T23)	20:01	19:08	17:23	17:03
6	07:58	07:38	06:59	07:08			06:24		19:13 (T23)	05:59		19:16 (T23)	06:05		19:22 (T23)	06:31		19:23 (T23)	07:02	07:33	07:08	07:42
	17:17	17:54	18:27	20:00			20:32	52	20:05 (T23)	21:01	50	20:06 (T23)	21:08	50	20:12 (T23)	20:44	52	20:15 (T23)	19:57	19:06	17:22	17:02
7	07:57	07:37	06:58	07:06			06:22		19:13 (T23)	05:59		19:16 (T23)	06:05		19:22 (T23)	06:32		19:23 (T23)	07:03	07:34	07:09	07:43
	17:18	17:55	18:28	20:01			20:33	52	20:05 (T23)	21:01	51	20:07 (T23)	21:07	51	20:13 (T23)	20:43	51	20:14 (T23)	19:56	19:05	17:21	17:02
8	07:57	07:36	07:56	07:04			06:21		19:11 (T23)	05:59		19:17 (T23)	06:06		19:22 (T23)	06:33		19:24 (T23)	07:04	07:35	07:10	07:44
	17:19	17:56	19:30	20:02			20:34	54	20:05 (T23)	21:02	50	20:07 (T23)	21:07	51	20:13 (T23)	20:42	49	20:13 (T23)	19:54	19:03	17:20	17:02
9	07:57	07:35	07:54	07:03			06:20		19:11 (T23)	05:58		19:18 (T23)	06:06		19:22 (T23)	06:34		19:24 (T23)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03			20:35	54	20:05 (T23)	21:02	49	20:07 (T23)	21:07	52	20:14 (T23)	20:41	49	20:13 (T23)	19:52	19:01	17:19	17:02
10	07:57	07:34	07:53	07:01			06:19		19:11 (T23)	05:58		19:17 (T23)	06:07		19:22 (T23)	06:35		19:25 (T23)	07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:05			20:36	55	20:06 (T23)	21:03	49	20:06 (T23)	21:06	52	20:14 (T23)	20:40	47	20:12 (T23)	19:51	19:00	17:18	17:02
11	07:57	07:32	07:51	07:00			06:18		19:11 (T23)	05:58		19:18 (T23)	06:08		19:21 (T23)	06:36		19:25 (T23)	07:07	07:38	07:14	07:47
	17:22	18:00	19:33	20:06			20:38	55	20:06 (T23)	21:04	48	20:06 (T23)	21:06	53	20:14 (T23)	20:38	45	20:10 (T23)	19:49	18:58	17:17	17:02
12	07:56	07:31	07:50	06:58			06:17		19:10 (T23)	05:58		19:18 (T23)	06:09		19:22 (T23)	06:37		19:26 (T23)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:07			20:39	56	20:06 (T23)	21:04	48	20:06 (T23)	21:06	53	20:15 (T23)	20:37	42	20:08 (T23)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:56			06:16		19:10 (T23)	05:58		19:19 (T23)	06:09		19:22 (T23)	06:38		19:27 (T23)	07:09	07:40	07:16	07:48
	17:24	18:02	19:35	20:08			20:40	57	20:07 (T23)	21:05	47	20:06 (T23)	21:05	53	20:15 (T23)	20:36	40	20:07 (T23)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55			06:15		19:10 (T23)	05:58		19:19 (T23)	06:10		19:22 (T23)	06:39		19:28 (T23)	07:10	07:41	07:18	07:49
	17:26	18:04	19:36	20:09			20:41	57	20:07 (T23)	21:05	47	20:06 (T23)	21:05	54	20:16 (T23)	20:34	38	20:06 (T23)	19:44	18:53	17:14	17:03
15	07:55	07:27	07:45	06:53			06:14		19:10 (T23)	05:58		19:19 (T23)	06:11		19:21 (T23)	06:40		19:30 (T23)	07:11	07:42	07:19	07:50
	17:27	18:05	19:37	20:10			20:42	57	20:07 (T23)	21:06	47	20:06 (T23)	21:04	55	20:16 (T23)	20:33	34	20:04 (T23)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52			06:13		19:10 (T23)	05:58		19:20 (T23)	06:12		19:21 (T23)	06:41		19:31 (T23)	07:12	07:44	07:20	07:50
	17:28	18:06	19:39	20:11			20:43	57	20:07 (T23)	21:06	47	20:07 (T23)	21:04	55	20:16 (T23)	20:31	31	20:02 (T23)	19:40	18:50	17:12	17:03
17	07:55	07:25	07:41	06:50			06:12		19:10 (T23)	05:58		19:20 (T23)	06:12		19:21 (T23)	06:42		19:34 (T23)	07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12			20:44	57	20:07 (T23)	21:06	47	20:07 (T23)	21:03	56	20:17 (T23)	20:30	25	19:59 (T23)	19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49			06:11		19:10 (T23)	05:58		19:20 (T23)	06:13		19:21 (T23)	06:43		19:37 (T23)	07:14	07:46	07:22	07:52
	17:30	18:08	19:41	20:13			20:45	58	20:08 (T23)	21:07	47	20:07 (T23)	21:02	56	20:17 (T23)	20:29	19	19:56 (T23)	19:37	18:47	17:10	17:04
19	07:53	07:22	07:38	06:47			06:10		19:10 (T23)	05:58		19:21 (T23)	06:14		19:20 (T23)	06:44		19:42 (T23)	07:15	07:47	07:24	07:52
	17:31	18:10	19:42	20:14			20:46	58	20:08 (T23)	21:07	47	20:08 (T23)	21:02	56	20:16 (T23)	20:27	9	19:51 (T23)	19:35	18:46	17:10	17:04
20	07:53	07:20	07:36	06:46			06:09		19:10 (T23)	05:58		19:21 (T23)	06:15		19:20 (T23)	06:45			07:16	07:48	07:25	07:53
	17:32	18:11	19:43	20:15			20:46	57	20:07 (T23)	21:07	47	20:08 (T23)	21:01	57	20:17 (T23)	20:26			19:33	18:44	17:09	17:05
21	07:52	07:19	07:35	06:44			06:08		19:10 (T23)	05:58		19:21 (T23)	06:16		19:21 (T23)	06:46			07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16			20:47	57	20:07 (T23)	21:08	47	20:08 (T23)	21:00	56	20:17 (T23)	20:24			19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43			06:07		19:11 (T23)	05:59		19:21 (T23)	06:17		19:21 (T23)	06:47			07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:17			20:48	57	20:08 (T23)	21:08	47	20:08 (T23)	20:59	56	20:17 (T23)	20:23			19:30	18:41	17:08	17:06
23	07:51	07:16	07:31	06:41			06:07		19:11 (T23)	05:59		19:21 (T23)	06:18		19:21 (T23)	06:48			07:19	07:51	07:28	07:54
	17:36	18:14	19:46	20:18			20:49	57	20:08 (T23)	21:08	47	20:08 (T23)	20:59	57	20:18 (T23)	20:21			19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:40		19:34 (T23)	06:06		19:11 (T23)	05:59		19:22 (T23)	06:19		19:21 (T23)	06:49			07:20	07:53	07:29	07:55
	17:37	18:16	19:47	20:20	12	19:46 (T23)	20:50	56	20:07 (T23)	21:08	47	20:09 (T23)	20:58	57	20:18 (T23)	20:20			19:27	18:38	17:06	17:07
25	07:50	07:13	07:28	06:38		19:30 (T23)	06:05		19:11 (T23)	05:59		19:22 (T23)	06:19		19:21 (T23)	06:50			07:21	07:54	07:31	07:55
	17:39	18:17	19:48	20:21	21	19:51 (T23)	20:51	56	20:07 (T23)	21:08	47	20:09 (T23)	20:57	57	20:18 (T23)	20:18			19:25	18:37	17:06	17:07
26	07:49	07:12	07:26	06:37		19:26 (T23)	06:05		19:12 (T23)	06:00		19:22 (T23)	06:20		19:20 (T23)	06:51			07:22	07:55	07:32	07:56
	17:40	18:18	19:49	20:22	27	19:53 (T23)	20:52	55	20:07 (T23)	21:09	47	20:09 (T23)	20:56	57	20:17 (T23)	20:17			19:23	18:36	17:05	17:08
27	07:48	07:10	07:24	06:35		19:24 (T23)	06:04		19:12 (T23)	06:00		19:22 (T23)	06:21		19:20 (T23)	06:52			07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23	32	19:56 (T23)	20:53	55	20:07 (T23)	21:09	47	20:09 (T23)	20:55	57	20:17 (T23)	20:15			19:21	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34		19:23 (T23)	06:03		19:13 (T23)	06:00		19:22 (T23)	06:22		19:20 (T23)	06:53			07:24	07:57	07:34	07:56
	17:42	18:20	19:52	20:24	35	19:58 (T23)	20:54	54	20:07 (T23)	21:09	47	20:09 (T23)	20:54	57	20:17 (T23)	20:14			19:20	18:33	17:04	17:09
29	07:46		07:21	06:33		19:20 (T23)	06:03		19:12 (T23)	06:01		19:22 (T23)	06:23		19:20 (T23)	06:54			07:25	07:58	07:35	07:57
	17:43		19:53	20:25	38	19:58 (T23)	20:55	55	20:07 (T23)	21:09	47	20:09 (T23)	20:53	57	20:17 (T23)	20:12			19:18	18:32	17:04	17:10
30	07:45		07:19	06:31		19:19 (T23)	06:02		19:13 (T23)	06:01		19:22 (T23)	06:24		19:21 (T23)	06:55			07:26	08:00	07:36	07:57
	17:45		19:54	20:26	41	20:00 (T23)	20:55	54	20:07 (T23)	21:09	48	20:10 (T23)	20:52	56	20:17 (T23)	20:10			19:16	18:30	17:04	17:11
31	07:44		07:18				06:02		19:13 (T23)				06:25		19:21 (T23)	06:56				08:01		07:57
	17:46		19:55				20:56	54	20:07 (T23)				20:51	56	20:17 (T23)	20:09				18:29		17:12
Potential sun hours	297	297	370	399			449			453			460			429			375	345	297	287
Total, worst case					206			1679			1452			1673			804					
Sun reduction					0.52			0.57			0.64			0.66			0.61					
Oper. time red.					1.00			1.00			1.00			1.00			1.00					
Wind dir. red.					0.57			0.57			0.57			0.57			0.57					
Total reduction					0.29			0.32			0.36			0.37			0.35					
Total, real					61			542			526			625			278					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1151 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8657)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June
1	07:57	07:43	07:07			07:16		07:41 (T49)	06:30		07:32 (T49)	06:02
	17:13	17:48	18:22			19:56	82	09:03 (T49)	20:27	80	08:52 (T49)	20:57
2	07:57	07:42	07:06			07:15		07:40 (T49)	06:29		07:33 (T49)	06:01
	17:14	17:49	18:23			19:57	83	09:03 (T49)	20:28	78	08:51 (T49)	20:58
3	07:57	07:41	07:04			07:13		07:39 (T49)	06:28		07:34 (T49)	06:01
	17:15	17:50	18:24			19:58	85	09:04 (T49)	20:29	77	08:51 (T49)	20:58
4	07:57	07:40	07:03			07:11		07:38 (T49)	06:27		07:33 (T49)	06:00
	17:16	17:51	18:25			19:59	86	09:04 (T49)	20:30	76	08:49 (T49)	20:59
5	07:57	07:39	07:01			07:10		07:38 (T49)	06:25		07:34 (T49)	06:00
	17:17	17:53	18:26			20:00	86	09:04 (T49)	20:31	74	08:48 (T49)	21:00
6	07:57	07:38	06:59			07:08		07:36 (T49)	06:24		07:35 (T49)	06:00
	17:18	17:54	18:28			20:00	88	09:04 (T49)	20:32	72	08:47 (T49)	21:00
7	07:57	07:37	06:58			07:06		07:35 (T49)	06:23		07:36 (T49)	05:59
	17:19	17:55	18:29			20:01	89	09:04 (T49)	20:33	70	08:46 (T49)	21:01
8	07:57	07:36	07:56			07:05		07:35 (T49)	06:22		07:37 (T49)	05:59
	17:20	17:56	19:30			20:02	90	09:05 (T49)	20:34	69	08:46 (T49)	21:02
9	07:57	07:35	07:55			07:03		07:34 (T49)	06:21		07:38 (T49)	05:59
	17:21	17:58	19:31			20:03	90	09:04 (T49)	20:35	67	08:45 (T49)	21:02
10	07:57	07:34	07:53			07:01		07:33 (T49)	06:19		07:39 (T49)	05:59
	17:22	17:59	19:32			20:05	91	09:04 (T49)	20:36	65	08:44 (T49)	21:03
11	07:57	07:32	07:51			07:00		07:33 (T49)	06:18		07:39 (T49)	05:59
	17:23	18:00	19:33			20:06	91	09:04 (T49)	20:37	63	08:42 (T49)	21:03
12	07:56	07:31	07:50			06:58		07:32 (T49)	06:17		07:40 (T49)	05:59
	17:24	18:01	19:34			20:07	91	09:03 (T49)	20:38	61	08:41 (T49)	21:04
13	07:56	07:30	07:48			06:57		07:32 (T49)	06:16		07:41 (T49)	05:58
	17:25	18:03	19:35			20:08	92	09:04 (T49)	20:39	59	08:40 (T49)	21:04
14	07:56	07:29	07:46			06:55		07:31 (T49)	06:15		07:42 (T49)	05:58
	17:26	18:04	19:37			20:09	92	09:03 (T49)	20:40	57	08:39 (T49)	21:05
15	07:55	07:27	07:45			06:54		07:32 (T49)	06:14		07:44 (T49)	05:58
	17:27	18:05	19:38			20:10	91	09:03 (T49)	20:41	54	08:38 (T49)	21:05
16	07:55	07:26	07:43			06:52		07:31 (T49)	06:13		07:45 (T49)	05:58
	17:28	18:06	19:39			20:11	91	09:02 (T49)	20:42	51	08:36 (T49)	21:06
17	07:54	07:25	07:41		08:19 (T49)	06:50		07:31 (T49)	06:12		07:46 (T49)	05:58
	17:29	18:08	19:40	15	08:34 (T49)	20:12	91	09:02 (T49)	20:43	49	08:35 (T49)	21:06
18	07:54	07:23	07:40		08:13 (T49)	06:49		07:30 (T49)	06:11		07:47 (T49)	05:58
	17:31	18:09	19:41	28	08:41 (T49)	20:13	91	09:01 (T49)	20:44	46	08:33 (T49)	21:07
19	07:53	07:22	07:38		08:08 (T49)	06:47		07:31 (T49)	06:10		07:48 (T49)	05:59
	17:32	18:10	19:42	37	08:45 (T49)	20:14	90	09:01 (T49)	20:45	44	08:32 (T49)	21:07
20	07:53	07:20	07:36		08:04 (T49)	06:46		07:30 (T49)	06:10		07:49 (T49)	05:59
	17:33	18:11	19:43	43	08:47 (T49)	20:15	90	09:00 (T49)	20:46	41	08:30 (T49)	21:07
21	07:52	07:19	07:35		08:01 (T49)	06:44		07:31 (T49)	06:09		07:52 (T49)	05:59
	17:34	18:12	19:44	50	08:51 (T49)	20:16	89	09:00 (T49)	20:47	37	08:29 (T49)	21:07
22	07:52	07:18	07:33		07:58 (T49)	06:43		07:30 (T49)	06:08		07:53 (T49)	05:59
	17:35	18:14	19:45	54	08:52 (T49)	20:17	89	08:59 (T49)	20:48	34	08:27 (T49)	21:08
23	07:51	07:16	07:31		07:56 (T49)	06:41		07:30 (T49)	06:07		07:55 (T49)	05:59
	17:36	18:15	19:46	58	08:54 (T49)	20:18	89	08:59 (T49)	20:49	30	08:25 (T49)	21:08
24	07:50	07:15	07:30		07:54 (T49)	06:40		07:30 (T49)	06:06		07:58 (T49)	06:00
	17:38	18:16	19:47	62	08:56 (T49)	20:19	87	08:57 (T49)	20:50	26	08:24 (T49)	21:08
25	07:49	07:13	07:28		07:52 (T49)	06:39		07:30 (T49)	06:06		08:00 (T49)	06:00
	17:39	18:17	19:48	65	08:57 (T49)	20:21	87	08:57 (T49)	20:51	21	08:21 (T49)	21:08
26	07:49	07:12	07:26		07:50 (T49)	06:37		07:31 (T49)	06:05		08:03 (T49)	06:00
	17:40	18:18	19:50	68	08:58 (T49)	20:22	86	08:57 (T49)	20:52	14	08:17 (T49)	21:08
27	07:48	07:10	07:25		07:49 (T49)	06:36		07:31 (T49)	06:04			06:01
	17:41	18:19	19:51	71	09:00 (T49)	20:23	84	08:55 (T49)	20:53			21:08
28	07:47	07:09	07:23		07:47 (T49)	06:34		07:31 (T49)	06:04			06:01
	17:43	18:21	19:52	73	09:00 (T49)	20:24	84	08:55 (T49)	20:54			21:08
29	07:46		07:21		07:45 (T49)	06:33		07:32 (T49)	06:03			06:01
	17:44		19:53	76	09:01 (T49)	20:25	82	08:54 (T49)	20:54			21:08
30	07:45		07:20		07:44 (T49)	06:32		07:32 (T49)	06:03			06:02
	17:45		19:54	78	09:02 (T49)	20:26	81	08:53 (T49)	20:55			21:08
31	07:44		07:18		07:43 (T49)				06:02			
	17:46		19:55	79	09:02 (T49)				20:56			
Potential sun hours	297	297	370			399			448			452
Total, worst case				857			2638			1415		
Sun reduction				0.44			0.52			0.57		
Oper. time red.				1.00			1.00			1.00		
Wind dir. red.				0.63			0.63			0.63		
Total reduction				0.28			0.33			0.36		
Total, real				237			862			507		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1151 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8657)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:02		06:26	07:50 (T49)	06:57	07:32 (T49)	07:28	07:02	07:37
	21:08		20:50 61	08:51 (T49)	20:07 91	09:03 (T49)	19:15	17:28	17:04
2	06:03		06:27	07:49 (T49)	06:58	07:32 (T49)	07:29	07:03	07:38
	21:08		20:49 64	08:53 (T49)	20:06 91	09:03 (T49)	19:13	17:27	17:04
3	06:03		06:28	07:48 (T49)	06:59	07:32 (T49)	07:30	07:04	07:39
	21:08		20:48 66	08:54 (T49)	20:04 90	09:02 (T49)	19:11	17:26	17:03
4	06:04		06:29	07:47 (T49)	07:00	07:32 (T49)	07:31	07:06	07:40
	21:08		20:47 68	08:55 (T49)	20:02 90	09:02 (T49)	19:10	17:24	17:03
5	06:04		06:30	07:46 (T49)	07:01	07:32 (T49)	07:32	07:07	07:41
	21:08		20:46 70	08:56 (T49)	20:01 89	09:01 (T49)	19:08	17:23	17:03
6	06:05		06:31	07:45 (T49)	07:02	07:32 (T49)	07:33	07:08	07:42
	21:08		20:44 71	08:56 (T49)	19:57 88	09:00 (T49)	19:06	17:22	17:03
7	06:06		06:32	07:44 (T49)	07:03	07:33 (T49)	07:34	07:09	07:43
	21:07		20:43 73	08:57 (T49)	19:56 87	09:00 (T49)	19:05	17:21	17:03
8	06:06		06:33	07:44 (T49)	07:04	07:33 (T49)	07:35	07:10	07:44
	21:07		20:42 74	08:58 (T49)	19:54 86	08:59 (T49)	19:03	17:20	17:03
9	06:07		06:34	07:43 (T49)	07:05	07:33 (T49)	07:36	07:12	07:45
	21:07		20:41 76	08:59 (T49)	19:52 85	08:58 (T49)	19:02	17:19	17:03
10	06:08		06:35	07:42 (T49)	07:06	07:34 (T49)	07:37	07:13	07:46
	21:06		20:39 78	09:00 (T49)	19:51 83	08:57 (T49)	19:00	17:18	17:03
11	06:08		06:36	07:41 (T49)	07:07	07:34 (T49)	07:38	07:14	07:46
	21:06		20:38 79	09:00 (T49)	19:49 82	08:56 (T49)	18:58	17:17	17:03
12	06:09		06:37	07:41 (T49)	07:08	07:34 (T49)	07:39	07:15	07:47
	21:05		20:37 80	09:01 (T49)	19:47 80	08:54 (T49)	18:57	17:16	17:03
13	06:10		06:38	07:40 (T49)	07:09	07:34 (T49)	07:40	07:16	07:48
	21:05		20:36 82	09:02 (T49)	19:45 79	08:53 (T49)	18:55	17:15	17:03
14	06:11		06:39	07:39 (T49)	07:10	07:35 (T49)	07:41	07:18	07:49
	21:04		20:34 83	09:02 (T49)	19:44 76	08:51 (T49)	18:54	17:14	17:03
15	06:11		06:40	07:39 (T49)	07:11	07:36 (T49)	07:42	07:19	07:49
	21:04		20:33 84	09:03 (T49)	19:42 74	08:50 (T49)	18:52	17:13	17:04
16	06:12		06:41	07:38 (T49)	07:12	07:37 (T49)	07:44	07:20	07:50
	21:03		20:31 85	09:03 (T49)	19:40 71	08:48 (T49)	18:51	17:12	17:04
17	06:13	08:15 (T49)	06:42	07:38 (T49)	07:13	07:38 (T49)	07:45	07:21	07:51
	21:03 9	08:24 (T49)	20:30 85	09:03 (T49)	19:39 69	08:47 (T49)	18:49	17:12	17:04
18	06:14	08:11 (T49)	06:43	07:37 (T49)	07:14	07:39 (T49)	07:46	07:22	07:52
	21:02 18	08:29 (T49)	20:29 87	09:04 (T49)	19:37 66	08:45 (T49)	18:47	17:11	17:04
19	06:15	08:08 (T49)	06:44	07:37 (T49)	07:15	07:40 (T49)	07:47	07:23	07:52
	21:01 24	08:32 (T49)	20:27 87	09:04 (T49)	19:35 63	08:43 (T49)	18:46	17:10	17:05
20	06:15	08:06 (T49)	06:45	07:35 (T49)	07:16	07:42 (T49)	07:48	07:25	07:53
	21:01 28	08:34 (T49)	20:26 88	09:03 (T49)	19:34 59	08:41 (T49)	18:45	17:09	17:05
21	06:16	08:05 (T49)	06:46	07:35 (T49)	07:17	07:43 (T49)	07:49	07:26	07:53
	21:00 32	08:37 (T49)	20:24 89	09:04 (T49)	19:32 55	08:38 (T49)	18:43	17:09	17:06
22	06:17	08:02 (T49)	06:47	07:34 (T49)	07:18	07:45 (T49)	07:50	07:27	07:54
	20:59 36	08:38 (T49)	20:23 90	09:04 (T49)	19:30 51	08:36 (T49)	18:42	17:08	17:06
23	06:18	08:01 (T49)	06:48	07:34 (T49)	07:19	07:47 (T49)	07:51	07:28	07:54
	20:58 39	08:40 (T49)	20:21 90	09:04 (T49)	19:28 46	08:33 (T49)	18:40	17:07	17:07
24	06:19	07:59 (T49)	06:49	07:34 (T49)	07:20	07:50 (T49)	07:53	07:29	07:55
	20:58 42	08:41 (T49)	20:20 90	09:04 (T49)	19:27 39	08:29 (T49)	18:39	17:07	17:07
25	06:20	07:58 (T49)	06:50	07:33 (T49)	07:21	07:53 (T49)	07:54	07:30	07:55
	20:57 45	08:43 (T49)	20:18 91	09:04 (T49)	19:25 32	08:25 (T49)	18:37	17:06	17:08
26	06:21	07:57 (T49)	06:51	07:33 (T49)	07:22	07:58 (T49)	07:55	07:31	07:56
	20:56 48	08:45 (T49)	20:17 91	09:04 (T49)	19:23 21	08:19 (T49)	18:36	17:06	17:09
27	06:22	07:56 (T49)	06:52	07:33 (T49)	07:23		07:56	07:33	07:56
	20:55 50	08:46 (T49)	20:15 91	09:04 (T49)	19:22		18:35	17:05	17:09
28	06:23	07:55 (T49)	06:53	07:33 (T49)	07:24		07:57	07:34	07:56
	20:54 52	08:47 (T49)	20:14 91	09:04 (T49)	19:20		18:33	17:05	17:10
29	06:24	07:54 (T49)	06:54	07:32 (T49)	07:25		07:58	07:35	07:56
	20:53 55	08:49 (T49)	20:12 92	09:04 (T49)	19:18		18:32	17:05	17:11
30	06:25	07:53 (T49)	06:55	07:32 (T49)	07:27		08:00	07:36	07:57
	20:52 57	08:50 (T49)	20:10 92	09:04 (T49)	19:17		18:31	17:04	17:11
31	06:26	07:51 (T49)	06:56	07:32 (T49)			08:01		07:57
	20:51 59	08:50 (T49)	20:09 91	09:03 (T49)			18:29		17:12
Potential sun hours	459		428		375		345	297	287
Total, worst case	594		2539		1843				
Sun reduction	0.66		0.61		0.59				
Oper. time red.	1.00		1.00		1.00				
Wind dir. red.	0.63		0.63		0.63				
Total reduction	0.41		0.38		0.37				
Total, real	246		974		684				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1158 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8662)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16		06:30		19:02 (T36)	06:01		19:09 (T36)	06:02		19:19 (T36)	06:26		19:11 (T36)	06:57	07:27	07:02	07:37
	17:13	17:47	18:22	19:56		20:27	62	20:04 (T36)	20:57	51	20:00 (T36)	21:08	42	20:01 (T36)	20:50	64	20:15 (T36)	20:07	19:15	17:28	17:03
2	07:57	07:42	07:06	07:14		06:29		19:01 (T36)	06:01		19:09 (T36)	06:02		19:19 (T36)	06:27		19:11 (T36)	06:58	07:28	07:03	07:38
	17:14	17:49	18:23	19:57		20:28	62	20:03 (T36)	20:58	50	19:59 (T36)	21:08	43	20:02 (T36)	20:49	64	20:15 (T36)	20:05	19:13	17:27	17:03
3	07:57	07:41	07:04	07:13		06:27		19:01 (T36)	06:00		19:10 (T36)	06:03		19:18 (T36)	06:28		19:10 (T36)	06:59	07:29	07:04	07:39
	17:14	17:50	18:24	19:58		20:29	63	20:04 (T36)	20:58	49	19:59 (T36)	21:08	44	20:02 (T36)	20:48	65	20:15 (T36)	20:04	19:11	17:25	17:03
4	07:57	07:40	07:02	07:11		06:26		19:01 (T36)	06:00		19:11 (T36)	06:03		19:19 (T36)	06:29		19:10 (T36)	07:00	07:31	07:06	07:40
	17:15	17:51	18:25	19:59		20:30	63	20:04 (T36)	20:59	48	19:59 (T36)	21:08	44	20:03 (T36)	20:47	65	20:15 (T36)	20:02	19:10	17:24	17:03
5	07:57	07:39	07:01	07:09		06:25		19:01 (T36)	06:00		19:11 (T36)	06:04		19:19 (T36)	06:30		19:10 (T36)	07:01	07:32	07:07	07:41
	17:16	17:52	18:26	20:00		20:31	64	20:05 (T36)	21:00	47	19:58 (T36)	21:08	45	20:04 (T36)	20:46	65	20:15 (T36)	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08		06:24		19:01 (T36)	05:59		19:12 (T36)	06:05		19:18 (T36)	06:31		19:10 (T36)	07:02	07:33	07:08	07:42
	17:17	17:54	18:27	20:00		20:32	64	20:05 (T36)	21:00	46	19:58 (T36)	21:08	46	20:04 (T36)	20:44	65	20:15 (T36)	19:57	19:06	17:22	17:02
7	07:57	07:37	06:58	07:06		06:23		19:01 (T36)	05:59		19:12 (T36)	06:05		19:18 (T36)	06:32		19:10 (T36)	07:03	07:34	07:09	07:43
	17:18	17:55	18:28	20:01		20:33	64	20:05 (T36)	21:01	46	19:58 (T36)	21:07	47	20:05 (T36)	20:43	64	20:14 (T36)	19:56	19:05	17:21	17:02
8	07:57	07:36	07:56	07:04		06:21		19:00 (T36)	05:59		19:13 (T36)	06:06		19:17 (T36)	06:33		19:11 (T36)	07:04	07:35	07:10	07:44
	17:19	17:56	19:30	20:02		20:34	64	20:04 (T36)	21:02	45	19:58 (T36)	21:07	48	20:05 (T36)	20:42	63	20:14 (T36)	19:54	19:03	17:20	17:02
9	07:57	07:35	07:54	07:03		06:20		19:00 (T36)	05:59		19:14 (T36)	06:07		19:17 (T36)	06:34		19:11 (T36)	07:05	07:36	07:12	07:45
	17:20	17:57	19:31	20:03		20:35	64	20:04 (T36)	21:02	44	19:58 (T36)	21:07	49	20:06 (T36)	20:41	63	20:14 (T36)	19:52	19:01	17:19	17:02
10	07:57	07:34	07:53	07:01		06:19		19:00 (T36)	05:58		19:14 (T36)	06:07		19:17 (T36)	06:35		19:11 (T36)	07:06	07:37	07:13	07:46
	17:21	17:59	19:32	20:04		20:36	64	20:04 (T36)	21:03	43	19:57 (T36)	21:06	50	20:07 (T36)	20:39	62	20:13 (T36)	19:50	19:00	17:18	17:02
11	07:57	07:32	07:51	07:00		06:18		19:00 (T36)	05:58		19:14 (T36)	06:08		19:16 (T36)	06:36		19:11 (T36)	07:07	07:38	07:14	07:46
	17:22	18:00	19:33	20:06		20:37	64	20:04 (T36)	21:04	43	19:57 (T36)	21:06	51	20:07 (T36)	20:38	62	20:13 (T36)	19:49	18:58	17:17	17:02
12	07:56	07:31	07:49	06:58		06:17		19:00 (T36)	05:58		19:15 (T36)	06:09		19:16 (T36)	06:37		19:10 (T36)	07:08	07:39	07:15	07:47
	17:23	18:01	19:34	20:07		20:38	64	20:04 (T36)	21:04	42	19:57 (T36)	21:06	52	20:08 (T36)	20:37	61	20:11 (T36)	19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:56		06:16		19:00 (T36)	05:58		19:15 (T36)	06:09		19:16 (T36)	06:38		19:11 (T36)	07:09	07:40	07:16	07:48
	17:24	18:02	19:35	20:08		20:39	64	20:04 (T36)	21:05	42	19:57 (T36)	21:05	53	20:09 (T36)	20:36	60	20:11 (T36)	19:45	18:55	17:15	17:03
14	07:56	07:29	07:46	06:55		06:15		19:00 (T36)	05:58		19:16 (T36)	06:10		19:16 (T36)	06:39		19:11 (T36)	07:10	07:41	07:18	07:49
	17:26	18:04	19:36	20:09		20:40	64	20:04 (T36)	21:05	41	19:57 (T36)	21:05	53	20:09 (T36)	20:34	59	20:10 (T36)	19:44	18:53	17:14	17:03
15	07:55	07:27	07:45	06:53	19:30 (T36)	06:14		19:01 (T36)	05:58		19:16 (T36)	06:11		19:15 (T36)	06:40		19:11 (T36)	07:11	07:42	07:19	07:50
	17:27	18:05	19:37	20:10	11 19:41 (T36)	20:41	63	20:04 (T36)	21:05	41	19:57 (T36)	21:04	54	20:09 (T36)	20:33	58	20:09 (T36)	19:42	18:52	17:13	17:03
16	07:55	07:26	07:43	06:52	19:25 (T36)	06:13		19:01 (T36)	05:58		19:17 (T36)	06:12		19:15 (T36)	06:41		19:12 (T36)	07:12	07:43	07:20	07:50
	17:28	18:06	19:39	20:11	22 19:47 (T36)	20:42	62	20:03 (T36)	21:06	40	19:57 (T36)	21:03	55	20:10 (T36)	20:31	55	20:07 (T36)	19:40	18:50	17:12	17:03
17	07:54	07:25	07:41	06:50	19:21 (T36)	06:12		19:02 (T36)	05:58		19:17 (T36)	06:13		19:15 (T36)	06:42		19:12 (T36)	07:13	07:45	07:21	07:51
	17:29	18:07	19:40	20:12	29 19:50 (T36)	20:43	62	20:04 (T36)	21:06	40	19:57 (T36)	21:03	56	20:11 (T36)	20:30	54	20:06 (T36)	19:39	18:49	17:11	17:04
18	07:54	07:23	07:40	06:49	19:19 (T36)	06:11		19:02 (T36)	05:58		19:17 (T36)	06:13		19:15 (T36)	06:43		19:13 (T36)	07:14	07:46	07:22	07:52
	17:30	18:08	19:41	20:13	33 19:52 (T36)	20:44	62	20:04 (T36)	21:07	40	19:57 (T36)	21:02	56	20:11 (T36)	20:29	52	20:05 (T36)	19:37	18:47	17:10	17:04
19	07:53	07:22	07:38	06:47	19:16 (T36)	06:10		19:02 (T36)	05:58		19:18 (T36)	06:14		19:15 (T36)	06:44		19:14 (T36)	07:15	07:47	07:23	07:52
	17:31	18:10	19:42	20:14	36 19:52 (T36)	20:45	61	20:03 (T36)	21:07	40	19:58 (T36)	21:02	57	20:12 (T36)	20:27	49	20:03 (T36)	19:35	18:46	17:10	17:04
20	07:53	07:20	07:36	06:46	19:14 (T36)	06:09		19:02 (T36)	05:58		19:19 (T36)	06:15		19:14 (T36)	06:45		19:15 (T36)	07:16	07:48	07:25	07:53
	17:32	18:11	19:43	20:15	40 19:54 (T36)	20:46	61	20:03 (T36)	21:07	39	19:58 (T36)	21:01	58	20:12 (T36)	20:26	47	20:02 (T36)	19:33	18:44	17:09	17:05
21	07:52	07:19	07:34	06:44	19:12 (T36)	06:08		19:03 (T36)	05:58		19:19 (T36)	06:16		19:13 (T36)	06:46		19:16 (T36)	07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16	42 19:54 (T36)	20:47	59	20:02 (T36)	21:08	39	19:58 (T36)	21:00	59	20:12 (T36)	20:24	44	20:00 (T36)	19:32	18:43	17:08	17:05
22	07:52	07:18	07:33	06:43	19:11 (T36)	06:08		19:04 (T36)	05:59		19:19 (T36)	06:17		19:13 (T36)	06:47		19:17 (T36)	07:18	07:50	07:27	07:54
	17:35	18:13	19:45	20:17	45 19:56 (T36)	20:48	59	20:03 (T36)	21:08	39	19:58 (T36)	20:59	60	20:13 (T36)	20:23	42	19:59 (T36)	19:30	18:41	17:08	17:06
23	07:51	07:16	07:31	06:41	19:09 (T36)	06:07		19:04 (T36)	05:59		19:19 (T36)	06:18		19:13 (T36)	06:48		19:18 (T36)	07:19	07:51	07:28	07:54
	17:36	18:14	19:46	20:18	47 19:56 (T36)	20:49	58	20:02 (T36)	21:08	39	19:58 (T36)	20:59	60	20:13 (T36)	20:21	39	19:57 (T36)	19:28	18:40	17:07	17:06
24	07:50	07:15	07:29	06:40	19:08 (T36)	06:06		19:04 (T36)	05:59		19:19 (T36)	06:19		19:13 (T36)	06:49		19:20 (T36)	07:20	07:53	07:29	07:55
	17:37	18:16	19:47	20:19	50 19:58 (T36)	20:50	58	20:02 (T36)	21:08	40	19:59 (T36)	20:58	61	20:14 (T36)	20:20	36	19:56 (T36)	19:27	18:38	17:06	17:07
25	07:49	07:13	07:28	06:38	19:07 (T36)	06:05		19:05 (T36)	05:59		19:19 (T36)	06:19		19:13 (T36)	06:50		19:22 (T36)	07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:21	52 19:59 (T36)	20:51	57	20:02 (T36)	21:08	40	19:59 (T36)	20:57	61	20:14 (T36)	20:18	33	19:55 (T36)	19:25	18:37	17:06	17:07
26	07:49	07:12	07:26	06:37	19:05 (T36)	06:05		19:05 (T36)	06:00		19:19 (T36)	06:20		19:12 (T36)	06:51		19:24 (T36)	07:22	07:55	07:32	07:56
	17:40	18:18	19:49	20:22	54 19:59 (T36)	20:52	56	20:01 (T36)	21:08	40	19:59 (T36)	20:56	62	20:14 (T36)	20:17	28	19:52 (T36)	19:23	18:36	17:05	17:08
27	07:48	07:10	07:24	06:35	19:05 (T36)	06:04		19:06 (T36)	06:00		19:20 (T36)	06:21		19:11 (T36)	06:52		19:27 (T36)	07:23	07:56	07:33	07:56
	17:41	18:19	19:51	20:23	56 20:01 (T36)	20:53	55	20:01 (T36)	21:08	40	20:00 (T36)	20:55	63	20:14 (T36)	20:15	21	19:48 (T36)	19:21	18:34	17:05	17:09
28	07:47	07:09	07:23	06:34	19:04 (T36)	06:03		19:07 (T36)	06:01		19:19 (T36)	06:22		19:11 (T36)	06:53		19:33 (T36)	07:24	07:57	07:34	07:56
	17:42	18:20	19:52	20:24	58 20:02 (T36)	20:54	54	20:01 (T36)	21:09	41	20:00 (T36)	20:54	63	20:14 (T36)	20:13	9	19:42 (T36)	19:20	18:33	17:05	17:09
29	07:46		07:21	06:33	19:03 (T36)	06:03		19:07 (T36)	06:01		19:20 (T36)	06:23		19:11 (T36)	06:54			07:25	07:58	07:35	07:57
	17:44		19:53	20:25	59 20:02 (T36)	20:54	53	20:00 (T36)	21:09	41	20:01 (T36)	20:53	63	20:14 (T36)	20:12			19:18	18:32	17:04	17:10
30	07:45		07:19	06:31	19:03 (T36)	06:02		19:08 (T36)	06:01		19:19 (T36)	06:24		19:11 (T36)	06:55			07:26	08:00	07:36	07:57
	17:45		19:54	20:26	60 20:03 (T36)	20:55	52	20:00 (T36)	21:09	42	20:01 (T36)	20:52	63	20:14 (T36)	20:10			19:16	18:30	17:04	17:11
31	07:44		07:18			06:02		19:08 (T36)				06:25		19:11 (T36)	06:56				08:01		07:57
	17:46		19:55			20:56	52	20:00 (T36)				20:51	64	20:15 (T36)	20:09				18:29		17:12
Potential sun hours	297	297	370	399		449		453		460		429		375	345	297	287				
Total, worst case				694		1874		1278		1682		1449									
Sun reduction				0.52		0.57		0.64		0.66		0.61									
Oper. time red.				1.00		1.00		1.00		1.00		1.00									
Wind dir. red.				0.57		0.57		0.57		0.57		0.57									
Total reduction				0.30		0.33		0.37		0.38		0.35									
Total, real				206		610		467		634		505									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1174 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8675)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June		
1	07:57	07:43	07:07			07:16		18:39 (T59)	06:31		18:47 (T59)	06:02		19:56 (T78)
	17:13	17:48	18:22			19:56	50	19:29 (T59)	20:27	22	19:09 (T59)	20:57	36	20:32 (T78)
2	07:57	07:42	07:06			07:15		18:38 (T59)	06:29		18:50 (T59)	06:01		19:56 (T78)
	17:14	17:49	18:23			19:57	52	19:30 (T59)	20:28	16	19:06 (T59)	20:58	37	20:33 (T78)
3	07:57	07:41	07:04			07:13		18:37 (T59)	06:28			06:01		19:56 (T78)
	17:15	17:50	18:24			19:58	53	19:30 (T59)	20:29			20:58	38	20:34 (T78)
4	07:57	07:40	07:03			07:11		18:36 (T59)	06:27			06:01		19:55 (T78)
	17:16	17:52	18:25			19:59	54	19:30 (T59)	20:30			20:59	39	20:34 (T78)
5	07:57	07:39	07:01			07:10		18:36 (T59)	06:25			06:00		19:56 (T78)
	17:17	17:53	18:27			20:00	55	19:31 (T59)	20:31			21:00	39	20:35 (T78)
6	07:57	07:38	06:59			07:08		18:34 (T59)	06:24			06:00		19:56 (T78)
	17:18	17:54	18:28			20:00	57	19:31 (T59)	20:32			21:00	40	20:36 (T78)
7	07:57	07:37	06:58			07:06		18:33 (T59)	06:23			06:00		19:56 (T78)
	17:19	17:55	18:29			20:01	58	19:31 (T59)	20:33			21:01	41	20:37 (T78)
8	07:57	07:36	07:56			07:05		18:34 (T59)	06:22			05:59		19:55 (T78)
	17:20	17:57	19:30			20:02	57	19:31 (T59)	20:34			21:02	42	20:37 (T78)
9	07:57	07:35	07:55			07:03		18:33 (T59)	06:21			05:59		19:55 (T78)
	17:21	17:58	19:31			20:04	58	19:31 (T59)	20:35			21:02	42	20:37 (T78)
10	07:57	07:34	07:53			07:02		18:33 (T59)	06:20			05:59		19:55 (T78)
	17:22	17:59	19:32			20:05	58	19:31 (T59)	20:36			21:03	43	20:38 (T78)
11	07:57	07:32	07:51			07:00		18:32 (T59)	06:18			05:59		19:55 (T78)
	17:23	18:00	19:33			20:06	59	19:31 (T59)	20:37			21:03	44	20:39 (T78)
12	07:56	07:31	07:50			06:58		18:32 (T59)	06:17			05:59		19:55 (T78)
	17:24	18:02	19:34			20:07	58	19:30 (T59)	20:38			21:04	44	20:39 (T78)
13	07:56	07:30	07:48			06:57		18:32 (T59)	06:16			05:59		19:55 (T78)
	17:25	18:03	19:36			20:08	58	19:30 (T59)	20:39			21:04	45	20:40 (T78)
14	07:56	07:29	07:46			06:55		18:32 (T59)	06:15			05:59		19:56 (T78)
	17:26	18:04	19:37			20:09	57	19:29 (T59)	20:41			21:05	44	20:40 (T78)
15	07:55	07:27	07:45			06:54		18:32 (T59)	06:14			05:59		19:56 (T78)
	17:27	18:05	19:38			20:10	58	19:30 (T59)	20:42			21:05	44	20:40 (T78)
16	07:55	07:26	07:43			06:52		18:32 (T59)	06:13			05:59		19:56 (T78)
	17:28	18:06	19:39			20:11	57	19:29 (T59)	20:42			21:06	45	20:41 (T78)
17	07:54	07:25	07:41			06:51		18:33 (T59)	06:12			05:59		19:56 (T78)
	17:30	18:08	19:40			20:12	55	19:28 (T59)	20:43			21:06	45	20:41 (T78)
18	07:54	07:23	07:40			06:49		18:32 (T59)	06:12			05:59		19:56 (T78)
	17:31	18:09	19:41			20:13	55	19:27 (T59)	20:44			21:07	45	20:41 (T78)
19	07:53	07:22	07:38			06:48		18:33 (T59)	06:11			05:59		19:56 (T78)
	17:32	18:10	19:42			20:14	54	19:27 (T59)	20:45			21:07	45	20:41 (T78)
20	07:53	07:21	07:36			06:46		18:33 (T59)	06:10		20:12 (T78)	05:59		19:56 (T78)
	17:33	18:11	19:43			20:15	53	19:26 (T59)	20:46	9	20:21 (T78)	21:07	46	20:42 (T78)
21	07:52	07:19	07:35			06:45		18:34 (T59)	06:09		20:08 (T78)	05:59		19:57 (T78)
	17:34	18:13	19:44			20:16	51	19:25 (T59)	20:47	16	20:24 (T78)	21:07	46	20:43 (T78)
22	07:52	07:18	07:33			06:43		18:34 (T59)	06:08		20:06 (T78)	05:59		19:57 (T78)
	17:35	18:14	19:45			20:17	50	19:24 (T59)	20:48	18	20:24 (T78)	21:08	46	20:43 (T78)
23	07:51	07:16	07:31			06:42		18:35 (T59)	06:07		20:04 (T78)	06:00		19:57 (T78)
	17:37	18:15	19:46			20:18	48	19:23 (T59)	20:49	21	20:25 (T78)	21:08	45	20:42 (T78)
24	07:50	07:15	07:30		18:59 (T59)	06:40		18:37 (T59)	06:07		20:03 (T78)	06:00		19:57 (T78)
	17:38	18:16	19:48	17	19:16 (T59)	20:20	45	19:22 (T59)	20:50	24	20:27 (T78)	21:08	45	20:42 (T78)
25	07:49	07:13	07:28		18:54 (T59)	06:39		18:37 (T59)	06:06		20:01 (T78)	06:00		19:58 (T78)
	17:39	18:17	19:49	25	19:19 (T59)	20:21	43	19:20 (T59)	20:51	26	20:27 (T78)	21:08	45	20:43 (T78)
26	07:49	07:12	07:26		18:50 (T59)	06:37		18:39 (T59)	06:05		20:00 (T78)	06:00		19:58 (T78)
	17:40	18:18	19:50	31	19:21 (T59)	20:22	40	19:19 (T59)	20:52	27	20:27 (T78)	21:08	45	20:43 (T78)
27	07:48	07:10	07:25		18:48 (T59)	06:36		18:39 (T59)	06:05		20:00 (T78)	06:01		19:58 (T78)
	17:42	18:20	19:51	36	19:24 (T59)	20:23	38	19:17 (T59)	20:53	29	20:29 (T78)	21:08	45	20:43 (T78)
28	07:47	07:09	07:23		18:46 (T59)	06:35		18:41 (T59)	06:04		19:58 (T78)	06:01		19:59 (T78)
	17:43	18:21	19:52	39	19:25 (T59)	20:24	35	19:16 (T59)	20:54	31	20:29 (T78)	21:08	44	20:43 (T78)
29	07:46		07:21		18:44 (T59)	06:33		18:43 (T59)	06:03		19:58 (T78)	06:02		19:59 (T78)
	17:44		19:53	42	19:26 (T59)	20:25	31	19:14 (T59)	20:54	32	20:30 (T78)	21:08	44	20:43 (T78)
30	07:45		07:20		18:43 (T59)	06:32		18:44 (T59)	06:03		19:57 (T78)	06:02		19:59 (T78)
	17:45		19:54	45	19:28 (T59)	20:26	27	19:11 (T59)	20:55	34	20:31 (T78)	21:08	44	20:43 (T78)
31	07:44		07:18		18:41 (T59)				06:02		19:57 (T78)			
	17:47		19:55	47	19:28 (T59)				20:56	35	20:32 (T78)			
Potential sun hours	297	297	370			399			448			452		
Total, worst case				282			1524			340			1293	
Sun reduction				0.44			0.52			0.57			0.64	
Oper. time red.				1.00			1.00			1.00			1.00	
Wind dir. red.				0.62			0.62			0.55			0.54	
Total reduction				0.28			0.33			0.31			0.34	
Total, real				78			496			106			445	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1174 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8675)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:03		06:27		06:58		07:28	07:02	07:37
	21:08	44	20:50		20:07	59	19:15	17:28	17:04
2	06:03		06:28		06:59		07:29	07:03	07:38
	21:08	43	20:49		20:06	58	19:13	17:27	17:04
3	06:04		06:29		07:00		07:30	07:04	07:39
	21:08	43	20:48		20:04	58	19:12	17:26	17:04
4	06:04		06:30		07:01		07:31	07:06	07:40
	21:08	42	20:47		20:02	57	19:10	17:25	17:03
5	06:05		06:31		07:02		07:32	07:07	07:41
	21:08	41	20:46		20:01	57	19:08	17:24	17:03
6	06:05		06:32		07:03		07:33	07:08	07:42
	21:08	40	20:44		19:57	56	19:07	17:22	17:03
7	06:06		06:33		07:04		07:34	07:09	07:43
	21:07	39	20:43		19:56	55	19:05	17:21	17:03
8	06:07		06:34		07:05		07:35	07:10	07:44
	21:07	40	20:42		19:54	55	19:03	17:20	17:03
9	06:07		06:35		07:06		07:36	07:12	07:45
	21:07	39	20:41		19:52	54	19:02	17:19	17:03
10	06:08		06:36	19:03 (T59)	07:07		07:37	07:13	07:46
	21:06	38	20:40	8	19:51	51	19:00	17:18	17:03
11	06:09		06:37	18:58 (T59)	07:07		07:38	07:14	07:46
	21:06	37	20:38	18	19:49	50	18:59	17:17	17:03
12	06:09		06:37	18:55 (T59)	07:08		07:39	07:15	07:47
	21:05	35	20:37	24	19:47	48	18:57	17:16	17:03
13	06:10		06:39	18:52 (T59)	07:09		07:40	07:16	07:48
	21:05	34	20:36	29	19:46	45	18:55	17:15	17:03
14	06:11		06:40	18:50 (T59)	07:10		07:41	07:18	07:49
	21:05	33	20:34	32	19:44	43	18:54	17:14	17:04
15	06:12		06:41	18:48 (T59)	07:11		07:43	07:19	07:50
	21:04	32	20:33	36	19:42	40	18:52	17:13	17:04
16	06:12		06:42	18:47 (T59)	07:12		07:44	07:20	07:50
	21:03	29	20:32	38	19:40	37	18:51	17:13	17:04
17	06:13		06:43	18:45 (T59)	07:13		07:45	07:21	07:51
	21:03	28	20:30	41	19:39	32	18:49	17:12	17:04
18	06:14		06:44	18:44 (T59)	07:14		07:46	07:22	07:52
	21:02	27	20:29	43	19:37	27	18:48	17:11	17:05
19	06:15		06:45	18:42 (T59)	07:15		07:47	07:24	07:52
	21:01	24	20:27	46	19:35	19	18:46	17:10	17:05
20	06:16		06:46	18:41 (T59)	07:16		07:48	07:25	07:53
	21:01	23	20:26	48	19:34	4	18:45	17:10	17:05
21	06:16		06:47	18:40 (T59)	07:17		07:49	07:26	07:53
	21:00	20	20:24	50	19:32		18:43	17:09	17:06
22	06:17		06:48	18:39 (T59)	07:18		07:50	07:27	07:54
	20:59	18	20:23	51	19:30		18:42	17:08	17:06
23	06:18		06:49	18:38 (T59)	07:19		07:52	07:28	07:54
	20:58	14	20:21	53	19:29		18:40	17:08	17:07
24	06:19		06:50	18:36 (T59)	07:20		07:53	07:29	07:55
	20:58		20:20	54	19:27		18:39	17:07	17:07
25	06:20		06:51	18:35 (T59)	07:22		07:54	07:30	07:55
	20:57		20:18	55	19:25		18:37	17:07	17:08
26	06:21		06:52	18:34 (T59)	07:23		07:55	07:32	07:56
	20:56		20:17	56	19:23		18:36	17:06	17:09
27	06:22		06:53	18:34 (T59)	07:24		07:56	07:33	07:56
	20:55		20:15	56	19:22		18:35	17:06	17:09
28	06:23		06:54	18:33 (T59)	07:25		07:57	07:34	07:56
	20:54		20:14	57	19:20		18:33	17:05	17:10
29	06:24		06:55	18:33 (T59)	07:26		07:58	07:35	07:57
	20:53		20:12	57	19:18		18:32	17:05	17:11
30	06:25		06:56	18:32 (T59)	07:27		08:00	07:36	07:57
	20:52		20:10	58	19:17		18:31	17:04	17:12
31	06:26		06:57	18:32 (T59)			08:01		07:57
	20:51		20:09	58	19:30 (T59)		18:30		17:12
Potential sun hours	459		428		375		345	297	287
Total, worst case		763		968		905			
Sun reduction		0.66		0.61		0.59			
Oper. time red.		1.00		1.00		1.00			
Wind dir. red.		0.54		0.62		0.62			
Total reduction		0.36		0.38		0.37			
Total, real		271		370		334			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
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US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1179 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8679)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February	March		April		May		June		
1	07:57		08:37 (T71) | 07:43	07:07		07:16		18:21 (T69) | 06:30		06:50 (T67) | 06:02		07:00 (T68)
	17:13	49	09:26 (T71) | 17:48	18:22		19:56	71	19:32 (T69) | 20:27	129	19:19 (T69) | 20:57	55	07:55 (T68)
2	07:57		08:37 (T71) | 07:42	07:06		07:15		18:20 (T69) | 06:29		06:49 (T67) | 06:01		07:01 (T68)
	17:14	50	09:27 (T71) | 17:49	18:23		19:57	73	19:33 (T69) | 20:28	127	19:18 (T69) | 20:57	54	07:55 (T68)
3	07:57		08:38 (T71) | 07:41	07:04		07:13		18:19 (T69) | 06:28		06:48 (T67) | 06:01		07:02 (T68)
	17:15	49	09:27 (T71) | 17:50	18:24		19:58	74	19:33 (T69) | 20:29	126	19:17 (T69) | 20:58	53	07:55 (T68)
4	07:57		08:38 (T71) | 07:40	07:02		07:11		18:18 (T69) | 06:27		06:47 (T67) | 06:01		07:02 (T68)
	17:16	49	09:27 (T71) | 17:51	18:25		19:59	75	19:33 (T69) | 20:30	124	19:14 (T69) | 20:59	52	07:54 (T68)
5	07:57		08:39 (T71) | 07:39	07:01		07:10		18:18 (T69) | 06:25		06:48 (T67) | 06:00		07:03 (T68)
	17:17	48	09:27 (T71) | 17:53	18:26		20:00	76	19:34 (T69) | 20:31	120	19:13 (T69) | 20:59	51	07:54 (T68)
6	07:57		08:40 (T71) | 07:38	06:59		07:08		18:17 (T69) | 06:24		06:48 (T67) | 06:00		07:04 (T68)
	17:18	48	09:28 (T71) | 17:54	18:28		20:00	77	19:34 (T69) | 20:32	117	19:12 (T69) | 21:00	50	07:54 (T68)
7	07:57		08:41 (T71) | 07:37	06:58		07:06		18:16 (T69) | 06:23		06:49 (T67) | 06:00		07:04 (T68)
	17:19	47	09:28 (T71) | 17:55	18:29		20:01	77	19:33 (T69) | 20:33	112	19:10 (T69) | 21:01	50	07:54 (T68)
8	07:57		08:42 (T71) | 07:36	07:56		07:05		18:16 (T69) | 06:22		06:50 (T67) | 05:59		07:04 (T68)
	17:20	46	09:28 (T71) | 17:57	19:30		20:02	78	19:34 (T69) | 20:34	107	19:08 (T69) | 21:01	49	07:53 (T68)
9	07:57		08:43 (T71) | 07:35	07:54		07:03		18:16 (T69) | 06:21		06:51 (T67) | 05:59		07:05 (T68)
	17:21	46	09:29 (T71) | 17:58	19:31		20:03	77	19:33 (T69) | 20:35	102	19:06 (T69) | 21:02	48	07:53 (T68)
10	07:57		08:43 (T71) | 07:33	07:53		07:02		18:15 (T69) | 06:20		06:52 (T68) | 05:59		07:06 (T68)
	17:22	45	09:28 (T71) | 17:59	19:32		20:04	78	19:33 (T69) | 20:36	95	19:03 (T69) | 21:03	47	07:53 (T68)
11	07:56		08:44 (T71) | 07:32	07:51		07:00		07:28 (T68) | 06:18		06:52 (T68) | 05:59		07:06 (T68)
	17:23	44	09:28 (T71) | 18:00	19:33		20:06	88	19:33 (T69) | 20:37	88	19:00 (T69) | 21:03	47	07:53 (T68)
12	07:56		08:45 (T71) | 07:31	07:50		06:58		07:21 (T68) | 06:17		06:53 (T68) | 05:59		07:07 (T68)
	17:24	43	09:28 (T71) | 18:01	19:34		20:07	100	19:32 (T69) | 20:38	75	18:54 (T69) | 21:04	46	07:53 (T68)
13	07:56		08:45 (T71) | 07:30	07:48		06:57		07:18 (T68) | 06:16		06:53 (T68) | 05:59		07:07 (T68)
	17:25	43	09:28 (T71) | 18:03	19:35		20:08	108	19:33 (T69) | 20:39	69	08:02 (T68) | 21:04	46	07:53 (T68)
14	07:55		08:46 (T71) | 07:28	07:46		06:55		07:14 (T68) | 06:15		06:53 (T68) | 05:59		07:08 (T68)
	17:26	42	09:28 (T71) | 18:04	19:37		20:09	113	19:32 (T69) | 20:40	69	08:02 (T68) | 21:05	45	07:53 (T68)
15	07:55		08:47 (T71) | 07:27	07:45		06:54		07:13 (T68) | 06:14		06:53 (T68) | 05:59		07:08 (T68)
	17:27	40	09:27 (T71) | 18:05	19:38		20:10	116	19:32 (T69) | 20:41	68	08:01 (T68) | 21:05	45	07:53 (T68)
16	07:55		08:48 (T71) | 07:26	07:43		06:52		07:11 (T68) | 06:13		06:53 (T68) | 05:59		07:09 (T68)
	17:28	39	09:27 (T71) | 18:06	19:39		20:11	119	19:31 (T69) | 20:42	68	08:01 (T68) | 21:06	44	07:53 (T68)
17	07:54		08:49 (T71) | 07:25	07:41		06:51		07:10 (T68) | 06:12		06:53 (T68) | 05:59		07:09 (T68)
	17:30	37	09:26 (T71) | 18:08	19:40		20:12	122	19:31 (T69) | 20:43	67	08:00 (T68) | 21:06	44	07:53 (T68)
18	07:54		08:51 (T71) | 07:23	07:40	18:52 (T69)	06:49		07:08 (T68) | 06:11		06:53 (T68) | 05:59		07:09 (T68)
	17:31	35	09:26 (T71) | 18:09	19:41	18 19:10 (T69)	20:13	123	19:30 (T69) | 20:44	67	08:00 (T68) | 21:06	44	07:53 (T68)
19	07:53		08:52 (T71) | 07:22	07:38	18:46 (T69)	06:47		07:07 (T68) | 06:11		06:54 (T68) | 05:59		07:09 (T68)
	17:32	33	09:25 (T71) | 18:10	19:42	29 19:15 (T69)	20:14	125	19:30 (T69) | 20:45	65	07:59 (T68) | 21:07	43	07:52 (T68)
20	07:53		08:54 (T71) | 07:20	07:36	18:42 (T69)	06:46		07:05 (T68) | 06:10		06:55 (T68) | 05:59		07:09 (T68)
	17:33	30	09:24 (T71) | 18:11	19:43	36 19:18 (T69)	20:15	126	19:29 (T69) | 20:46	65	08:00 (T68) | 21:07	43	07:52 (T68)
21	07:52		08:55 (T71) | 07:19	07:35	18:40 (T69)	06:44		07:04 (T68) | 06:09		06:55 (T68) | 05:59		07:10 (T68)
	17:34	28	09:23 (T71) | 18:12	19:44	41 19:21 (T69)	20:16	129	19:29 (T69) | 20:47	64	07:59 (T68) | 21:07	43	07:53 (T68)
22	07:51		08:57 (T71) | 07:18	07:33	18:37 (T69)	06:43		07:02 (T68) | 06:08		06:55 (T68) | 05:59		07:10 (T68)
	17:35	24	09:21 (T71) | 18:14	19:45	46 19:23 (T69)	20:17	129	19:27 (T69) | 20:48	64	07:59 (T68) | 21:07	43	07:53 (T68)
23	07:51		09:00 (T71) | 07:16	07:31	18:34 (T69)	06:42		07:01 (T68) | 06:07		06:55 (T68) | 06:00		07:10 (T68)
	17:37	20	09:20 (T71) | 18:15	19:46	50 19:24 (T69)	20:18	130	19:27 (T69) | 20:49	63	07:58 (T68) | 21:08	43	07:53 (T68)
24	07:50		09:03 (T71) | 07:15	07:30	18:33 (T69)	06:40		06:59 (T68) | 06:07		06:56 (T68) | 06:00		07:10 (T68)
	17:38	14	09:17 (T71) | 18:16	19:47	53 19:26 (T69)	20:19	131	19:26 (T69) | 20:50	62	07:58 (T68) | 21:08	44	07:54 (T68)
25	07:49		09:09 (T71) | 07:13	07:28	18:30 (T69)	06:39		06:58 (T68) | 06:06		06:56 (T68) | 06:00		07:11 (T68)
	17:39	2	09:11 (T71) | 18:17	19:48	57 19:27 (T69)	20:20	131	19:25 (T69) | 20:51	62	07:58 (T68) | 21:08	44	07:55 (T68)
26	07:48		| 07:12	07:26	18:28 (T69)	06:37		06:57 (T68) | 06:05		06:57 (T68) | 06:00		07:11 (T68)
	17:40		| 18:18	19:50	60 19:28 (T69)	20:21	131	19:25 (T69) | 20:52	60	07:57 (T68) | 21:08	44	07:55 (T68)
27	07:48		| 07:10	07:25	18:27 (T69)	06:36		06:55 (T67) | 06:05		06:58 (T68) | 06:01		07:10 (T68)
	17:42		| 18:20	19:51	63 19:30 (T69)	20:23	131	19:23 (T69) | 20:52	59	07:57 (T68) | 21:08	45	07:55 (T68)
28	07:47		| 07:09	07:23	18:26 (T69)	06:35		06:54 (T67) | 06:04		06:58 (T68) | 06:01		07:11 (T68)
	17:43		| 18:21	19:52	64 19:30 (T69)	20:24	131	19:22 (T69) | 20:53	58	07:56 (T68) | 21:08	45	07:56 (T68)
29	07:46		|	07:21	18:24 (T69)	06:33		06:53 (T67) | 06:03		06:59 (T68) | 06:02		07:10 (T68)
	17:44		|	19:53	67 19:31 (T69)	20:25	130	19:22 (T69) | 20:54	57	07:56 (T68) | 21:08	46	07:56 (T68)
30	07:45		|	07:20	18:24 (T69)	06:32		06:51 (T67) | 06:03		06:59 (T68) | 06:02		07:11 (T68)
	17:45		|	19:54	68 19:32 (T69)	20:26	130	19:20 (T69) | 20:55	57	07:56 (T68) | 21:08	46	07:57 (T68)
31	07:44		|	07:18	18:22 (T69) |			06:02		07:00 (T68) |		
	17:46		|	19:55	70 19:32 (T69) |			20:56	56	07:56 (T68) |		
Potential sun hours	297		| 297	370		399		448		| 452		
Total, worst case		951	|		722		3199		2522		| 1399	
Sun reduction		0.31	|		0.44		0.52		0.57		| 0.64	
Oper. time red.		1.00	|		1.00		1.00		1.00		| 1.00	
Wind dir. red.		0.53	|		0.63		0.64		0.66		| 0.67	
Total reduction		0.16	|		0.27		0.33		0.37		| 0.42	
Total, real		153	|		196		1052		939		| 589	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1179 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8679)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:03		07:10 (T68)	06:27		07:02 (T68)	06:57		07:28 (T68)	07:28	07:02			07:37		08:26 (T71)
	21:08	47	07:57 (T68)	20:50	82	19:07 (T69)	20:07	86	19:32 (T69)	19:15	17:28			17:04	44	09:10 (T71)
2	06:03		07:11 (T68)	06:28		07:02 (T68)	06:58		18:14 (T69)	07:29	07:03			07:38		08:26 (T71)
	21:08	47	07:58 (T68)	20:49	91	19:11 (T69)	20:05	78	19:32 (T69)	19:13	17:27			17:04	45	09:11 (T71)
3	06:04		07:10 (T68)	06:29		07:01 (T67)	06:59		18:14 (T69)	07:30	07:04			07:39		08:26 (T71)
	21:08	48	07:58 (T68)	20:48	98	19:14 (T69)	20:04	77	19:31 (T69)	19:11	17:26			17:04	46	09:12 (T71)
4	06:04		07:10 (T68)	06:30		07:00 (T67)	07:00		18:14 (T69)	07:31	07:05			07:40		08:26 (T71)
	21:08	49	07:59 (T68)	20:47	104	19:17 (T69)	20:02	77	19:31 (T69)	19:10	17:25			17:03	46	09:12 (T71)
5	06:05		07:10 (T68)	06:31		06:59 (T67)	07:01		18:13 (T69)	07:32	07:07			07:41		08:26 (T71)
	21:08	49	07:59 (T68)	20:45	109	19:19 (T69)	20:01	77	19:30 (T69)	19:08	17:23			17:03	47	09:13 (T71)
6	06:05		07:10 (T68)	06:31		06:58 (T67)	07:02		18:13 (T69)	07:33	07:08			07:42		08:26 (T71)
	21:07	50	08:00 (T68)	20:44	114	19:20 (T69)	19:57	77	19:30 (T69)	19:07	17:22			17:03	48	09:14 (T71)
7	06:06		07:09 (T68)	06:32		06:58 (T67)	07:03		18:13 (T69)	07:34	07:09			07:43		08:26 (T71)
	21:07	51	08:00 (T68)	20:43	117	19:22 (T69)	19:56	76	19:29 (T69)	19:05	17:21			17:03	48	09:14 (T71)
8	06:07		07:09 (T68)	06:33		06:57 (T67)	07:04		18:13 (T69)	07:35	07:10			07:44		08:26 (T71)
	21:07	52	08:01 (T68)	20:42	121	19:23 (T69)	19:54	75	19:28 (T69)	19:03	17:20			17:03	49	09:15 (T71)
9	06:07		07:09 (T68)	06:34		06:57 (T67)	07:05		18:13 (T69)	07:36	07:11			07:44		08:27 (T71)
	21:06	53	08:02 (T68)	20:41	124	19:25 (T69)	19:52	74	19:27 (T69)	19:02	17:19			17:03	49	09:16 (T71)
10	06:08		07:08 (T68)	06:35		06:57 (T67)	07:06		18:14 (T69)	07:37	07:13			07:45		08:27 (T71)
	21:06	54	08:02 (T68)	20:39	127	19:26 (T69)	19:51	73	19:27 (T69)	19:00	17:18			17:03	50	09:17 (T71)
11	06:09		07:08 (T68)	06:36		06:58 (T67)	07:07		18:14 (T69)	07:38	07:14			07:46		08:28 (T71)
	21:06	55	08:03 (T68)	20:38	128	19:27 (T69)	19:49	72	19:26 (T69)	18:58	17:17			17:03	49	09:17 (T71)
12	06:09		07:08 (T68)	06:37		06:59 (T67)	07:08		18:13 (T69)	07:39	07:15			07:47		08:27 (T71)
	21:05	56	08:04 (T68)	20:37	129	19:28 (T69)	19:47	70	19:23 (T69)	18:57	17:16			17:03	50	09:17 (T71)
13	06:10		07:07 (T68)	06:38		07:00 (T67)	07:09		18:14 (T69)	07:40	07:16			07:48		08:28 (T71)
	21:05	57	08:04 (T68)	20:35	130	19:29 (T69)	19:45	68	19:22 (T69)	18:55	17:15			17:03	50	09:18 (T71)
14	06:11		07:07 (T68)	06:39		07:01 (T67)	07:10		18:14 (T69)	07:41	07:17			07:49		08:28 (T71)
	21:04	57	08:04 (T68)	20:34	131	19:30 (T69)	19:44	67	19:21 (T69)	18:54	17:14			17:04	51	09:19 (T71)
15	06:12		07:07 (T68)	06:40		07:02 (T67)	07:11		18:15 (T69)	07:42	07:19			07:49		08:29 (T71)
	21:04	58	08:05 (T68)	20:33	130	19:30 (T69)	19:42	65	19:20 (T69)	18:52	17:13			17:04	51	09:20 (T71)
16	06:12		07:07 (T68)	06:41		07:03 (T68)	07:12		18:16 (T69)	07:43	07:20			07:50		08:29 (T71)
	21:03	59	08:06 (T68)	20:31	131	19:31 (T69)	19:40	62	19:18 (T69)	18:51	17:13			17:04	50	09:19 (T71)
17	06:13		07:06 (T68)	06:42		07:04 (T68)	07:13		18:16 (T69)	07:45	07:21		08:42 (T71)	07:51		08:29 (T71)
	21:03	60	08:06 (T68)	20:30	131	19:32 (T69)	19:39	61	19:17 (T69)	18:49	17:12	2	08:44 (T71)	17:04	51	09:20 (T71)
18	06:14		07:06 (T68)	06:43		07:05 (T68)	07:14		18:17 (T69)	07:46	07:22		08:37 (T71)	07:51		08:30 (T71)
	21:02	61	08:07 (T68)	20:28	130	19:32 (T69)	19:37	58	19:15 (T69)	18:48	17:11	14	08:51 (T71)	17:05	51	09:21 (T71)
19	06:15		07:06 (T68)	06:44		07:06 (T68)	07:15		18:19 (T69)	07:47	07:23		08:34 (T71)	07:52		08:30 (T71)
	21:01	61	08:07 (T68)	20:27	130	19:33 (T69)	19:35	54	19:13 (T69)	18:46	17:10	20	08:54 (T71)	17:05	51	09:21 (T71)
20	06:16		07:06 (T68)	06:45		07:07 (T68)	07:16		18:20 (T69)	07:48	07:24		08:32 (T71)	07:53		08:31 (T71)
	21:01	62	08:08 (T68)	20:26	129	19:33 (T69)	19:34	51	19:11 (T69)	18:45	17:10	24	08:56 (T71)	17:05	51	09:22 (T71)
21	06:16		07:06 (T68)	06:46		07:08 (T68)	07:17		18:22 (T69)	07:49	07:26		08:30 (T71)	07:53		08:31 (T71)
	21:00	63	08:09 (T68)	20:24	128	19:33 (T69)	19:32	47	19:09 (T69)	18:43	17:09	28	08:58 (T71)	17:06	51	09:22 (T71)
22	06:17		07:06 (T68)	06:47		07:08 (T68)	07:18		18:23 (T69)	07:50	07:27		08:30 (T71)	07:54		08:32 (T71)
	20:59	63	08:09 (T68)	20:23	128	19:33 (T69)	19:30	43	19:06 (T69)	18:42	17:08	30	09:00 (T71)	17:06	51	09:23 (T71)
23	06:18		07:04 (T68)	06:48		07:09 (T68)	07:19		18:26 (T69)	07:51	07:28		08:29 (T71)	07:54		08:32 (T71)
	20:58	65	08:09 (T68)	20:21	127	19:33 (T69)	19:28	37	19:03 (T69)	18:40	17:08	33	09:02 (T71)	17:07	51	09:23 (T71)
24	06:19		07:04 (T68)	06:49		07:10 (T68)	07:20		18:29 (T69)	07:52	07:29		08:28 (T71)	07:55		08:33 (T71)
	20:57	66	08:10 (T68)	20:20	125	19:33 (T69)	19:27	30	18:59 (T69)	18:39	17:07	35	09:03 (T71)	17:07	51	09:24 (T71)
25	06:20		07:04 (T68)	06:50		07:11 (T68)	07:21		18:33 (T69)	07:54	07:30		08:27 (T71)	07:55		08:33 (T71)
	20:57	66	08:10 (T68)	20:18	123	19:33 (T69)	19:25	22	18:55 (T69)	18:37	17:06	37	09:04 (T71)	17:08	51	09:24 (T71)
26	06:21		07:04 (T68)	06:51		07:12 (T68)	07:22		18:42 (T69)	07:55	07:31		08:27 (T71)	07:55		08:33 (T71)
	20:56	67	08:11 (T68)	20:17	121	19:33 (T69)	19:23	3	18:45 (T69)	18:36	17:06	38	09:05 (T71)	17:09	51	09:24 (T71)
27	06:22		07:04 (T68)	06:52		07:13 (T68)	07:23			07:56	07:32		08:27 (T71)	07:56		08:34 (T71)
	20:55	67	08:11 (T68)	20:15	118	19:33 (T69)	19:22			18:35	17:06	40	09:07 (T71)	17:09	51	09:25 (T71)
28	06:23		07:04 (T68)	06:53		07:14 (T68)	07:24			07:57	07:34		08:27 (T71)	07:56		08:35 (T71)
	20:54	68	08:12 (T68)	20:13	116	19:33 (T69)	19:20			18:33	17:05	41	09:08 (T71)	17:10	50	09:25 (T71)
29	06:24		07:03 (T68)	06:54		07:15 (T68)	07:25			07:58	07:35		08:26 (T71)	07:56		08:35 (T71)
	20:53	69	08:12 (T68)	20:12	112	19:33 (T69)	19:18			18:32	17:05	43	09:09 (T71)	17:11	51	09:26 (T71)
30	06:25		07:03 (T68)	06:55		07:18 (T68)	07:26			07:59	07:36		08:26 (T71)	07:56		08:35 (T71)
	20:52	69	08:12 (T68)	20:10	107	19:33 (T69)	19:17			18:31	17:04	43	09:09 (T71)	17:12	51	09:26 (T71)
31	06:26		07:03 (T68)	06:56		07:21 (T68)				08:01				07:57		08:36 (T71)
	20:51	70	08:13 (T68)	20:09	99	19:32 (T69)				18:29				17:12	50	09:26 (T71)
Potential sun hours	459			428			375			345	298			288		
Total, worst case		1819			3690			1580				428			1536	
Sun reduction		0.66			0.61			0.59				0.30			0.22	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.67			0.65			0.63				0.53			0.53	
Total reduction		0.43			0.39			0.36				0.16			0.11	
Total, real		790			1444			576				67			175	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1204 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8702)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:57		16:14 (T21)	07:44		08:05 (T22)	07:07	07:16			06:30		07:06 (T20)	06:01		
	17:13	31	16:45 (T21)	17:47	94	17:13 (T21)	18:22	19:56			20:27	9	07:15 (T20)	20:57		
2	07:58		16:13 (T21)	07:43		08:06 (T22)	07:06	07:14			06:29			06:01		
	17:13	33	16:46 (T21)	17:48	94	17:14 (T21)	18:23	19:57			20:28			20:58		
3	07:58		16:13 (T21)	07:42		08:07 (T22)	07:04	07:13			06:27			06:00		
	17:14	34	16:47 (T21)	17:50	92	17:14 (T21)	18:24	19:58			20:29			20:59		
4	07:58		16:13 (T21)	07:40		08:07 (T22)	07:02	07:11			06:26			06:00		
	17:15	35	16:48 (T21)	17:51	91	17:14 (T21)	18:25	19:59			20:30			20:59		
5	07:58		16:13 (T21)	07:39		08:08 (T22)	07:01	07:09			06:25			05:59		
	17:16	37	16:50 (T21)	17:52	90	17:14 (T21)	18:26	20:00			20:31			21:00		
6	07:58		16:13 (T21)	07:38		08:10 (T22)	06:59	07:08			06:24			05:59		
	17:17	38	16:51 (T21)	17:53	88	17:15 (T21)	18:27	20:00			20:32			21:01		
7	07:58		16:12 (T21)	07:37		08:10 (T22)	06:58	07:06			06:22			05:59		
	17:18	40	16:52 (T21)	17:55	85	17:14 (T21)	18:28	20:01			20:33			21:01		
8	07:57		16:11 (T21)	07:36		08:13 (T22)	07:56	07:04			06:21			05:59		
	17:19	42	16:53 (T21)	17:56	80	17:14 (T21)	19:30	20:02			20:34			21:02		
9	07:57		16:11 (T21)	07:35		08:16 (T22)	07:54	07:03			06:20			05:58		
	17:20	43	16:54 (T21)	17:57	73	17:14 (T21)	19:31	20:03			20:36			21:03		
10	07:57		16:11 (T21)	07:34		16:08 (T21)	07:53	07:01			06:19			05:58		06:20 (T19)
	17:21	44	16:55 (T21)	17:59	66	17:14 (T21)	19:32	20:05			20:37			21:03	1	06:21 (T19)
11	07:57		16:11 (T21)	07:32		16:08 (T21)	07:51	07:00			06:18			05:58		06:20 (T19)
	17:22	46	16:57 (T21)	18:00	65	17:13 (T21)	19:33	20:06			20:38			21:04	2	06:22 (T19)
12	07:57		16:10 (T21)	07:31		16:09 (T21)	07:50	06:58			06:17			05:58		06:20 (T19)
	17:23	47	16:57 (T21)	18:01	64	17:13 (T21)	19:34	20:07			20:39			21:04	3	06:23 (T19)
13	07:56		16:10 (T21)	07:30		16:10 (T21)	07:48	06:56		07:15 (T20)	06:16			05:58		06:20 (T19)
	17:24	49	16:59 (T21)	18:02	63	17:13 (T21)	19:35	20:08	3	07:18 (T20)	20:40			21:05	4	06:24 (T19)
14	07:56		16:09 (T21)	07:29		16:11 (T21)	07:46	06:55		07:14 (T20)	06:15			05:58		06:20 (T19)
	17:25	50	16:59 (T21)	18:03	62	17:13 (T21)	19:36	20:09	7	07:21 (T20)	20:41			21:05	5	06:25 (T19)
15	07:55		16:09 (T21)	07:27		16:11 (T21)	07:45	06:53		07:12 (T20)	06:14			05:58		06:20 (T19)
	17:27	52	17:01 (T21)	18:05	61	17:12 (T21)	19:37	20:10	10	07:22 (T20)	20:42			21:06	6	06:26 (T19)
16	07:55		08:16 (T22)	07:26		16:12 (T21)	07:43	06:52		07:11 (T20)	06:13			05:58		06:20 (T19)
	17:28	54	17:01 (T21)	18:06	59	17:11 (T21)	19:39	20:11	13	07:24 (T20)	20:43			21:06	6	06:26 (T19)
17	07:55		08:16 (T22)	07:25		16:12 (T21)	07:41	06:50		07:09 (T20)	06:12			05:58		06:20 (T19)
	17:29	59	17:03 (T21)	18:07	58	17:10 (T21)	19:40	20:12	15	07:24 (T20)	20:44			21:07	6	06:26 (T19)
18	07:54		08:15 (T22)	07:23		16:13 (T21)	07:40	06:49		07:08 (T20)	06:11			05:58		06:20 (T19)
	17:30	62	17:03 (T21)	18:08	57	17:10 (T21)	19:41	20:13	17	07:25 (T20)	20:45			21:07	7	06:27 (T19)
19	07:54		08:15 (T22)	07:22		16:15 (T21)	07:38	06:47		07:06 (T20)	06:10			05:58		06:20 (T19)
	17:31	66	17:05 (T21)	18:10	54	17:09 (T21)	19:42	20:14	19	07:25 (T20)	20:46			21:07	7	06:27 (T19)
20	07:53		08:14 (T22)	07:21		16:15 (T21)	07:36	06:46		07:05 (T20)	06:09			05:58		06:21 (T19)
	17:32	68	17:05 (T21)	18:11	52	17:07 (T21)	19:43	20:15	21	07:26 (T20)	20:47			21:07	7	06:28 (T19)
21	07:52		08:13 (T22)	07:19		16:17 (T21)	07:34	06:44		07:03 (T20)	06:08			05:58		06:21 (T19)
	17:34	72	17:06 (T21)	18:12	50	17:07 (T21)	19:44	20:16	22	07:25 (T20)	20:47			21:08	7	06:28 (T19)
22	07:52		08:13 (T22)	07:18		16:18 (T21)	07:33	06:43		07:02 (T20)	06:07			05:59		06:21 (T19)
	17:35	74	17:07 (T21)	18:13	47	17:05 (T21)	19:45	20:17	23	07:25 (T20)	20:48			21:08	7	06:28 (T19)
23	07:51		08:12 (T22)	07:16		16:20 (T21)	07:31	06:41		07:00 (T20)	06:07			05:59		06:21 (T19)
	17:36	78	17:08 (T21)	18:14	44	17:04 (T21)	19:46	20:18	24	07:24 (T20)	20:49			21:08	7	06:28 (T19)
24	07:50		08:11 (T22)	07:15		16:21 (T21)	07:29	06:40		06:59 (T20)	06:06			05:59		06:22 (T19)
	17:37	80	17:09 (T21)	18:16	40	17:01 (T21)	19:47	20:20	25	07:24 (T20)	20:50			21:08	7	06:29 (T19)
25	07:50		08:10 (T22)	07:13		16:24 (T21)	07:28	06:38		06:59 (T20)	06:05			05:59		06:22 (T19)
	17:38	83	17:09 (T21)	18:17	36	17:00 (T21)	19:48	20:21	25	07:24 (T20)	20:51			21:09	6	06:28 (T19)
26	07:49		08:10 (T22)	07:12		16:26 (T21)	07:26	06:37		06:59 (T20)	06:04			06:00		06:22 (T19)
	17:40	85	17:11 (T21)	18:18	31	16:57 (T21)	19:49	20:22	24	07:23 (T20)	20:52			21:09	6	06:28 (T19)
27	07:48		08:09 (T22)	07:10		16:29 (T21)	07:24	06:35		07:00 (T20)	06:04			06:00		06:23 (T19)
	17:41	86	17:11 (T21)	18:19	25	16:54 (T21)	19:51	20:23	22	07:22 (T20)	20:53			21:09	6	06:29 (T19)
28	07:47		08:08 (T22)	07:09		16:33 (T21)	07:23	06:34		07:01 (T20)	06:03			06:00		06:23 (T19)
	17:42	88	17:11 (T21)	18:20	16	16:49 (T21)	19:52	20:24	20	07:21 (T20)	20:54			21:09	5	06:28 (T19)
29	07:46		08:07 (T22)				07:21	06:33		07:02 (T20)	06:03			06:01		06:23 (T19)
	17:43	91	17:12 (T21)				19:53	20:25	17	07:19 (T20)	20:55			21:09	5	06:28 (T19)
30	07:45		08:06 (T22)				07:19	06:31		07:03 (T20)	06:02			06:01		06:24 (T19)
	17:45	92	17:12 (T21)				19:54	20:26	15	07:18 (T20)	20:55			21:09	4	06:28 (T19)
31	07:44		08:05 (T22)				07:18				06:02					
	17:46	94	17:13 (T21)				19:55				20:56					
Potential sun hours	297			297			370	399			449			453		
Total, worst case		1853			1737				322			9			114	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.70			0.71				0.67			0.67			0.73	
Total reduction		0.22			0.28				0.35			0.38			0.47	
Total, real		402			492				112			3			53	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1204 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8702)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02		06:24 (T19)	06:26			06:57	07:27			07:02		15:37 (T21)	07:37		15:53 (T21)
	21:09	3	06:27 (T19)	20:50			20:07	19:15			17:28	66	16:43 (T21)	17:03	46	16:39 (T21)
2	06:02		06:25 (T19)	06:27			06:58	07:28			07:03		07:45 (T22)	07:38		15:54 (T21)
	21:09	2	06:27 (T19)	20:49			20:06	19:13			17:26	76	16:44 (T21)	17:03	44	16:38 (T21)
3	06:03			06:28			06:59	07:30			07:04		07:42 (T22)	07:39		15:55 (T21)
	21:08			20:48			20:04	19:11			17:25	81	16:44 (T21)	17:03	43	16:38 (T21)
4	06:03			06:29			07:00	07:31			07:06		07:40 (T22)	07:40		15:56 (T21)
	21:08			20:47			20:02	19:10			17:24	85	16:44 (T21)	17:03	42	16:38 (T21)
5	06:04			06:30			07:01	07:32			07:07		07:39 (T22)	07:41		15:57 (T21)
	21:08			20:46			20:01	19:08			17:23	88	16:44 (T21)	17:02	40	16:37 (T21)
6	06:04			06:31			07:02	07:33			07:08		07:38 (T22)	07:42		15:59 (T21)
	21:08			20:45			19:57	19:06			17:22	89	16:44 (T21)	17:02	38	16:37 (T21)
7	06:05			06:32			07:03	07:34			07:09		07:37 (T22)	07:43		16:00 (T21)
	21:08			20:43			19:56	19:05			17:21	91	16:44 (T21)	17:02	37	16:37 (T21)
8	06:06			06:33			07:04	07:35			07:10		07:36 (T22)	07:44		16:01 (T21)
	21:07			20:42			19:54	19:03			17:20	93	16:44 (T21)	17:02	35	16:36 (T21)
9	06:06			06:34			07:05	07:36			07:12		07:37 (T22)	07:45		16:02 (T21)
	21:07			20:41			19:52	19:01			17:19	93	16:44 (T21)	17:02	34	16:36 (T21)
10	06:07			06:35			07:06	07:37			07:13		07:36 (T22)	07:46		16:02 (T21)
	21:07			20:40			19:51	19:00			17:18	94	16:44 (T21)	17:02	33	16:35 (T21)
11	06:08			06:36		07:18 (T20)	07:07	07:38			07:14		07:36 (T22)	07:47		16:04 (T21)
	21:06			20:38	1	07:19 (T20)	19:49	18:58			17:17	94	16:44 (T21)	17:02	31	16:35 (T21)
12	06:09			06:37		07:13 (T20)	07:08	07:39			07:15		07:38 (T22)	07:47		16:05 (T21)
	21:06			20:37	11	07:24 (T20)	19:47	18:57			17:16	92	16:44 (T21)	17:02	30	16:35 (T21)
13	06:09			06:38		07:11 (T20)	07:09	07:40		17:11 (T21)	07:16		07:39 (T22)	07:48		16:06 (T21)
	21:05			20:36	15	07:26 (T20)	19:45	18:55	6	17:17 (T21)	17:15	91	16:44 (T21)	17:03	29	16:35 (T21)
14	06:10			06:39		07:09 (T20)	07:10	07:41		17:05 (T21)	07:18		07:40 (T22)	07:49		16:08 (T21)
	21:05			20:34	18	07:27 (T20)	19:44	18:53	20	17:25 (T21)	17:14	88	16:43 (T21)	17:03	27	16:35 (T21)
15	06:11			06:40		07:08 (T20)	07:11	07:42		17:00 (T21)	07:19		07:41 (T22)	07:50		16:08 (T21)
	21:04			20:33	20	07:28 (T20)	19:42	18:52	28	17:28 (T21)	17:13	86	16:43 (T21)	17:03	26	16:34 (T21)
16	06:12			06:41		07:07 (T20)	07:12	07:44		16:57 (T21)	07:20		07:43 (T22)	07:50		16:09 (T21)
	21:04			20:32	22	07:29 (T20)	19:40	18:50	33	17:30 (T21)	17:12	85	16:44 (T21)	17:03	25	16:34 (T21)
17	06:12			06:42		07:06 (T20)	07:13	07:45		16:54 (T21)	07:21		07:44 (T22)	07:51		16:10 (T21)
	21:03			20:30	24	07:30 (T20)	19:39	18:49	38	17:32 (T21)	17:11	83	16:43 (T21)	17:04	25	16:35 (T21)
18	06:13			06:43		07:05 (T20)	07:14	07:46		16:52 (T21)	07:22		07:45 (T22)	07:52		16:11 (T21)
	21:02			20:29	25	07:30 (T20)	19:37	18:47	41	17:33 (T21)	17:10	80	16:43 (T21)	17:04	23	16:34 (T21)
19	06:14			06:44		07:05 (T20)	07:15	07:47		16:50 (T21)	07:24		07:46 (T22)	07:52		16:12 (T21)
	21:02			20:27	25	07:30 (T20)	19:35	18:46	45	17:35 (T21)	17:10	78	16:42 (T21)	17:04	23	16:35 (T21)
20	06:15			06:45		07:06 (T20)	07:16	07:48		16:49 (T21)	07:25		07:48 (T22)	07:53		16:12 (T21)
	21:01			20:26	24	07:30 (T20)	19:33	18:44	48	17:37 (T21)	17:09	75	16:43 (T21)	17:05	23	16:35 (T21)
21	06:16			06:46		07:07 (T20)	07:17	07:49		16:47 (T21)	07:26		07:49 (T22)	07:54		16:13 (T21)
	21:00			20:24	23	07:30 (T20)	19:32	18:43	51	17:38 (T21)	17:08	72	16:42 (T21)	17:05	22	16:35 (T21)
22	06:17			06:47		07:08 (T20)	07:18	07:50		16:45 (T21)	07:27		07:50 (T22)	07:54		16:13 (T21)
	20:59			20:23	22	07:30 (T20)	19:30	18:41	53	17:38 (T21)	17:08	68	16:41 (T21)	17:06	22	16:35 (T21)
23	06:18			06:48		07:09 (T20)	07:19	07:51		16:44 (T21)	07:28		07:51 (T22)	07:55		16:14 (T21)
	20:59			20:21	20	07:29 (T20)	19:28	18:40	55	17:39 (T21)	17:07	66	16:41 (T21)	17:06	22	16:36 (T21)
24	06:18			06:49		07:10 (T20)	07:20	07:53		16:43 (T21)	07:29		07:53 (T22)	07:55		16:14 (T21)
	20:58			20:20	19	07:29 (T20)	19:27	18:38	57	17:40 (T21)	17:06	62	16:41 (T21)	17:07	23	16:37 (T21)
25	06:19			06:50		07:11 (T20)	07:21	07:54		16:42 (T21)	07:31		07:54 (T22)	07:55		16:15 (T21)
	20:57			20:18	17	07:28 (T20)	19:25	18:37	59	17:41 (T21)	17:06	59	16:41 (T21)	17:07	23	16:38 (T21)
26	06:20			06:51		07:12 (T20)	07:22	07:55		16:41 (T21)	07:32		07:55 (T22)	07:56		16:15 (T21)
	20:56			20:17	15	07:27 (T20)	19:23	18:36	60	17:41 (T21)	17:05	54	16:40 (T21)	17:08	24	16:39 (T21)
27	06:21			06:52		07:13 (T20)	07:23	07:56		16:40 (T21)	07:33		15:48 (T21)	07:56		16:14 (T21)
	20:55			20:15	13	07:26 (T20)	19:21	18:34	62	17:42 (T21)	17:05	52	16:40 (T21)	17:09	25	16:39 (T21)
28	06:22			06:53		07:14 (T20)	07:24	07:57		16:39 (T21)	07:34		15:49 (T21)	07:56		16:14 (T21)
	20:54			20:14	10	07:24 (T20)	19:20	18:33	63	17:42 (T21)	17:04	50	16:39 (T21)	17:09	26	16:40 (T21)
29	06:23			06:54		07:15 (T20)	07:25	07:58		16:39 (T21)	07:35		15:50 (T21)	07:57		16:15 (T21)
	20:53			20:12	7	07:22 (T20)	19:18	18:32	64	17:43 (T21)	17:04	49	16:39 (T21)	17:10	27	16:42 (T21)
30	06:24			06:55		07:16 (T20)	07:26	08:00		16:38 (T21)	07:36		15:52 (T21)	07:57		16:14 (T21)
	20:52			20:10	3	07:19 (T20)	19:16	18:30	65	17:43 (T21)	17:04	47	16:39 (T21)	17:11	29	16:43 (T21)
31	06:25			06:56				08:01		16:38 (T21)				07:57		16:14 (T21)
	20:51			20:09				18:29	65	17:43 (T21)				17:12	29	16:43 (T21)
Potential sun hours	460			429			375	345			297			287		
Total, worst case		5			334				913			2287			926	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.73			0.67				0.73			0.69			0.73	
Total reduction		0.48			0.41				0.35			0.21			0.16	
Total, real		2			136				319			473			148	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1236 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8726)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May	June
1	07:57		08:20 (T4)	07:43		08:04 (T5)	07:07		07:16	07:55 (T3)	06:30	06:01
	17:12	33	08:53 (T4)	17:47	50	09:00 (T4)	18:21		19:56	71	09:06 (T3)	20:27	20:57
2	07:57		08:20 (T4)	07:42		08:03 (T5)	07:05		07:14	07:54 (T3)	06:28	06:00
	17:13	33	08:53 (T4)	17:48	49	08:59 (T4)	18:22		19:57	72	09:06 (T3)	20:28	20:58
3	07:58		08:20 (T4)	07:41		08:02 (T5)	07:04		07:12	07:53 (T3)	06:27	06:00
	17:14	34	08:54 (T4)	17:49	49	08:58 (T4)	18:24		19:58	72	09:05 (T3)	20:29	20:58
4	07:58		08:20 (T4)	07:40		08:01 (T5)	07:02		07:11	07:53 (T3)	06:26	05:59
	17:15	35	08:55 (T4)	17:51	46	08:56 (T4)	18:25		19:59	72	09:05 (T3)	20:30	20:59
5	07:58		08:20 (T4)	07:39		08:00 (T5)	07:01		07:09	07:53 (T3)	06:25	05:59
	17:16	35	08:55 (T4)	17:52	43	08:54 (T4)	18:26		20:00	71	09:04 (T3)	20:31	21:00
6	07:57		08:20 (T4)	07:38		07:58 (T5)	06:59		07:07	07:52 (T3)	06:23	05:59
	17:17	36	08:56 (T4)	17:53	36	08:49 (T4)	18:27		20:00	71	09:03 (T3)	20:32	21:01
7	07:57		08:20 (T4)	07:37		07:57 (T5)	06:57		07:06	07:53 (T3)	06:22	05:58
	17:18	37	08:57 (T4)	17:54	29	08:26 (T5)	18:28		20:01	70	09:03 (T3)	20:33	21:01
8	07:57		08:19 (T4)	07:36		07:56 (T5)	07:56		07:04	07:53 (T3)	06:21	05:58
	17:19	38	08:57 (T4)	17:56	31	08:27 (T5)	19:29		20:02	69	09:02 (T3)	20:34	21:02
9	07:57		08:19 (T4)	07:35		07:55 (T5)	07:54		07:03	07:53 (T3)	06:20	05:58
	17:20	39	08:58 (T4)	17:57	32	08:27 (T5)	19:30		20:03	69	09:02 (T3)	20:35	21:02
10	07:57		08:19 (T4)	07:34		07:54 (T5)	07:53		07:01	07:53 (T3)	06:19	05:58
	17:21	40	08:59 (T4)	17:58	33	08:27 (T5)	19:32		20:04	68	09:01 (T3)	20:36	21:03
11	07:57		08:20 (T4)	07:32		07:54 (T5)	07:51		08:29 (T3)	06:59	07:53 (T3)	06:18	05:58
	17:22	40	09:00 (T4)	17:59	32	08:26 (T5)	19:33	15	08:44 (T3)	20:05	66	08:59 (T3)	20:37	21:04
12	07:56		08:19 (T4)	07:31		07:55 (T5)	07:49		08:24 (T3)	06:58	07:54 (T3)	06:16	05:58
	17:23	41	09:00 (T4)	18:01	30	08:25 (T5)	19:34	26	08:50 (T3)	20:06	65	08:59 (T3)	20:38	21:04
13	07:56		08:20 (T4)	07:30		07:56 (T5)	07:48		08:20 (T3)	06:56	07:54 (T3)	06:15	05:57
	17:24	40	09:00 (T4)	18:02	29	08:25 (T5)	19:35	33	08:53 (T3)	20:08	63	08:57 (T3)	20:40	21:05
14	07:56		08:20 (T4)	07:29		07:56 (T5)	07:46		08:17 (T3)	06:55	07:55 (T3)	06:14	05:57
	17:25	40	09:00 (T4)	18:03	27	08:23 (T5)	19:36	38	08:55 (T3)	20:09	62	08:57 (T3)	20:41	21:05
15	07:55		08:20 (T4)	07:27		07:58 (T5)	07:44		08:15 (T3)	06:53	07:55 (T3)	06:13	05:57
	17:26	41	09:01 (T4)	18:04	25	08:23 (T5)	19:37	43	08:58 (T3)	20:10	60	08:55 (T3)	20:42	21:06
16	07:55		08:20 (T4)	07:26		07:59 (T5)	07:43		08:12 (T3)	06:51	07:56 (T3)	06:12	05:57
	17:27	41	09:01 (T4)	18:06	22	08:21 (T5)	19:38	47	08:59 (T3)	20:11	58	08:54 (T3)	20:43	21:06
17	07:54		08:21 (T4)	07:25		08:00 (T5)	07:41		08:10 (T3)	06:50	07:56 (T3)	06:11	05:57
	17:29	41	09:02 (T4)	18:07	19	08:19 (T5)	19:39	51	09:01 (T3)	20:12	56	08:52 (T3)	20:44	21:06
18	07:54		08:21 (T4)	07:23		08:03 (T5)	07:39		08:08 (T3)	06:48	07:56 (T3)	06:10	05:57
	17:30	41	09:02 (T4)	18:08	14	08:17 (T5)	19:41	53	09:01 (T3)	20:13	54	08:50 (T3)	20:45	21:07
19	07:53		08:22 (T4)	07:22		08:08 (T5)	07:38		08:07 (T3)	06:47	07:58 (T3)	06:10	05:58
	17:31	41	09:03 (T4)	18:09	2	08:10 (T5)	19:42	56	09:03 (T3)	20:14	51	08:49 (T3)	20:45	21:07
20	07:53		08:22 (T4)	07:20			07:36		08:05 (T3)	06:45	07:59 (T3)	06:09	05:58
	17:32	41	09:03 (T4)	18:11			19:43	59	09:04 (T3)	20:15	49	08:48 (T3)	20:46	21:07
21	07:52		08:22 (T4)	07:19			07:34		08:03 (T3)	06:44	08:00 (T3)	06:08	05:58
	17:33	41	09:03 (T4)	18:12			19:44	61	09:04 (T3)	20:16	46	08:46 (T3)	20:47	21:08
22	07:52		08:23 (T4)	07:17			07:33		08:03 (T3)	06:42	08:02 (T3)	06:07	05:58
	17:34	41	09:04 (T4)	18:13			19:45	63	09:06 (T3)	20:17	42	08:44 (T3)	20:48	21:08
23	07:51		08:23 (T4)	07:16			07:31		08:01 (T3)	06:41	08:03 (T3)	06:06	05:58
	17:36	41	09:04 (T4)	18:14			19:46	65	09:06 (T3)	20:18	39	08:42 (T3)	20:49	21:08
24	07:50		08:23 (T4)	07:15			07:29		08:00 (T3)	06:39	08:05 (T3)	06:06	05:59
	17:37	40	09:03 (T4)	18:15			19:47	66	09:06 (T3)	20:19	35	08:40 (T3)	20:50	21:08
25	07:49		08:10 (T5)	07:13			07:28		07:59 (T3)	06:38	08:06 (T3)	06:05	05:59
	17:38	43	09:03 (T4)	18:17			19:48	68	09:07 (T3)	20:20	31	08:37 (T3)	20:51	21:08
26	07:49		08:09 (T5)	07:12			07:26		07:58 (T3)	06:36	08:09 (T3)	06:04	05:59
	17:39	46	09:03 (T4)	18:18			19:49	69	09:07 (T3)	20:22	25	08:34 (T3)	20:52	21:09
27	07:48		08:09 (T5)	07:10			07:24		07:57 (T3)	06:35	08:13 (T3)	06:03	06:00
	17:41	47	09:03 (T4)	18:19			19:50	70	09:07 (T3)	20:23	17	08:30 (T3)	20:53	21:09
28	07:47		08:08 (T5)	07:09			07:22		07:56 (T3)	06:34			06:03	06:00
	17:42	49	09:03 (T4)	18:20			19:51	70	09:06 (T3)	20:24			20:54	21:09
29	07:46		08:07 (T5)				07:21		07:56 (T3)	06:32			06:02	06:00
	17:43	49	09:02 (T4)				19:52	71	09:07 (T3)	20:25			20:55	21:09
30	07:45		08:06 (T5)				07:19		07:55 (T3)	06:31			06:02	06:01
	17:44	50	09:02 (T4)				19:54	71	09:06 (T3)	20:26			20:55	21:09
31	07:44		08:05 (T5)				07:17		07:54 (T3)				06:01	
	17:46	50	09:01 (T4)				19:55	72	09:06 (T3)				20:56	
Potential sun hours	297			297			370			399			449	453
Total, worst case		1264			598			1167			1524			
Sun reduction		0.31			0.40			0.44			0.52			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.52			0.54			0.60			0.60			
Total reduction		0.16			0.21			0.26			0.31			
Total, real		201			126			304			469			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1236 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8726)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November			December		
1	06:01	06:26			06:57		07:52 (T3)	07:27		08:01 (T3)	07:02		07:23 (T5)	07:37		08:02 (T4)
	21:09	20:50			20:07	66	08:58 (T3)	19:14	29	08:30 (T3)	17:27	32	07:55 (T5)	17:03	40	08:42 (T4)
2	06:02	06:27			06:58		07:51 (T3)	07:28		08:05 (T3)	07:03		07:25 (T5)	07:38		08:02 (T4)
	21:08	20:49			20:05	67	08:58 (T3)	19:13	21	08:26 (T3)	17:26	31	07:56 (T5)	17:03	40	08:42 (T4)
3	06:02	06:28			06:59		07:50 (T3)	07:29			07:04		07:26 (T5)	07:39		08:03 (T4)
	21:08	20:48			20:04	69	08:59 (T3)	19:11			17:25	30	07:56 (T5)	17:02	39	08:42 (T4)
4	06:03	06:29			07:00		07:50 (T3)	07:30			07:05		07:27 (T5)	07:40		08:04 (T4)
	21:08	20:47			20:02	69	08:59 (T3)	19:09			17:24	29	07:56 (T5)	17:02	38	08:42 (T4)
5	06:04	06:30			07:01		07:49 (T3)	07:31			07:07		07:28 (T5)	07:41		08:05 (T4)
	21:08	20:46			20:00	70	08:59 (T3)	19:08			17:23	38	08:20 (T4)	17:02	37	08:42 (T4)
6	06:04	06:31			07:02		07:49 (T3)	07:32			07:08		07:30 (T5)	07:42		08:06 (T4)
	21:08	20:44			19:57	70	08:59 (T3)	19:06			17:21	43	08:24 (T4)	17:02	36	08:42 (T4)
7	06:05	06:32			07:03		07:48 (T3)	07:34			07:09		07:31 (T5)	07:43		08:07 (T4)
	21:07	20:43			19:55	71	08:59 (T3)	19:04			17:20	46	08:26 (T4)	17:02	35	08:42 (T4)
8	06:05	06:33			07:04		07:48 (T3)	07:35			07:10		07:32 (T5)	07:44		08:08 (T4)
	21:07	20:42			19:54	71	08:59 (T3)	19:03			17:19	48	08:28 (T4)	17:02	35	08:43 (T4)
9	06:06	06:34			07:05		07:47 (T3)	07:36			07:12		07:34 (T5)	07:45		08:08 (T4)
	21:07	20:41			19:52	72	08:59 (T3)	19:01			17:18	50	08:30 (T4)	17:02	34	08:42 (T4)
10	06:07	06:35			07:06		07:47 (T3)	07:37			07:13		07:35 (T5)	07:46		08:09 (T4)
	21:06	20:39			19:50	72	08:59 (T3)	18:59			17:17	50	08:31 (T4)	17:02	33	08:42 (T4)
11	06:07	06:36			07:07		07:47 (T3)	07:38			07:14		07:36 (T5)	07:47		08:10 (T4)
	21:06	20:38			19:49	71	08:58 (T3)	18:58			17:16	50	08:32 (T4)	17:02	33	08:43 (T4)
12	06:08	06:37			07:08		07:46 (T3)	07:39			07:15		07:37 (T5)	07:47		08:11 (T4)
	21:06	20:37			19:47	72	08:58 (T3)	18:56			17:15	50	08:33 (T4)	17:02	32	08:43 (T4)
13	06:09	06:38			07:09		07:46 (T3)	07:40			07:16		07:39 (T5)	07:48		08:12 (T4)
	21:05	20:36			19:45	72	08:58 (T3)	18:55			17:14	49	08:34 (T4)	17:02	31	08:43 (T4)
14	06:10	06:39			07:10		07:46 (T3)	07:41			07:18		07:40 (T5)	07:49		08:13 (T4)
	21:05	20:34			19:44	71	08:57 (T3)	18:53			17:13	49	08:35 (T4)	17:02	31	08:44 (T4)
15	06:10	06:40		08:26 (T3)	07:11		07:46 (T3)	07:42			07:19		07:41 (T5)	07:50		08:13 (T4)
	21:04	20:33	5	08:31 (T3)	19:42	71	08:57 (T3)	18:52			17:12	47	08:35 (T4)	17:03	31	08:44 (T4)
16	06:11	06:41		08:19 (T3)	07:12		07:46 (T3)	07:43			07:20		07:43 (T5)	07:50		08:14 (T4)
	21:04	20:31	19	08:38 (T3)	19:40	70	08:56 (T3)	18:50			17:12	46	08:37 (T4)	17:03	30	08:44 (T4)
17	06:12	06:42		08:15 (T3)	07:13		07:46 (T3)	07:44			07:21		07:44 (T5)	07:51		08:15 (T4)
	21:03	20:30	26	08:41 (T3)	19:38	69	08:55 (T3)	18:48			17:11	43	08:37 (T4)	17:03	30	08:45 (T4)
18	06:13	06:43		08:13 (T3)	07:14		07:47 (T3)	07:46			07:22		07:57 (T4)	07:52		08:15 (T4)
	21:02	20:29	31	08:44 (T3)	19:37	67	08:54 (T3)	18:47			17:10	40	08:37 (T4)	17:04	30	08:45 (T4)
19	06:14	06:44		08:10 (T3)	07:15		07:47 (T3)	07:47			07:24		07:57 (T4)	07:52		08:16 (T4)
	21:02	20:27	36	08:46 (T3)	19:35	66	08:53 (T3)	18:45			17:09	41	08:38 (T4)	17:04	29	08:45 (T4)
20	06:15	06:45		08:08 (T3)	07:16		07:47 (T3)	07:48			07:25		07:58 (T4)	07:53		08:16 (T4)
	21:01	20:26	40	08:48 (T3)	19:33	65	08:52 (T3)	18:44			17:09	41	08:39 (T4)	17:04	29	08:45 (T4)
21	06:15	06:46		08:06 (T3)	07:17		07:48 (T3)	07:49			07:26		07:58 (T4)	07:53		08:17 (T4)
	21:00	20:24	44	08:50 (T3)	19:31	63	08:51 (T3)	18:42			17:08	41	08:39 (T4)	17:05	29	08:46 (T4)
22	06:16	06:47		08:05 (T3)	07:18		07:48 (T3)	07:50			07:27		07:58 (T4)	07:54		08:17 (T4)
	20:59	20:23	46	08:51 (T3)	19:30	62	08:50 (T3)	18:41			17:07	41	08:39 (T4)	17:05	29	08:46 (T4)
23	06:17	06:48		08:03 (T3)	07:19		07:49 (T3)	07:51		08:36 (T5)	07:28		07:58 (T4)	07:54		08:18 (T4)
	20:59	20:21	49	08:52 (T3)	19:28	60	08:49 (T3)	18:40	8	08:44 (T5)	17:07	41	08:39 (T4)	17:06	29	08:47 (T4)
24	06:18	06:49		08:01 (T3)	07:20		07:50 (T3)	07:52		08:32 (T5)	07:29		07:58 (T4)	07:55		08:18 (T4)
	20:58	20:20	52	08:53 (T3)	19:26	57	08:47 (T3)	18:38	15	08:47 (T5)	17:06	41	08:39 (T4)	17:06	29	08:47 (T4)
25	06:19	06:50		08:00 (T3)	07:21		07:51 (T3)	07:54		08:29 (T5)	07:30		07:59 (T4)	07:55		08:18 (T4)
	20:57	20:18	54	08:54 (T3)	19:25	54	08:45 (T3)	18:37	20	08:49 (T5)	17:05	41	08:40 (T4)	17:07	29	08:47 (T4)
26	06:20	06:51		07:59 (T3)	07:22		07:52 (T3)	07:55		08:29 (T5)	07:32		07:59 (T4)	07:56		08:19 (T4)
	20:56	20:17	56	08:55 (T3)	19:23	52	08:44 (T3)	18:35	22	08:51 (T5)	17:05	41	08:40 (T4)	17:08	30	08:49 (T4)
27	06:21	06:52		07:58 (T3)	07:23		07:53 (T3)	07:56		08:27 (T5)	07:33		07:59 (T4)	07:56		08:19 (T4)
	20:55	20:15	58	08:56 (T3)	19:21	49	08:42 (T3)	18:34	25	08:52 (T5)	17:04	41	08:40 (T4)	17:08	30	08:49 (T4)
28	06:22	06:53		07:57 (T3)	07:24		07:55 (T3)	07:57		08:26 (T5)	07:34		08:00 (T4)	07:56		08:19 (T4)
	20:54	20:13	60	08:57 (T3)	19:19	44	08:39 (T3)	18:33	27	08:53 (T5)	17:04	40	08:40 (T4)	17:09	30	08:49 (T4)
29	06:23	06:54		07:56 (T3)	07:25		07:56 (T3)	07:58		08:24 (T5)	07:35		08:00 (T4)	07:57		08:20 (T4)
	20:53	20:12	62	08:58 (T3)	19:18	41	08:37 (T3)	18:31	30	08:54 (T5)	17:04	41	08:41 (T4)	17:10	31	08:51 (T4)
30	06:24	06:55		07:55 (T3)	07:26		07:59 (T3)	08:00		08:24 (T5)	07:36		08:00 (T4)	07:57		08:20 (T4)
	20:52	20:10	63	08:58 (T3)	19:16	35	08:34 (T3)	18:30	31	08:55 (T5)	17:03	41	08:41 (T4)	17:10	31	08:51 (T4)
31	06:25	06:56		07:53 (T3)				08:01		08:24 (T5)				07:57		08:20 (T4)
	20:51	20:09	65	08:58 (T3)				18:29	31	08:55 (T5)				17:11	32	08:52 (T4)
Potential sun hours	460	429			375			345			297			287		
Total, worst case			766			1908			259			1262			1002	
Sun reduction			0.61			0.59			0.48			0.30			0.22	
Oper. time red.			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.			0.60			0.60			0.55			0.53			0.52	
Total reduction			0.36			0.35			0.26			0.15			0.11	
Total, real			277			666			68			196			113	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1237 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8727)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58			07:44		16:27 (T13)	07:07		16:38 (T13)	07:16			06:30			06:01		20:03 (T10)
	17:13			17:47	56	17:23 (T13)	18:22	58	18:00 (T12)	19:56			20:27			20:57	30	20:33 (T10)
2	07:58			07:43		16:27 (T13)	07:06		16:39 (T13)	07:14			06:29			06:01		20:02 (T10)
	17:14			17:48	57	17:24 (T13)	18:23	58	18:01 (T12)	19:57			20:28			20:58	31	20:33 (T10)
3	07:58			07:42		16:27 (T13)	07:04		16:43 (T13)	07:13			06:27			06:00		20:03 (T10)
	17:14			17:50	58	17:25 (T13)	18:24	54	18:03 (T12)	19:58			20:29			20:59	31	20:34 (T10)
4	07:58			07:41		16:26 (T13)	07:03		16:45 (T13)	07:11			06:26			06:00		20:03 (T10)
	17:15			17:51	60	17:26 (T13)	18:25	49	18:03 (T12)	19:59			20:30			20:59	32	20:35 (T10)
5	07:58			07:40		16:26 (T13)	07:01		16:50 (T13)	07:09			06:25			05:59		20:02 (T10)
	17:16			17:52	60	17:26 (T13)	18:26	40	18:04 (T12)	20:00			20:31			21:00	33	20:35 (T10)
6	07:58			07:38		16:26 (T13)	06:59		17:35 (T12)	07:08			06:24			05:59		20:02 (T10)
	17:17			17:54	61	17:27 (T13)	18:27	31	18:06 (T12)	20:00			20:33			21:01	34	20:36 (T10)
7	07:58			07:37		16:25 (T13)	06:58		17:35 (T12)	07:06			06:22			05:59		20:02 (T10)
	17:18			17:55	62	17:27 (T13)	18:29	32	18:07 (T12)	20:01			20:34			21:01	35	20:37 (T10)
8	07:58			07:36		16:25 (T13)	07:56		18:34 (T12)	07:05			06:21			05:59		20:03 (T10)
	17:19			17:56	62	17:27 (T13)	19:30	34	19:08 (T12)	20:03			20:35			21:02	35	20:38 (T10)
9	07:57			07:35		16:25 (T13)	07:55		18:35 (T12)	07:03			06:20			05:58		20:02 (T10)
	17:20			17:57	63	17:28 (T13)	19:31	34	19:09 (T12)	20:04			20:36			21:03	35	20:37 (T10)
10	07:57			07:34		16:26 (T13)	07:53		18:35 (T12)	07:01			06:19			05:58		20:02 (T10)
	17:21			17:59	62	17:28 (T13)	19:32	33	19:08 (T12)	20:05			20:37			21:03	36	20:38 (T10)
11	07:57			07:33		16:26 (T13)	07:51		18:36 (T12)	07:00			06:18			05:58		20:02 (T10)
	17:22			18:00	62	17:28 (T13)	19:33	32	19:08 (T12)	20:06			20:38			21:04	37	20:39 (T10)
12	07:57			07:31		16:25 (T13)	07:50		18:36 (T12)	06:58			06:17			05:58		20:02 (T10)
	17:23			18:01	63	17:28 (T13)	19:34	30	19:06 (T12)	20:07			20:39			21:04	37	20:39 (T10)
13	07:56			07:30		16:25 (T13)	07:48		18:36 (T12)	06:56			06:16			05:58		20:03 (T10)
	17:24			18:02	63	17:28 (T13)	19:35	29	19:05 (T12)	20:08			20:40			21:05	37	20:40 (T10)
14	07:56			07:29		16:26 (T13)	07:46		18:38 (T12)	06:55			06:15			05:58		20:03 (T10)
	17:26			18:04	62	17:28 (T13)	19:36	26	19:04 (T12)	20:09			20:41			21:05	37	20:40 (T10)
15	07:56		16:48 (T13)	07:27		16:26 (T13)	07:45		18:39 (T12)	06:53			06:14			05:58		20:03 (T10)
	17:27	6	16:54 (T13)	18:05	62	17:28 (T13)	19:38	23	19:02 (T12)	20:10			20:42			21:06	37	20:40 (T10)
16	07:55		16:44 (T13)	07:26		16:26 (T13)	07:43		18:40 (T12)	06:52			06:13			05:58		20:03 (T10)
	17:28	15	16:59 (T13)	18:06	62	17:28 (T13)	19:39	19	18:59 (T12)	20:11			20:43			21:06	38	20:41 (T10)
17	07:55		16:41 (T13)	07:25		16:27 (T13)	07:41		18:43 (T12)	06:50			06:12			05:58		20:03 (T10)
	17:29	21	17:02 (T13)	18:07	61	17:28 (T13)	19:40	13	18:56 (T12)	20:12			20:44			21:07	38	20:41 (T10)
18	07:54		16:40 (T13)	07:23		16:27 (T13)	07:40			06:49			06:11			05:58		20:03 (T10)
	17:30	25	17:05 (T13)	18:08	60	17:27 (T13)	19:41			20:13			20:45			21:07	38	20:41 (T10)
19	07:54		16:38 (T13)	07:22		16:28 (T13)	07:38			06:47			06:10		20:17 (T10)	05:58		20:03 (T10)
	17:31	28	17:06 (T13)	18:10	59	17:27 (T13)	19:42			20:14			20:46	5	20:22 (T10)	21:07	38	20:41 (T10)
20	07:53		16:36 (T13)	07:21		16:27 (T13)	07:36			06:46			06:09		20:13 (T10)	05:58		20:04 (T10)
	17:32	31	17:07 (T13)	18:11	59	17:26 (T13)	19:43			20:15			20:47	10	20:23 (T10)	21:08	39	20:43 (T10)
21	07:53		16:36 (T13)	07:19		16:29 (T13)	07:35			06:44			06:08		20:11 (T10)	05:58		20:04 (T10)
	17:34	33	17:09 (T13)	18:12	56	17:25 (T13)	19:44			20:16			20:48	13	20:24 (T10)	21:08	39	20:43 (T10)
22	07:52		16:34 (T13)	07:18		16:29 (T13)	07:33			06:43			06:07		20:10 (T10)	05:59		20:04 (T10)
	17:35	36	17:10 (T13)	18:13	55	17:24 (T13)	19:45			20:18			20:49	15	20:25 (T10)	21:08	39	20:43 (T10)
23	07:51		16:33 (T13)	07:16		16:30 (T13)	07:31			06:41			06:07		20:08 (T10)	05:59		20:04 (T10)
	17:36	38	17:11 (T13)	18:15	54	17:24 (T13)	19:46			20:19			20:50	18	20:26 (T10)	21:08	39	20:43 (T10)
24	07:50		16:32 (T13)	07:15		16:30 (T13)	07:30			06:40			06:06		20:07 (T10)	05:59		20:05 (T10)
	17:37	40	17:12 (T13)	18:16	57	17:53 (T12)	19:47			20:20			20:50	19	20:26 (T10)	21:09	38	20:43 (T10)
25	07:50		16:32 (T13)	07:13		16:32 (T13)	07:28			06:38			06:05		20:06 (T10)	05:59		20:05 (T10)
	17:38	42	17:14 (T13)	18:17	60	17:55 (T12)	19:48			20:21			20:51	21	20:27 (T10)	21:09	38	20:43 (T10)
26	07:49		16:31 (T13)	07:12		16:33 (T13)	07:26			06:37			06:05		20:06 (T10)	06:00		20:05 (T10)
	17:40	44	17:15 (T13)	18:18	60	17:56 (T12)	19:50			20:22			20:52	22	20:28 (T10)	21:09	38	20:43 (T10)
27	07:48		16:30 (T13)	07:10		16:34 (T13)	07:24			06:35			06:04		20:05 (T10)	06:00		20:06 (T10)
	17:41	46	17:16 (T13)	18:19	61	17:57 (T12)	19:51			20:23			20:53	24	20:29 (T10)	21:09	38	20:44 (T10)
28	07:47		16:30 (T13)	07:09		16:36 (T13)	07:23			06:34			06:03		20:05 (T10)	06:00		20:06 (T10)
	17:42	48	17:18 (T13)	18:20	60	17:58 (T12)	19:52			20:24			20:54	25	20:30 (T10)	21:09	37	20:43 (T10)
29	07:46		16:29 (T13)				07:21			06:33			06:03		20:04 (T10)	06:01		20:06 (T10)
	17:43	50	17:19 (T13)				19:53			20:25			20:55	26	20:30 (T10)	21:09	37	20:43 (T10)
30	07:46		16:28 (T13)				07:19			06:31			06:02		20:04 (T10)	06:01		20:07 (T10)
	17:45	52	17:20 (T13)				19:54			20:26			20:56	28	20:32 (T10)	21:09	36	20:43 (T10)
31	07:45		16:28 (T13)				07:18						06:02		20:03 (T10)			
	17:46	53	17:21 (T13)				19:55						20:56	29	20:32 (T10)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		608			1677			595						255			1087	
Sun reduction		0.31			0.40			0.44						0.57			0.64	
Oper. time red.		1.00			1.00			1.00						1.00			1.00	
Wind dir. red.		0.72			0.72			0.68						0.54			0.54	
Total reduction		0.23			0.30			0.31						0.31			0.35	
Total, real		140			497			183						80			384	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1237 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8727)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August	September		October		November		December
1	06:02	20:06 (T10)	06:26	06:57		07:28	18:15 (T12)	07:02	15:55 (T13)	07:37
	21:09 37	20:43 (T10)	20:50	20:07		19:15 30	18:45 (T12)	17:28 63	16:58 (T13)	17:03
2	06:02	20:07 (T10)	06:27	06:58		07:29	18:14 (T12)	07:03	15:55 (T13)	07:38
	21:09 36	20:43 (T10)	20:49	20:06		19:13 31	18:45 (T12)	17:27 62	16:57 (T13)	17:03
3	06:03	20:07 (T10)	06:28	06:59		07:30	18:14 (T12)	07:05	15:55 (T13)	07:39
	21:09 36	20:43 (T10)	20:48	20:04		19:11 32	18:46 (T12)	17:25 62	16:57 (T13)	17:03
4	06:03	20:08 (T10)	06:29	07:00		07:31	18:13 (T12)	07:06	15:55 (T13)	07:40
	21:08 35	20:43 (T10)	20:47	20:02		19:10 33	18:46 (T12)	17:24 61	16:56 (T13)	17:03
5	06:04	20:09 (T10)	06:30	07:01		07:32	18:12 (T12)	07:07	15:56 (T13)	07:41
	21:08 34	20:43 (T10)	20:46	20:01		19:08 34	18:46 (T12)	17:23 61	16:57 (T13)	17:03
6	06:05	20:08 (T10)	06:31	07:02		07:33	18:11 (T12)	07:08	15:56 (T13)	07:42
	21:08 34	20:42 (T10)	20:45	19:57		19:06 33	18:44 (T12)	17:22 60	16:56 (T13)	17:02
7	06:05	20:09 (T10)	06:32	07:03		07:34	18:11 (T12)	07:09	15:56 (T13)	07:43
	21:08 33	20:42 (T10)	20:43	19:56		19:05 31	18:42 (T12)	17:21 59	16:55 (T13)	17:02
8	06:06	20:09 (T10)	06:33	07:04		07:35	18:11 (T12)	07:11	15:58 (T13)	07:44
	21:07 33	20:42 (T10)	20:42	19:54		19:03 30	18:41 (T12)	17:20 58	16:56 (T13)	17:02
9	06:06	20:10 (T10)	06:34	07:05		07:36	17:23 (T13)	07:12	15:58 (T13)	07:45
	21:07 32	20:42 (T10)	20:41	19:52		19:01 44	18:39 (T12)	17:19 57	16:55 (T13)	17:02
10	06:07	20:10 (T10)	06:35	07:06		07:37	17:18 (T13)	07:13	15:58 (T13)	07:46
	21:07 32	20:42 (T10)	20:40	19:51		19:00 51	18:37 (T12)	17:18 56	16:54 (T13)	17:02
11	06:08	20:10 (T10)	06:36	07:07		07:38	17:15 (T13)	07:14	15:59 (T13)	07:47
	21:06 30	20:40 (T10)	20:38	19:49		18:58 54	18:35 (T12)	17:17 53	16:52 (T13)	17:02
12	06:09	20:11 (T10)	06:37	07:08		07:39	17:12 (T13)	07:15	16:00 (T13)	07:48
	21:06 29	20:40 (T10)	20:37	19:47		18:57 58	18:34 (T12)	17:16 52	16:52 (T13)	17:02
13	06:09	20:12 (T10)	06:38	07:09		07:40	17:10 (T13)	07:17	16:01 (T13)	07:48
	21:05 28	20:40 (T10)	20:36	19:46		18:55 60	18:33 (T12)	17:15 50	16:51 (T13)	17:03
14	06:10	20:13 (T10)	06:39	07:10		07:41	17:08 (T13)	07:18	16:02 (T13)	07:49
	21:05 27	20:40 (T10)	20:34	19:44		18:53 61	18:31 (T12)	17:14 47	16:49 (T13)	17:03
15	06:11	20:13 (T10)	06:40	07:11		07:43	17:06 (T13)	07:19	16:03 (T13)	07:50
	21:04 26	20:39 (T10)	20:33	19:42		18:52 61	18:29 (T12)	17:13 46	16:49 (T13)	17:03
16	06:12	20:14 (T10)	06:41	07:12		07:44	17:05 (T13)	07:20	16:04 (T13)	07:51
	21:04 24	20:38 (T10)	20:32	19:40		18:50 60	18:28 (T12)	17:12 44	16:48 (T13)	17:03
17	06:12	20:15 (T10)	06:42	07:13		07:45	17:03 (T13)	07:21	16:05 (T13)	07:51
	21:03 23	20:38 (T10)	20:30	19:39		18:49 58	18:26 (T12)	17:11 42	16:47 (T13)	17:04
18	06:13	20:16 (T10)	06:43	07:14		07:46	17:02 (T13)	07:23	16:06 (T13)	07:52
	21:03 22	20:38 (T10)	20:29	19:37		18:47 54	18:24 (T12)	17:10 40	16:46 (T13)	17:04
19	06:14	20:16 (T10)	06:44	07:15		07:47	17:00 (T13)	07:24	16:08 (T13)	07:53
	21:02 20	20:36 (T10)	20:27	19:35		18:46 54	17:54 (T13)	17:10 38	16:46 (T13)	17:04
20	06:15	20:17 (T10)	06:45	07:16		07:48	17:00 (T13)	07:25	16:09 (T13)	07:53
	21:01 19	20:36 (T10)	20:26	19:34		18:44 56	17:56 (T13)	17:09 36	16:45 (T13)	17:05
21	06:16	20:19 (T10)	06:46	07:17		07:49	16:59 (T13)	07:26	16:11 (T13)	07:54
	21:00 16	20:35 (T10)	20:24	19:32		18:43 57	17:56 (T13)	17:08 33	16:44 (T13)	17:05
22	06:17	20:20 (T10)	06:47	07:18		07:50	16:58 (T13)	07:27	16:12 (T13)	07:54
	21:00 15	20:35 (T10)	20:23	19:30		18:41 58	17:56 (T13)	17:08 31	16:43 (T13)	17:06
23	06:18	20:22 (T10)	06:48	07:19		07:52	16:57 (T13)	07:28	16:15 (T13)	07:55
	20:59 12	20:34 (T10)	20:21	19:28		18:40 59	17:56 (T13)	17:07 28	16:43 (T13)	17:06
24	06:18	20:25 (T10)	06:49	07:20		07:53	16:57 (T13)	07:30	16:17 (T13)	07:55
	20:58 8	20:33 (T10)	20:20	19:27		18:38 60	17:57 (T13)	17:06 25	16:42 (T13)	17:07
25	06:19		06:50	07:21		07:54	16:56 (T13)	07:31	16:19 (T13)	07:56
	20:57		20:18	19:25		18:37 61	17:57 (T13)	17:06 21	16:40 (T13)	17:07
26	06:20		06:51	07:22	18:27 (T12)	07:55	16:56 (T13)	07:32	16:22 (T13)	07:56
	20:56		20:17	19:23 10	18:37 (T12)	18:36 61	17:57 (T13)	17:05 15	16:37 (T13)	17:08
27	06:21		06:52	07:23	18:23 (T12)	07:56	16:55 (T13)	07:33	16:27 (T13)	07:56
	20:55		20:15	19:22 17	18:40 (T12)	18:34 62	17:57 (T13)	17:05 6	16:33 (T13)	17:09
28	06:22		06:53	07:24	18:20 (T12)	07:57	16:55 (T13)	07:34		07:57
	20:54		20:14	19:20 22	18:42 (T12)	18:33 62	17:57 (T13)	17:04		17:09
29	06:23		06:54	07:25	18:18 (T12)	07:59	16:55 (T13)	07:35		07:57
	20:53		20:12	19:18 25	18:43 (T12)	18:32 63	17:58 (T13)	17:04		17:10
30	06:24		06:55	07:27	18:16 (T12)	08:00	16:55 (T13)	07:36		07:57
	20:52		20:11	19:16 28	18:44 (T12)	18:30 62	17:57 (T13)	17:04		17:11
31	06:25		06:56			08:01	16:55 (T13)			07:57
	20:51		20:09			18:29 62	17:57 (T13)			17:12
Potential sun hours	460		429	375		345		297		287
Total, worst case		641			102		1592		1206	
Sun reduction		0.66			0.59		0.48		0.30	
Oper. time red.		1.00			1.00		1.00		1.00	
Wind dir. red.		0.54			0.67		0.71		0.72	
Total reduction		0.36			0.41		0.35		0.22	
Total, real		234			41		556		269	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1269 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8753)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		15:59 (T35)	07:43		08:05 (T36)	07:07			07:16			06:30		19:11 (T30)	06:01		20:06 (T27)
	17:13	45	16:44 (T35)	17:47	31	08:36 (T36)	18:22			19:56			20:27	46	19:57 (T30)	20:57	27	20:33 (T27)
2	07:57		15:59 (T35)	07:42		08:06 (T36)	07:06			07:14			06:29		19:11 (T30)	06:01		20:07 (T27)
	17:14	45	16:44 (T35)	17:49	30	08:36 (T36)	18:23			19:57			20:28	46	19:57 (T30)	20:58	27	20:34 (T27)
3	07:58		16:00 (T35)	07:41		08:06 (T36)	07:04			07:13		07:32 (T31)	06:28		19:10 (T30)	06:00		20:06 (T27)
	17:15	44	16:44 (T35)	17:50	30	08:36 (T36)	18:24			19:58	6	07:38 (T31)	20:29	46	19:56 (T30)	20:58	28	20:34 (T27)
4	07:58		16:00 (T35)	07:40		08:07 (T36)	07:02			07:11		07:30 (T31)	06:26		19:11 (T30)	06:00		20:07 (T27)
	17:15	45	16:45 (T35)	17:51	28	08:35 (T36)	18:25			19:59	11	07:41 (T31)	20:30	44	19:55 (T30)	20:59	28	20:35 (T27)
5	07:58		16:01 (T35)	07:39		08:09 (T36)	07:01			07:09		07:28 (T31)	06:25		19:11 (T30)	06:00		20:07 (T27)
	17:16	44	16:45 (T35)	17:52	25	08:34 (T36)	18:26			20:00	15	07:43 (T31)	20:31	44	19:55 (T30)	21:00	29	20:36 (T27)
6	07:57		16:01 (T35)	07:38		08:09 (T36)	06:59			07:08		07:27 (T31)	06:24		19:12 (T30)	05:59		20:06 (T27)
	17:17	45	16:46 (T35)	17:54	23	08:32 (T36)	18:27			20:00	18	07:45 (T31)	20:32	43	19:55 (T30)	21:01	30	20:36 (T27)
7	07:57		16:02 (T35)	07:37		08:11 (T36)	06:58			07:06		07:25 (T31)	06:23		19:12 (T30)	05:59		20:07 (T27)
	17:18	44	16:46 (T35)	17:55	20	08:31 (T36)	18:29			20:01	21	07:46 (T31)	20:33	43	19:55 (T30)	21:01	29	20:36 (T27)
8	07:57		16:02 (T35)	07:36		08:13 (T36)	07:56			07:05		07:24 (T31)	06:21		19:12 (T30)	05:59		20:07 (T27)
	17:19	44	16:46 (T35)	17:56	17	08:30 (T36)	19:30			20:02	23	07:47 (T31)	20:34	41	19:53 (T30)	21:02	30	20:37 (T27)
9	07:57		16:03 (T35)	07:35		08:16 (T36)	07:54			07:03		07:22 (T31)	06:20		19:12 (T30)	05:59		20:08 (T27)
	17:20	43	16:46 (T35)	17:57	11	08:27 (T36)	19:31			20:03	25	07:47 (T31)	20:35	41	19:53 (T30)	21:02	30	20:38 (T27)
10	07:57		08:19 (T36)	07:34			07:53			07:01		07:20 (T31)	06:19		19:13 (T30)	05:58		20:07 (T27)
	17:21	46	16:47 (T35)	17:59			19:32			20:05	28	07:48 (T31)	20:36	39	19:52 (T30)	21:03	31	20:38 (T27)
11	07:57		08:18 (T36)	07:32			07:51		08:10 (T33)	07:00		07:19 (T31)	06:18		19:14 (T30)	05:58		20:07 (T27)
	17:22	47	16:46 (T35)	18:00			19:33	1	08:11 (T33)	20:06	29	07:48 (T31)	20:38	37	19:51 (T30)	21:04	31	20:38 (T27)
12	07:56		08:18 (T36)	07:31			07:50		08:09 (T33)	06:58		07:17 (T31)	06:17		19:15 (T30)	05:58		20:08 (T27)
	17:23	49	16:47 (T35)	18:01			19:34	4	08:13 (T33)	20:07	31	07:48 (T31)	20:39	35	19:50 (T30)	21:04	31	20:39 (T27)
13	07:56		08:18 (T36)	07:30			07:48		08:07 (T33)	06:56		07:16 (T31)	06:16		19:15 (T30)	05:58		20:08 (T27)
	17:25	50	16:47 (T35)	18:02			19:35	7	08:14 (T33)	20:08	40	19:41 (T30)	20:40	35	19:50 (T30)	21:05	31	20:39 (T27)
14	07:56		08:17 (T36)	07:29			07:46		08:05 (T33)	06:55		07:14 (T31)	06:15		19:16 (T30)	05:58		20:08 (T27)
	17:26	51	16:47 (T35)	18:04			19:36	9	08:14 (T33)	20:09	52	19:46 (T30)	20:41	33	19:49 (T30)	21:05	32	20:40 (T27)
15	07:55		08:17 (T36)	07:27			07:45		08:04 (T33)	06:53		07:12 (T31)	06:14		19:17 (T30)	05:58		20:09 (T27)
	17:27	51	16:47 (T35)	18:05			19:38	11	08:15 (T33)	20:10	60	19:48 (T30)	20:42	33	20:18 (T27)	21:06	31	20:40 (T27)
16	07:55		08:16 (T36)	07:26			07:43		08:02 (T33)	06:52		07:11 (T31)	06:13		19:19 (T30)	05:58		20:09 (T27)
	17:28	53	16:47 (T35)	18:06			19:39	13	08:15 (T33)	20:11	65	19:50 (T30)	20:43	33	20:19 (T27)	21:06	31	20:40 (T27)
17	07:55		08:16 (T36)	07:25			07:41		08:00 (T33)	06:50		07:09 (T31)	06:12		19:21 (T30)	05:58		20:09 (T27)
	17:29	53	16:47 (T35)	18:07			19:40	14	08:14 (T33)	20:12	68	19:50 (T30)	20:44	34	20:21 (T27)	21:06	32	20:41 (T27)
18	07:54		08:15 (T36)	07:23			07:40		07:59 (T33)	06:49		07:08 (T31)	06:11		19:22 (T30)	05:58		20:09 (T27)
	17:30	54	16:47 (T35)	18:09			19:41	16	08:15 (T33)	20:13	72	19:52 (T30)	20:45	32	20:21 (T27)	21:07	32	20:41 (T27)
19	07:53		08:15 (T36)	07:22			07:38		07:57 (T33)	06:47		07:07 (T31)	06:10		19:24 (T30)	05:58		20:10 (T27)
	17:31	54	16:47 (T35)	18:10			19:42	17	08:14 (T33)	20:14	74	19:52 (T30)	20:46	30	20:22 (T27)	21:07	32	20:42 (T27)
20	07:53		08:14 (T36)	07:21			07:36		07:55 (T33)	06:46		07:08 (T31)	06:09		19:26 (T30)	05:58		20:10 (T27)
	17:33	54	16:46 (T35)	18:11			19:43	18	08:13 (T33)	20:15	76	19:54 (T30)	20:46	28	20:23 (T27)	21:07	32	20:42 (T27)
21	07:52		08:13 (T36)	07:19			07:35		07:54 (T33)	06:44		07:07 (T31)	06:08		19:30 (T30)	05:59		20:10 (T27)
	17:34	53	16:45 (T35)	18:12			19:44	18	08:12 (T33)	20:16	78	19:54 (T30)	20:47	20	20:23 (T27)	21:08	32	20:42 (T27)
22	07:52		08:13 (T36)	07:18			07:33		07:53 (T33)	06:43		07:08 (T31)	06:08		20:08 (T27)	05:59		20:10 (T27)
	17:35	52	16:45 (T35)	18:13			19:45	17	08:10 (T33)	20:17	79	19:56 (T30)	20:48	17	20:25 (T27)	21:08	32	20:42 (T27)
23	07:51		08:12 (T36)	07:16			07:31		07:54 (T33)	06:41		07:09 (T31)	06:07		20:07 (T27)	05:59		20:10 (T27)
	17:36	52	16:44 (T35)	18:15			19:46	14	08:08 (T33)	20:18	78	19:57 (T30)	20:49	19	20:26 (T27)	21:08	32	20:42 (T27)
24	07:50		08:11 (T36)	07:15			07:30		07:57 (T33)	06:40		07:09 (T31)	06:06		20:06 (T27)	05:59		20:11 (T27)
	17:37	51	16:43 (T35)	18:16			19:47	9	08:06 (T33)	20:20	77	19:56 (T30)	20:50	20	20:26 (T27)	21:08	32	20:43 (T27)
25	07:50		08:10 (T36)	07:13			07:28			06:38		07:10 (T31)	06:05		20:07 (T27)	06:00		20:11 (T27)
	17:39	49	16:42 (T35)	18:17			19:48			20:21	77	19:57 (T30)	20:51	21	20:28 (T27)	21:08	32	20:43 (T27)
26	07:49		08:10 (T36)	07:12			07:26			06:37		07:11 (T31)	06:05		20:06 (T27)	06:00		20:11 (T27)
	17:40	47	16:41 (T35)	18:18			19:50			20:22	74	19:56 (T30)	20:52	22	20:28 (T27)	21:09	32	20:43 (T27)
27	07:48		08:09 (T36)	07:10			07:24			06:36		07:12 (T31)	06:04		20:06 (T27)	06:00		20:12 (T27)
	17:41	44	16:39 (T35)	18:19			19:51			20:23	72	19:57 (T30)	20:53	22	20:28 (T27)	21:09	31	20:43 (T27)
28	07:47		08:08 (T36)	07:09			07:23			06:34		07:14 (T31)	06:03		20:06 (T27)	06:01		20:11 (T27)
	17:42	38	16:36 (T35)	18:20			19:52			20:24	69	19:57 (T30)	20:54	24	20:30 (T27)	21:09	32	20:43 (T27)
29	07:46		08:07 (T36)				07:21			06:33		07:15 (T31)	06:03		20:06 (T27)	06:01		20:12 (T27)
	17:44	30	08:37 (T36)				19:53			20:25	65	19:56 (T30)	20:55	24	20:30 (T27)	21:09	31	20:43 (T27)
30	07:45		08:06 (T36)				07:19			06:31		07:18 (T31)	06:02		20:06 (T27)	06:01		20:12 (T27)
	17:45	31	08:37 (T36)				19:54			20:26	60	19:57 (T30)	20:55	25	20:31 (T27)	21:09	31	20:43 (T27)
31	07:44		08:05 (T36)				07:18						06:02		20:06 (T27)			
	17:46	31	08:36 (T36)				19:55						20:56	25	20:31 (T27)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1439			215			168			1443			1002			921	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.68			0.53			0.61			0.62			0.56			0.54	
Total reduction		0.22			0.22			0.27			0.33			0.33			0.36	
Total, real		311			47			46			478			332			329	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1269 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8753)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December		
1	06:02		20:13 (T27)	06:26		19:25 (T30)	06:57		07:18 (T31)	07:27		07:47 (T33)	07:02				07:37		08:01 (T36)
	21:09	30	20:43 (T27)	20:50	36	20:01 (T30)	20:07	29	07:47 (T31)	19:15	5	07:52 (T33)	17:28				17:04	47	16:29 (T35)
2	06:02		20:12 (T27)	06:27		19:24 (T30)	06:58		07:19 (T31)	07:29		07:48 (T33)	07:03		07:45 (T36)		07:38		08:02 (T36)
	21:08	31	20:43 (T27)	20:49	38	20:02 (T30)	20:06	27	07:46 (T31)	19:13	2	07:50 (T33)	17:27	12	07:57 (T36)		17:03	45	16:30 (T35)
3	06:03		20:13 (T27)	06:28		19:23 (T30)	06:59		07:20 (T31)	07:30			07:04		07:42 (T36)		07:39		15:47 (T35)
	21:08	30	20:43 (T27)	20:48	40	20:03 (T30)	20:04	25	07:45 (T31)	19:11			17:25	18	08:00 (T36)		17:03	43	16:30 (T35)
4	06:04		20:12 (T27)	06:29		19:23 (T30)	07:00		07:21 (T31)	07:31			07:06		07:40 (T36)		07:40		15:47 (T35)
	21:08	31	20:43 (T27)	20:47	40	20:03 (T30)	20:02	23	07:44 (T31)	19:10			17:24	21	08:01 (T36)		17:03	44	16:31 (T35)
5	06:04		20:13 (T27)	06:30		19:22 (T30)	07:01		07:22 (T31)	07:32			07:07		07:39 (T36)		07:41		15:47 (T35)
	21:08	30	20:43 (T27)	20:46	42	20:04 (T30)	20:01	21	07:43 (T31)	19:08			17:23	23	08:02 (T36)		17:03	44	16:31 (T35)
6	06:05		20:13 (T27)	06:31		19:22 (T30)	07:02		07:23 (T31)	07:33			07:08		07:38 (T36)		07:42		15:47 (T35)
	21:08	29	20:42 (T27)	20:45	42	20:04 (T30)	19:57	18	07:41 (T31)	19:06			17:22	26	08:04 (T36)		17:03	45	16:32 (T35)
7	06:05		20:13 (T27)	06:32		19:21 (T30)	07:03		07:24 (T31)	07:34			07:09		07:37 (T36)		07:43		15:48 (T35)
	21:07	29	20:42 (T27)	20:43	44	20:05 (T30)	19:56	15	07:39 (T31)	19:05			17:21	28	08:05 (T36)		17:02	44	16:32 (T35)
8	06:06		20:13 (T27)	06:33		19:21 (T30)	07:04		07:25 (T31)	07:35			07:10		07:36 (T36)		07:44		15:48 (T35)
	21:07	28	20:41 (T27)	20:42	44	20:05 (T30)	19:54	11	07:36 (T31)	19:03			17:20	29	08:05 (T36)		17:02	45	16:33 (T35)
9	06:07		20:13 (T27)	06:34		19:20 (T30)	07:05		07:25 (T31)	07:36			07:12		07:37 (T36)		07:45		15:48 (T35)
	21:07	28	20:41 (T27)	20:41	45	20:05 (T30)	19:52	6	07:31 (T31)	19:01			17:19	30	08:07 (T36)		17:02	44	16:32 (T35)
10	06:07		20:14 (T27)	06:35		19:20 (T30)	07:06			07:37			07:13		07:36 (T36)		07:46		15:48 (T35)
	21:06	27	20:41 (T27)	20:40	45	20:05 (T30)	19:51			19:00			17:18	31	08:07 (T36)		17:02	45	16:33 (T35)
11	06:08		20:13 (T27)	06:36		19:19 (T30)	07:07			07:38			07:14		07:36 (T36)		07:47		15:49 (T35)
	21:06	27	20:40 (T27)	20:38	46	20:05 (T30)	19:49			18:58			17:17	31	08:07 (T36)		17:03	45	16:34 (T35)
12	06:09		20:14 (T27)	06:37		07:30 (T31)	07:08			07:39			07:15		07:37 (T36)		07:47		15:49 (T35)
	21:06	26	20:40 (T27)	20:37	53	20:05 (T30)	19:47			18:57			17:16	31	08:08 (T36)		17:03	45	16:34 (T35)
13	06:09		20:14 (T27)	06:38		07:26 (T31)	07:09			07:40			07:16		07:39 (T36)		07:48		15:50 (T35)
	21:05	26	20:40 (T27)	20:36	61	20:05 (T30)	19:45			18:55			17:15	30	08:09 (T36)		17:03	45	16:35 (T35)
14	06:10		20:15 (T27)	06:39		07:22 (T31)	07:10			07:41			07:18		07:40 (T36)		07:49		15:50 (T35)
	21:05	25	20:40 (T27)	20:34	66	20:04 (T30)	19:44			18:53			17:14	39	16:08 (T35)		17:03	45	16:35 (T35)
15	06:11		20:14 (T27)	06:40		07:20 (T31)	07:11			07:42			07:19		07:41 (T36)		07:50		15:50 (T35)
	21:04	24	20:38 (T27)	20:33	70	20:04 (T30)	19:42			18:52			17:13	43	16:11 (T35)		17:03	45	16:35 (T35)
16	06:12		20:15 (T27)	06:41		07:19 (T31)	07:12			07:44			07:20		07:43 (T36)		07:50		15:51 (T35)
	21:04	23	20:38 (T27)	20:32	72	20:04 (T30)	19:40			18:50			17:12	47	16:14 (T35)		17:03	45	16:36 (T35)
17	06:13		20:15 (T27)	06:42		07:17 (T31)	07:13			07:45			07:21		07:44 (T36)		07:51		15:52 (T35)
	21:03	23	20:38 (T27)	20:30	75	20:03 (T30)	19:39			18:49			17:11	49	16:16 (T35)		17:04	45	16:37 (T35)
18	06:13		20:16 (T27)	06:43		07:16 (T31)	07:14			07:46			07:22		07:45 (T36)		07:52		15:52 (T35)
	21:02	21	20:37 (T27)	20:29	77	20:03 (T30)	19:37			18:47			17:11	51	16:17 (T35)		17:04	45	16:37 (T35)
19	06:14		20:17 (T27)	06:44		07:15 (T31)	07:15		07:44 (T33)	07:47			07:24		07:46 (T36)		07:52		15:53 (T35)
	21:02	20	20:37 (T27)	20:27	77	20:02 (T30)	19:35	7	07:51 (T33)	18:46			17:10	52	16:18 (T35)		17:04	45	16:38 (T35)
20	06:15		20:16 (T27)	06:45		07:14 (T31)	07:16		07:41 (T33)	07:48			07:25		07:48 (T36)		07:53		15:53 (T35)
	21:01	19	20:35 (T27)	20:26	78	20:01 (T30)	19:33	13	07:54 (T33)	18:44			17:09	52	16:20 (T35)		17:05	45	16:38 (T35)
21	06:16		20:17 (T27)	06:46		07:13 (T31)	07:17		07:38 (T33)	07:49			07:26		07:49 (T36)		07:53		15:54 (T35)
	21:00	18	20:35 (T27)	20:24	77	20:00 (T30)	19:32	17	07:55 (T33)	18:43			17:08	53	16:21 (T35)		17:05	44	16:38 (T35)
22	06:17		20:18 (T27)	06:47		07:12 (T31)	07:18		07:38 (T33)	07:50			07:27		07:50 (T36)		07:54		15:54 (T35)
	20:59	16	20:34 (T27)	20:23	78	19:59 (T30)	19:30	18	07:56 (T33)	18:41			17:08	54	16:22 (T35)		17:06	44	16:38 (T35)
23	06:18		19:38 (T30)	06:48		07:11 (T31)	07:19		07:39 (T33)	07:51			07:28		07:51 (T36)		07:54		15:55 (T35)
	20:59	25	20:34 (T27)	20:21	77	19:58 (T30)	19:28	18	07:57 (T33)	18:40			17:07	54	16:23 (T35)		17:06	45	16:40 (T35)
24	06:19		19:36 (T30)	06:49		07:11 (T31)	07:20		07:40 (T33)	07:53			07:29		07:52 (T36)		07:55		15:55 (T35)
	20:58	28	20:33 (T27)	20:20	74	19:56 (T30)	19:27	17	07:57 (T33)	18:39			17:07	54	16:24 (T35)		17:07	45	16:40 (T35)
25	06:20		19:34 (T30)	06:50		07:11 (T31)	07:21		07:41 (T33)	07:54			07:31		07:54 (T36)		07:55		15:55 (T35)
	20:57	31	20:32 (T27)	20:18	72	19:55 (T30)	19:25	16	07:57 (T33)	18:37			17:06	53	16:25 (T35)		17:08	45	16:40 (T35)
26	06:20		19:32 (T30)	06:51		07:12 (T31)	07:22		07:42 (T33)	07:55			07:32		07:55 (T36)		07:56		15:56 (T35)
	20:56	33	20:32 (T27)	20:17	68	19:53 (T30)	19:23	15	07:57 (T33)	18:36			17:05	53	16:26 (T35)		17:08	45	16:41 (T35)
27	06:21		19:30 (T30)	06:52		07:13 (T31)	07:23		07:43 (T33)	07:56			07:33		07:56 (T36)		07:56		15:56 (T35)
	20:55	34	20:30 (T27)	20:15	64	19:52 (T30)	19:21	13	07:56 (T33)	18:34			17:05	51	16:26 (T35)		17:09	45	16:41 (T35)
28	06:22		19:29 (T30)	06:53		07:14 (T31)	07:24		07:44 (T33)	07:57			07:34		07:57 (T36)		07:56		15:56 (T35)
	20:54	33	20:29 (T27)	20:14	59	19:49 (T30)	19:20	12	07:56 (T33)	18:33			17:05	51	16:27 (T35)		17:09	45	16:41 (T35)
29	06:23		19:28 (T30)	06:54		07:15 (T31)	07:25		07:45 (T33)	07:58			07:35		07:58 (T36)		07:57		15:57 (T35)
	20:53	31	20:28 (T27)	20:12	51	19:46 (T30)	19:18	10	07:55 (T33)	18:32			17:04	50	16:27 (T35)		17:10	44	16:41 (T35)
30	06:24		19:27 (T30)	06:55		07:16 (T31)	07:26		07:46 (T33)	08:00			07:36		07:59 (T36)		07:57		15:58 (T35)
	20:52	33	20:00 (T30)	20:10	38	19:40 (T30)	19:16	8	07:54 (T33)	18:30			17:04	49	16:28 (T35)		17:11	45	16:43 (T35)
31	06:25		19:26 (T30)	06:56		07:17 (T31)				08:01							07:57		15:58 (T35)
	20:51	35	20:01 (T30)	20:09	31	07:48 (T31)				18:29							17:12	45	16:43 (T35)
Potential sun hours	460			429			375			345			297				287		
Total, worst case		844			1780			339			7			1165				1388	
Sun reduction		0.66			0.61			0.59			0.48			0.30				0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00				1.00	
Wind dir. red.		0.55			0.60			0.63			0.61			0.63				0.74	
Total reduction		0.37			0.38			0.38			0.30			0.19				0.17	
Total, real		315			674			130			2			225				232	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1314 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8792)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April	May		June	
1	07:58		07:44	16:49 (T13)	07:07	16:47 (T13)	07:16	06:30		06:01	19:59 (T10)
	17:13		17:47 34	17:23 (T13)	18:22 58	18:00 (T12)	19:56	20:27		20:57 34	20:33 (T10)
2	07:58		07:43	16:48 (T13)	07:06	16:48 (T13)	07:14	06:29		06:01	19:58 (T10)
	17:14		17:48 36	17:24 (T13)	18:23 58	18:01 (T12)	19:57	20:28		20:58 35	20:33 (T10)
3	07:58		07:42	16:47 (T13)	07:04	16:50 (T13)	07:13	06:27		06:00	19:59 (T10)
	17:14		17:50 39	17:26 (T13)	18:24 58	18:03 (T12)	19:58	20:29		20:59 35	20:34 (T10)
4	07:58		07:41	16:46 (T13)	07:03	16:51 (T13)	07:11	06:26		06:00	19:59 (T10)
	17:15		17:51 41	17:27 (T13)	18:25 55	18:03 (T12)	19:59	20:30		20:59 36	20:35 (T10)
5	07:58		07:40	16:45 (T13)	07:01	16:53 (T13)	07:09	06:25		05:59	19:59 (T10)
	17:16		17:52 44	17:29 (T13)	18:26 53	18:04 (T12)	20:00	20:31		21:00 36	20:35 (T10)
6	07:58		07:38	16:45 (T13)	06:59	16:56 (T13)	07:08	06:24		05:59	19:59 (T10)
	17:17		17:54 45	17:30 (T13)	18:27 49	18:06 (T12)	20:00	20:33		21:01 37	20:36 (T10)
7	07:58		07:37	16:43 (T13)	06:58	16:59 (T13)	07:06	06:22		05:59	19:59 (T10)
	17:18		17:55 48	17:31 (T13)	18:29 44	18:07 (T12)	20:01	20:34		21:01 38	20:37 (T10)
8	07:58		07:36	16:43 (T13)	07:56	18:39 (T12)	07:05	06:21		05:59	20:00 (T10)
	17:19		17:56 49	17:32 (T13)	19:30 29	19:08 (T12)	20:02	20:35		21:02 38	20:38 (T10)
9	07:57		07:35	16:43 (T13)	07:55	18:40 (T12)	07:03	06:20		05:58	19:59 (T10)
	17:20		17:57 51	17:34 (T13)	19:31 29	19:09 (T12)	20:04	20:36		21:03 38	20:37 (T10)
10	07:57		07:34	16:42 (T13)	07:53	18:39 (T12)	07:01	06:19		05:58	19:59 (T10)
	17:21		17:59 53	17:35 (T13)	19:32 31	19:10 (T12)	20:05	20:37		21:03 39	20:38 (T10)
11	07:57		07:33	16:42 (T13)	07:51	18:40 (T12)	07:00	06:18		05:58	20:00 (T10)
	17:22		18:00 55	17:37 (T13)	19:33 31	19:11 (T12)	20:06	20:38		21:04 39	20:39 (T10)
12	07:57		07:31	16:41 (T13)	07:50	18:40 (T12)	06:58	06:17		05:58	20:00 (T10)
	17:23		18:01 55	17:36 (T13)	19:34 30	19:10 (T12)	20:07	20:39		21:04 39	20:39 (T10)
13	07:56		07:30	16:41 (T13)	07:48	18:40 (T12)	06:56	06:16		05:58	20:00 (T10)
	17:24		18:02 56	17:37 (T13)	19:35 29	19:09 (T12)	20:08	20:40		21:05 40	20:40 (T10)
14	07:56		07:29	16:41 (T13)	07:46	18:41 (T12)	06:55	06:15	20:15 (T10)	05:58	20:00 (T10)
	17:25		18:04 57	17:38 (T13)	19:36 27	19:08 (T12)	20:09	20:41 2	20:17 (T10)	21:05 40	20:40 (T10)
15	07:56		07:27	16:41 (T13)	07:45	18:42 (T12)	06:53	06:14	20:10 (T10)	05:58	20:01 (T10)
	17:27		18:05 56	17:37 (T13)	19:38 25	19:07 (T12)	20:10	20:42 8	20:18 (T10)	21:06 39	20:40 (T10)
16	07:55		07:26	16:41 (T13)	07:43	18:43 (T12)	06:52	06:13	20:08 (T10)	05:58	20:01 (T10)
	17:28		18:06 57	17:38 (T13)	19:39 21	19:04 (T12)	20:11	20:43 11	20:19 (T10)	21:06 40	20:41 (T10)
17	07:55		07:25	16:41 (T13)	07:41	18:44 (T12)	06:50	06:12	20:06 (T10)	05:58	20:01 (T10)
	17:29		18:07 57	17:38 (T13)	19:40 18	19:02 (T12)	20:12	20:44 14	20:20 (T10)	21:07 40	20:41 (T10)
18	07:54		07:23	16:41 (T13)	07:40	18:48 (T12)	06:49	06:11	20:05 (T10)	05:58	20:01 (T10)
	17:30		18:08 56	17:37 (T13)	19:41 11	18:59 (T12)	20:13	20:45 17	20:22 (T10)	21:07 40	20:41 (T10)
19	07:54		07:22	16:41 (T13)	07:38		06:47	06:10	20:04 (T10)	05:58	20:01 (T10)
	17:31		18:10 57	17:38 (T13)	19:42		20:14	20:46 18	20:22 (T10)	21:07 40	20:41 (T10)
20	07:53		07:21	16:41 (T13)	07:36		06:46	06:09	20:03 (T10)	05:58	20:02 (T10)
	17:32		18:11 56	17:37 (T13)	19:43		20:15	20:47 20	20:23 (T10)	21:08 41	20:43 (T10)
21	07:53		07:19	16:42 (T13)	07:35		06:44	06:08	20:02 (T10)	05:58	20:02 (T10)
	17:34		18:12 55	17:37 (T13)	19:44		20:16	20:48 22	20:24 (T10)	21:08 41	20:43 (T10)
22	07:52		07:18	16:41 (T13)	07:33		06:43	06:07	20:02 (T10)	05:59	20:02 (T10)
	17:35		18:13 55	17:36 (T13)	19:45		20:18	20:49 23	20:25 (T10)	21:08 41	20:43 (T10)
23	07:51		07:16	16:42 (T13)	07:31		06:41	06:07	20:01 (T10)	05:59	20:02 (T10)
	17:36		18:15 54	17:36 (T13)	19:46		20:19	20:50 25	20:26 (T10)	21:08 41	20:43 (T10)
24	07:50		07:15	16:42 (T13)	07:30		06:40	06:06	20:00 (T10)	05:59	20:03 (T10)
	17:37		18:16 53	17:35 (T13)	19:47		20:20	20:50 26	20:26 (T10)	21:09 40	20:43 (T10)
25	07:50		07:13	16:43 (T13)	07:28		06:38	06:05	20:00 (T10)	05:59	20:03 (T10)
	17:38		18:17 52	17:35 (T13)	19:48		20:21	20:51 27	20:27 (T10)	21:09 40	20:43 (T10)
26	07:49	17:02 (T13)	07:12	16:43 (T13)	07:26		06:37	06:05	20:00 (T10)	06:00	20:03 (T10)
	17:40 10	17:12 (T13)	18:18 53	17:56 (T12)	19:50		20:22	20:52 28	20:28 (T10)	21:09 40	20:43 (T10)
27	07:48	16:58 (T13)	07:10	16:45 (T13)	07:24		06:35	06:04	19:59 (T10)	06:00	20:04 (T10)
	17:41 18	17:16 (T13)	18:19 55	17:57 (T12)	19:51		20:23	20:53 30	20:29 (T10)	21:09 40	20:44 (T10)
28	07:47	16:55 (T13)	07:09	16:45 (T13)	07:23		06:34	06:03	20:00 (T10)	06:00	20:03 (T10)
	17:42 23	17:18 (T13)	18:20 57	17:58 (T12)	19:52		20:24	20:54 30	20:30 (T10)	21:09 40	20:43 (T10)
29	07:46	16:53 (T13)			07:21		06:33	06:03	19:59 (T10)	06:01	20:03 (T10)
	17:43 26	17:19 (T13)			19:53		20:25	20:55 31	20:30 (T10)	21:09 40	20:43 (T10)
30	07:46	16:52 (T13)			07:19		06:31	06:02	19:59 (T10)	06:01	20:04 (T10)
	17:45 28	17:20 (T13)			19:54		20:26	20:56 33	20:32 (T10)	21:09 39	20:43 (T10)
31	07:45	16:50 (T13)			07:18			06:02	19:59 (T10)		
	17:46 31	17:21 (T13)			19:55			20:56 33	20:32 (T10)		
Potential sun hours	297		297		370		399	449		453	
Total, worst case	136		1436		656			398		1166	
Sun reduction	0.31		0.40		0.44			0.57		0.64	
Oper. time red.	1.00		1.00		1.00			1.00		1.00	
Wind dir. red.	0.72		0.71		0.68			0.54		0.54	
Total reduction	0.23		0.29		0.31			0.32		0.36	
Total, real	31		421		202			126		415	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1314 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8792)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December
1	06:02	20:04 (T10)	06:26	06:57			07:28	18:19 (T12)	07:02	16:12 (T13)	07:37
	21:09 39	20:43 (T10)	20:50	20:07			19:15 30	18:49 (T12)	17:28 53	17:05 (T13)	17:03
2	06:02	20:04 (T10)	06:27	06:58			07:29	18:18 (T12)	07:03	16:13 (T13)	07:38
	21:09 39	20:43 (T10)	20:49	20:06			19:13 31	18:49 (T12)	17:27 50	17:03 (T13)	17:03
3	06:03	20:04 (T10)	06:28	06:59			07:30	18:18 (T12)	07:05	16:13 (T13)	07:39
	21:09 39	20:43 (T10)	20:48	20:04			19:11 32	18:50 (T12)	17:25 49	17:02 (T13)	17:03
4	06:03	20:05 (T10)	06:29	07:00			07:31	18:17 (T12)	07:06	16:13 (T13)	07:40
	21:08 38	20:43 (T10)	20:47	20:02			19:10 31	18:48 (T12)	17:24 47	17:00 (T13)	17:03
5	06:04	20:06 (T10)	06:30	07:01			07:32	18:17 (T12)	07:07	16:15 (T13)	07:41
	21:08 37	20:43 (T10)	20:46	20:01			19:08 29	18:46 (T12)	17:23 45	17:00 (T13)	17:03
6	06:05	20:05 (T10)	06:31	07:02			07:33	17:39 (T13)	07:08	16:15 (T13)	07:42
	21:08 37	20:42 (T10)	20:45	19:57			19:06 39	18:44 (T12)	17:22 43	16:58 (T13)	17:02
7	06:05	20:06 (T10)	06:32	07:03			07:34	17:33 (T13)	07:09	16:16 (T13)	07:43
	21:08 36	20:42 (T10)	20:43	19:56			19:05 47	18:42 (T12)	17:21 41	16:57 (T13)	17:02
8	06:06	20:05 (T10)	06:33	07:04			07:35	17:30 (T13)	07:11	16:18 (T13)	07:44
	21:07 37	20:42 (T10)	20:42	19:54			19:03 52	18:41 (T12)	17:20 38	16:56 (T13)	17:02
9	06:06	20:06 (T10)	06:34	07:05			07:36	17:27 (T13)	07:12	16:19 (T13)	07:45
	21:07 36	20:42 (T10)	20:41	19:52			19:01 55	18:39 (T12)	17:19 36	16:55 (T13)	17:02
10	06:07	20:07 (T10)	06:35	07:06			07:37	17:24 (T13)	07:13	16:20 (T13)	07:46
	21:07 35	20:42 (T10)	20:40	19:51			19:00 57	18:37 (T12)	17:18 34	16:54 (T13)	17:02
11	06:08	20:06 (T10)	06:36	07:07			07:38	17:22 (T13)	07:14	16:21 (T13)	07:47
	21:06 34	20:40 (T10)	20:38	19:49			18:58 58	18:35 (T12)	17:17 31	16:52 (T13)	17:02
12	06:09	20:07 (T10)	06:37	07:08			07:39	17:20 (T13)	07:15	16:24 (T13)	07:48
	21:06 33	20:40 (T10)	20:37	19:47			18:57 59	18:34 (T12)	17:16 28	16:52 (T13)	17:02
13	06:09	20:07 (T10)	06:38	07:09			07:40	17:20 (T13)	07:17	16:25 (T13)	07:48
	21:05 33	20:40 (T10)	20:36	19:46			18:55 57	18:33 (T12)	17:15 26	16:51 (T13)	17:03
14	06:10	20:08 (T10)	06:39	07:10			07:41	17:18 (T13)	07:18	16:27 (T13)	07:49
	21:05 32	20:40 (T10)	20:34	19:44			18:53 57	18:31 (T12)	17:14 22	16:49 (T13)	17:03
15	06:11	20:08 (T10)	06:40	07:11			07:43	17:17 (T13)	07:19	16:31 (T13)	07:50
	21:04 31	20:39 (T10)	20:33	19:42			18:52 55	18:29 (T12)	17:13 18	16:49 (T13)	17:03
16	06:12	20:08 (T10)	06:41	07:12			07:44	17:16 (T13)	07:20	16:35 (T13)	07:51
	21:04 30	20:38 (T10)	20:32	19:40			18:50 50	18:06 (T13)	17:12 10	16:45 (T13)	17:03
17	06:12	20:09 (T10)	06:42	07:13			07:45	17:15 (T13)	07:21		07:51
	21:03 29	20:38 (T10)	20:30	19:39			18:49 51	18:06 (T13)	17:11		17:04
18	06:13	20:10 (T10)	06:43	07:14			07:46	17:13 (T13)	07:23		07:52
	21:03 28	20:38 (T10)	20:29	19:37			18:47 54	18:07 (T13)	17:10		17:04
19	06:14	20:09 (T10)	06:44	07:15			07:47	17:13 (T13)	07:24		07:53
	21:02 27	20:36 (T10)	20:27	19:35			18:46 54	18:07 (T13)	17:10		17:04
20	06:15	20:10 (T10)	06:45	07:16			07:48	17:13 (T13)	07:25		07:53
	21:01 26	20:36 (T10)	20:26	19:34			18:44 55	18:08 (T13)	17:09		17:05
21	06:16	20:11 (T10)	06:46	07:17			07:49	17:12 (T13)	07:26		07:54
	21:00 24	20:35 (T10)	20:24	19:32			18:43 56	18:08 (T13)	17:08		17:05
22	06:17	20:12 (T10)	06:47	07:18			07:50	17:11 (T13)	07:27		07:54
	21:00 23	20:35 (T10)	20:23	19:30			18:41 56	18:07 (T13)	17:08		17:06
23	06:18	20:13 (T10)	06:48	07:19			07:52	17:11 (T13)	07:28		07:55
	20:59 21	20:34 (T10)	20:21	19:28			18:40 56	18:07 (T13)	17:07		17:06
24	06:18	20:14 (T10)	06:49	07:20			07:53	17:11 (T13)	07:30		07:55
	20:58 19	20:33 (T10)	20:20	19:27			18:38 57	18:08 (T13)	17:06		17:07
25	06:19	20:15 (T10)	06:50	07:21		18:32 (T12)	07:54	17:11 (T13)	07:31		07:56
	20:57 18	20:33 (T10)	20:18	19:25	8	18:40 (T12)	18:37 57	18:08 (T13)	17:06		17:07
26	06:20	20:16 (T10)	06:51	07:22		18:28 (T12)	07:55	17:11 (T13)	07:32		07:56
	20:56 15	20:31 (T10)	20:17	19:23	15	18:43 (T12)	18:36 56	18:07 (T13)	17:05		17:08
27	06:21	20:17 (T10)	06:52	07:23		18:25 (T12)	07:56	17:10 (T13)	07:33		07:56
	20:55 13	20:30 (T10)	20:15	19:22	20	18:45 (T12)	18:34 57	18:07 (T13)	17:05		17:09
28	06:22	20:19 (T10)	06:53	07:24		18:23 (T12)	07:57	17:10 (T13)	07:34		07:57
	20:54 10	20:29 (T10)	20:14	19:20	24	18:47 (T12)	18:33 56	18:06 (T13)	17:04		17:09
29	06:23	20:22 (T10)	06:54	07:25		18:21 (T12)	07:59	17:11 (T13)	07:35		07:57
	20:53 6	20:28 (T10)	20:12	19:18	27	18:48 (T12)	18:32 56	18:07 (T13)	17:04		17:10
30	06:24		06:55	07:27		18:20 (T12)	08:00	17:11 (T13)	07:36		07:57
	20:52		20:11	19:16	28	18:48 (T12)	18:30 55	18:06 (T13)	17:04		17:11
31	06:25		06:56				08:01	17:11 (T13)			07:57
	20:51		20:09				18:29 54	18:05 (T13)			17:12
Potential sun hours	460		429	375			345		297		287
Total, worst case		825			122			1569		571	
Sun reduction		0.66			0.59			0.48		0.30	
Oper. time red.		1.00			1.00			1.00		1.00	
Wind dir. red.		0.54			0.67			0.70		0.72	
Total reduction		0.37			0.40			0.35		0.22	
Total, real		303			49			545		126	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1375 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8838)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February		March			April			May			June		
1	07:57		08:46 (T71)	07:43		07:07			07:16		18:16 (T69)	06:30		06:50 (T67)	06:02		07:06 (T68)
	17:13	45	09:31 (T71)	17:48		18:22			19:56	73	19:29 (T69)	20:27	108	19:01 (T69)	20:57	53	07:59 (T68)
2	07:57		08:47 (T71)	07:42		07:06			07:15		18:16 (T69)	06:29		06:49 (T67)	06:01		07:07 (T68)
	17:14	45	09:32 (T71)	17:49		18:23			19:57	74	19:30 (T69)	20:28	104	18:58 (T69)	20:57	52	07:59 (T68)
3	07:57		08:48 (T71)	07:41		07:04			07:13		18:15 (T69)	06:28		06:50 (T67)	06:01		07:08 (T68)
	17:15	44	09:32 (T71)	17:50		18:24			19:58	74	19:29 (T69)	20:29	94	18:54 (T69)	20:58	51	07:59 (T68)
4	07:57		08:49 (T71)	07:40		07:02			07:11		18:15 (T69)	06:27		06:50 (T67)	06:01		07:08 (T68)
	17:16	43	09:32 (T71)	17:51		18:25			19:59	74	19:29 (T69)	20:30	80	08:10 (T68)	20:59	50	07:58 (T68)
5	07:57		08:49 (T71)	07:39		07:01			07:10		18:15 (T69)	06:25		06:50 (T67)	06:00		07:09 (T68)
	17:17	43	09:32 (T71)	17:53		18:26			20:00	74	19:29 (T69)	20:31	80	08:10 (T68)	20:59	49	07:58 (T68)
6	07:57		08:50 (T71)	07:38		06:59			07:08		18:14 (T69)	06:24		06:51 (T67)	06:00		07:10 (T68)
	17:18	42	09:32 (T71)	17:54		18:28			20:00	75	19:29 (T69)	20:32	79	08:10 (T68)	21:00	48	07:58 (T68)
7	07:57		08:51 (T71)	07:37		06:58			07:06		18:14 (T69)	06:23		06:52 (T67)	06:00		07:11 (T68)
	17:19	41	09:32 (T71)	17:55		18:29			20:01	74	19:28 (T69)	20:33	78	08:10 (T68)	21:01	47	07:58 (T68)
8	07:57		08:52 (T71)	07:36		07:56			07:05		07:34 (T68)	06:22		06:53 (T67)	05:59		07:11 (T68)
	17:20	40	09:32 (T71)	17:57		19:30			20:02	86	19:28 (T69)	20:34	77	08:10 (T68)	21:01	46	07:57 (T68)
9	07:57		08:54 (T71)	07:35		07:54			07:03		07:27 (T68)	06:21		06:54 (T67)	05:59		07:12 (T68)
	17:21	38	09:32 (T71)	17:58		19:31			20:03	97	19:27 (T69)	20:35	75	08:09 (T68)	21:02	45	07:57 (T68)
10	07:57		08:54 (T71)	07:33		07:53			07:02		07:23 (T68)	06:20		06:56 (T67)	05:59		07:13 (T68)
	17:22	37	09:31 (T71)	17:59		19:32			20:04	105	19:27 (T69)	20:36	73	08:09 (T68)	21:03	44	07:57 (T68)
11	07:56		08:55 (T71)	07:32		07:51			07:00		07:20 (T68)	06:18		06:57 (T68)	05:59		07:13 (T68)
	17:23	36	09:31 (T71)	18:00		19:33			20:06	111	19:27 (T69)	20:37	72	08:09 (T68)	21:03	44	07:57 (T68)
12	07:56		08:57 (T71)	07:31		07:50			06:58		07:17 (T68)	06:17		06:57 (T68)	05:59		07:14 (T68)
	17:24	34	09:31 (T71)	18:01		19:34			20:07	114	19:26 (T69)	20:38	72	08:09 (T68)	21:04	43	07:57 (T68)
13	07:56		08:57 (T71)	07:30		07:48			06:57		07:16 (T68)	06:16		06:58 (T68)	05:59		07:15 (T68)
	17:25	33	09:30 (T71)	18:03		19:35			20:08	117	19:26 (T69)	20:39	70	08:08 (T68)	21:04	41	07:56 (T68)
14	07:55		08:59 (T71)	07:28		07:46		18:49 (T69)	06:55		07:14 (T68)	06:15		06:58 (T68)	05:59		07:15 (T68)
	17:26	31	09:30 (T71)	18:04		19:37	17	19:06 (T69)	20:09	119	19:24 (T69)	20:40	70	08:08 (T68)	21:05	41	07:56 (T68)
15	07:55		09:00 (T71)	07:27		07:45		18:45 (T69)	06:54		07:13 (T68)	06:14		06:58 (T68)	05:59		07:16 (T68)
	17:27	28	09:28 (T71)	18:05		19:38	26	19:11 (T69)	20:10	120	19:24 (T69)	20:41	69	08:07 (T68)	21:05	40	07:56 (T68)
16	07:55		09:02 (T71)	07:26		07:43		18:40 (T69)	06:52		07:11 (T68)	06:13		06:58 (T68)	05:59		07:16 (T68)
	17:28	26	09:28 (T71)	18:06		19:39	34	19:14 (T69)	20:11	122	19:23 (T69)	20:42	69	08:07 (T68)	21:06	40	07:56 (T68)
17	07:54		09:04 (T71)	07:25		07:41		18:37 (T69)	06:51		07:10 (T68)	06:12		06:59 (T68)	05:59		07:16 (T68)
	17:30	22	09:26 (T71)	18:08		19:40	40	19:17 (T69)	20:12	123	19:23 (T69)	20:43	67	08:06 (T68)	21:06	40	07:56 (T68)
18	07:54		09:07 (T71)	07:23		07:40		18:35 (T69)	06:49		07:08 (T68)	06:11		06:59 (T68)	05:59		07:17 (T68)
	17:31	18	09:25 (T71)	18:09		19:41	44	19:19 (T69)	20:13	124	19:21 (T69)	20:44	67	08:06 (T68)	21:06	39	07:56 (T68)
19	07:53		09:09 (T71)	07:22		07:38		18:32 (T69)	06:47		07:07 (T68)	06:11		06:59 (T68)	05:59		07:17 (T68)
	17:32	13	09:22 (T71)	18:10		19:42	49	19:21 (T69)	20:14	125	19:21 (T69)	20:45	66	08:05 (T68)	21:07	39	07:56 (T68)
20	07:53			07:20		07:36		18:30 (T69)	06:46		07:05 (T68)	06:10		07:00 (T68)	05:59		07:17 (T68)
	17:33			18:11		19:43	51	19:21 (T69)	20:15	124	19:19 (T69)	20:46	65	08:05 (T68)	21:07	39	07:56 (T68)
21	07:52			07:19		07:35		18:29 (T69)	06:44		07:04 (T68)	06:09		07:00 (T68)	05:59		07:18 (T68)
	17:34			18:12		19:44	54	19:23 (T69)	20:16	125	19:19 (T69)	20:47	65	08:05 (T68)	21:07	39	07:57 (T68)
22	07:51			07:18		07:33		18:27 (T69)	06:43		07:02 (T68)	06:08		07:01 (T68)	05:59		07:18 (T68)
	17:35			18:14		19:45	57	19:24 (T69)	20:17	125	19:17 (T69)	20:48	63	08:04 (T68)	21:07	39	07:57 (T68)
23	07:51			07:16		07:31		18:25 (T69)	06:42		07:01 (T67)	06:07		07:01 (T68)	06:00		07:18 (T68)
	17:37			18:15		19:46	60	19:25 (T69)	20:18	124	19:16 (T69)	20:49	62	08:03 (T68)	21:08	39	07:57 (T68)
24	07:50			07:15		07:30		18:24 (T69)	06:40		06:59 (T67)	06:07		07:02 (T68)	06:00		07:18 (T68)
	17:38			18:16		19:47	62	19:26 (T69)	20:19	123	19:14 (T69)	20:50	62	08:04 (T68)	21:08	39	07:57 (T68)
25	07:49			07:13		07:28		18:23 (T69)	06:39		06:58 (T67)	06:06		07:02 (T68)	06:00		07:18 (T68)
	17:39			18:17		19:48	64	19:27 (T69)	20:20	122	19:13 (T69)	20:51	61	08:03 (T68)	21:08	40	07:58 (T68)
26	07:48			07:12		07:26		18:21 (T69)	06:37		06:57 (T67)	06:05		07:03 (T68)	06:00		07:18 (T68)
	17:40			18:18		19:50	66	19:27 (T69)	20:21	122	19:12 (T69)	20:52	59	08:02 (T68)	21:08	40	07:58 (T68)
27	07:48			07:10		07:25		18:21 (T69)	06:36		06:55 (T67)	06:05		07:04 (T68)	06:01		07:18 (T68)
	17:42			18:20		19:51	67	19:28 (T69)	20:23	120	19:10 (T69)	20:52	58	08:02 (T68)	21:08	40	07:58 (T68)
28	07:47			07:09		07:23		18:19 (T69)	06:35		06:54 (T67)	06:04		07:04 (T68)	06:01		07:18 (T68)
	17:43			18:21		19:52	70	19:29 (T69)	20:24	118	19:08 (T69)	20:53	57	08:01 (T68)	21:08	41	07:59 (T68)
29	07:46					07:21		18:18 (T69)	06:33		06:53 (T67)	06:03		07:05 (T68)	06:02		07:18 (T68)
	17:44					19:53	71	19:29 (T69)	20:25	115	19:06 (T69)	20:54	56	08:01 (T68)	21:08	41	07:59 (T68)
30	07:45					07:20		18:18 (T69)	06:32		06:51 (T67)	06:03		07:05 (T68)	06:02		07:18 (T68)
	17:45					19:54	71	19:29 (T69)	20:26	112	19:03 (T69)	20:55	55	08:00 (T68)	21:08	43	08:01 (T68)
31	07:44					07:18		18:17 (T69)				06:02		07:06 (T68)			
	17:46					19:55	72	19:29 (T69)				20:56	54	08:00 (T68)			
Potential sun hours	297			297		370			399			448			452		
Total, worst case		659					975			3211			2187			1292	
Sun reduction		0.31					0.44			0.52			0.57			0.64	
Oper. time red.		1.00					1.00			1.00			1.00			1.00	
Wind dir. red.		0.53					0.64			0.65			0.67			0.67	
Total reduction		0.16					0.28			0.33			0.37			0.42	
Total, real		106					269			1071			818			542	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1375 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8838)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:03		07:18 (T68)	06:27		07:07 (T68)	06:57		07:19 (T68)	07:28	07:02			07:37		08:37 (T71)
	21:08	43	08:01 (T68)	20:50	71	08:18 (T68)	20:07	111	19:26 (T69)	19:15	17:28			17:04	36	09:13 (T71)
2	06:03		07:18 (T68)	06:28		07:06 (T67)	06:58		07:22 (T68)	07:29	07:03			07:38		08:37 (T71)
	21:08	44	08:02 (T68)	20:49	73	08:19 (T68)	20:05	105	19:26 (T69)	19:13	17:27			17:04	37	09:14 (T71)
3	06:04		07:17 (T68)	06:29		07:05 (T67)	06:59		07:25 (T68)	07:30	07:04			07:39		08:37 (T71)
	21:08	45	08:02 (T68)	20:48	74	08:19 (T68)	20:04	97	19:25 (T69)	19:11	17:26			17:04	38	09:15 (T71)
4	06:04		07:17 (T68)	06:30		07:03 (T67)	07:00		07:30 (T68)	07:31	07:05			07:40		08:37 (T71)
	21:08	46	08:03 (T68)	20:47	76	08:19 (T68)	20:02	88	19:25 (T69)	19:10	17:25			17:03	39	09:16 (T71)
5	06:05		07:17 (T68)	06:31		07:02 (T67)	07:01		18:11 (T69)	07:32	07:07			07:41		08:36 (T71)
	21:08	46	08:03 (T68)	20:45	77	08:19 (T68)	20:01	74	19:25 (T69)	19:08	17:23			17:03	41	09:17 (T71)
6	06:05		07:17 (T68)	06:31		07:01 (T67)	07:02		18:10 (T69)	07:33	07:08			07:42		08:36 (T71)
	21:07	47	08:04 (T68)	20:44	78	08:19 (T68)	19:57	75	19:25 (T69)	19:07	17:22			17:03	42	09:18 (T71)
7	06:06		07:16 (T68)	06:32		07:00 (T67)	07:03		18:10 (T69)	07:34	07:09			07:43		08:36 (T71)
	21:07	48	08:04 (T68)	20:43	79	08:19 (T68)	19:56	74	19:24 (T69)	19:05	17:21			17:03	43	09:19 (T71)
8	06:07		07:16 (T68)	06:33		07:00 (T67)	07:04		18:10 (T69)	07:35	07:10			07:44		08:37 (T71)
	21:07	49	08:05 (T68)	20:42	80	08:20 (T68)	19:54	74	19:24 (T69)	19:03	17:20			17:03	43	09:20 (T71)
9	06:07		07:16 (T68)	06:34		06:59 (T67)	07:05		18:10 (T69)	07:36	07:11			07:44		08:37 (T71)
	21:06	50	08:06 (T68)	20:41	80	08:19 (T68)	19:52	73	19:23 (T69)	19:02	17:19			17:03	44	09:21 (T71)
10	06:08		07:15 (T68)	06:35		06:58 (T67)	07:06		18:09 (T69)	07:37	07:13			07:45		08:37 (T71)
	21:06	51	08:06 (T68)	20:39	97	19:04 (T69)	19:51	74	19:23 (T69)	19:00	17:18			17:03	45	09:22 (T71)
11	06:09		07:15 (T68)	06:36		06:58 (T67)	07:07		18:09 (T69)	07:38	07:14			07:46		08:37 (T71)
	21:06	52	08:07 (T68)	20:38	105	19:08 (T69)	19:49	73	19:22 (T69)	18:58	17:17			17:03	45	09:22 (T71)
12	06:09		07:15 (T68)	06:37		06:59 (T67)	07:08		18:08 (T69)	07:39	07:15			07:47		08:37 (T71)
	21:05	53	08:08 (T68)	20:37	110	19:11 (T69)	19:47	73	19:21 (T69)	18:57	17:16			17:03	45	09:22 (T71)
13	06:10		07:14 (T68)	06:38		07:00 (T67)	07:09		18:08 (T69)	07:40	07:16			07:48		08:37 (T71)
	21:05	54	08:08 (T68)	20:35	114	19:13 (T69)	19:45	72	19:20 (T69)	18:55	17:15			17:03	46	09:23 (T71)
14	06:11		07:14 (T68)	06:39		07:01 (T67)	07:10		18:08 (T69)	07:41	07:17			07:49		08:38 (T71)
	21:04	55	08:09 (T68)	20:34	117	19:15 (T69)	19:44	71	19:19 (T69)	18:54	17:14			17:04	46	09:24 (T71)
15	06:12		07:13 (T68)	06:40		07:02 (T67)	07:11		18:09 (T69)	07:42	07:19			07:49		08:38 (T71)
	21:04	57	08:10 (T68)	20:33	118	19:16 (T69)	19:42	69	19:18 (T69)	18:52	17:13			17:04	47	09:25 (T71)
16	06:12		07:13 (T68)	06:41		07:03 (T67)	07:12		18:09 (T69)	07:43	07:20			07:50		08:38 (T71)
	21:03	58	08:11 (T68)	20:31	121	19:18 (T69)	19:40	68	19:17 (T69)	18:51	17:13			17:04	47	09:25 (T71)
17	06:13		07:12 (T68)	06:42		07:04 (T67)	07:13		18:09 (T69)	07:45	07:21			07:51		08:39 (T71)
	21:03	59	08:11 (T68)	20:30	121	19:19 (T69)	19:39	67	19:16 (T69)	18:49	17:12			17:04	47	09:26 (T71)
18	06:14		07:12 (T68)	06:43		07:05 (T67)	07:14		18:10 (T69)	07:46	07:22			07:51		08:40 (T71)
	21:02	60	08:12 (T68)	20:28	123	19:20 (T69)	19:37	65	19:15 (T69)	18:48	17:11			17:05	47	09:27 (T71)
19	06:15		07:12 (T68)	06:44		07:06 (T67)	07:15		18:10 (T69)	07:47	07:23			07:52		08:39 (T71)
	21:01	61	08:13 (T68)	20:27	123	19:21 (T69)	19:35	63	19:13 (T69)	18:46	17:10			17:05	48	09:27 (T71)
20	06:16		07:12 (T68)	06:45		07:07 (T67)	07:16		18:11 (T69)	07:48	07:24			07:53		08:40 (T71)
	21:01	61	08:13 (T68)	20:26	124	19:22 (T69)	19:34	60	19:11 (T69)	18:45	17:10			17:05	48	09:28 (T71)
21	06:16		07:11 (T68)	06:46		07:08 (T68)	07:17		18:12 (T69)	07:49	07:26			07:53		08:40 (T71)
	21:00	63	08:14 (T68)	20:24	125	19:23 (T69)	19:32	58	19:10 (T69)	18:43	17:09			17:06	48	09:28 (T71)
22	06:17		07:11 (T68)	06:47		07:08 (T68)	07:18		18:13 (T69)	07:50	07:27			07:54		08:41 (T71)
	20:59	64	08:15 (T68)	20:23	125	19:23 (T69)	19:30	55	19:08 (T69)	18:42	17:08			17:06	48	09:29 (T71)
23	06:18		07:10 (T68)	06:48		07:09 (T68)	07:19		18:14 (T69)	07:51	07:28		08:46 (T71)	07:54		08:41 (T71)
	20:58	65	08:15 (T68)	20:21	125	19:23 (T69)	19:28	52	19:06 (T69)	18:40	17:08	13	08:59 (T71)	17:07	48	09:29 (T71)
24	06:19		07:10 (T68)	06:49		07:10 (T68)	07:20		18:15 (T69)	07:52	07:29		08:44 (T71)	07:55		08:42 (T71)
	20:57	65	08:15 (T68)	20:20	125	19:24 (T69)	19:27	50	19:05 (T69)	18:39	17:07	18	09:02 (T71)	17:07	48	09:30 (T71)
25	06:20		07:09 (T68)	06:50		07:11 (T68)	07:21		18:17 (T69)	07:54	07:30		08:42 (T71)	07:55		08:42 (T71)
	20:57	67	08:16 (T68)	20:18	124	19:24 (T69)	19:25	45	19:02 (T69)	18:37	17:06	22	09:04 (T71)	17:08	48	09:30 (T71)
26	06:21		07:09 (T68)	06:51		07:12 (T68)	07:22		18:19 (T69)	07:55	07:31		08:40 (T71)	07:55		08:43 (T71)
	20:56	68	08:17 (T68)	20:17	123	19:25 (T69)	19:23	41	19:00 (T69)	18:36	17:06	26	09:06 (T71)	17:09	47	09:30 (T71)
27	06:22		07:09 (T68)	06:52		07:13 (T68)	07:23		18:21 (T69)	07:56	07:32		08:40 (T71)	07:56		08:44 (T71)
	20:55	68	08:17 (T68)	20:15	122	19:25 (T69)	19:22	36	18:57 (T69)	18:35	17:06	28	09:08 (T71)	17:09	47	09:31 (T71)
28	06:23		07:09 (T68)	06:53		07:14 (T68)	07:24		18:24 (T69)	07:57	07:34		08:39 (T71)	07:56		08:44 (T71)
	20:54	69	08:18 (T68)	20:13	120	19:25 (T69)	19:20	29	18:53 (T69)	18:33	17:05	31	09:10 (T71)	17:10	47	09:31 (T71)
29	06:24		07:09 (T68)	06:54		07:15 (T68)	07:25		18:28 (T69)	07:58	07:35		08:38 (T71)	07:56		08:45 (T71)
	20:53	69	08:18 (T68)	20:12	118	19:25 (T69)	19:18	21	18:49 (T69)	18:32	17:05	33	09:11 (T71)	17:11	46	09:31 (T71)
30	06:25		07:08 (T68)	06:55		07:16 (T68)	07:26			07:59	07:36		08:38 (T71)	07:56		08:45 (T71)
	20:52	71	08:19 (T68)	20:10	116	19:26 (T69)	19:17			18:31	17:04	34	09:12 (T71)	17:12	46	09:31 (T71)
31	06:26		07:08 (T68)	06:56		07:17 (T68)				08:01				07:57		08:46 (T71)
	20:51	71	08:19 (T68)	20:09	114	19:26 (T69)				18:29				17:12	45	09:31 (T71)
Potential sun hours	459			428			375			345	298			288		
Total, worst case		1779			3298			1913				205			1392	
Sun reduction		0.66			0.61			0.59				0.30			0.22	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.67			0.66			0.64				0.53			0.53	
Total reduction		0.43			0.40			0.37				0.16			0.11	
Total, real		770			1305			711				32			160	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1431 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8883)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February		March			April			May			June		
1	07:57		15:34 (T44)	07:43		07:07			07:16		07:35 (T76)	06:30		19:03 (T77)	06:01		19:53 (T42)
	17:13	51	16:25 (T44)	17:47		18:22			19:56	67	19:34 (T77)	20:27	8	19:11 (T77)	20:57	39	20:32 (T42)
2	07:57		15:35 (T44)	07:42		07:06			07:14		07:33 (T76)	06:29			06:01		19:53 (T42)
	17:14	50	16:25 (T44)	17:49		18:23			19:57	72	19:35 (T77)	20:28			20:58	40	20:33 (T42)
3	07:57		15:35 (T44)	07:41		07:04			07:13		07:32 (T76)	06:28			06:01		19:52 (T42)
	17:15	50	16:25 (T44)	17:50		18:24			19:58	76	19:37 (T77)	20:29			20:58	41	20:33 (T42)
4	07:57		15:36 (T44)	07:40		07:02			07:11		07:30 (T76)	06:26			06:00		19:53 (T42)
	17:16	50	16:26 (T44)	17:51		18:25			19:59	79	19:37 (T77)	20:30			20:59	41	20:34 (T42)
5	07:57		15:37 (T44)	07:39		07:01			07:09		07:28 (T76)	06:25			06:00		19:53 (T42)
	17:17	49	16:26 (T44)	17:52		18:26			20:00	82	19:38 (T77)	20:31			21:00	42	20:35 (T42)
6	07:57		15:37 (T44)	07:38		06:59			07:08		07:27 (T76)	06:24			05:59		19:52 (T42)
	17:17	49	16:26 (T44)	17:54		18:27			20:00	85	19:39 (T77)	20:32			21:00	43	20:35 (T42)
7	07:57		15:37 (T44)	07:37		06:58			07:06		07:25 (T76)	06:23			05:59		19:52 (T42)
	17:18	48	16:25 (T44)	17:55		18:29			20:01	87	19:39 (T77)	20:33			21:01	44	20:36 (T42)
8	07:57		15:38 (T44)	07:36		07:56			07:05		07:24 (T76)	06:22			05:59		19:53 (T42)
	17:19	48	16:26 (T44)	17:56		19:30			20:02	88	19:39 (T77)	20:34			21:02	44	20:37 (T42)
9	07:57		15:39 (T44)	07:35		07:54			07:03		07:23 (T76)	06:20			05:59		19:53 (T42)
	17:20	47	16:26 (T44)	17:57		19:31			20:03	89	19:39 (T77)	20:35			21:02	45	20:38 (T42)
10	07:57		15:40 (T44)	07:34		07:53			07:01		07:23 (T76)	06:19			05:59		19:53 (T42)
	17:21	46	16:26 (T44)	17:59		19:32			20:05	88	19:38 (T77)	20:36			21:03	45	20:38 (T42)
11	07:57		15:41 (T44)	07:32		07:51			07:00		07:23 (T76)	06:18			05:58		19:54 (T42)
	17:23	45	16:26 (T44)	18:00		19:33			20:06	88	19:38 (T77)	20:37			21:03	45	20:39 (T42)
12	07:56		15:42 (T44)	07:31		07:50			06:58		07:23 (T76)	06:17			05:58		19:53 (T42)
	17:24	44	16:26 (T44)	18:01		19:34			20:07	87	19:38 (T77)	20:38			21:04	46	20:39 (T42)
13	07:56		15:43 (T44)	07:30		07:48			06:57		07:24 (T76)	06:16			05:58		19:53 (T42)
	17:25	43	16:26 (T44)	18:02		19:35			20:08	85	19:38 (T77)	20:39			21:05	46	20:39 (T42)
14	07:56		15:44 (T44)	07:29		07:46			06:55		07:25 (T76)	06:15		20:09 (T42)	05:58		19:53 (T42)
	17:26	41	16:25 (T44)	18:04		19:36			20:09	81	19:37 (T77)	20:40	8	20:17 (T42)	21:05	46	20:39 (T42)
15	07:55		15:45 (T44)	07:27		07:45			06:53		07:25 (T76)	06:14		20:06 (T42)	05:58		19:53 (T42)
	17:27	41	16:26 (T44)	18:05		19:38			20:10	78	19:36 (T77)	20:41	13	20:19 (T42)	21:05	47	20:40 (T42)
16	07:55		15:46 (T44)	07:26		07:43			06:52		07:27 (T76)	06:13		20:04 (T42)	05:58		19:53 (T42)
	17:28	39	16:25 (T44)	18:06		19:39			20:11	75	19:36 (T77)	20:42	16	20:20 (T42)	21:06	47	20:40 (T42)
17	07:54		15:47 (T44)	07:25		07:41			06:50		07:29 (T76)	06:12		20:02 (T42)	05:58		19:55 (T42)
	17:29	38	16:25 (T44)	18:07		19:40			20:12	69	19:35 (T77)	20:43	18	20:20 (T42)	21:06	46	20:41 (T42)
18	07:54		15:48 (T44)	07:23		07:40			06:49		07:33 (T76)	06:11		20:00 (T42)	05:58		19:55 (T42)
	17:30	36	16:24 (T44)	18:09		19:41			20:13	60	19:35 (T77)	20:44	21	20:21 (T42)	21:07	47	20:42 (T42)
19	07:53		15:50 (T44)	07:22		07:38			06:47		18:43 (T77)	06:10		19:59 (T42)	05:58		19:55 (T42)
	17:32	34	16:24 (T44)	18:10		19:42			20:14	50	19:33 (T77)	20:45	23	20:22 (T42)	21:07	47	20:42 (T42)
20	07:53		15:52 (T44)	07:20		07:36			06:46		18:44 (T77)	06:09		19:58 (T42)	05:59		19:55 (T42)
	17:33	31	16:23 (T44)	18:11		19:43			20:15	49	19:33 (T77)	20:46	25	20:23 (T42)	21:07	47	20:42 (T42)
21	07:52		15:53 (T44)	07:19		07:35			06:44		18:45 (T77)	06:09		19:56 (T42)	05:59		19:55 (T42)
	17:34	28	16:21 (T44)	18:12		19:44			20:16	47	19:32 (T77)	20:47	27	20:23 (T42)	21:08	47	20:42 (T42)
22	07:52		15:56 (T44)	07:18		07:33			06:43		18:45 (T77)	06:08		19:56 (T42)	05:59		19:55 (T42)
	17:35	24	16:20 (T44)	18:13		19:45			20:17	46	19:31 (T77)	20:48	29	20:25 (T42)	21:08	47	20:42 (T42)
23	07:51		15:58 (T44)	07:16		07:31			06:41		18:46 (T77)	06:07		19:55 (T42)	05:59		19:56 (T42)
	17:36	20	16:18 (T44)	18:15		19:46			20:18	44	19:30 (T77)	20:49	30	20:25 (T42)	21:08	47	20:43 (T42)
24	07:50		16:01 (T44)	07:15		07:30		19:09 (T77)	06:40		18:47 (T77)	06:06		19:54 (T42)	05:59		19:56 (T42)
	17:38	15	16:16 (T44)	18:16		19:47	14	19:23 (T77)	20:19	41	19:28 (T77)	20:50	32	20:26 (T42)	21:08	47	20:43 (T42)
25	07:49			07:13		07:28		19:04 (T77)	06:38		18:48 (T77)	06:06		19:55 (T42)	06:00		19:56 (T42)
	17:39			18:17		19:48	23	19:27 (T77)	20:21	39	19:27 (T77)	20:51	32	20:27 (T42)	21:08	47	20:43 (T42)
26	07:49			07:12		07:26		19:00 (T77)	06:37		18:49 (T77)	06:05		19:54 (T42)	06:00		19:57 (T42)
	17:40			18:18		19:50	28	19:28 (T77)	20:22	36	19:25 (T77)	20:52	34	20:28 (T42)	21:08	46	20:43 (T42)
27	07:48			07:10		07:24		07:43 (T76)	06:36		18:51 (T77)	06:04		19:54 (T42)	06:00		19:56 (T42)
	17:41			18:19		19:51	37	19:29 (T77)	20:23	32	19:23 (T77)	20:53	35	20:29 (T42)	21:08	47	20:43 (T42)
28	07:47			07:09		07:23		07:42 (T76)	06:34		18:53 (T77)	06:04		19:53 (T42)	06:01		19:56 (T42)
	17:42			18:21		19:52	44	19:30 (T77)	20:24	28	19:21 (T77)	20:54	36	20:29 (T42)	21:09	47	20:43 (T42)
29	07:46					07:21		07:40 (T76)	06:33		18:54 (T77)	06:03		19:53 (T42)	06:01		19:57 (T42)
	17:44					19:53	51	19:31 (T77)	20:25	24	19:18 (T77)	20:54	37	20:30 (T42)	21:09	46	20:43 (T42)
30	07:45					07:19		07:38 (T76)	06:32		18:58 (T77)	06:02		19:53 (T42)	06:02		19:57 (T42)
	17:45					19:54	57	19:32 (T77)	20:26	17	19:15 (T77)	20:55	38	20:31 (T42)	21:08	46	20:43 (T42)
31	07:44					07:18		07:37 (T76)				06:02		19:52 (T42)			
	17:46					19:55	62	19:34 (T77)				20:56	39	20:31 (T42)			
Potential sun hours	297			297		370			399			448			453		
Total, worst case		967					316			1889			501			1355	
Sun reduction		0.31					0.44			0.52			0.57			0.64	
Oper. time red.		1.00					1.00			1.00			1.00			1.00	
Wind dir. red.		0.74					0.62			0.62			0.54			0.54	
Total reduction		0.24					0.28			0.34			0.32			0.36	
Total, real		232					90			636			161			488	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1431 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8883)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		19:58 (T42)	06:26			06:57			07:22 (T76)	07:27			07:37		15:23 (T44)
	21:08	45	20:43 (T42)	20:50			20:07	88		19:37 (T77)	19:15			17:04	45	16:08 (T44)
2	06:03		19:57 (T42)	06:27			06:58			07:22 (T76)	07:29			07:38		15:22 (T44)
	21:08	46	20:43 (T42)	20:49			20:06	88		19:37 (T77)	19:13			17:03	46	16:08 (T44)
3	06:03		19:58 (T42)	06:28			06:59			07:21 (T76)	07:30			07:39		15:22 (T44)
	21:08	45	20:43 (T42)	20:48			20:04	89		19:37 (T77)	19:11			17:03	47	16:09 (T44)
4	06:04		19:58 (T42)	06:29			07:00			07:21 (T76)	07:31			07:40		15:23 (T44)
	21:08	44	20:42 (T42)	20:47			20:02	88		19:36 (T77)	19:10			17:03	48	16:11 (T44)
5	06:04		19:59 (T42)	06:30			07:01			07:22 (T76)	07:32			07:41		15:23 (T44)
	21:08	43	20:42 (T42)	20:46			20:01	87		19:36 (T77)	19:08			17:03	49	16:12 (T44)
6	06:05		19:58 (T42)	06:31			07:02			07:23 (T76)	07:33			07:42		15:23 (T44)
	21:08	44	20:42 (T42)	20:44			19:57	85		19:35 (T77)	19:06			17:03	48	16:11 (T44)
7	06:05		19:59 (T42)	06:32			07:03			07:24 (T76)	07:34			07:43		15:23 (T44)
	21:07	43	20:42 (T42)	20:43			19:56	82		19:34 (T77)	19:05			17:03	49	16:12 (T44)
8	06:06		20:00 (T42)	06:33			07:04			07:25 (T76)	07:35			07:44		15:23 (T44)
	21:07	42	20:42 (T42)	20:42			19:54	80		19:33 (T77)	19:03			17:03	50	16:13 (T44)
9	06:07		19:59 (T42)	06:34			07:05			07:26 (T76)	07:36			07:45		15:23 (T44)
	21:07	42	20:41 (T42)	20:41			19:52	76		19:31 (T77)	19:01			17:03	50	16:13 (T44)
10	06:07		20:00 (T42)	06:35			07:06			07:26 (T76)	07:37			07:46		15:24 (T44)
	21:06	41	20:41 (T42)	20:39			19:51	71		19:28 (T77)	19:00			17:03	50	16:14 (T44)
11	06:08		20:01 (T42)	06:36			07:07			07:27 (T76)	07:38			07:46		15:24 (T44)
	21:06	40	20:41 (T42)	20:38			19:49	68		19:27 (T77)	18:58			17:03	51	16:15 (T44)
12	06:09		20:00 (T42)	06:37		19:10 (T77)	07:08			07:28 (T76)	07:39			07:47		15:25 (T44)
	21:05	40	20:40 (T42)	20:37	11	19:21 (T77)	19:47	63		19:25 (T77)	18:57			17:03	51	16:16 (T44)
13	06:10		20:01 (T42)	06:38		19:05 (T77)	07:09			07:29 (T76)	07:40			07:48		15:25 (T44)
	21:05	39	20:40 (T42)	20:36	20	19:25 (T77)	19:45	57		19:23 (T77)	18:55			17:03	51	16:16 (T44)
14	06:10		20:02 (T42)	06:39		19:03 (T77)	07:10			07:30 (T76)	07:41			07:49		15:25 (T44)
	21:05	37	20:39 (T42)	20:34	25	19:28 (T77)	19:44	52		19:22 (T77)	18:54			17:03	51	16:16 (T44)
15	06:11		20:02 (T42)	06:40		19:00 (T77)	07:11			07:31 (T76)	07:42			07:50		15:25 (T44)
	21:04	37	20:39 (T42)	20:33	30	19:30 (T77)	19:42	46		19:20 (T77)	18:52			17:03	52	16:17 (T44)
16	06:12		20:02 (T42)	06:41		18:57 (T77)	07:12			07:32 (T76)	07:44			07:50		15:26 (T44)
	21:03	36	20:38 (T42)	20:31	33	19:30 (T77)	19:40	38		19:18 (T77)	18:50			17:04	52	16:18 (T44)
17	06:13		20:03 (T42)	06:42		18:55 (T77)	07:13			18:48 (T77)	07:45			07:51		15:26 (T44)
	21:03	34	20:37 (T42)	20:30	37	19:32 (T77)	19:39	29		19:17 (T77)	18:49			17:04	52	16:18 (T44)
18	06:14		20:04 (T42)	06:43		18:54 (T77)	07:14			18:51 (T77)	07:46			07:52		15:27 (T44)
	21:02	33	20:37 (T42)	20:29	39	19:33 (T77)	19:37	24		19:15 (T77)	18:47			17:04	51	16:18 (T44)
19	06:14		20:05 (T42)	06:44		18:52 (T77)	07:15			18:54 (T77)	07:47			07:52		15:27 (T44)
	21:01	32	20:37 (T42)	20:27	42	19:34 (T77)	19:35	16		19:10 (T77)	18:46			17:05	52	16:19 (T44)
20	06:15		20:05 (T42)	06:45		18:51 (T77)	07:16				07:48			07:53		15:27 (T44)
	21:01	31	20:36 (T42)	20:26	44	19:35 (T77)	19:33				18:44			17:05	52	16:19 (T44)
21	06:16		20:05 (T42)	06:46		18:50 (T77)	07:17				07:49			07:53		15:28 (T44)
	21:00	30	20:35 (T42)	20:24	45	19:35 (T77)	19:32				18:43			17:06	52	16:20 (T44)
22	06:17		20:06 (T42)	06:47		18:49 (T77)	07:18				07:50			07:54		15:28 (T44)
	20:59	28	20:34 (T42)	20:23	47	19:36 (T77)	19:30				18:41			17:06	52	16:20 (T44)
23	06:18		20:07 (T42)	06:48		18:48 (T77)	07:19				07:51			07:54		15:29 (T44)
	20:58	26	20:33 (T42)	20:21	49	19:37 (T77)	19:28				18:40			17:07	52	16:21 (T44)
24	06:19		20:09 (T42)	06:49		18:47 (T77)	07:20				07:53			07:55		15:29 (T44)
	20:58	24	20:33 (T42)	20:20	50	19:37 (T77)	19:27				18:39			17:07	52	16:21 (T44)
25	06:20		20:10 (T42)	06:50		07:35 (T76)	07:21				07:54			07:55		15:29 (T44)
	20:57	22	20:32 (T42)	20:18	61	19:37 (T77)	19:25				18:37			17:08	52	16:21 (T44)
26	06:21		20:11 (T42)	06:51		07:32 (T76)	07:22				07:55			07:56		15:31 (T44)
	20:56	20	20:31 (T42)	20:17	69	19:38 (T77)	19:23				18:36			17:08	52	16:23 (T44)
27	06:22		20:13 (T42)	06:52		07:29 (T76)	07:23				07:56			07:56		15:31 (T44)
	20:55	18	20:31 (T42)	20:15	75	19:38 (T77)	19:22				18:34			17:09	52	16:23 (T44)
28	06:22		20:15 (T42)	06:53		07:27 (T76)	07:24				07:57			07:56		15:31 (T44)
	20:54	15	20:30 (T42)	20:14	79	19:38 (T77)	19:20				18:33			17:10	52	16:23 (T44)
29	06:23		20:17 (T42)	06:54		07:26 (T76)	07:25				07:58			07:57		15:32 (T44)
	20:53	11	20:28 (T42)	20:12	81	19:38 (T77)	19:18				18:32			17:10	51	16:23 (T44)
30	06:24			06:55		07:24 (T76)	07:26				08:00			07:57		15:33 (T44)
	20:52			20:10	85	19:38 (T77)	19:16				18:31			17:11	51	16:24 (T44)
31	06:25			06:56		07:23 (T76)					08:01			07:57		15:33 (T44)
	20:51			20:09	87	19:38 (T77)					18:29			17:12	51	16:24 (T44)
Potential sun hours	460			429			375				345	297		287		
Total, worst case		988			1009			1227					433		1566	
Sun reduction		0.66			0.61			0.59					0.30		0.22	
Oper. time red.		1.00			1.00			1.00					1.00		1.00	
Wind dir. red.		0.54			0.62			0.63					0.74		0.74	
Total reduction		0.37			0.39			0.38					0.23		0.17	
Total, real		367			397			470					100		266	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1438 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8890)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June		
1	07:57	07:44	07:07			07:16		07:45 (T22)	06:30		19:54 (T21)	06:01		19:34 (T21)
	17:13	17:47	18:22			19:56	35	08:20 (T22)	20:27	9	20:03 (T21)	20:57	51	20:25 (T21)
2	07:58	07:43	07:06			07:14		07:45 (T22)	06:29		19:49 (T21)	06:01		19:33 (T21)
	17:13	17:48	18:23			19:57	34	08:19 (T22)	20:28	16	20:05 (T21)	20:58	51	20:24 (T21)
3	07:58	07:42	07:04			07:13		07:47 (T22)	06:27		19:46 (T21)	06:00		19:34 (T21)
	17:14	17:50	18:24			19:58	31	08:18 (T22)	20:29	21	20:07 (T21)	20:59	50	20:24 (T21)
4	07:58	07:40	07:02			07:11		07:47 (T22)	06:26		19:44 (T21)	06:00		19:35 (T21)
	17:15	17:51	18:25			19:59	30	08:17 (T22)	20:30	24	20:08 (T21)	20:59	50	20:25 (T21)
5	07:58	07:39	07:01			07:09		07:48 (T22)	06:25		19:42 (T21)	05:59		19:34 (T21)
	17:16	17:52	18:26			20:00	27	08:15 (T22)	20:31	27	20:09 (T21)	21:00	50	20:24 (T21)
6	07:58	07:38	06:59			07:08		07:50 (T22)	06:24		19:41 (T21)	05:59		19:35 (T21)
	17:17	17:53	18:27			20:00	23	08:13 (T22)	20:32	29	20:10 (T21)	21:01	50	20:25 (T21)
7	07:57	07:37	06:58			07:06		07:51 (T22)	06:22		19:39 (T21)	05:59		19:36 (T21)
	17:18	17:55	18:28			20:01	20	08:11 (T22)	20:33	31	20:10 (T21)	21:01	49	20:25 (T21)
8	07:57	07:36	07:56			07:04		07:53 (T22)	06:21		19:38 (T21)	05:59		19:36 (T21)
	17:19	17:56	19:30			20:02	14	08:07 (T22)	20:34	33	20:11 (T21)	21:02	49	20:25 (T21)
9	07:57	07:35	07:54			07:03			06:20		19:37 (T21)	05:58		19:36 (T21)
	17:20	17:57	19:31			20:03			20:35	35	20:12 (T21)	21:03	48	20:24 (T21)
10	07:57	07:34	07:53			07:01			06:19		19:36 (T21)	05:58		19:36 (T21)
	17:21	17:59	19:32			20:05			20:37	37	20:13 (T21)	21:03	49	20:25 (T21)
11	07:57	07:32	07:51			07:00			06:18		19:35 (T21)	05:58		19:36 (T21)
	17:22	18:00	19:33			20:06			20:38	39	20:14 (T21)	21:04	49	20:25 (T21)
12	07:56	07:31	07:50			06:58			06:17		19:35 (T21)	05:58		19:37 (T21)
	17:23	18:01	19:34			20:07			20:39	40	20:15 (T21)	21:04	48	20:25 (T21)
13	07:56	07:30	07:48			06:56			06:16		19:34 (T21)	05:58		19:37 (T21)
	17:24	18:02	19:35			20:08			20:40	42	20:16 (T21)	21:05	48	20:25 (T21)
14	07:56	07:29	07:46			06:55			06:15		19:34 (T21)	05:58		19:37 (T21)
	17:25	18:03	19:36			20:09			20:41	43	20:17 (T21)	21:05	48	20:25 (T21)
15	07:55	07:27	07:45			06:53			06:14		19:33 (T21)	05:58		19:38 (T21)
	17:27	18:05	19:37			20:10			20:42	45	20:18 (T21)	21:06	47	20:25 (T21)
16	07:55	07:26	07:43		08:03 (T22)	06:52			06:13		19:33 (T21)	05:58		19:38 (T21)
	17:28	18:06	19:39	10	08:13 (T22)	20:11			20:43	46	20:19 (T21)	21:06	48	20:26 (T21)
17	07:55	07:25	07:41		08:00 (T22)	06:50			06:12		19:32 (T21)	05:58		19:38 (T21)
	17:29	18:07	19:40	16	08:16 (T22)	20:12			20:44	48	20:20 (T21)	21:06	48	20:26 (T21)
18	07:54	07:23	07:40		07:59 (T22)	06:49			06:11		19:33 (T21)	05:58		19:38 (T21)
	17:30	18:08	19:41	20	08:19 (T22)	20:13			20:45	49	20:22 (T21)	21:07	48	20:26 (T21)
19	07:54	07:22	07:38		07:57 (T22)	06:47			06:10		19:33 (T21)	05:58		19:38 (T21)
	17:31	18:10	19:42	23	08:20 (T22)	20:14			20:46	49	20:22 (T21)	21:07	48	20:26 (T21)
20	07:53	07:20	07:36		07:55 (T22)	06:46			06:09		19:32 (T21)	05:58		19:40 (T21)
	17:32	18:11	19:43	26	08:21 (T22)	20:15			20:47	51	20:23 (T21)	21:07	47	20:27 (T21)
21	07:52	07:19	07:34		07:54 (T22)	06:44			06:08		19:32 (T21)	05:58		19:40 (T21)
	17:34	18:12	19:44	29	08:23 (T22)	20:16			20:47	51	20:23 (T21)	21:08	47	20:27 (T21)
22	07:52	07:18	07:33		07:52 (T22)	06:43			06:07		19:32 (T21)	05:59		19:40 (T21)
	17:35	18:13	19:45	31	08:23 (T22)	20:17			20:48	51	20:23 (T21)	21:08	47	20:27 (T21)
23	07:51	07:16	07:31		07:50 (T22)	06:41			06:07		19:32 (T21)	05:59		19:40 (T21)
	17:36	18:14	19:46	33	08:23 (T22)	20:18			20:49	52	20:24 (T21)	21:08	47	20:27 (T21)
24	07:50	07:15	07:29		07:48 (T22)	06:40			06:06		19:32 (T21)	05:59		19:40 (T21)
	17:37	18:16	19:47	35	08:23 (T22)	20:20			20:50	52	20:24 (T21)	21:08	48	20:28 (T21)
25	07:50	07:13	07:28		07:47 (T22)	06:38			06:05		19:32 (T21)	05:59		19:40 (T21)
	17:38	18:17	19:48	37	08:24 (T22)	20:21			20:51	51	20:23 (T21)	21:08	48	20:28 (T21)
26	07:49	07:12	07:26		07:46 (T22)	06:37			06:04		19:33 (T21)	06:00		19:40 (T21)
	17:40	18:18	19:49	38	08:24 (T22)	20:22			20:52	51	20:24 (T21)	21:09	48	20:28 (T21)
27	07:48	07:10	07:24		07:45 (T22)	06:35			06:04		19:32 (T21)	06:00		19:41 (T21)
	17:41	18:19	19:51	38	08:23 (T22)	20:23			20:53	52	20:24 (T21)	21:09	47	20:28 (T21)
28	07:47	07:09	07:23		07:46 (T22)	06:34			06:03		19:33 (T21)	06:00		19:41 (T21)
	17:42	18:20	19:52	37	08:23 (T22)	20:24			20:54	51	20:24 (T21)	21:09	47	20:28 (T21)
29	07:46		07:21		07:45 (T22)	06:33			06:03		19:33 (T21)	06:01		19:40 (T21)
	17:43		19:53	38	08:23 (T22)	20:25			20:55	51	20:24 (T21)	21:09	48	20:28 (T21)
30	07:45		07:19		07:45 (T22)	06:31			06:02		19:33 (T21)	06:01		19:41 (T21)
	17:45		19:54	37	08:22 (T22)	20:26			20:55	52	20:25 (T21)	21:09	48	20:29 (T21)
31	07:44		07:18		07:45 (T22)				06:02		19:33 (T21)			
	17:46		19:55	37	08:22 (T22)				20:56	51	20:24 (T21)			
Potential sun hours	297	297	370			399			449			453		
Total, worst case				485			214			1279			1451	
Sun reduction				0.44			0.52			0.57			0.64	
Oper. time red.				1.00			1.00			1.00			1.00	
Wind dir. red.				0.62			0.62			0.56			0.56	
Total reduction				0.27			0.32			0.32			0.36	
Total, real				132			69			407			519	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1438 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8890)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:02	19:41 (T21)	06:26	19:46 (T21)	06:57		07:27	07:02	07:37
	21:09	48 20:29 (T21)	20:50	40 20:26 (T21)	20:07		19:15	17:28	17:03
2	06:02	19:41 (T21)	06:27	19:46 (T21)	06:58		07:28	07:03	07:38
	21:09	49 20:30 (T21)	20:49	39 20:25 (T21)	20:06		19:13	17:26	17:03
3	06:03	19:41 (T21)	06:28	19:47 (T21)	06:59		07:30	07:04	07:39
	21:08	48 20:29 (T21)	20:48	37 20:24 (T21)	20:04		19:11	17:25	17:03
4	06:03	19:41 (T21)	06:29	19:48 (T21)	07:00	07:51 (T22)	07:31	07:06	07:40
	21:08	49 20:30 (T21)	20:47	35 20:23 (T21)	20:02	14 08:05 (T22)	19:10	17:24	17:03
5	06:04	19:41 (T21)	06:30	19:49 (T21)	07:01	07:48 (T22)	07:32	07:07	07:41
	21:08	49 20:30 (T21)	20:46	33 20:22 (T21)	20:01	20 08:08 (T22)	19:08	17:23	17:02
6	06:04	19:41 (T21)	06:31	19:50 (T21)	07:02	07:46 (T22)	07:33	07:08	07:42
	21:08	50 20:31 (T21)	20:45	31 20:21 (T21)	19:57	23 08:09 (T22)	19:06	17:22	17:02
7	06:05	19:42 (T21)	06:32	19:51 (T21)	07:03	07:43 (T22)	07:34	07:09	07:43
	21:08	49 20:31 (T21)	20:43	28 20:19 (T21)	19:56	27 08:10 (T22)	19:05	17:21	17:02
8	06:06	19:41 (T21)	06:33	19:53 (T21)	07:04	07:41 (T22)	07:35	07:10	07:44
	21:07	50 20:31 (T21)	20:42	25 20:18 (T21)	19:54	30 08:11 (T22)	19:03	17:20	17:02
9	06:06	19:41 (T21)	06:34	19:54 (T21)	07:05	07:40 (T22)	07:36	07:12	07:45
	21:07	51 20:32 (T21)	20:41	23 20:17 (T21)	19:52	31 08:11 (T22)	19:01	17:19	17:02
10	06:07	19:42 (T21)	06:35	19:55 (T21)	07:06	07:39 (T22)	07:37	07:13	07:46
	21:07	50 20:32 (T21)	20:40	20 20:15 (T21)	19:51	33 08:12 (T22)	19:00	17:18	17:02
11	06:08	19:41 (T21)	06:36	19:58 (T21)	07:07	07:38 (T22)	07:38	07:14	07:47
	21:06	51 20:32 (T21)	20:38	16 20:14 (T21)	19:49	34 08:12 (T22)	18:58	17:17	17:02
12	06:09	19:41 (T21)	06:37	20:04 (T21)	07:08	07:37 (T22)	07:39	07:15	07:47
	21:06	51 20:32 (T21)	20:37	5 20:09 (T21)	19:47	36 08:13 (T22)	18:57	17:16	17:02
13	06:09	19:42 (T21)	06:38		07:09	07:36 (T22)	07:40	07:16	07:48
	21:05	51 20:33 (T21)	20:36		19:45	37 08:13 (T22)	18:55	17:15	17:03
14	06:10	19:41 (T21)	06:39		07:10	07:35 (T22)	07:41	07:18	07:49
	21:05	51 20:32 (T21)	20:34		19:44	38 08:13 (T22)	18:53	17:14	17:03
15	06:11	19:41 (T21)	06:40		07:11	07:35 (T22)	07:42	07:19	07:50
	21:04	52 20:33 (T21)	20:33		19:42	38 08:13 (T22)	18:52	17:13	17:03
16	06:12	19:42 (T21)	06:41		07:12	07:35 (T22)	07:44	07:20	07:50
	21:04	51 20:33 (T21)	20:32		19:40	37 08:12 (T22)	18:50	17:12	17:03
17	06:12	19:42 (T21)	06:42		07:13	07:34 (T22)	07:45	07:21	07:51
	21:03	51 20:33 (T21)	20:30		19:39	38 08:12 (T22)	18:49	17:11	17:04
18	06:13	19:42 (T21)	06:43		07:14	07:34 (T22)	07:46	07:22	07:52
	21:02	52 20:34 (T21)	20:29		19:37	37 08:11 (T22)	18:47	17:10	17:04
19	06:14	19:41 (T21)	06:44		07:15	07:35 (T22)	07:47	07:24	07:52
	21:02	52 20:33 (T21)	20:27		19:35	36 08:11 (T22)	18:46	17:10	17:04
20	06:15	19:42 (T21)	06:45		07:16	07:36 (T22)	07:48	07:25	07:53
	21:01	51 20:33 (T21)	20:26		19:33	34 08:10 (T22)	18:44	17:09	17:05
21	06:16	19:42 (T21)	06:46		07:17	07:37 (T22)	07:49	07:26	07:54
	21:00	51 20:33 (T21)	20:24		19:32	32 08:09 (T22)	18:43	17:08	17:05
22	06:17	19:42 (T21)	06:47		07:18	07:38 (T22)	07:50	07:27	07:54
	20:59	51 20:33 (T21)	20:23		19:30	29 08:07 (T22)	18:41	17:08	17:06
23	06:18	19:43 (T21)	06:48		07:19	07:39 (T22)	07:51	07:28	07:55
	20:59	51 20:34 (T21)	20:21		19:28	27 08:06 (T22)	18:40	17:07	17:06
24	06:18	19:43 (T21)	06:49		07:20	07:40 (T22)	07:53	07:29	07:55
	20:58	50 20:33 (T21)	20:20		19:27	24 08:04 (T22)	18:38	17:06	17:07
25	06:19	19:43 (T21)	06:50		07:21	07:41 (T22)	07:54	07:31	07:55
	20:57	50 20:33 (T21)	20:18		19:25	21 08:02 (T22)	18:37	17:06	17:07
26	06:20	19:43 (T21)	06:51		07:22	07:42 (T22)	07:55	07:32	07:56
	20:56	48 20:31 (T21)	20:17		19:23	18 08:00 (T22)	18:36	17:05	17:08
27	06:21	19:43 (T21)	06:52		07:23	07:43 (T22)	07:56	07:33	07:56
	20:55	47 20:30 (T21)	20:15		19:21	13 07:56 (T22)	18:34	17:05	17:09
28	06:22	19:43 (T21)	06:53		07:24		07:57	07:34	07:56
	20:54	46 20:29 (T21)	20:14		19:20		18:33	17:04	17:09
29	06:23	19:44 (T21)	06:54		07:25		07:58	07:35	07:57
	20:53	44 20:28 (T21)	20:12		19:18		18:32	17:04	17:10
30	06:24	19:44 (T21)	06:55		07:26		08:00	07:36	07:57
	20:52	44 20:28 (T21)	20:10		19:16		18:30	17:04	17:11
31	06:25	19:45 (T21)	06:56				08:01		07:57
	20:51	42 20:27 (T21)	20:09				18:29		17:12
Potential sun hours	460		429		375		345	297	287
Total, worst case		1530		332		707			
Sun reduction		0.66		0.61		0.59			
Oper. time red.		1.00		1.00		1.00			
Wind dir. red.		0.56		0.56		0.62			
Total reduction		0.37		0.34		0.37			
Total, real		564		113		258			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1445 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8896)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April		May		June		
1	07:58	07:44	07:07	07:16		06:30		07:06 (T13)	06:01	06:35 (T12)
	17:13	17:47	18:22	19:56		20:27	34	07:40 (T13)	20:57	36 07:11 (T12)
2	07:58	07:43	07:06	07:14		06:29		07:07 (T13)	06:01	06:33 (T12)
	17:14	17:49	18:23	19:57		20:28	32	07:39 (T13)	20:58	39 07:12 (T12)
3	07:58	07:42	07:04	07:13		06:27		07:07 (T13)	06:00	06:32 (T12)
	17:14	17:50	18:24	19:58		20:29	30	07:37 (T13)	20:59	42 07:14 (T12)
4	07:58	07:41	07:03	07:11		06:26		07:09 (T13)	06:00	06:31 (T12)
	17:15	17:51	18:25	19:59		20:30	27	07:36 (T13)	20:59	44 07:15 (T12)
5	07:58	07:40	07:01	07:10		06:25		07:10 (T13)	06:00	06:30 (T12)
	17:16	17:52	18:26	20:00		20:32	24	07:34 (T13)	21:00	46 07:16 (T12)
6	07:58	07:39	06:59	07:08		06:24		07:12 (T13)	05:59	06:29 (T12)
	17:17	17:54	18:27	20:00		20:33	20	07:32 (T13)	21:01	48 07:17 (T12)
7	07:58	07:37	06:58	07:06	07:25 (T13)	06:23		07:15 (T13)	05:59	06:29 (T12)
	17:18	17:55	18:29	20:01	8 07:33 (T13)	20:34	15	07:30 (T13)	21:02	49 07:18 (T12)
8	07:58	07:36	07:56	07:05	07:24 (T13)	06:21		07:18 (T13)	05:59	06:29 (T12)
	17:19	17:56	19:30	20:03	14 07:38 (T13)	20:35	7	07:25 (T13)	21:02	51 07:20 (T12)
9	07:57	07:35	07:55	07:03	07:22 (T13)	06:20			05:58	06:28 (T12)
	17:20	17:57	19:31	20:04	18 07:40 (T13)	20:36			21:03	53 07:21 (T12)
10	07:57	07:34	07:53	07:01	07:20 (T13)	06:19			05:58	06:27 (T12)
	17:21	17:59	19:32	20:05	21 07:41 (T13)	20:37			21:03	54 07:21 (T12)
11	07:57	07:33	07:51	07:00	07:19 (T13)	06:18			05:58	06:27 (T12)
	17:22	18:00	19:33	20:06	24 07:43 (T13)	20:38			21:04	54 07:21 (T12)
12	07:57	07:31	07:50	06:58	07:17 (T13)	06:17			05:58	06:27 (T12)
	17:23	18:01	19:34	20:07	27 07:44 (T13)	20:39			21:04	55 07:22 (T12)
13	07:56	07:30	07:48	06:57	07:16 (T13)	06:16			05:58	06:26 (T12)
	17:24	18:02	19:35	20:08	29 07:45 (T13)	20:40			21:05	57 07:23 (T12)
14	07:56	07:29	07:46	06:55	07:14 (T13)	06:15			05:58	06:26 (T12)
	17:26	18:04	19:37	20:09	31 07:45 (T13)	20:41			21:05	57 07:23 (T12)
15	07:56	07:28	07:45	06:53	07:12 (T13)	06:14			05:58	06:26 (T12)
	17:27	18:05	19:38	20:10	33 07:45 (T13)	20:42			21:06	58 07:24 (T12)
16	07:55	07:26	07:43	06:52	07:11 (T13)	06:13			05:58	06:26 (T12)
	17:28	18:06	19:39	20:11	35 07:46 (T13)	20:43			21:06	58 07:24 (T12)
17	07:55	07:25	07:41	06:50	07:09 (T13)	06:12			05:58	06:26 (T12)
	17:29	18:07	19:40	20:12	37 07:46 (T13)	20:44			21:07	59 07:25 (T12)
18	07:54	07:23	07:40	06:49	07:08 (T13)	06:11			05:58	06:26 (T12)
	17:30	18:09	19:41	20:13	38 07:46 (T13)	20:45			21:07	59 07:25 (T12)
19	07:54	07:22	07:38	06:47	07:06 (T13)	06:10			05:58	06:27 (T12)
	17:31	18:10	19:42	20:14	40 07:46 (T13)	20:46			21:07	59 07:26 (T12)
20	07:53	07:21	07:36	06:46	07:05 (T13)	06:09			05:58	06:27 (T12)
	17:33	18:11	19:43	20:15	41 07:46 (T13)	20:47			21:08	59 07:26 (T12)
21	07:53	07:19	07:35	06:44	07:03 (T13)	06:08			05:58	06:27 (T12)
	17:34	18:12	19:44	20:17	43 07:46 (T13)	20:48			21:08	59 07:26 (T12)
22	07:52	07:18	07:33	06:43	07:03 (T13)	06:08			05:59	06:27 (T12)
	17:35	18:13	19:45	20:18	43 07:46 (T13)	20:49			21:08	59 07:26 (T12)
23	07:51	07:16	07:31	06:41	07:03 (T13)	06:07			05:59	06:27 (T12)
	17:36	18:15	19:46	20:19	43 07:46 (T13)	20:50			21:08	59 07:26 (T12)
24	07:51	07:15	07:30	06:40	07:03 (T13)	06:06			05:59	06:28 (T12)
	17:37	18:16	19:47	20:20	42 07:45 (T13)	20:50			21:09	59 07:27 (T12)
25	07:50	07:13	07:28	06:38	07:03 (T13)	06:05			05:59	06:28 (T12)
	17:39	18:17	19:49	20:21	42 07:45 (T13)	20:51			21:09	59 07:27 (T12)
26	07:49	07:12	07:26	06:37	07:03 (T13)	06:05			06:00	06:28 (T12)
	17:40	18:18	19:50	20:22	40 07:43 (T13)	20:52			21:09	59 07:27 (T12)
27	07:48	07:10	07:25	06:36	07:03 (T13)	06:04			06:00	06:29 (T12)
	17:41	18:19	19:51	20:23	40 07:43 (T13)	20:53			21:09	58 07:27 (T12)
28	07:47	07:09	07:23	06:34	07:04 (T13)	06:03		06:44 (T12)	06:01	06:29 (T12)
	17:42	18:21	19:52	20:24	39 07:43 (T13)	20:54	16	07:00 (T12)	21:09	58 07:27 (T12)
29	07:47		07:21	06:33	07:04 (T13)	06:03		06:40 (T12)	06:01	06:30 (T12)
	17:44		19:53	20:25	37 07:41 (T13)	20:55	23	07:03 (T12)	21:09	57 07:27 (T12)
30	07:46		07:19	06:31	07:05 (T13)	06:02		06:38 (T12)	06:01	06:31 (T12)
	17:45		19:54	20:26	36 07:41 (T13)	20:56	29	07:07 (T12)	21:09	55 07:26 (T12)
31	07:45		07:18			06:02		06:36 (T12)		
	17:46		19:55			20:56	32	07:08 (T12)		
Potential sun hours	297	297	370	399		449			453	
Total, worst case					801		289			1619
Sun reduction					0.52		0.57			0.64
Oper. time red.					1.00		1.00			1.00
Wind dir. red.					0.66		0.68			0.73
Total reduction					0.34		0.39			0.46
Total, real					275		112			750

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1445 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8896)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:02	06:31 (T12)	06:26		06:57	07:18 (T13)	07:28	07:02	07:37
	21:09 55	07:26 (T12)	20:50		20:07 24	07:42 (T13)	19:15	17:28	17:03
2	06:02	06:32 (T12)	06:27		06:58	07:19 (T13)	07:29	07:03	07:38
	21:09 54	07:26 (T12)	20:49		20:06 21	07:40 (T13)	19:13	17:27	17:03
3	06:03	06:32 (T12)	06:28		06:59	07:20 (T13)	07:30	07:05	07:39
	21:09 53	07:25 (T12)	20:48		20:04 18	07:38 (T13)	19:11	17:25	17:03
4	06:03	06:33 (T12)	06:29		07:00	07:21 (T13)	07:31	07:06	07:40
	21:08 52	07:25 (T12)	20:47		20:02 14	07:35 (T13)	19:10	17:24	17:03
5	06:04	06:35 (T12)	06:30	07:27 (T13)	07:01	07:22 (T13)	07:32	07:07	07:41
	21:08 50	07:25 (T12)	20:46 10	07:37 (T13)	20:01 8	07:30 (T13)	19:08	17:23	17:03
6	06:05	06:35 (T12)	06:31	07:23 (T13)	07:02		07:33	07:08	07:42
	21:08 49	07:24 (T12)	20:45 17	07:40 (T13)	19:57		19:06	17:22	17:02
7	06:05	06:37 (T12)	06:32	07:21 (T13)	07:03		07:34	07:09	07:43
	21:08 46	07:23 (T12)	20:44 22	07:43 (T13)	19:56		19:05	17:21	17:02
8	06:06	06:37 (T12)	06:33	07:19 (T13)	07:04		07:35	07:11	07:44
	21:07 45	07:22 (T12)	20:42 25	07:44 (T13)	19:54		19:03	17:20	17:02
9	06:07	06:39 (T12)	06:34	07:18 (T13)	07:05		07:36	07:12	07:45
	21:07 42	07:21 (T12)	20:41 28	07:46 (T13)	19:52		19:02	17:19	17:02
10	06:07	06:40 (T12)	06:35	07:16 (T13)	07:06		07:37	07:13	07:46
	21:07 41	07:21 (T12)	20:40 31	07:47 (T13)	19:51		19:00	17:18	17:02
11	06:08	06:41 (T12)	06:36	07:15 (T13)	07:07		07:38	07:14	07:47
	21:06 38	07:19 (T12)	20:39 33	07:48 (T13)	19:49		18:58	17:17	17:02
12	06:09	06:43 (T12)	06:37	07:14 (T13)	07:08		07:39	07:15	07:48
	21:06 34	07:17 (T12)	20:37 35	07:49 (T13)	19:47		18:57	17:16	17:03
13	06:09	06:46 (T12)	06:38	07:13 (T13)	07:09		07:40	07:17	07:48
	21:05 30	07:16 (T12)	20:36 36	07:49 (T13)	19:46		18:55	17:15	17:03
14	06:10	06:48 (T12)	06:39	07:11 (T13)	07:10		07:42	07:18	07:49
	21:05 26	07:14 (T12)	20:35 38	07:49 (T13)	19:44		18:54	17:14	17:03
15	06:11	06:51 (T12)	06:40	07:11 (T13)	07:11		07:43	07:19	07:50
	21:04 19	07:10 (T12)	20:33 39	07:50 (T13)	19:42		18:52	17:13	17:03
16	06:12	06:56 (T12)	06:41	07:10 (T13)	07:12		07:44	07:20	07:51
	21:04 10	07:06 (T12)	20:32 40	07:50 (T13)	19:40		18:50	17:12	17:03
17	06:13		06:42	07:09 (T13)	07:13		07:45	07:21	07:51
	21:03		20:30 41	07:50 (T13)	19:39		18:49	17:11	17:04
18	06:13		06:43	07:09 (T13)	07:14		07:46	07:23	07:52
	21:03		20:29 41	07:50 (T13)	19:37		18:47	17:10	17:04
19	06:14		06:44	07:08 (T13)	07:15		07:47	07:24	07:53
	21:02		20:27 43	07:51 (T13)	19:35		18:46	17:10	17:04
20	06:15		06:45	07:08 (T13)	07:16		07:48	07:25	07:53
	21:01		20:26 43	07:51 (T13)	19:34		18:44	17:09	17:05
21	06:16		06:46	07:08 (T13)	07:17		07:49	07:26	07:54
	21:00		20:25 43	07:51 (T13)	19:32		18:43	17:08	17:05
22	06:17		06:47	07:08 (T13)	07:18		07:51	07:27	07:54
	21:00		20:23 42	07:50 (T13)	19:30		18:41	17:08	17:06
23	06:18		06:48	07:09 (T13)	07:19		07:52	07:29	07:55
	20:59		20:22 41	07:50 (T13)	19:28		18:40	17:07	17:06
24	06:19		06:49	07:10 (T13)	07:20		07:53	07:30	07:55
	20:58		20:20 40	07:50 (T13)	19:27		18:39	17:06	17:07
25	06:19		06:50	07:11 (T13)	07:21		07:54	07:31	07:56
	20:57		20:18 38	07:49 (T13)	19:25		18:37	17:06	17:07
26	06:20		06:51	07:12 (T13)	07:22		07:55	07:32	07:56
	20:56		20:17 37	07:49 (T13)	19:23		18:36	17:05	17:08
27	06:21		06:52	07:13 (T13)	07:23		07:56	07:33	07:56
	20:55		20:15 35	07:48 (T13)	19:22		18:34	17:05	17:09
28	06:22		06:53	07:14 (T13)	07:24		07:57	07:34	07:57
	20:54		20:14 33	07:47 (T13)	19:20		18:33	17:05	17:09
29	06:23		06:54	07:15 (T13)	07:26		07:59	07:35	07:57
	20:53		20:12 31	07:46 (T13)	19:18		18:32	17:04	17:10
30	06:24		06:55	07:16 (T13)	07:27		08:00	07:36	07:57
	20:52		20:11 29	07:45 (T13)	19:16		18:30	17:04	17:11
31	06:25		06:56	07:17 (T13)			08:01		07:57
	20:51		20:09 26	07:43 (T13)			18:29		17:12
Potential sun hours	460		429		375		345	297	287
Total, worst case		644		917		85			
Sun reduction		0.66		0.61		0.59			
Oper. time red.		1.00		1.00		1.00			
Wind dir. red.		0.73		0.66		0.66			
Total reduction		0.48		0.40		0.39			
Total, real		308		370		33			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1461 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8909)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June		
1	07:57	07:43	07:07			07:16		18:52 (T5)	06:30		18:44 (T5)	06:01		20:02 (T3)
	17:12	17:47	18:21			19:56	42	19:34 (T4)	20:27	47	19:31 (T5)	20:57	24	20:26 (T3)
2	07:57	07:42	07:05			07:14		18:50 (T5)	06:28		18:46 (T5)	06:00		20:03 (T3)
	17:13	17:48	18:22			19:57	45	19:35 (T4)	20:28	44	19:30 (T5)	20:58	23	20:26 (T3)
3	07:57	07:41	07:04			07:12		18:48 (T5)	06:27		18:47 (T5)	06:00		20:04 (T3)
	17:14	17:49	18:24			19:58	48	19:36 (T4)	20:29	42	19:29 (T5)	20:58	22	20:26 (T3)
4	07:57	07:40	07:02			07:11		18:48 (T5)	06:26		18:48 (T5)	05:59		20:04 (T3)
	17:15	17:51	18:25			19:59	49	19:37 (T4)	20:30	39	19:27 (T5)	20:59	21	20:25 (T3)
5	07:57	07:39	07:01			07:09		18:46 (T5)	06:24		18:49 (T5)	05:59		20:05 (T3)
	17:16	17:52	18:26			20:00	52	19:38 (T4)	20:31	36	19:25 (T5)	21:00	20	20:25 (T3)
6	07:57	07:38	06:59			07:07		18:44 (T5)	06:23		18:51 (T5)	05:59		20:06 (T3)
	17:17	17:53	18:27			20:00	55	19:39 (T5)	20:32	32	19:23 (T5)	21:00	19	20:25 (T3)
7	07:57	07:37	06:57			07:06		18:44 (T5)	06:22		18:53 (T5)	05:58		20:06 (T3)
	17:18	17:54	18:28			20:01	57	19:41 (T5)	20:33	29	19:22 (T5)	21:01	18	20:24 (T3)
8	07:57	07:36	07:56			07:04		18:43 (T5)	06:21		18:55 (T5)	05:58		20:07 (T3)
	17:19	17:56	19:29			20:02	58	19:41 (T5)	20:34	24	19:19 (T5)	21:02	17	20:24 (T3)
9	07:57	07:35	07:54			07:02		18:42 (T5)	06:20		18:58 (T5)	05:58		20:08 (T3)
	17:20	17:57	19:30			20:03	59	19:41 (T5)	20:35	23	20:13 (T3)	21:02	16	20:24 (T3)
10	07:57	07:33	07:53			07:01		18:41 (T5)	06:19		19:03 (T5)	05:58		20:08 (T3)
	17:21	17:58	19:32			20:04	61	19:42 (T5)	20:36	17	20:14 (T3)	21:03	16	20:24 (T3)
11	07:57	07:32	07:51			06:59		18:40 (T5)	06:17		20:05 (T3)	05:58		20:09 (T3)
	17:22	17:59	19:33			20:05	61	19:41 (T5)	20:37	10	20:15 (T3)	21:04	14	20:23 (T3)
12	07:56	07:31	07:49			06:58		18:41 (T5)	06:16		20:04 (T3)	05:57		20:10 (T3)
	17:23	18:01	19:34			20:06	61	19:42 (T5)	20:38	12	20:16 (T3)	21:04	13	20:23 (T3)
13	07:56	07:30	07:48			06:56		18:40 (T5)	06:15		20:03 (T3)	05:57		20:11 (T3)
	17:24	18:02	19:35			20:07	62	19:42 (T5)	20:39	14	20:17 (T3)	21:05	12	20:23 (T3)
14	07:56	07:28	07:46			06:54		18:40 (T5)	06:14		20:02 (T3)	05:57		20:11 (T3)
	17:25	18:03	19:36			20:09	62	19:42 (T5)	20:40	15	20:17 (T3)	21:05	12	20:23 (T3)
15	07:55	07:27	07:44			06:53		18:39 (T5)	06:13		20:01 (T3)	05:57		20:12 (T3)
	17:26	18:04	19:37			20:10	62	19:41 (T5)	20:41	17	20:18 (T3)	21:06	11	20:23 (T3)
16	07:55	07:26	07:43			06:51		18:38 (T5)	06:12		20:01 (T3)	05:57		20:13 (T3)
	17:27	18:06	19:38			20:11	63	19:41 (T5)	20:42	18	20:19 (T3)	21:06	9	20:22 (T3)
17	07:54	07:24	07:41			06:50		18:39 (T5)	06:11		20:00 (T3)	05:57		20:13 (T3)
	17:28	18:07	19:39			20:12	62	19:41 (T5)	20:43	20	20:20 (T3)	21:06	9	20:22 (T3)
18	07:54	07:23	07:39			06:48		18:38 (T5)	06:10		20:00 (T3)	05:57		20:14 (T3)
	17:30	18:08	19:40			20:13	62	19:40 (T5)	20:44	21	20:21 (T3)	21:07	8	20:22 (T3)
19	07:53	07:22	07:38			06:47		18:39 (T5)	06:10		19:59 (T3)	05:58		20:14 (T3)
	17:31	18:09	19:42			20:14	61	19:40 (T5)	20:45	22	20:21 (T3)	21:07	8	20:22 (T3)
20	07:53	07:20	07:36			06:45		18:38 (T5)	06:09		20:00 (T3)	05:58		20:14 (T3)
	17:32	18:10	19:43			20:15	61	19:39 (T5)	20:46	23	20:23 (T3)	21:07	8	20:22 (T3)
21	07:52	07:19	07:34			06:44		18:39 (T5)	06:08		20:00 (T3)	05:58		20:14 (T3)
	17:33	18:12	19:44			20:16	60	19:39 (T5)	20:47	24	20:24 (T3)	21:08	7	20:21 (T3)
22	07:52	07:17	07:33			06:42		18:40 (T5)	06:07		20:00 (T3)	05:58		20:15 (T3)
	17:34	18:13	19:45			20:17	59	19:39 (T5)	20:48	24	20:24 (T3)	21:08	7	20:22 (T3)
23	07:51	07:16	07:31			06:41		18:39 (T5)	06:06		19:59 (T3)	05:58		20:15 (T3)
	17:36	18:14	19:46			20:18	59	19:38 (T5)	20:49	26	20:25 (T3)	21:08	8	20:23 (T3)
24	07:50	07:14	07:29			06:39		18:40 (T5)	06:05		20:00 (T3)	05:59		20:15 (T3)
	17:37	18:15	19:47			20:19	58	19:38 (T5)	20:50	27	20:27 (T3)	21:08	8	20:23 (T3)
25	07:49	07:13	07:27			06:38		18:40 (T5)	06:05		20:00 (T3)	05:59		20:14 (T3)
	17:38	18:16	19:48			20:20	56	19:36 (T5)	20:51	27	20:27 (T3)	21:08	9	20:23 (T3)
26	07:49	07:11	07:26			06:36		18:41 (T5)	06:04		20:00 (T3)	05:59		20:15 (T3)
	17:39	18:18	19:49			20:21	55	19:36 (T5)	20:52	26	20:26 (T3)	21:08	9	20:24 (T3)
27	07:48	07:10	07:24		19:07 (T5)	06:35		18:42 (T5)	06:03		20:01 (T3)	06:00		20:14 (T3)
	17:41	18:19	19:50	17	19:24 (T5)	20:23	53	19:35 (T5)	20:53	26	20:27 (T3)	21:09	10	20:24 (T3)
28	07:47	07:08	07:22		19:02 (T5)	06:34		18:42 (T5)	06:03		20:01 (T3)	06:00		20:15 (T3)
	17:42	18:20	19:51	27	19:29 (T4)	20:24	52	19:34 (T5)	20:54	25	20:26 (T3)	21:09	11	20:26 (T3)
29	07:46		07:21		18:59 (T5)	06:32		18:43 (T5)	06:02		20:02 (T3)	06:00		20:14 (T3)
	17:43		19:52	32	19:31 (T4)	20:25	50	19:33 (T5)	20:54	25	20:27 (T3)	21:09	12	20:26 (T3)
30	07:45		07:19		18:56 (T5)	06:31		18:44 (T5)	06:02		20:02 (T3)	06:01		20:13 (T3)
	17:44		19:53	36	19:32 (T4)	20:26	48	19:32 (T5)	20:55	24	20:26 (T3)	21:09	13	20:26 (T3)
31	07:44		07:17		18:54 (T5)				06:01		20:03 (T3)			
	17:46		19:55	39	19:33 (T4)				20:56	23	20:26 (T3)			
Potential sun hours	297	297	370			399			449			453		
Total, worst case				151			1693			782			394	
Sun reduction				0.44			0.52			0.57			0.64	
Oper. time red.				1.00			1.00			1.00			1.00	
Wind dir. red.				0.61			0.61			0.58			0.55	
Total reduction				0.27			0.32			0.33			0.35	
Total, real				41			538			257			139	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1461 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8909)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:01	20:14 (T3)	06:26	20:15 (T3)	06:57	18:39 (T5)	07:27	07:02	07:37
	21:08 13	20:27 (T3)	20:50 11	20:26 (T3)	20:07 61	19:40 (T5)	19:14	17:27	17:03
2	06:02	20:13 (T3)	06:27	20:15 (T3)	06:58	18:39 (T5)	07:28	07:03	07:38
	21:08 15	20:28 (T3)	20:49 9	20:24 (T3)	20:05 61	19:40 (T5)	19:13	17:26	17:03
3	06:02	20:13 (T3)	06:28	19:10 (T5)	06:59	18:40 (T5)	07:29	07:04	07:39
	21:08 16	20:29 (T3)	20:48 20	20:23 (T3)	20:04 59	19:39 (T5)	19:11	17:25	17:02
4	06:03	20:12 (T3)	06:29	19:07 (T5)	07:00	18:40 (T5)	07:30	07:05	07:40
	21:08 17	20:29 (T3)	20:47 22	20:22 (T3)	20:02 58	19:38 (T5)	19:09	17:24	17:02
5	06:03	20:12 (T3)	06:30	19:04 (T5)	07:01	18:40 (T5)	07:31	07:07	07:41
	21:08 18	20:30 (T3)	20:46 26	19:30 (T5)	20:00 57	19:37 (T5)	19:08	17:23	17:02
6	06:04	20:12 (T3)	06:31	19:02 (T5)	07:02	18:40 (T5)	07:32	07:08	07:42
	21:08 19	20:31 (T3)	20:44 30	19:32 (T5)	19:57 55	19:35 (T5)	19:06	17:21	17:02
7	06:05	20:12 (T3)	06:32	19:00 (T5)	07:03	18:41 (T5)	07:33	07:09	07:43
	21:07 19	20:31 (T3)	20:43 34	19:34 (T5)	19:55 52	19:33 (T4)	19:04	17:20	17:02
8	06:05	20:12 (T3)	06:33	18:58 (T5)	07:04	18:42 (T5)	07:35	07:10	07:44
	21:07 20	20:32 (T3)	20:42 37	19:35 (T5)	19:54 50	19:32 (T4)	19:03	17:19	17:02
9	06:06	20:12 (T3)	06:34	18:57 (T5)	07:05	18:42 (T5)	07:36	07:11	07:45
	21:07 21	20:33 (T3)	20:41 39	19:36 (T5)	19:52 48	19:30 (T4)	19:01	17:18	17:02
10	06:07	20:11 (T3)	06:35	18:55 (T5)	07:06	18:43 (T5)	07:37	07:13	07:46
	21:06 22	20:33 (T3)	20:39 43	19:38 (T5)	19:50 45	19:28 (T4)	18:59	17:17	17:02
11	06:07	20:11 (T3)	06:36	18:54 (T5)	07:07	18:44 (T5)	07:38	07:14	07:46
	21:06 23	20:34 (T3)	20:38 45	19:39 (T5)	19:49 43	19:27 (T4)	18:58	17:16	17:02
12	06:08	20:11 (T3)	06:37	18:53 (T5)	07:08	18:46 (T5)	07:39	07:15	07:47
	21:06 23	20:34 (T3)	20:37 47	19:40 (T5)	19:47 39	19:25 (T4)	18:56	17:15	17:02
13	06:09	20:10 (T3)	06:38	18:51 (T5)	07:09	18:47 (T5)	07:40	07:16	07:48
	21:05 24	20:34 (T3)	20:35 49	19:40 (T5)	19:45 36	19:23 (T4)	18:55	17:14	17:02
14	06:10	20:10 (T3)	06:39	18:50 (T5)	07:10	18:49 (T5)	07:41	07:17	07:49
	21:05 25	20:35 (T3)	20:34 51	19:41 (T5)	19:43 33	19:22 (T4)	18:53	17:13	17:02
15	06:10	20:10 (T3)	06:40	18:49 (T5)	07:11	18:52 (T5)	07:42	07:19	07:50
	21:04 26	20:36 (T3)	20:33 53	19:42 (T5)	19:42 28	19:20 (T4)	18:51	17:12	17:03
16	06:11	20:10 (T3)	06:41	18:48 (T5)	07:12	18:55 (T5)	07:43	07:20	07:50
	21:03 26	20:36 (T3)	20:31 54	19:42 (T5)	19:40 22	19:17 (T4)	18:50	17:12	17:03
17	06:12	20:09 (T3)	06:42	18:47 (T5)	07:13		07:44	07:21	07:51
	21:03 27	20:36 (T3)	20:30 56	19:43 (T5)	19:38		18:48	17:11	17:03
18	06:13	20:09 (T3)	06:43	18:47 (T5)	07:14		07:46	07:22	07:52
	21:02 27	20:36 (T3)	20:28 56	19:43 (T5)	19:37		18:47	17:10	17:03
19	06:14	20:10 (T3)	06:44	18:46 (T5)	07:15		07:47	07:23	07:52
	21:01 26	20:36 (T3)	20:27 58	19:44 (T5)	19:35		18:45	17:09	17:04
20	06:14	20:10 (T3)	06:45	18:45 (T5)	07:16		07:48	07:25	07:53
	21:01 26	20:36 (T3)	20:26 59	19:44 (T5)	19:33		18:44	17:08	17:04
21	06:15	20:10 (T3)	06:46	18:44 (T5)	07:17		07:49	07:26	07:53
	21:00 25	20:35 (T3)	20:24 60	19:44 (T5)	19:31		18:42	17:08	17:05
22	06:16	20:10 (T3)	06:47	18:44 (T5)	07:18		07:50	07:27	07:54
	20:59 25	20:35 (T3)	20:23 60	19:44 (T5)	19:30		18:41	17:07	17:05
23	06:17	20:09 (T3)	06:48	18:43 (T5)	07:19		07:51	07:28	07:54
	20:58 24	20:33 (T3)	20:21 61	19:44 (T5)	19:28		18:39	17:07	17:06
24	06:18	20:10 (T3)	06:49	18:43 (T5)	07:20		07:52	07:29	07:55
	20:58 22	20:32 (T3)	20:20 61	19:44 (T5)	19:26		18:38	17:06	17:06
25	06:19	20:10 (T3)	06:50	18:42 (T5)	07:21		07:54	07:30	07:55
	20:57 22	20:32 (T3)	20:18 62	19:44 (T5)	19:25		18:37	17:05	17:07
26	06:20	20:10 (T3)	06:51	18:42 (T5)	07:22		07:55	07:32	07:56
	20:56 21	20:31 (T3)	20:16 62	19:44 (T5)	19:23		18:35	17:05	17:08
27	06:21	20:11 (T3)	06:52	18:41 (T5)	07:23		07:56	07:33	07:56
	20:55 19	20:30 (T3)	20:15 63	19:44 (T5)	19:21		18:34	17:04	17:08
28	06:22	20:11 (T3)	06:53	18:41 (T5)	07:24		07:57	07:34	07:56
	20:54 18	20:29 (T3)	20:13 62	19:43 (T5)	19:19		18:33	17:04	17:09
29	06:23	20:12 (T3)	06:54	18:40 (T5)	07:25		07:58	07:35	07:57
	20:53 17	20:29 (T3)	20:12 62	19:42 (T5)	19:18		18:31	17:04	17:10
30	06:24	20:13 (T3)	06:55	18:40 (T5)	07:26		07:59	07:36	07:57
	20:52 15	20:28 (T3)	20:10 62	19:42 (T5)	19:16		18:30	17:03	17:10
31	06:25	20:14 (T3)	06:56	18:39 (T5)			08:01		07:57
	20:51 13	20:27 (T3)	20:09 62	19:41 (T5)			18:29		17:11
Potential sun hours	460		429		375		345	297	287
Total, worst case	654		1476		747				
Sun reduction	0.66		0.61		0.59				
Oper. time red.	1.00		1.00		1.00				
Wind dir. red.	0.55		0.61		0.61				
Total reduction	0.36		0.37		0.36				
Total, real	239		549		270				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
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US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1468 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8914)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March	April	May		June		July		August		September	October	November	December
1	07:57	07:43	07:07	07:16	06:31		06:02		06:03		06:27		06:57	07:28	07:02	07:37
	17:13	17:48	18:22	19:56	20:27		20:57	66	21:08	69	20:50	36	20:07	19:15	17:28	17:04
2	07:57	07:42	07:06	07:15	06:29		06:01		06:03		06:28		06:58	07:29	07:03	07:38
	17:14	17:49	18:23	19:57	20:28		20:57	67	21:08	69	20:49	33	20:05	19:13	17:27	17:04
3	07:57	07:41	07:04	07:13	06:28		06:01		06:04		06:29		06:59	07:30	07:04	07:39
	17:15	17:50	18:24	19:58	20:29		20:58	67	21:08	69	20:48	30	20:04	19:11	17:26	17:04
4	07:57	07:40	07:02	07:11	06:27		06:01		06:04		06:30		07:00	07:31	07:05	07:40
	17:16	17:52	18:25	19:59	20:30		20:59	67	21:08	68	20:47	26	20:02	19:10	17:25	17:03
5	07:57	07:39	07:01	07:10	06:25		06:00		06:05		06:31		07:01	07:32	07:07	07:41
	17:17	17:53	18:26	20:00	20:31		20:59	68	21:08	68	20:45	18	20:01	19:08	17:23	17:03
6	07:57	07:38	06:59	07:08	06:24		06:00		06:05		06:32		07:02	07:33	07:08	07:42
	17:18	17:54	18:28	20:00	20:32		21:00	68	21:07	68	20:44	6	19:57	19:07	17:22	17:03
7	07:57	07:37	06:58	07:06	06:23	06:49 (T71)	06:00		06:06		06:32		07:03	07:34	07:09	07:43
	17:19	17:55	18:29	20:01	20:33	12 07:01 (T71)	21:01	69	21:07	68	20:43		19:56	19:05	17:21	17:03
8	07:57	07:36	07:56	07:05	06:22	06:45 (T71)	05:59		06:07		06:33		07:04	07:35	07:10	07:44
	17:20	17:57	19:30	20:02	20:34	21 07:06 (T71)	21:01	68	21:07	67	20:42		19:54	19:03	17:20	17:03
9	07:57	07:35	07:54	07:03	06:21	06:41 (T71)	05:59		06:07		06:34		07:05	07:36	07:11	07:44
	17:21	17:58	19:31	20:03	20:35	28 07:09 (T71)	21:02	69	21:06	68	20:41		19:52	19:02	17:19	17:03
10	07:57	07:33	07:53	07:02	06:20	06:40 (T71)	05:59		06:08		06:35		07:06	07:37	07:13	07:45
	17:22	17:59	19:32	20:04	20:36	31 07:11 (T71)	21:03	69	21:06	67	20:39		19:51	19:00	17:18	17:03
11	07:56	07:32	07:51	07:00	06:18	06:39 (T71)	05:59		06:09		06:36		07:07	07:38	07:14	07:46
	17:23	18:00	19:33	20:06	20:37	34 07:13 (T71)	21:03	69	21:06	66	20:38		19:49	18:58	17:17	17:03
12	07:56	07:31	07:50	06:58	06:17	06:38 (T71)	05:59		06:09		06:37		07:08	07:39	07:15	07:47
	17:24	18:01	19:34	20:07	20:38	37 07:15 (T71)	21:04	69	21:05	65	20:37		19:47	18:57	17:16	17:03
13	07:56	07:30	07:48	06:57	06:16	06:37 (T71)	05:59		06:10		06:38		07:09	07:40	07:16	07:48
	17:25	18:03	19:35	20:08	20:39	40 07:17 (T71)	21:04	69	21:05	65	20:35		19:45	18:55	17:15	17:03
14	07:55	07:28	07:46	06:55	06:15	06:36 (T71)	05:59		06:11		06:39		07:10	07:41	07:17	07:49
	17:26	18:04	19:37	20:09	20:40	42 07:18 (T71)	21:05	69	21:04	64	20:34		19:44	18:54	17:14	17:04
15	07:55	07:27	07:45	06:54	06:14	06:35 (T71)	05:59		06:12		06:40		07:11	07:42	07:19	07:49
	17:27	18:05	19:38	20:10	20:41	44 07:19 (T71)	21:05	69	21:04	63	20:33		19:42	18:52	17:13	17:04
16	07:55	07:26	07:43	06:52	06:13	06:34 (T71)	05:59		06:12		06:41		07:12	07:43	07:20	07:50
	17:28	18:06	19:39	20:11	20:42	46 07:20 (T71)	21:06	70	21:03	62	20:31		19:40	18:51	17:13	17:04
17	07:54	07:25	07:41	06:51	06:12	06:33 (T71)	05:59		06:13		06:42		07:13	07:45	07:21	07:51
	17:30	18:08	19:40	20:12	20:43	48 07:21 (T71)	21:06	70	21:03	61	20:30		19:39	18:49	17:12	17:04
18	07:54	07:23	07:40	06:49	06:12	06:32 (T71)	05:59		06:14		06:43		07:14	07:46	07:22	07:51
	17:31	18:09	19:41	20:13	20:44	49 07:21 (T71)	21:06	69	21:02	60	20:28		19:37	18:48	17:11	17:05
19	07:53	07:22	07:38	06:47	06:11	06:31 (T71)	05:59		06:15		06:44		07:15	07:47	07:23	07:52
	17:32	18:10	19:42	20:14	20:45	51 07:22 (T71)	21:07	69	21:01	59	20:27		19:35	18:46	17:10	17:05
20	07:53	07:20	07:36	06:46	06:10	06:31 (T71)	05:59		06:16		06:45		07:16	07:48	07:24	07:52
	17:33	18:11	19:43	20:15	20:46	53 07:24 (T71)	21:07	69	21:01	57	20:26		19:34	18:45	17:10	17:05
21	07:52	07:19	07:35	06:44	06:09	06:30 (T71)	05:59		06:16		06:46		07:17	07:49	07:26	07:53
	17:34	18:12	19:44	20:16	20:47	54 07:24 (T71)	21:07	69	21:00	56	20:24		19:32	18:43	17:09	17:06
22	07:51	07:18	07:33	06:43	06:08	06:29 (T71)	05:59		06:17		06:47		07:18	07:50	07:27	07:54
	17:35	18:14	19:45	20:17	20:48	56 07:25 (T71)	21:07	69	20:59	55	20:23		19:30	18:42	17:08	17:06
23	07:51	07:16	07:31	06:42	06:07	06:28 (T71)	06:00		06:18		06:48		07:19	07:51	07:28	07:54
	17:37	18:15	19:46	20:18	20:49	57 07:25 (T71)	21:08	69	20:58	53	20:21		19:28	18:40	17:08	17:07
24	07:50	07:15	07:30	06:40	06:07	06:28 (T71)	06:00		06:19		06:49		07:20	07:52	07:29	07:55
	17:38	18:16	19:47	20:19	20:50	58 07:26 (T71)	21:08	69	20:57	52	20:20		19:27	18:39	17:07	17:07
25	07:49	07:13	07:28	06:39	06:06	06:27 (T71)	06:00		06:20		06:50		07:21	07:54	07:30	07:55
	17:39	18:17	19:48	20:20	20:51	59 07:26 (T71)	21:08	70	20:57	50	20:18		19:25	18:37	17:07	17:08
26	07:48	07:12	07:26	06:37	06:05	06:26 (T71)	06:00		06:21		06:51		07:22	07:55	07:31	07:55
	17:40	18:18	19:50	20:21	20:52	60 07:26 (T71)	21:08	70	20:56	49	20:17		19:23	18:36	17:06	17:09
27	07:48	07:10	07:25	06:36	06:05	06:26 (T71)	06:01		06:22		06:52		07:23	07:56	07:32	07:56
	17:42	18:20	19:51	20:23	20:52	61 07:27 (T71)	21:08	70	20:55	47	20:15		19:22	18:35	17:06	17:09
28	07:47	07:09	07:23	06:35	06:04	06:25 (T71)	06:01		06:23		06:53		07:24	07:57	07:33	07:56
	17:43	18:21	19:52	20:24	20:53	62 07:27 (T71)	21:08	69	20:54	45	20:13		19:20	18:33	17:05	17:10
29	07:46		07:21	06:33	06:03	06:25 (T71)	06:02		06:24		06:54		07:25	07:58	07:35	07:56
	17:44		19:53	20:25	20:54	63 07:28 (T71)	21:08	69	20:53	43	20:12		19:18	18:32	17:05	17:11
30	07:45		07:20	06:32	06:03	06:24 (T71)	06:02		06:25		06:55		07:26	07:59	07:36	07:56
	17:45		19:54	20:26	20:55	64 07:28 (T71)	21:08	69	20:52	41	20:10		19:17	18:31	17:04	17:12
31	07:44		07:18		06:02	06:24 (T71)			06:26		06:56			08:01		07:57
	17:47		19:55		20:56	65 07:29 (T71)			20:51	39	20:09			18:29		17:12
Potential sun hours	297	297	370	399	448		452		459		428		375	345	298	288
Total, worst case					1195		2063		1833		149					
Sun reduction					0.57		0.64		0.66		0.61					
Oper. time red.					1.00		1.00		1.00		1.00					
Wind dir. red.					0.71		0.71		0.71		0.71					
Total reduction					0.41		0.46		0.47		0.43					
Total, real					486		941		862		65					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1472 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8918)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		16:22 (T46)	07:43		16:49 (T45)	07:07		16:58 (T45)	07:16			06:30		19:38 (T44)	06:01		19:25 (T44)
	17:13	21	16:43 (T46)	17:47	34	17:23 (T45)	18:22	23	17:21 (T45)	19:56			20:27	27	20:05 (T44)	20:57	57	20:22 (T44)
2	07:57		16:23 (T46)	07:42		16:48 (T45)	07:06		17:01 (T45)	07:14			06:29		19:37 (T44)	06:01		19:26 (T44)
	17:14	20	16:43 (T46)	17:49	37	17:25 (T45)	18:23	16	17:17 (T45)	19:57			20:28	29	20:06 (T44)	20:58	57	20:23 (T44)
3	07:57		16:24 (T46)	07:41		16:48 (T45)	07:04			07:13			06:28		19:34 (T44)	06:01		19:25 (T44)
	17:15	19	16:43 (T46)	17:50	38	17:26 (T45)	18:24			19:58			20:29	32	20:06 (T44)	20:58	57	20:22 (T44)
4	07:57		16:25 (T46)	07:40		16:47 (T45)	07:02			07:11			06:26		19:33 (T44)	06:00		19:26 (T44)
	17:16	18	16:43 (T46)	17:51	41	17:28 (T45)	18:25			19:59			20:30	34	20:07 (T44)	20:59	56	20:22 (T44)
5	07:57		16:26 (T46)	07:39		16:46 (T45)	07:01			07:09			06:25		19:32 (T44)	06:00		19:27 (T44)
	17:17	17	16:43 (T46)	17:52	42	17:28 (T45)	18:26			20:00			20:31	37	20:09 (T44)	21:00	56	20:23 (T44)
6	07:57		16:27 (T46)	07:38		16:45 (T45)	06:59			07:08			06:24		19:31 (T44)	06:00		19:26 (T44)
	17:17	16	16:43 (T46)	17:54	45	17:30 (T45)	18:27			20:00			20:32	39	20:10 (T44)	21:00	56	20:22 (T44)
7	07:57		16:27 (T46)	07:37		16:45 (T45)	06:58			07:06			06:23		19:30 (T44)	05:59		19:27 (T44)
	17:18	15	16:42 (T46)	17:55	46	17:31 (T45)	18:29			20:01			20:33	41	20:11 (T44)	21:01	55	20:22 (T44)
8	07:57		16:29 (T46)	07:36		16:45 (T45)	07:56			07:05			06:22		19:29 (T44)	05:59		19:27 (T44)
	17:19	13	16:42 (T46)	17:56	48	17:33 (T45)	19:30			20:02			20:34	43	20:12 (T44)	21:02	56	20:23 (T44)
9	07:57		16:31 (T46)	07:35		16:45 (T45)	07:54			07:03			06:20		19:28 (T44)	05:59		19:28 (T44)
	17:20	10	16:41 (T46)	17:58	49	17:34 (T45)	19:31			20:03			20:35	45	20:13 (T44)	21:02	55	20:23 (T44)
10	07:57		16:33 (T46)	07:34		16:45 (T45)	07:53			07:01			06:19		19:27 (T44)	05:59		19:28 (T44)
	17:21	7	16:40 (T46)	17:59	50	17:35 (T45)	19:32			20:04			20:36	46	20:13 (T44)	21:03	55	20:23 (T44)
11	07:57			07:32		16:44 (T45)	07:51			07:00			06:18		19:26 (T44)	05:58		19:29 (T44)
	17:23			18:00	51	17:35 (T45)	19:33			20:06			20:37	48	20:14 (T44)	21:03	54	20:23 (T44)
12	07:56			07:31		16:44 (T45)	07:50			06:58			06:17		19:25 (T44)	05:58		19:28 (T44)
	17:24			18:01	51	17:35 (T45)	19:34			20:07			20:38	50	20:15 (T44)	21:04	55	20:23 (T44)
13	07:56			07:30		16:45 (T45)	07:48			06:57			06:16		19:25 (T44)	05:58		19:28 (T44)
	17:25			18:02	51	17:36 (T45)	19:35			20:08			20:39	51	20:16 (T44)	21:05	55	20:23 (T44)
14	07:56			07:29		16:44 (T45)	07:46			06:55			06:15		19:24 (T44)	05:58		19:29 (T44)
	17:26			18:04	51	17:35 (T45)	19:36			20:09			20:40	53	20:17 (T44)	21:05	54	20:23 (T44)
15	07:55			07:27		16:44 (T45)	07:45			06:53			06:14		19:25 (T44)	05:58		19:29 (T44)
	17:27			18:05	51	17:35 (T45)	19:38			20:10			20:41	54	20:19 (T44)	21:05	54	20:23 (T44)
16	07:55			07:26		16:45 (T45)	07:43			06:52			06:13		19:25 (T44)	05:58		19:29 (T44)
	17:28			18:06	51	17:36 (T45)	19:39			20:11			20:42	55	20:20 (T44)	21:06	54	20:23 (T44)
17	07:54			07:25		16:45 (T45)	07:41			06:50			06:12		19:24 (T44)	05:58		19:30 (T44)
	17:29			18:07	50	17:35 (T45)	19:40			20:12			20:43	56	20:20 (T44)	21:06	54	20:24 (T44)
18	07:54			07:23		16:45 (T45)	07:40			06:49			06:11		19:24 (T44)	05:58		19:31 (T44)
	17:30			18:09	50	17:35 (T45)	19:41			20:13			20:44	57	20:21 (T44)	21:07	53	20:24 (T44)
19	07:53			07:22		16:46 (T45)	07:38			06:47			06:10		19:24 (T44)	05:58		19:31 (T44)
	17:32			18:10	49	17:35 (T45)	19:42			20:14			20:45	57	20:21 (T44)	21:07	53	20:24 (T44)
20	07:53			07:20		16:46 (T45)	07:36			06:46			06:09		19:23 (T44)	05:59		19:31 (T44)
	17:33			18:11	47	17:33 (T45)	19:43			20:15			20:46	58	20:21 (T44)	21:07	53	20:24 (T44)
21	07:52			07:19		16:47 (T45)	07:35			06:44			06:09		19:23 (T44)	05:59		19:31 (T44)
	17:34			18:12	46	17:33 (T45)	19:44			20:16			20:47	58	20:21 (T44)	21:07	53	20:24 (T44)
22	07:52			07:18		16:47 (T45)	07:33			06:43			06:08		19:24 (T44)	05:59		19:31 (T44)
	17:35			18:13	45	17:32 (T45)	19:45			20:17			20:48	57	20:21 (T44)	21:08	53	20:24 (T44)
23	07:51			07:16		16:49 (T45)	07:31			06:41			06:07		19:24 (T44)	05:59		19:32 (T44)
	17:36			18:15	42	17:31 (T45)	19:46			20:18			20:49	57	20:21 (T44)	21:08	53	20:25 (T44)
24	07:50		17:02 (T45)	07:15		16:49 (T45)	07:30			06:40			06:06		19:23 (T44)	05:59		19:32 (T44)
	17:38	10	17:12 (T45)	18:16	41	17:30 (T45)	19:47			20:19			20:50	58	20:21 (T44)	21:08	53	20:25 (T44)
25	07:49		16:58 (T45)	07:13		16:51 (T45)	07:28			06:38			06:06		19:24 (T44)	06:00		19:32 (T44)
	17:39	16	17:14 (T45)	18:17	38	17:29 (T45)	19:48			20:21			20:51	58	20:22 (T44)	21:08	53	20:25 (T44)
26	07:49		16:56 (T45)	07:12		16:52 (T45)	07:26			06:37			06:05		19:24 (T44)	06:00		19:32 (T44)
	17:40	19	17:15 (T45)	18:18	35	17:27 (T45)	19:50			20:22			20:52	58	20:22 (T44)	21:08	54	20:26 (T44)
27	07:48		16:55 (T45)	07:10		16:54 (T45)	07:24			06:36			06:04		19:25 (T44)	06:00		19:32 (T44)
	17:41	22	17:17 (T45)	18:19	32	17:26 (T45)	19:51			20:23			20:53	57	20:22 (T44)	21:08	54	20:26 (T44)
28	07:47		16:53 (T45)	07:09		16:55 (T45)	07:23			06:34		19:52 (T44)	06:04		19:24 (T44)	06:01		19:32 (T44)
	17:42	25	17:18 (T45)	18:21	28	17:23 (T45)	19:52			20:24	3	19:55 (T44)	20:54	58	20:22 (T44)	21:08	54	20:26 (T44)
29	07:46		16:52 (T45)				07:21			06:33		19:44 (T44)	06:03		19:24 (T44)	06:01		19:33 (T44)
	17:44	27	17:19 (T45)				19:53			20:25	17	20:01 (T44)	20:54	57	20:21 (T44)	21:08	54	20:27 (T44)
30	07:45		16:51 (T45)				07:19			06:32		19:41 (T44)	06:02		19:25 (T44)	06:02		19:32 (T44)
	17:45	30	17:21 (T45)				19:54			20:26	23	20:04 (T44)	20:55	57	20:22 (T44)	21:08	55	20:27 (T44)
31	07:44		16:50 (T45)				07:18						06:02		19:25 (T44)			
	17:46	32	17:22 (T45)				19:55						20:56	58	20:23 (T44)			
Potential sun hours	297			297			370			399			448			453		
Total, worst case		337			1239			39			43			1545			1635	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.73			0.72			0.72			0.56			0.56			0.56	
Total reduction		0.23			0.30			0.33			0.30			0.33			0.37	
Total, real		78			367			13			13			509			604	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1472 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8918)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02		19:33 (T44)	06:26		19:36 (T44)	06:57	07:27			07:02		16:14 (T45)	07:37		
	21:08	54	20:27 (T44)	20:50	49	20:25 (T44)	20:07	19:15			17:28	50	17:04 (T45)	17:04		
2	06:03		19:32 (T44)	06:27		19:37 (T44)	06:58	07:29			07:03		16:15 (T45)	07:38		16:15 (T46)
	21:08	55	20:27 (T44)	20:49	47	20:24 (T44)	20:06	19:13			17:27	49	17:04 (T45)	17:03	7	16:22 (T46)
3	06:03		19:33 (T44)	06:28		19:37 (T44)	06:59	07:30			07:04		16:15 (T45)	07:39		16:14 (T46)
	21:08	55	20:28 (T44)	20:48	46	20:23 (T44)	20:04	19:11			17:26	47	17:02 (T45)	17:03	10	16:24 (T46)
4	06:04		19:33 (T44)	06:29		19:38 (T44)	07:00	07:31			07:06		16:15 (T45)	07:40		16:13 (T46)
	21:08	55	20:28 (T44)	20:47	44	20:22 (T44)	20:02	19:10			17:24	46	17:01 (T45)	17:03	13	16:26 (T46)
5	06:04		19:33 (T44)	06:30		19:39 (T44)	07:01	07:32			07:07		16:15 (T45)	07:41		16:12 (T46)
	21:08	55	20:28 (T44)	20:46	42	20:21 (T44)	20:01	19:08			17:23	44	16:59 (T45)	17:03	15	16:27 (T46)
6	06:05		19:32 (T44)	06:31		19:40 (T44)	07:02	07:33			07:08		16:17 (T45)	07:42		16:12 (T46)
	21:08	56	20:28 (T44)	20:44	40	20:20 (T44)	19:57	19:06			17:22	42	16:59 (T45)	17:03	16	16:28 (T46)
7	06:05		19:33 (T44)	06:32		19:41 (T44)	07:03	07:34			07:09		16:17 (T45)	07:43		16:12 (T46)
	21:07	56	20:29 (T44)	20:43	38	20:19 (T44)	19:56	19:05			17:21	40	16:57 (T45)	17:03	17	16:29 (T46)
8	06:06		19:33 (T44)	06:33		19:42 (T44)	07:04	07:35			07:10		16:18 (T45)	07:44		16:12 (T46)
	21:07	57	20:30 (T44)	20:42	36	20:18 (T44)	19:54	19:03			17:20	38	16:56 (T45)	17:03	18	16:30 (T46)
9	06:07		19:33 (T44)	06:34		19:43 (T44)	07:05	07:36			07:12		16:18 (T45)	07:45		16:12 (T46)
	21:07	56	20:29 (T44)	20:41	34	20:17 (T44)	19:52	19:01			17:19	37	16:55 (T45)	17:03	19	16:31 (T46)
10	06:07		19:33 (T44)	06:35		19:44 (T44)	07:06	07:37			07:13		16:20 (T45)	07:46		16:12 (T46)
	21:06	57	20:30 (T44)	20:39	32	20:16 (T44)	19:51	19:00			17:18	34	16:54 (T45)	17:03	20	16:32 (T46)
11	06:08		19:33 (T44)	06:36		19:46 (T44)	07:07	07:38		17:38 (T45)	07:14		16:21 (T45)	07:46		16:13 (T46)
	21:06	57	20:30 (T44)	20:38	28	20:14 (T44)	19:49	18:58	10	17:48 (T45)	17:17	32	16:53 (T45)	17:03	20	16:33 (T46)
12	06:09		19:33 (T44)	06:37		19:48 (T44)	07:08	07:39		17:33 (T45)	07:15		16:22 (T45)	07:47		16:13 (T46)
	21:05	57	20:30 (T44)	20:37	25	20:13 (T44)	19:47	18:57	19	17:52 (T45)	17:16	30	16:52 (T45)	17:03	21	16:34 (T46)
13	06:10		19:33 (T44)	06:38		19:50 (T44)	07:09	07:40		17:29 (T45)	07:16		16:24 (T45)	07:48		16:13 (T46)
	21:05	57	20:30 (T44)	20:36	22	20:12 (T44)	19:45	18:55	26	17:55 (T45)	17:15	27	16:51 (T45)	17:03	22	16:35 (T46)
14	06:10		19:33 (T44)	06:39		19:54 (T44)	07:10	07:41		17:27 (T45)	07:18		16:25 (T45)	07:49		16:13 (T46)
	21:04	58	20:31 (T44)	20:34	15	20:09 (T44)	19:44	18:54	29	17:56 (T45)	17:14	25	16:50 (T45)	17:03	22	16:35 (T46)
15	06:11		19:34 (T44)	06:40			07:11	07:42		17:25 (T45)	07:19		16:27 (T45)	07:50		16:13 (T46)
	21:04	57	20:31 (T44)	20:33			19:42	18:52	34	17:59 (T45)	17:13	22	16:49 (T45)	17:03	22	16:35 (T46)
16	06:12		19:33 (T44)	06:41			07:12	07:44		17:23 (T45)	07:20		16:29 (T45)	07:50		16:14 (T46)
	21:03	58	20:31 (T44)	20:31			19:40	18:50	37	18:00 (T45)	17:12	19	16:48 (T45)	17:04	22	16:36 (T46)
17	06:13		19:33 (T44)	06:42			07:13	07:45		17:22 (T45)	07:21		16:32 (T45)	07:51		16:14 (T46)
	21:03	58	20:31 (T44)	20:30			19:39	18:49	39	18:01 (T45)	17:11	16	16:48 (T45)	17:04	22	16:36 (T46)
18	06:14		19:33 (T44)	06:43			07:14	07:46		17:20 (T45)	07:22		16:36 (T45)	07:52		16:15 (T46)
	21:02	58	20:31 (T44)	20:29			19:37	18:47	42	18:02 (T45)	17:11	10	16:46 (T45)	17:04	22	16:37 (T46)
19	06:14		19:34 (T44)	06:44			07:15	07:47		17:19 (T45)	07:23			07:52		16:15 (T46)
	21:01	57	20:31 (T44)	20:27			19:35	18:46	43	18:02 (T45)	17:10			17:05	23	16:38 (T46)
20	06:15		19:34 (T44)	06:45			07:16	07:48		17:18 (T45)	07:25			07:53		16:15 (T46)
	21:01	58	20:32 (T44)	20:26			19:33	18:44	45	18:03 (T45)	17:09			17:05	23	16:38 (T46)
21	06:16		19:33 (T44)	06:46			07:17	07:49		17:17 (T45)	07:26			07:53		16:16 (T46)
	21:00	58	20:31 (T44)	20:24			19:32	18:43	47	18:04 (T45)	17:09			17:06	23	16:39 (T46)
22	06:17		19:34 (T44)	06:47			07:18	07:50		17:16 (T45)	07:27			07:54		16:16 (T46)
	20:59	57	20:31 (T44)	20:23			19:30	18:41	48	18:04 (T45)	17:08			17:06	23	16:39 (T46)
23	06:18		19:34 (T44)	06:48			07:19	07:51		17:16 (T45)	07:28			07:54		16:17 (T46)
	20:58	57	20:31 (T44)	20:21			19:28	18:40	48	18:04 (T45)	17:07			17:07	23	16:40 (T46)
24	06:19		19:34 (T44)	06:49			07:20	07:53		17:15 (T45)	07:29			07:55		16:17 (T46)
	20:58	57	20:31 (T44)	20:20			19:27	18:39	49	18:04 (T45)	17:07			17:07	23	16:40 (T46)
25	06:20		19:34 (T44)	06:50			07:21	07:54		17:14 (T45)	07:30			07:55		16:17 (T46)
	20:57	57	20:31 (T44)	20:18			19:25	18:37	50	18:04 (T45)	17:06			17:08	23	16:40 (T46)
26	06:21		19:35 (T44)	06:51			07:22	07:55		17:15 (T45)	07:32			07:56		16:19 (T46)
	20:56	56	20:31 (T44)	20:17			19:23	18:36	50	18:05 (T45)	17:06			17:08	22	16:41 (T46)
27	06:22		19:35 (T44)	06:52			07:23	07:56		17:14 (T45)	07:33			07:56		16:19 (T46)
	20:55	56	20:31 (T44)	20:15			19:21	18:34	51	18:05 (T45)	17:05			17:09	22	16:41 (T46)
28	06:22		19:35 (T44)	06:53			07:24	07:57		17:14 (T45)	07:34			07:56		16:19 (T46)
	20:54	55	20:30 (T44)	20:14			19:20	18:33	51	18:05 (T45)	17:05			17:10	22	16:41 (T46)
29	06:23		19:35 (T44)	06:54			07:25	07:58		17:13 (T45)	07:35			07:57		16:20 (T46)
	20:53	53	20:28 (T44)	20:12			19:18	18:32	51	18:04 (T45)	17:04			17:10	21	16:41 (T46)
30	06:24		19:35 (T44)	06:55			07:26	08:00		17:14 (T45)	07:36			07:57		16:20 (T46)
	20:52	52	20:27 (T44)	20:10			19:16	18:31	51	18:05 (T45)	17:04			17:11	22	16:42 (T46)
31	06:25		19:36 (T44)	06:56				08:01		17:14 (T45)				07:57		16:22 (T46)
	20:51	50	20:26 (T44)	20:09				18:29	51	18:05 (T45)				17:12	21	16:43 (T46)
Potential sun hours	460			429			375	345			297			287		
Total, worst case		1739			498				871			608			599	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.56			0.56				0.72			0.72			0.74	
Total reduction		0.38			0.35				0.36			0.22			0.17	
Total, real		663			175				310			135			100	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1473 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8919)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		14:40 (T20)	07:43			07:07		17:19 (T19)	07:16		17:58 (T19)	06:30		19:25 (T17)	06:01		19:42 (T17)
	17:13	10	14:50 (T20)	17:47			18:21	38	17:57 (T19)	19:56	66	19:04 (T19)	20:27	40	20:05 (T17)	20:57	12	19:54 (T17)
2	07:57			07:42			07:06		17:16 (T19)	07:14		17:58 (T19)	06:29		19:24 (T17)	06:01		19:44 (T17)
	17:13			17:48			18:23	43	17:59 (T19)	19:57	64	19:02 (T19)	20:28	41	20:05 (T17)	20:58	7	19:51 (T17)
3	07:58			07:41			07:04		17:14 (T19)	07:13		17:59 (T19)	06:27		19:24 (T17)	06:00		
	17:14			17:50			18:24	46	18:00 (T19)	19:58	63	19:02 (T19)	20:29	43	20:07 (T17)	20:59		
4	07:58			07:40			07:02		17:12 (T19)	07:11		18:00 (T19)	06:26		19:23 (T17)	06:00		
	17:15			17:51			18:25	51	18:03 (T19)	19:59	60	19:00 (T19)	20:30	45	20:08 (T17)	20:59		
5	07:58			07:39			07:01		17:10 (T19)	07:09		18:00 (T19)	06:25		19:23 (T17)	05:59		
	17:16			17:52			18:26	54	18:04 (T19)	20:00	59	18:59 (T19)	20:31	46	20:09 (T17)	21:00		
6	07:58			07:38			06:59		17:09 (T19)	07:08		18:02 (T19)	06:24		19:23 (T17)	05:59		
	17:17			17:53			18:27	56	18:05 (T19)	20:00	56	18:58 (T19)	20:32	47	20:10 (T17)	21:01		
7	07:57			07:37			06:58		17:07 (T19)	07:06		18:03 (T19)	06:22		19:23 (T17)	05:59		
	17:18			17:55			18:28	59	18:06 (T19)	20:01	53	18:56 (T19)	20:33	46	20:09 (T17)	21:01		
8	07:57			07:36			07:56		18:05 (T19)	07:04		18:03 (T19)	06:21		19:23 (T17)	05:58		
	17:19			17:56			19:30	62	19:07 (T19)	20:02	51	18:54 (T19)	20:34	46	20:09 (T17)	21:02		
9	07:57			07:35			07:54		18:05 (T19)	07:03		18:05 (T19)	06:20		19:23 (T17)	05:58		
	17:20			17:57			19:31	63	19:08 (T19)	20:03	48	18:53 (T19)	20:35	46	20:09 (T17)	21:03		
10	07:57			07:34			07:53		18:03 (T19)	07:01		18:07 (T19)	06:19		19:23 (T17)	05:58		
	17:21			17:58			19:32	66	19:09 (T19)	20:04	43	18:50 (T19)	20:36	46	20:09 (T17)	21:03		
11	07:57			07:32			07:51		18:02 (T19)	06:59		18:09 (T19)	06:18		19:23 (T17)	05:58		
	17:22			18:00			19:33	67	19:09 (T19)	20:06	40	18:49 (T19)	20:38	46	20:09 (T17)	21:04		
12	07:56			07:31			07:49		18:01 (T19)	06:58		18:11 (T19)	06:17		19:23 (T17)	05:58		
	17:23			18:01			19:34	69	19:10 (T19)	20:07	35	18:46 (T19)	20:39	45	20:08 (T17)	21:04		
13	07:56			07:30			07:48		18:00 (T19)	06:56		18:13 (T19)	06:16		19:24 (T17)	05:58		
	17:24			18:02			19:35	70	19:10 (T19)	20:08	29	18:42 (T19)	20:40	44	20:08 (T17)	21:05		
14	07:56			07:29			07:46		17:59 (T19)	06:55		18:17 (T19)	06:15		19:24 (T17)	05:58		
	17:25			18:03			19:36	71	19:10 (T19)	20:09	22	18:39 (T19)	20:41	44	20:08 (T17)	21:05		
15	07:55			07:27			07:44		17:59 (T19)	06:53		18:22 (T19)	06:14		19:24 (T17)	05:58		
	17:26			18:05			19:37	72	19:11 (T19)	20:10	10	18:32 (T19)	20:42	43	20:07 (T17)	21:06		
16	07:55			07:26			07:43		17:58 (T19)	06:52			06:13		19:25 (T17)	05:58		
	17:28			18:06			19:38	73	19:11 (T19)	20:11			20:43	42	20:07 (T17)	21:06		
17	07:55			07:25			07:41		17:57 (T19)	06:50			06:12		19:25 (T17)	05:58		
	17:29			18:07			19:40	74	19:11 (T19)	20:12			20:44	41	20:06 (T17)	21:06		
18	07:54			07:23			07:39		17:57 (T19)	06:48			06:11		19:26 (T17)	05:58		
	17:30			18:08			19:41	74	19:11 (T19)	20:13			20:45	40	20:06 (T17)	21:07		
19	07:53			07:22			07:38		17:57 (T19)	06:47		19:46 (T17)	06:10		19:27 (T17)	05:58		
	17:31			18:10			19:42	74	19:11 (T19)	20:14	6	19:52 (T17)	20:46	39	20:06 (T17)	21:07		
20	07:53			07:20			07:36		17:56 (T19)	06:45		19:40 (T17)	06:09		19:28 (T17)	05:58		
	17:32			18:11			19:43	74	19:10 (T19)	20:15	14	19:54 (T17)	20:46	37	20:05 (T17)	21:07		
21	07:52			07:19			07:34		17:56 (T19)	06:44		19:37 (T17)	06:08		19:28 (T17)	05:58		
	17:33			18:12			19:44	75	19:11 (T19)	20:16	17	19:54 (T17)	20:47	36	20:04 (T17)	21:08		
22	07:52			07:18			07:33		17:56 (T19)	06:42		19:35 (T17)	06:07		19:29 (T17)	05:58		
	17:35			18:13			19:45	74	19:10 (T19)	20:17	21	19:56 (T17)	20:48	34	20:03 (T17)	21:08		
23	07:51			07:16			07:31		17:55 (T19)	06:41		19:32 (T17)	06:07		19:30 (T17)	05:59		
	17:36			18:14			19:46	75	19:10 (T19)	20:18	24	19:56 (T17)	20:49	33	20:03 (T17)	21:08		
24	07:50			07:15			07:29		17:55 (T19)	06:40		19:31 (T17)	06:06		19:31 (T17)	05:59		
	17:37			18:16			19:47	74	19:09 (T19)	20:19	27	19:58 (T17)	20:50	31	20:02 (T17)	21:08		
25	07:50			07:13			07:28		17:56 (T19)	06:38		19:30 (T17)	06:05		19:31 (T17)	05:59		
	17:38			18:17			19:48	73	19:09 (T19)	20:21	29	19:59 (T17)	20:51	30	20:01 (T17)	21:08		
26	07:49			07:12		17:32 (T19)	07:26		17:56 (T19)	06:37		19:28 (T17)	06:04		19:33 (T17)	06:00		
	17:40			18:18	12	17:44 (T19)	19:49	72	19:08 (T19)	20:22	32	20:00 (T17)	20:52	28	20:01 (T17)	21:09		
27	07:48			07:10		17:26 (T19)	07:24		17:55 (T19)	06:35		19:28 (T17)	06:04		19:34 (T17)	06:00		
	17:41			18:19	25	17:51 (T19)	19:50	72	19:07 (T19)	20:23	33	20:01 (T17)	20:53	26	20:00 (T17)	21:09		
28	07:47			07:09		17:22 (T19)	07:23		17:56 (T19)	06:34		19:26 (T17)	06:03		19:35 (T17)	06:00		
	17:42			18:20	32	17:54 (T19)	19:52	71	19:07 (T19)	20:24	35	20:01 (T17)	20:54	24	19:59 (T17)	21:09		
29	07:46						07:21		17:56 (T19)	06:33		19:26 (T17)	06:03		19:36 (T17)	06:01		
	17:43						19:53	70	19:06 (T19)	20:25	37	20:03 (T17)	20:55	22	19:58 (T17)	21:09		
30	07:45						07:19		17:56 (T19)	06:31		19:25 (T17)	06:02		19:38 (T17)	06:01		
	17:45						19:54	69	19:05 (T19)	20:26	39	20:04 (T17)	20:55	19	19:57 (T17)	21:09		
31	07:44						07:18		17:57 (T19)				06:01		19:39 (T17)			
	17:46						19:55	68	19:05 (T19)				20:56	16	19:55 (T17)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		10			69			2049			1013			1166			19	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.73			0.66			0.66			0.63			0.57			0.57	
Total reduction		0.23			0.27			0.30			0.33			0.33			0.37	
Total, real		2			19			605			338			381			7	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1473 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8919)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02			06:26		19:34 (T17)	06:57		18:08 (T19)	07:27		17:40 (T19)	07:02		07:37			
	21:09			20:50	45	20:19 (T17)	20:07	40	18:48 (T19)	19:15	69	18:49 (T19)	17:28		17:03			
2	06:02			06:27		19:34 (T17)	06:58		18:06 (T19)	07:28		17:40 (T19)	07:03		07:38			
	21:09			20:49	45	20:19 (T17)	20:05	43	18:49 (T19)	19:13	68	18:48 (T19)	17:26		17:03			
3	06:03			06:28		19:34 (T17)	06:59		18:03 (T19)	07:29		17:40 (T19)	07:04		07:39			
	21:08			20:48	45	20:19 (T17)	20:04	48	18:51 (T19)	19:11	67	18:47 (T19)	17:25		17:03			
4	06:03			06:29		19:33 (T17)	07:00		18:01 (T19)	07:31		17:41 (T19)	07:06		07:40			
	21:08			20:47	47	20:20 (T17)	20:02	51	18:52 (T19)	19:10	64	18:45 (T19)	17:24		17:03			
5	06:04			06:30		19:33 (T17)	07:01		17:59 (T19)	07:32		17:41 (T19)	07:07		07:41			
	21:08			20:46	47	20:20 (T17)	20:01	53	18:52 (T19)	19:08	63	18:44 (T19)	17:23		17:02			
6	06:04			06:31		19:33 (T17)	07:02		17:57 (T19)	07:33		17:43 (T19)	07:08		07:42			
	21:08			20:45	47	20:20 (T17)	19:57	56	18:53 (T19)	19:06	60	18:43 (T19)	17:22		17:02			
7	06:05			06:32		19:33 (T17)	07:03		17:55 (T19)	07:34		17:44 (T19)	07:09		07:43			
	21:08			20:43	46	20:19 (T17)	19:56	59	18:54 (T19)	19:05	58	18:42 (T19)	17:21		17:02			
8	06:06			06:33		19:32 (T17)	07:04		17:54 (T19)	07:35		17:45 (T19)	07:10		07:44			
	21:07			20:42	45	20:17 (T17)	19:54	60	18:54 (T19)	19:03	55	18:40 (T19)	17:20		17:02			
9	06:06			06:34		19:32 (T17)	07:05		17:52 (T19)	07:36		17:46 (T19)	07:12		07:45			
	21:07			20:41	44	20:16 (T17)	19:52	63	18:55 (T19)	19:01	52	18:38 (T19)	17:18		17:02			
10	06:07		19:54 (T17)	06:35		19:32 (T17)	07:06		17:51 (T19)	07:37		17:47 (T19)	07:13		07:46			
	21:07	3	19:57 (T17)	20:40	43	20:15 (T17)	19:50	64	18:55 (T19)	19:00	49	18:36 (T19)	17:17		17:02			
11	06:08		19:50 (T17)	06:36		19:32 (T17)	07:07		17:50 (T19)	07:38		17:49 (T19)	07:14		07:47		14:30 (T20)	
	21:06	10	20:00 (T17)	20:38	42	20:14 (T17)	19:49	66	18:56 (T19)	18:58	45	18:34 (T19)	17:16		17:02	10	14:40 (T20)	
12	06:08		19:48 (T17)	06:37		19:33 (T17)	07:08		17:49 (T19)	07:39		17:51 (T19)	07:15		07:47		14:29 (T20)	
	21:06	15	20:03 (T17)	20:37	40	20:13 (T17)	19:47	67	18:56 (T19)	18:56	40	18:31 (T19)	17:15		17:02	14	14:43 (T20)	
13	06:09		19:47 (T17)	06:38		19:33 (T17)	07:09		17:48 (T19)	07:40		17:53 (T19)	07:16		07:48		14:28 (T20)	
	21:05	18	20:05 (T17)	20:36	38	20:11 (T17)	19:45	68	18:56 (T19)	18:55	35	18:28 (T19)	17:15		17:02	17	14:45 (T20)	
14	06:10		19:45 (T17)	06:39		19:33 (T17)	07:10		17:47 (T19)	07:41		17:56 (T19)	07:18		07:49		14:28 (T20)	
	21:05	21	20:06 (T17)	20:34	37	20:10 (T17)	19:44	70	18:57 (T19)	18:53	29	18:25 (T19)	17:14		17:03	19	14:47 (T20)	
15	06:11		19:44 (T17)	06:40		19:34 (T17)	07:11		17:46 (T19)	07:42		18:01 (T19)	07:19		07:50		14:26 (T20)	
	21:04	23	20:07 (T17)	20:33	35	20:09 (T17)	19:42	71	18:57 (T19)	18:52	20	18:21 (T19)	17:13		17:03	21	14:47 (T20)	
16	06:11		19:44 (T17)	06:41		19:34 (T17)	07:12		17:45 (T19)	07:44			07:20		07:50		14:26 (T20)	
	21:04	25	20:09 (T17)	20:31	33	20:07 (T17)	19:40	72	18:57 (T19)	18:50			17:12		17:03	23	14:49 (T20)	
17	06:12		19:43 (T17)	06:42		19:35 (T17)	07:13		17:44 (T19)	07:45			07:21		07:51		14:27 (T20)	
	21:03	27	20:10 (T17)	20:30	31	20:06 (T17)	19:39	73	18:57 (T19)	18:49			17:11		17:03	23	14:50 (T20)	
18	06:13		19:41 (T17)	06:43		19:36 (T17)	07:14		17:43 (T19)	07:46			07:22		07:52		14:26 (T20)	
	21:02	29	20:10 (T17)	20:29	29	20:05 (T17)	19:37	73	18:56 (T19)	18:47			17:10		17:04	24	14:50 (T20)	
19	06:14		19:41 (T17)	06:44		19:37 (T17)	07:15		17:42 (T19)	07:47			07:24		07:52		14:27 (T20)	
	21:02	30	20:11 (T17)	20:27	26	20:03 (T17)	19:35	74	18:56 (T19)	18:46			17:10		17:04	24	14:51 (T20)	
20	06:15		19:40 (T17)	06:45		19:38 (T17)	07:16		17:42 (T19)	07:48			07:25		07:53		14:26 (T20)	
	21:01	32	20:12 (T17)	20:26	24	20:02 (T17)	19:33	74	18:56 (T19)	18:44			17:09		17:05	25	14:51 (T20)	
21	06:16		19:39 (T17)	06:46		19:40 (T17)	07:17		17:41 (T19)	07:49			07:26		07:54		14:27 (T20)	
	21:00	34	20:13 (T17)	20:24	21	20:01 (T17)	19:32	75	18:56 (T19)	18:43			17:08		17:05	26	14:53 (T20)	
22	06:17		19:39 (T17)	06:47		19:42 (T17)	07:18		17:41 (T19)	07:50			07:27		07:54		14:27 (T20)	
	20:59	35	20:14 (T17)	20:23	17	19:59 (T17)	19:30	74	18:55 (T19)	18:41			17:07		17:06	26	14:53 (T20)	
23	06:17		19:38 (T17)	06:48		19:45 (T17)	07:19		17:40 (T19)	07:51			07:28		07:55		14:28 (T20)	
	20:59	37	20:15 (T17)	20:21	13	19:58 (T17)	19:28	75	18:55 (T19)	18:40			17:07		17:06	25	14:53 (T20)	
24	06:18		19:38 (T17)	06:49		19:51 (T17)	07:20		17:40 (T19)	07:53			07:29		07:55		14:29 (T20)	
	20:58	38	20:16 (T17)	20:20	3	19:54 (T17)	19:26	74	18:54 (T19)	18:38			17:06		17:07	24	14:53 (T20)	
25	06:19		19:36 (T17)	06:50			07:21		17:40 (T19)	07:54			07:31		07:55		14:30 (T20)	
	20:57	40	20:16 (T17)	20:18			19:25	74	18:54 (T19)	18:37			17:06		17:07	24	14:54 (T20)	
26	06:20		19:36 (T17)	06:51			07:22		17:40 (T19)	07:55			07:32		07:56		14:30 (T20)	
	20:56	40	20:16 (T17)	20:17			19:23	73	18:53 (T19)	18:36			17:05		17:08	24	14:54 (T20)	
27	06:21		19:36 (T17)	06:52			07:23		17:39 (T19)	07:56			07:33		07:56		14:31 (T20)	
	20:55	41	20:17 (T17)	20:15			19:21	73	18:52 (T19)	18:34			17:05		17:09	23	14:54 (T20)	
28	06:22		19:35 (T17)	06:53		18:23 (T19)	07:24		17:39 (T19)	07:57			07:34		07:56		14:32 (T20)	
	20:54	43	20:18 (T17)	20:14	12	18:35 (T19)	19:20	73	18:52 (T19)	18:33			17:04		17:09	21	14:53 (T20)	
29	06:23		19:35 (T17)	06:54		18:18 (T19)	07:25		17:39 (T19)	07:58			07:35		07:57		14:34 (T20)	
	20:53	43	20:18 (T17)	20:12	22	18:40 (T19)	19:18	72	18:51 (T19)	18:31			17:04		17:10	20	14:54 (T20)	
30	06:24		19:35 (T17)	06:55		18:14 (T19)	07:26		17:40 (T19)	08:00			07:36		07:57		14:35 (T20)	
	20:52	43	20:18 (T17)	20:10	29	18:43 (T19)	19:16	70	18:50 (T19)	18:30			17:04		17:11	18	14:53 (T20)	
31	06:25		19:34 (T17)	06:56		18:11 (T19)				08:01					07:57		14:37 (T20)	
	20:51	45	20:19 (T17)	20:09	35	18:46 (T19)				18:29					17:11	15	14:52 (T20)	
Potential sun hours	460			429			375			345			297		287			
Total, worst case		672			941			1978			774					446		
Sun reduction		0.66			0.61			0.59			0.48					0.22		
Oper. time red.		1.00			1.00			1.00			1.00					1.00		
Wind dir. red.		0.57			0.58			0.66			0.66					0.73		
Total reduction		0.38			0.36			0.40			0.32					0.16		
Total, real		255			335			783			249					73		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1493 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8933)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		15:54 (T77)	07:43		16:13 (T77)	07:07		17:29 (T42)	07:16			06:30		19:30 (T41)	06:01		
	17:13	51	16:45 (T77)	17:47	34	16:47 (T77)	18:22	31	18:00 (T42)	19:56			20:27	35	20:05 (T41)	20:57		
2	07:57		15:54 (T77)	07:42		16:15 (T77)	07:06		17:27 (T42)	07:14			06:29		19:30 (T41)	06:01		
	17:14	52	16:46 (T77)	17:49	31	16:46 (T77)	18:23	34	18:01 (T42)	19:57			20:28	34	20:04 (T41)	20:58		
3	07:57		15:54 (T77)	07:41		16:17 (T77)	07:04		17:25 (T42)	07:13			06:28		19:30 (T41)	06:01		
	17:15	52	16:46 (T77)	17:50	27	16:44 (T77)	18:24	37	18:02 (T42)	19:58			20:29	33	20:03 (T41)	20:58		
4	07:57		15:55 (T77)	07:40		16:19 (T77)	07:02		17:25 (T42)	07:11			06:26		19:30 (T41)	06:00		
	17:16	52	16:47 (T77)	17:51	24	16:43 (T77)	18:25	39	18:04 (T42)	19:59			20:30	33	20:03 (T41)	20:59		
5	07:57		15:55 (T77)	07:39		16:23 (T77)	07:01		17:23 (T42)	07:09			06:25		19:31 (T41)	06:00		
	17:17	52	16:47 (T77)	17:52	17	16:40 (T77)	18:26	41	18:04 (T42)	20:00			20:31	31	20:02 (T41)	21:00		
6	07:57		15:56 (T77)	07:38		16:27 (T77)	06:59		17:23 (T42)	07:08			06:24		19:32 (T41)	05:59		
	17:17	52	16:48 (T77)	17:54	7	16:34 (T77)	18:27	43	18:06 (T42)	20:00			20:32	30	20:02 (T41)	21:00		
7	07:57		15:55 (T77)	07:37		07:57 (T76)	06:58		17:21 (T42)	07:06			06:23		19:33 (T41)	05:59		
	17:18	53	16:48 (T77)	17:55	1	07:58 (T76)	18:29	46	18:07 (T42)	20:01			20:33	28	20:01 (T41)	21:01		
8	07:57		15:56 (T77)	07:36		07:56 (T76)	07:56		18:20 (T42)	07:05			06:22		19:34 (T41)	05:59		
	17:19	52	16:48 (T77)	17:56	6	08:02 (T76)	19:30	48	19:08 (T42)	20:02			20:34	26	20:00 (T41)	21:02		
9	07:57		15:56 (T77)	07:35		07:55 (T76)	07:54		18:20 (T42)	07:03			06:20		19:35 (T41)	05:59		
	17:20	53	16:49 (T77)	17:57	9	08:04 (T76)	19:31	50	19:10 (T42)	20:03			20:35	24	19:59 (T41)	21:02		
10	07:57		15:57 (T77)	07:34		07:54 (T76)	07:53		18:19 (T42)	07:01			06:19		19:35 (T41)	05:59		
	17:21	53	16:50 (T77)	17:59	12	08:06 (T76)	19:32	51	19:10 (T42)	20:05			20:36	22	19:57 (T41)	21:03		
11	07:57		15:57 (T77)	07:32		07:52 (T76)	07:51		18:18 (T42)	07:00			06:18		19:36 (T41)	05:58		
	17:23	52	16:49 (T77)	18:00	14	08:06 (T76)	19:33	52	19:10 (T42)	20:06			20:37	19	19:55 (T41)	21:04		
12	07:56		15:58 (T77)	07:31		07:51 (T76)	07:50		18:18 (T42)	06:58			06:17		19:38 (T41)	05:58		
	17:24	52	16:50 (T77)	18:01	17	08:08 (T76)	19:34	53	19:11 (T42)	20:07			20:38	16	19:54 (T41)	21:04		
13	07:56		15:58 (T77)	07:30		07:50 (T76)	07:48		18:18 (T42)	06:57			06:16		19:41 (T41)	05:58		
	17:25	53	16:51 (T77)	18:02	19	08:09 (T76)	19:35	52	19:10 (T42)	20:08			20:39	10	19:51 (T41)	21:05		
14	07:56		15:58 (T77)	07:29		07:48 (T76)	07:46		18:17 (T42)	06:55			06:15			05:58		
	17:26	53	16:51 (T77)	18:04	21	08:09 (T76)	19:36	53	19:10 (T42)	20:09			20:41			21:05		
15	07:55		15:59 (T77)	07:27		07:47 (T76)	07:45		18:18 (T42)	06:53			06:14			05:58		
	17:27	52	16:51 (T77)	18:05	23	08:10 (T76)	19:38	52	19:10 (T42)	20:10			20:42			21:05		
16	07:55		15:59 (T77)	07:26		07:46 (T76)	07:43		18:17 (T42)	06:52		19:45 (T41)	06:13			05:58		
	17:28	52	16:51 (T77)	18:06	24	08:10 (T76)	19:39	52	19:09 (T42)	20:11	5	19:50 (T41)	20:42			21:06		
17	07:54		16:00 (T77)	07:25		07:44 (T76)	07:41		18:17 (T42)	06:50		19:41 (T41)	06:12			05:58		
	17:29	52	16:52 (T77)	18:07	26	08:10 (T76)	19:40	51	19:08 (T42)	20:12	9	19:50 (T41)	20:43			21:06		
18	07:54		16:00 (T77)	07:23		07:43 (T76)	07:40		18:18 (T42)	06:49		19:39 (T41)	06:11			05:58		
	17:30	52	16:52 (T77)	18:09	27	08:10 (T76)	19:41	50	19:08 (T42)	20:13	13	19:52 (T41)	20:44			21:07		
19	07:53		16:01 (T77)	07:22		07:42 (T76)	07:38		18:18 (T42)	06:47		19:37 (T41)	06:10			05:58		
	17:32	51	16:52 (T77)	18:10	28	08:10 (T76)	19:42	49	19:07 (T42)	20:14	15	19:52 (T41)	20:45			21:07		
20	07:53		16:02 (T77)	07:20		07:40 (T76)	07:36		18:18 (T42)	06:46		19:35 (T41)	06:09			05:59		
	17:33	50	16:52 (T77)	18:11	30	08:10 (T76)	19:43	48	19:06 (T42)	20:15	19	19:54 (T41)	20:46			21:07		
21	07:52		16:02 (T77)	07:19		07:40 (T76)	07:35		18:19 (T42)	06:44		19:35 (T41)	06:09			05:59		
	17:34	50	16:52 (T77)	18:12	30	08:10 (T76)	19:44	47	19:06 (T42)	20:16	20	19:55 (T41)	20:47			21:08		
22	07:52		16:03 (T77)	07:18		07:40 (T76)	07:33		18:20 (T42)	06:43		19:33 (T41)	06:08			05:59		
	17:35	49	16:52 (T77)	18:13	28	08:08 (T76)	19:45	44	19:04 (T42)	20:17	23	19:56 (T41)	20:48			21:08		
23	07:51		16:04 (T77)	07:16		07:41 (T76)	07:31		18:20 (T42)	06:41		19:33 (T41)	06:07			05:59		
	17:36	48	16:52 (T77)	18:15	27	08:08 (T76)	19:46	43	19:03 (T42)	20:18	24	19:57 (T41)	20:49			21:08		
24	07:50		16:04 (T77)	07:15		07:41 (T76)	07:30		18:22 (T42)	06:40		19:31 (T41)	06:06			05:59		
	17:38	48	16:52 (T77)	18:16	25	08:06 (T76)	19:47	40	19:02 (T42)	20:19	27	19:58 (T41)	20:50			21:08		
25	07:49		16:05 (T77)	07:13		07:43 (T76)	07:28		18:23 (T42)	06:38		19:31 (T41)	06:06			06:00		
	17:39	46	16:51 (T77)	18:17	35	17:54 (T42)	19:48	37	19:00 (T42)	20:21	28	19:59 (T41)	20:51			21:08		
26	07:49		16:05 (T77)	07:12		07:44 (T76)	07:26		18:24 (T42)	06:37		19:30 (T41)	06:05			06:00		
	17:40	46	16:51 (T77)	18:18	39	17:56 (T42)	19:50	34	18:58 (T42)	20:22	29	19:59 (T41)	20:52			21:08		
27	07:48		16:07 (T77)	07:10		07:47 (T76)	07:24		18:25 (T42)	06:36		19:30 (T41)	06:04			06:00		
	17:41	44	16:51 (T77)	18:19	38	17:58 (T42)	19:51	30	18:55 (T42)	20:23	31	20:01 (T41)	20:53			21:08		
28	07:47		16:08 (T77)	07:09		07:50 (T76)	07:23		18:28 (T42)	06:34		19:30 (T41)	06:04			06:01		
	17:42	43	16:51 (T77)	18:21	35	17:59 (T42)	19:52	25	18:53 (T42)	20:24	32	20:02 (T41)	20:54			21:09		
29	07:46		16:09 (T77)				07:21		18:30 (T42)	06:33		19:29 (T41)	06:03			06:01		
	17:44	41	16:50 (T77)				19:53	20	18:50 (T42)	20:25	33	20:02 (T41)	20:54			21:09		
30	07:45		16:10 (T77)				07:19		18:35 (T42)	06:32		19:29 (T41)	06:02			06:02		
	17:45	39	16:49 (T77)				19:54	9	18:44 (T42)	20:26	35	20:04 (T41)	20:55			21:09		
31	07:44		16:12 (T77)				07:18						06:02					
	17:46	36	16:48 (T77)				19:55						20:56					
Potential sun hours	297			297			370			399			448			453		
Total, worst case		1531			654			1261			343			341				
Sun reduction		0.31			0.40			0.44			0.52			0.57				
Oper. time red.		1.00			1.00			1.00			1.00			1.00				
Wind dir. red.		0.74			0.61			0.67			0.57			0.57				
Total reduction		0.23			0.25			0.30			0.30			0.33				
Total, real		359			164			380			105			114				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1493 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8933)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December	
1	06:02		06:26		06:57		07:27		07:02		07:37	
	21:08		20:50	17	20:07		19:15	53	07:28	11	07:04	52
2	06:03		06:27		06:58		07:29		07:03		07:38	
	21:08		20:49	21	20:06		19:13	52	07:27	9	07:03	53
3	06:03		06:28		06:59		07:30		07:04		07:39	
	21:08		20:48	23	20:04		19:11	51	07:26	5	07:03	53
4	06:04		06:29		07:00		07:31		07:06		07:40	
	21:08		20:47	25	20:02		19:10	51	07:24		07:03	52
5	06:04		06:30		07:01		07:32		07:07		07:41	
	21:08		20:46	27	20:01		19:08	49	07:23	9	07:03	53
6	06:05		06:31		07:02		07:33		07:08		07:42	
	21:08		20:44	29	19:57		19:06	46	07:22	18	07:03	52
7	06:05		06:32		07:03		07:34		07:09		07:43	
	21:07		20:43	31	19:56		19:05	45	07:21	24	07:03	52
8	06:06		06:33		07:04		07:35		07:10		07:44	
	21:07		20:42	32	19:54		19:03	43	07:20	27	07:03	52
9	06:07		06:34		07:05		07:36		07:12		07:45	
	21:07		20:41	33	19:52		19:01	40	07:19	31	07:03	52
10	06:07		06:35		07:06		07:37		07:13		07:46	
	21:06		20:39	34	19:51		19:00	38	07:18	34	07:03	52
11	06:08		06:36		07:07		07:38		07:14		07:46	
	21:06		20:38	34	19:49		18:58	36	07:17	37	07:03	51
12	06:09		06:37		07:08		07:39		07:15		07:47	
	21:06		20:37	35	19:47		18:57	33	07:16	39	07:03	52
13	06:10		06:38		07:09		07:40		07:16		07:48	
	21:05		20:36	34	19:45	5	18:55	29	07:15	41	07:03	51
14	06:10		06:39		07:10		07:41		07:18		07:49	
	21:05		20:34	33	19:44	18	18:54	37	07:19	43	07:03	51
15	06:11		06:40		07:11		07:42		07:19		07:50	
	21:04		20:33	31	19:42	25	18:52	40	07:13	44	07:03	51
16	06:12		06:41		07:12		07:44		07:20		07:50	
	21:03		20:31	30	19:40	29	18:50	38	07:12	46	07:04	51
17	06:13		06:42		07:13		07:45		07:21		07:51	
	21:03		20:30	29	19:39	34	18:49	31	07:11	46	07:04	51
18	06:14		06:43		07:14		07:46		07:22		07:52	
	21:02		20:29	27	19:37	37	18:47	25	07:11	48	07:04	51
19	06:14		06:44		07:15		07:47		07:23		07:52	
	21:02		20:27	26	19:35	40	18:46	28	07:10	48	07:05	51
20	06:15		06:45		07:16		07:48		07:25		07:53	
	21:01		20:26	25	19:33	42	18:44	29	07:09	49	07:05	51
21	06:16		06:46		07:17		07:49		07:26		07:53	
	21:00		20:24	22	19:32	44	18:43	30	07:08	50	07:05	51
22	06:17		06:47		07:18		07:50		07:27		07:54	
	20:59		20:23	20	19:30	46	18:41	29	07:08	50	07:06	51
23	06:18		06:48		07:19		07:51		07:28		07:54	
	20:59		20:21	18	19:28	47	18:40	28	07:07	51	07:07	51
24	06:19		06:49		07:20		07:53		07:29		07:55	
	20:58		20:20	15	19:27	49	18:39	27	07:07	52	07:07	51
25	06:20		06:50		07:21		07:54		07:30		07:55	
	20:57		20:18	12	19:25	50	18:37	25	07:06	52	07:08	51
26	06:21		06:51		07:22		07:55		07:32		07:56	
	20:56		20:17	9	19:23	51	18:36	24	07:06	52	07:08	51
27	06:22		06:52		07:23		07:56		07:33		07:56	
	20:55		20:15	3	19:22	52	18:34	22	07:05	52	07:09	51
28	06:22		06:53		07:24		07:57		07:34		07:56	
	20:54		20:14		19:20	53	18:33	20	07:05	53	07:10	50
29	06:23		06:54		07:25		07:58		07:35		07:57	
	20:53		20:12		19:18	52	18:32	18	07:04	53	07:10	51
30	06:24	19:54 (T41)	06:55		07:26		08:00		07:36		07:57	
	20:52	5 19:59 (T41)	20:10		19:16	53	18:30	16	07:04	52	07:11	51
31	06:25	19:50 (T41)	06:56				08:01		08:22 (T76)		07:57	
	20:51	13 20:03 (T41)	20:09				18:29	14	08:36 (T76)		07:12	52
Potential sun hours	460		429		375		345		297		287	
Total, worst case		18		675		727		1047		1126		1595
Sun reduction		0.66		0.61		0.59		0.48		0.30		0.22
Oper. time red.		1.00		1.00		1.00		1.00		1.00		1.00
Wind dir. red.		0.57		0.57		0.67		0.62		0.73		0.74
Total reduction		0.39		0.36		0.40		0.31		0.23		0.17
Total, real		7		241		293		322		254		266

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1495 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8935)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:58		08:20 (T26)	07:44		08:21 (T26)	07:07			07:16		07:43 (T75)	06:30		07:08 (T24)	06:01		07:22 (T24)
	17:13	78	10:13 (T25)	17:47	25	08:46 (T26)	18:22			19:56	28	08:11 (T75)	20:27	67	08:15 (T24)	20:57	37	07:59 (T24)
2	07:58		08:20 (T26)	07:43		08:22 (T26)	07:06			07:15		07:45 (T75)	06:29		07:08 (T24)	06:01		07:23 (T24)
	17:14	79	10:14 (T25)	17:49	23	08:45 (T26)	18:23			19:57	25	08:10 (T75)	20:28	67	08:15 (T24)	20:58	36	07:59 (T24)
3	07:58		08:20 (T26)	07:42		08:24 (T26)	07:04			07:13		07:45 (T75)	06:28		07:07 (T24)	06:01		07:24 (T24)
	17:15	79	10:14 (T25)	17:50	20	08:44 (T26)	18:24			19:58	23	08:08 (T75)	20:29	67	08:14 (T24)	20:59	34	07:58 (T24)
4	07:58		08:20 (T26)	07:41		08:27 (T26)	07:03			07:11		07:46 (T75)	06:26		07:07 (T24)	06:00		07:25 (T24)
	17:16	79	10:14 (T25)	17:51	14	08:41 (T26)	18:25			19:59	20	08:06 (T75)	20:30	67	08:14 (T24)	20:59	33	07:58 (T24)
5	07:58		08:20 (T26)	07:40		08:31 (T26)	07:01			07:10		07:48 (T75)	06:25		07:08 (T24)	06:00		07:26 (T24)
	17:17	79	10:14 (T25)	17:53	7	08:38 (T26)	18:26			20:00	17	08:05 (T75)	20:32	66	08:14 (T24)	21:00	31	07:57 (T24)
6	07:58		08:20 (T26)	07:39			07:00			07:08		07:51 (T75)	06:24		07:08 (T24)	05:59		07:27 (T24)
	17:17	79	10:14 (T25)	17:54			18:28			20:00	10	08:01 (T75)	20:33	66	08:14 (T24)	21:01	29	07:56 (T24)
7	07:58		08:20 (T26)	07:37			06:58			07:06			06:23		07:08 (T24)	05:59		07:28 (T24)
	17:18	79	10:14 (T25)	17:55			18:29			20:02			20:34	66	08:14 (T24)	21:01	27	07:55 (T24)
8	07:58		08:20 (T26)	07:36			07:56			07:05		07:45 (T24)	06:22		07:08 (T24)	05:59		07:29 (T24)
	17:19	79	10:14 (T25)	17:56			19:30			20:03	6	07:51 (T24)	20:35	66	08:14 (T24)	21:02	26	07:55 (T24)
9	07:57		08:19 (T26)	07:35			07:55			07:03		07:37 (T24)	06:20		07:08 (T24)	05:59		07:30 (T24)
	17:20	79	10:13 (T25)	17:58			19:31			20:04	20	07:57 (T24)	20:36	65	08:13 (T24)	21:03	24	07:54 (T24)
10	07:57		08:19 (T26)	07:34			07:53			07:01		07:32 (T24)	06:19		07:09 (T24)	05:59		07:32 (T24)
	17:21	79	10:13 (T25)	17:59			19:32			20:05	29	08:01 (T24)	20:37	64	08:13 (T24)	21:03	22	07:54 (T24)
11	07:57		08:19 (T26)	07:33			07:51			07:00		07:29 (T24)	06:18		07:08 (T24)	05:58		07:33 (T24)
	17:23	78	10:13 (T25)	18:00			19:33			20:06	35	08:04 (T24)	20:38	64	08:12 (T24)	21:04	20	07:53 (T24)
12	07:57		08:18 (T26)	07:31			07:50			06:58		07:26 (T24)	06:17		07:08 (T24)	05:58		07:33 (T24)
	17:24	78	10:12 (T25)	18:01			19:34			20:07	39	08:05 (T24)	20:39	63	08:11 (T24)	21:04	18	07:51 (T24)
13	07:56		08:18 (T26)	07:30			07:48			06:57		07:25 (T24)	06:16		07:09 (T24)	05:58		07:34 (T24)
	17:25	77	10:12 (T25)	18:03			19:36			20:08	43	08:08 (T24)	20:40	62	08:11 (T24)	21:05	17	07:51 (T24)
14	07:56		08:18 (T26)	07:29			07:46			06:55		07:22 (T24)	06:15		07:09 (T24)	05:58		07:35 (T24)
	17:26	77	10:12 (T25)	18:04			19:37			20:09	47	08:09 (T24)	20:41	61	08:10 (T24)	21:05	15	07:50 (T24)
15	07:56		08:17 (T26)	07:28			07:45			06:54		07:21 (T24)	06:14		07:10 (T24)	05:58		07:36 (T24)
	17:27	76	10:11 (T25)	18:05			19:38			20:10	49	08:10 (T24)	20:42	61	08:11 (T24)	21:06	14	07:50 (T24)
16	07:55		08:17 (T26)	07:26			07:43			06:52		07:19 (T24)	06:13		07:11 (T24)	05:58		07:37 (T24)
	17:28	75	10:11 (T25)	18:06			19:39			20:11	52	08:11 (T24)	20:43	59	08:10 (T24)	21:06	12	07:49 (T24)
17	07:55		08:16 (T26)	07:25			07:41			06:50		07:18 (T24)	06:12		07:11 (T24)	05:58		07:39 (T24)
	17:29	73	10:09 (T25)	18:07			19:40			20:12	54	08:12 (T24)	20:44	58	08:09 (T24)	21:07	10	07:49 (T24)
18	07:54		08:16 (T26)	07:24			07:40		07:59 (T75)	06:49		07:17 (T24)	06:11		07:12 (T24)	05:58		07:40 (T24)
	17:30	72	10:09 (T25)	18:09			19:41	8	08:07 (T75)	20:13	56	08:13 (T24)	20:45	57	08:09 (T24)	21:07	9	07:49 (T24)
19	07:54		08:15 (T26)	07:22			07:38		07:57 (T75)	06:47		07:16 (T24)	06:10		07:12 (T24)	05:58		07:40 (T24)
	17:32	70	10:07 (T25)	18:10			19:42	13	08:10 (T75)	20:14	58	08:14 (T24)	20:46	56	08:08 (T24)	21:07	8	07:48 (T24)
20	07:53		08:14 (T26)	07:21			07:36		07:56 (T75)	06:46		07:14 (T24)	06:09		07:12 (T24)	05:58		07:41 (T24)
	17:33	67	10:05 (T25)	18:11			19:43	16	08:12 (T75)	20:15	60	08:14 (T24)	20:47	55	08:07 (T24)	21:08	7	07:48 (T24)
21	07:53		08:14 (T26)	07:19			07:35		07:54 (T75)	06:44		07:14 (T24)	06:09		07:14 (T24)	05:59		07:41 (T24)
	17:34	65	10:04 (T25)	18:12			19:44	19	08:13 (T75)	20:17	61	08:15 (T24)	20:48	53	08:07 (T24)	21:08	7	07:48 (T24)
22	07:52		08:14 (T26)	07:18			07:33		07:52 (T75)	06:43		07:12 (T24)	06:08		07:14 (T24)	05:59		07:41 (T24)
	17:35	60	10:02 (T25)	18:14			19:45	22	08:14 (T75)	20:18	62	08:14 (T24)	20:49	52	08:06 (T24)	21:08	7	07:48 (T24)
23	07:51		08:14 (T26)	07:16			07:31		07:50 (T75)	06:41		07:12 (T24)	06:07		07:15 (T24)	05:59		07:42 (T24)
	17:36	53	09:58 (T25)	18:15			19:46	24	08:14 (T75)	20:19	63	08:15 (T24)	20:50	50	08:05 (T24)	21:08	7	07:49 (T24)
24	07:51		08:14 (T26)	07:15			07:30		07:49 (T75)	06:40		07:11 (T24)	06:06		07:15 (T24)	05:59		07:41 (T24)
	17:38	38	09:51 (T25)	18:16			19:48	26	08:15 (T75)	20:20	64	08:15 (T24)	20:50	49	08:04 (T24)	21:09	8	07:49 (T24)
25	07:50		08:15 (T26)	07:13			07:28		07:47 (T75)	06:39		07:10 (T24)	06:06		07:16 (T24)	06:00		07:40 (T24)
	17:39	35	08:50 (T26)	18:17			19:49	28	08:15 (T75)	20:21	65	08:15 (T24)	20:51	48	08:04 (T24)	21:09	10	07:50 (T24)
26	07:49		08:16 (T26)	07:12			07:26		07:45 (T75)	06:37		07:10 (T24)	06:05		07:17 (T24)	06:00		07:40 (T24)
	17:40	34	08:50 (T26)	18:18			19:50	29	08:14 (T75)	20:22	66	08:16 (T24)	20:52	46	08:03 (T24)	21:09	12	07:52 (T24)
27	07:48		08:16 (T26)	07:10			07:25		07:44 (T75)	06:36		07:09 (T24)	06:04		07:18 (T24)	06:00		07:39 (T24)
	17:41	34	08:50 (T26)	18:19			19:51	31	08:15 (T75)	20:23	66	08:15 (T24)	20:53	45	08:03 (T24)	21:09	13	07:52 (T24)
28	07:47		08:17 (T26)	07:09			07:23		07:43 (T75)	06:34		07:09 (T24)	06:04		07:19 (T24)	06:01		07:38 (T24)
	17:42	32	08:49 (T26)	18:21			19:52	31	08:14 (T75)	20:24	67	08:16 (T24)	20:54	43	08:02 (T24)	21:09	15	07:53 (T24)
29	07:47		08:18 (T26)				07:21		07:43 (T75)	06:33		07:09 (T24)	06:03		07:19 (T24)	06:01		07:38 (T24)
	17:44	31	08:49 (T26)				19:53	30	08:13 (T75)	20:25	67	08:16 (T24)	20:55	42	08:01 (T24)	21:09	17	07:55 (T24)
30	07:46		08:19 (T26)				07:20		07:43 (T75)	06:32		07:08 (T24)	06:02		07:20 (T24)	06:02		07:37 (T24)
	17:45	29	08:48 (T26)				19:54	30	08:13 (T75)	20:26	67	08:15 (T24)	20:56	41	08:01 (T24)	21:09	18	07:55 (T24)
31	07:45		08:20 (T26)				07:18		07:43 (T75)				06:02		07:22 (T24)			
	17:46	27	08:47 (T26)				19:55	29	08:12 (T75)				20:56	39	08:01 (T24)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		1970			89			336			1319			1765			543	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.52			0.52			0.62			0.66			0.66			0.66	
Total reduction		0.16			0.20			0.26			0.33			0.36			0.41	
Total, real		306			18			88			434			641			221	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1495 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8935)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October	November			December		
1	06:02		07:37 (T24)	06:26		07:19 (T24)	06:57		07:29 (T24)	07:28	07:02			07:37		08:01 (T26)
	21:09	20	07:57 (T24)	20:50	63	08:22 (T24)	20:07	34	08:03 (T24)	19:15	17:28			17:04	78	09:55 (T25)
2	06:03		07:36 (T24)	06:27		07:19 (T24)	06:58		07:31 (T24)	07:29	07:03			07:38		08:02 (T26)
	21:09	21	07:57 (T24)	20:49	63	08:22 (T24)	20:06	29	08:00 (T24)	19:13	17:27			17:03	79	09:56 (T25)
3	06:03		07:36 (T24)	06:28		07:18 (T24)	06:59		07:35 (T24)	07:30	07:05			07:39		08:03 (T26)
	21:09	23	07:59 (T24)	20:48	65	08:23 (T24)	20:04	20	07:55 (T24)	19:12	17:26			17:03	79	09:57 (T25)
4	06:04		07:35 (T24)	06:29		07:18 (T24)	07:00		07:41 (T24)	07:31	07:06			07:40		08:04 (T26)
	21:08	25	08:00 (T24)	20:47	65	08:23 (T24)	20:03	7	07:48 (T24)	19:10	17:24			17:03	79	09:58 (T25)
5	06:04		07:34 (T24)	06:30		07:18 (T24)	07:01			07:32	07:07			07:41		08:05 (T26)
	21:08	27	08:01 (T24)	20:46	65	08:23 (T24)	20:01			19:08	17:23			17:03	79	09:59 (T25)
6	06:05		07:33 (T24)	06:31		07:18 (T24)	07:02		07:47 (T75)	07:33	07:08		08:00 (T26)	07:42		08:06 (T26)
	21:08	28	08:01 (T24)	20:45	66	08:24 (T24)	19:58	9	07:56 (T75)	19:07	17:22	8	08:08 (T26)	17:03	79	10:00 (T25)
7	06:05		07:33 (T24)	06:32		07:17 (T24)	07:03		07:44 (T75)	07:34	07:09		07:56 (T26)	07:43		08:07 (T26)
	21:08	30	08:03 (T24)	20:44	67	08:24 (T24)	19:56	15	07:59 (T75)	19:05	17:21	16	08:12 (T26)	17:03	79	10:01 (T25)
8	06:06		07:33 (T24)	06:33		07:17 (T24)	07:04		07:41 (T75)	07:35	07:11		07:55 (T26)	07:44		08:08 (T26)
	21:07	31	08:04 (T24)	20:42	67	08:24 (T24)	19:54	20	08:01 (T75)	19:03	17:20	20	08:15 (T26)	17:03	79	10:02 (T25)
9	06:07		07:31 (T24)	06:34		07:17 (T24)	07:05		07:39 (T75)	07:36	07:12		07:53 (T26)	07:45		08:09 (T26)
	21:07	34	08:05 (T24)	20:41	67	08:24 (T24)	19:52	23	08:02 (T75)	19:02	17:19	23	08:16 (T26)	17:03	79	10:03 (T25)
10	06:07		07:31 (T24)	06:35		07:17 (T24)	07:06		07:38 (T75)	07:37	07:13		07:52 (T26)	07:46		08:10 (T26)
	21:07	35	08:06 (T24)	20:40	67	08:24 (T24)	19:51	25	08:03 (T75)	19:00	17:18	25	08:17 (T26)	17:03	79	10:04 (T25)
11	06:08		07:31 (T24)	06:36		07:17 (T24)	07:07		07:37 (T75)	07:38	07:14		07:51 (T26)	07:47		08:10 (T26)
	21:06	36	08:07 (T24)	20:39	67	08:24 (T24)	19:49	27	08:04 (T75)	18:58	17:17	27	08:18 (T26)	17:03	78	10:03 (T25)
12	06:09		07:29 (T24)	06:37		07:17 (T24)	07:08		07:36 (T75)	07:39	07:15		07:50 (T26)	07:48		08:11 (T26)
	21:06	39	08:08 (T24)	20:37	67	08:24 (T24)	19:47	28	08:04 (T75)	18:57	17:16	30	08:20 (T26)	17:03	77	10:04 (T25)
13	06:10		07:29 (T24)	06:38		07:17 (T24)	07:09		07:35 (T75)	07:40	07:17		07:50 (T26)	07:48		08:12 (T26)
	21:05	40	08:09 (T24)	20:36	67	08:24 (T24)	19:46	30	08:05 (T75)	18:55	17:15	31	08:21 (T26)	17:03	78	10:05 (T25)
14	06:10		07:29 (T24)	06:39		07:17 (T24)	07:10		07:34 (T75)	07:42	07:18		07:49 (T26)	07:49		08:13 (T26)
	21:05	41	08:10 (T24)	20:35	67	08:24 (T24)	19:44	31	08:05 (T75)	18:54	17:14	32	08:21 (T26)	17:03	77	10:06 (T25)
15	06:11		07:28 (T24)	06:40		07:17 (T24)	07:11		07:32 (T75)	07:43	07:19		07:49 (T26)	07:50		08:13 (T26)
	21:04	43	08:11 (T24)	20:33	66	08:23 (T24)	19:42	31	08:03 (T75)	18:52	17:13	34	08:23 (T26)	17:03	78	10:06 (T25)
16	06:12		07:27 (T24)	06:41		07:17 (T24)	07:12		07:32 (T75)	07:44	07:20		07:49 (T26)	07:51		08:14 (T26)
	21:04	44	08:11 (T24)	20:32	66	08:23 (T24)	19:41	31	08:03 (T75)	18:51	17:12	34	08:23 (T26)	17:04	77	10:07 (T25)
17	06:13		07:26 (T24)	06:42		07:17 (T24)	07:13		07:33 (T75)	07:45	07:21		07:48 (T26)	07:51		08:15 (T26)
	21:03	46	08:12 (T24)	20:30	66	08:23 (T24)	19:39	30	08:03 (T75)	18:49	17:11	35	08:23 (T26)	17:04	77	10:08 (T25)
18	06:14		07:26 (T24)	06:43		07:17 (T24)	07:14		07:34 (T75)	07:46	07:23		07:48 (T26)	07:52		08:15 (T26)
	21:03	47	08:13 (T24)	20:29	65	08:22 (T24)	19:37	28	08:02 (T75)	18:47	17:11	38	09:25 (T25)	17:04	77	10:08 (T25)
19	06:14		07:26 (T24)	06:44		07:17 (T24)	07:15		07:35 (T75)	07:47	07:24		07:49 (T26)	07:53		08:16 (T26)
	21:02	48	08:14 (T24)	20:27	64	08:21 (T24)	19:35	26	08:01 (T75)	18:46	17:10	53	09:33 (T25)	17:05	77	10:09 (T25)
20	06:15		07:25 (T24)	06:45		07:17 (T24)	07:16		07:36 (T75)	07:48	07:25		07:49 (T26)	07:53		08:17 (T26)
	21:01	50	08:15 (T24)	20:26	63	08:20 (T24)	19:34	24	08:00 (T75)	18:44	17:09	60	09:37 (T25)	17:05	77	10:10 (T25)
21	06:16		07:24 (T24)	06:46		07:17 (T24)	07:17		07:37 (T75)	07:49	07:26		07:49 (T26)	07:54		08:17 (T26)
	21:00	51	08:15 (T24)	20:25	62	08:19 (T24)	19:32	22	07:59 (T75)	18:43	17:09	65	09:39 (T25)	17:05	77	10:10 (T25)
22	06:17		07:23 (T24)	06:47		07:18 (T24)	07:18		07:38 (T75)	07:51	07:27		07:50 (T26)	07:54		08:18 (T26)
	21:00	53	08:16 (T24)	20:23	60	08:18 (T24)	19:30	20	07:58 (T75)	18:42	17:08	67	09:41 (T25)	17:06	77	10:11 (T25)
23	06:18		07:23 (T24)	06:48		07:18 (T24)	07:19		07:39 (T75)	07:52	07:28		07:52 (T26)	07:55		08:18 (T26)
	20:59	54	08:17 (T24)	20:22	59	08:17 (T24)	19:29	17	07:56 (T75)	18:40	17:07	70	09:44 (T25)	17:07	77	10:11 (T25)
24	06:19		07:23 (T24)	06:49		07:19 (T24)	07:20		07:40 (T75)	07:53	07:30		07:53 (T26)	07:55		08:18 (T26)
	20:58	55	08:18 (T24)	20:20	57	08:16 (T24)	19:27	14	07:54 (T75)	18:39	17:07	72	09:46 (T25)	17:07	77	10:11 (T25)
25	06:20		07:22 (T24)	06:50		07:19 (T24)	07:22		07:41 (T75)	07:54	07:31		07:54 (T26)	07:56		08:19 (T26)
	20:57	57	08:19 (T24)	20:18	56	08:15 (T24)	19:25	10	07:51 (T75)	18:37	17:06	73	09:47 (T25)	17:08	77	10:12 (T25)
26	06:21		07:22 (T24)	06:51		07:20 (T24)	07:23			07:55	07:32		07:55 (T26)	07:56		08:19 (T26)
	20:56	57	08:19 (T24)	20:17	54	08:14 (T24)	19:23			18:36	17:06	75	09:49 (T25)	17:08	78	10:12 (T25)
27	06:22		07:22 (T24)	06:52		07:21 (T24)	07:24			07:56	07:33		07:56 (T26)	07:56		08:19 (T26)
	20:55	58	08:20 (T24)	20:15	52	08:13 (T24)	19:22			18:35	17:05	76	09:50 (T25)	17:09	77	10:12 (T25)
28	06:22		07:21 (T24)	06:53		07:22 (T24)	07:25			07:58	07:34		07:57 (T26)	07:57		08:20 (T26)
	20:54	60	08:21 (T24)	20:14	49	08:11 (T24)	19:20			18:33	17:05	77	09:51 (T25)	17:10	77	10:13 (T25)
29	06:23		07:20 (T24)	06:54		07:23 (T24)	07:26			07:59	07:35		07:59 (T26)	07:57		08:20 (T26)
	20:53	60	08:20 (T24)	20:12	46	08:09 (T24)	19:18			18:32	17:04	77	09:53 (T25)	17:10	78	10:13 (T25)
30	06:24		07:20 (T24)	06:55		07:25 (T24)	07:27			08:00	07:36		08:00 (T26)	07:57		08:20 (T26)
	20:52	61	08:21 (T24)	20:11	42	08:07 (T24)	19:17			18:31	17:04	78	09:54 (T25)	17:11	77	10:13 (T25)
31	06:25		07:19 (T24)	06:56		07:27 (T24)				08:01				07:57		08:20 (T26)
	20:51	62	08:21 (T24)	20:09	38	08:05 (T24)				18:29				17:12	78	10:13 (T25)
Potential sun hours	460			429			375			345	297			287		
Total, worst case		1336			1888			551				1196			2412	
Sun reduction		0.66			0.61			0.59				0.30			0.22	
Oper. time red.		1.00			1.00			1.00				1.00			1.00	
Wind dir. red.		0.66			0.66			0.63				0.52			0.52	
Total reduction		0.42			0.39			0.36				0.15			0.11	
Total, real		562			733			197				179			267	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1505 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8943)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February			March			April	May			June		
1	07:57	07:43			07:07		17:10 (T71)	07:16	06:30			06:02		19:44 (T68)
	17:13	17:48			18:22	35	17:45 (T71)	19:56	20:27			20:56	41	20:25 (T68)
2	07:57	07:42			07:06		17:11 (T71)	07:15	06:29			06:01		19:45 (T68)
	17:14	17:49			18:23	33	17:44 (T71)	19:57	20:28			20:57	41	20:26 (T68)
3	07:57	07:41			07:04		17:12 (T71)	07:13	06:28		19:58 (T68)	06:01		19:46 (T68)
	17:15	17:50			18:24	30	17:42 (T71)	19:58	20:29	9	20:07 (T68)	20:58	40	20:26 (T68)
4	07:57	07:40			07:02		17:14 (T71)	07:11	06:27		19:54 (T68)	06:01		19:45 (T68)
	17:16	17:51			18:25	27	17:41 (T71)	19:59	20:30	13	20:07 (T68)	20:59	40	20:25 (T68)
5	07:57	07:39			07:01		17:16 (T71)	07:10	06:25		19:52 (T68)	06:00		19:46 (T68)
	17:17	17:53			18:26	23	17:39 (T71)	20:00	20:31	16	20:08 (T68)	20:59	40	20:26 (T68)
6	07:57	07:38		17:23 (T71)	06:59		17:19 (T71)	07:08	06:24		19:51 (T68)	06:00		19:47 (T68)
	17:18	17:54	7	17:30 (T71)	18:28	17	17:36 (T71)	20:00	20:32	18	20:09 (T68)	21:00	39	20:26 (T68)
7	07:57	07:37		17:19 (T71)	06:58		17:24 (T71)	07:06	06:23		19:49 (T68)	06:00		19:46 (T68)
	17:19	17:55	13	17:32 (T71)	18:29	6	17:30 (T71)	20:01	20:33	22	20:11 (T68)	21:01	39	20:25 (T68)
8	07:57	07:36		17:17 (T71)	07:56			07:05	06:22		19:48 (T68)	05:59		19:47 (T68)
	17:20	17:56	16	17:33 (T71)	19:30			20:02	20:34	24	20:12 (T68)	21:01	38	20:25 (T68)
9	07:57	07:35		17:16 (T71)	07:54			07:03	06:21		19:47 (T68)	05:59		19:48 (T68)
	17:21	17:58	19	17:35 (T71)	19:31			20:03	20:35	26	20:13 (T68)	21:02	37	20:25 (T68)
10	07:57	07:33		17:14 (T71)	07:53			07:01	06:20		19:46 (T68)	05:59		19:48 (T68)
	17:22	17:59	21	17:35 (T71)	19:32			20:04	20:36	28	20:14 (T68)	21:03	38	20:26 (T68)
11	07:56	07:32		17:13 (T71)	07:51			07:00	06:18		19:46 (T68)	05:59		19:49 (T68)
	17:23	18:00	24	17:37 (T71)	19:33			20:05	20:37	29	20:15 (T68)	21:03	37	20:26 (T68)
12	07:56	07:31		17:12 (T71)	07:50			06:58	06:17		19:45 (T68)	05:59		19:49 (T68)
	17:24	18:01	26	17:38 (T71)	19:34			20:07	20:38	31	20:16 (T68)	21:04	37	20:26 (T68)
13	07:56	07:30		17:11 (T71)	07:48			06:57	06:16		19:45 (T68)	05:59		19:50 (T68)
	17:25	18:03	29	17:40 (T71)	19:35			20:08	20:39	32	20:17 (T68)	21:04	36	20:26 (T68)
14	07:55	07:28		17:10 (T71)	07:46			06:55	06:15		19:44 (T68)	05:59		19:50 (T68)
	17:26	18:04	31	17:41 (T71)	19:36			20:09	20:40	33	20:17 (T68)	21:05	36	20:26 (T68)
15	07:55	07:27		17:09 (T71)	07:45			06:54	06:14		19:44 (T68)	05:58		19:50 (T68)
	17:27	18:05	33	17:42 (T71)	19:38			20:10	20:41	34	20:18 (T68)	21:05	36	20:26 (T68)
16	07:55	07:26		17:09 (T71)	07:43			06:52	06:13		19:43 (T68)	05:59		19:51 (T68)
	17:28	18:06	35	17:44 (T71)	19:39			20:11	20:42	36	20:19 (T68)	21:06	35	20:26 (T68)
17	07:54	07:24		17:08 (T71)	07:41			06:50	06:12		19:43 (T68)	05:59		19:51 (T68)
	17:29	18:08	37	17:45 (T71)	19:40			20:12	20:43	37	20:20 (T68)	21:06	35	20:26 (T68)
18	07:54	07:23		17:08 (T71)	07:40			06:49	06:11		19:42 (T68)	05:59		19:51 (T68)
	17:31	18:09	38	17:46 (T71)	19:41			20:13	20:44	39	20:21 (T68)	21:06	35	20:26 (T68)
19	07:53	07:22		17:07 (T71)	07:38			06:47	06:11		19:42 (T68)	05:59		19:51 (T68)
	17:32	18:10	40	17:47 (T71)	19:42			20:14	20:45	39	20:21 (T68)	21:07	35	20:26 (T68)
20	07:53	07:20		17:07 (T71)	07:36			06:46	06:10		19:43 (T68)	05:59		19:51 (T68)
	17:33	18:11	42	17:49 (T71)	19:43			20:15	20:46	40	20:23 (T68)	21:07	35	20:26 (T68)
21	07:52	07:19		17:08 (T71)	07:35			06:44	06:09		19:43 (T68)	05:59		19:51 (T68)
	17:34	18:12	43	17:51 (T71)	19:44			20:16	20:47	41	20:24 (T68)	21:07	35	20:26 (T68)
22	07:51	07:17		17:07 (T71)	07:33			06:43	06:08		19:42 (T68)	05:59		19:52 (T68)
	17:35	18:14	43	17:50 (T71)	19:45			20:17	20:48	42	20:24 (T68)	21:07	35	20:27 (T68)
23	07:51	07:16		17:08 (T71)	07:31			06:41	06:07		19:42 (T68)	06:00		19:52 (T68)
	17:37	18:15	42	17:50 (T71)	19:46			20:18	20:49	43	20:25 (T68)	21:08	35	20:27 (T68)
24	07:50	07:15		17:07 (T71)	07:30			06:40	06:07		19:43 (T68)	06:00		19:52 (T68)
	17:38	18:16	42	17:49 (T71)	19:47			20:19	20:50	43	20:26 (T68)	21:08	35	20:27 (T68)
25	07:49	07:13		17:08 (T71)	07:28			06:39	06:06		19:43 (T68)	06:00		19:53 (T68)
	17:39	18:17	41	17:49 (T71)	19:48			20:20	20:51	43	20:26 (T68)	21:08	35	20:28 (T68)
26	07:48	07:12		17:08 (T71)	07:26			06:37	06:05		19:43 (T68)	06:00		19:53 (T68)
	17:40	18:18	40	17:48 (T71)	19:49			20:21	20:52	42	20:25 (T68)	21:08	35	20:28 (T68)
27	07:48	07:10		17:09 (T71)	07:25			06:36	06:05		19:43 (T68)	06:01		19:52 (T68)
	17:41	18:19	39	17:48 (T71)	19:51			20:22	20:52	43	20:26 (T68)	21:08	36	20:28 (T68)
28	07:47	07:09		17:09 (T71)	07:23			06:34	06:04		19:43 (T68)	06:01		19:53 (T68)
	17:43	18:21	38	17:47 (T71)	19:52			20:24	20:53	43	20:26 (T68)	21:08	36	20:29 (T68)
29	07:46				07:21			06:33	06:03		19:44 (T68)	06:02		19:53 (T68)
	17:44				19:53			20:25	20:54	42	20:26 (T68)	21:08	36	20:29 (T68)
30	07:45				07:20			06:32	06:03		19:44 (T68)	06:02		19:53 (T68)
	17:45				19:54			20:26	20:55	42	20:26 (T68)	21:08	37	20:30 (T68)
31	07:44				07:18				06:02		19:45 (T68)			
	17:46				19:55				20:56	41	20:26 (T68)			
Potential sun hours	297	297			370			399	448			452		
Total, worst case			739			171				971			1105	
Sun reduction			0.40			0.44				0.57			0.64	
Oper. time red.			1.00			1.00				1.00			1.00	
Wind dir. red.			0.70			0.70				0.56			0.56	
Total reduction			0.29			0.31				0.32			0.36	
Total, real			212			54				313			400	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1505 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8943)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December
1	06:02		19:53 (T68)	06:27		19:55 (T68)	06:57	07:27			07:02		16:44 (T71)	07:37
	21:08	37	20:30 (T68)	20:50	30	20:25 (T68)	20:07	19:15			17:28	21	17:05 (T71)	17:04
2	06:03		19:52 (T68)	06:28		19:56 (T68)	06:58	07:28			07:03		16:45 (T71)	07:38
	21:08	38	20:30 (T68)	20:49	28	20:24 (T68)	20:05	19:13			17:27	18	17:03 (T71)	17:04
3	06:03		19:53 (T68)	06:28		19:56 (T68)	06:59	07:30			07:04		16:48 (T71)	07:39
	21:08	37	20:30 (T68)	20:48	27	20:23 (T68)	20:04	19:11			17:26	15	17:03 (T71)	17:03
4	06:04		19:53 (T68)	06:29		19:57 (T68)	07:00	07:31			07:05		16:50 (T71)	07:40
	21:08	38	20:31 (T68)	20:46	25	20:22 (T68)	20:02	19:10			17:25	11	17:01 (T71)	17:03
5	06:05		19:53 (T68)	06:30		19:58 (T68)	07:01	07:32			07:07		16:53 (T71)	07:41
	21:07	38	20:31 (T68)	20:45	23	20:21 (T68)	20:00	19:08			17:23	7	17:00 (T71)	17:03
6	06:05		19:53 (T68)	06:31		19:59 (T68)	07:02	07:33			07:08			07:42
	21:07	39	20:32 (T68)	20:44	21	20:20 (T68)	19:57	19:06			17:22			17:03
7	06:06		19:52 (T68)	06:32		20:01 (T68)	07:03	07:34		17:57 (T71)	07:09			07:43
	21:07	40	20:32 (T68)	20:43	18	20:19 (T68)	19:56	19:05	13	18:10 (T71)	17:21			17:03
8	06:06		19:53 (T68)	06:33		20:03 (T68)	07:04	07:35		17:53 (T71)	07:10			07:43
	21:07	39	20:32 (T68)	20:42	15	20:18 (T68)	19:54	19:03	20	18:13 (T71)	17:20			17:03
9	06:07		19:53 (T68)	06:34		20:05 (T68)	07:05	07:36		17:50 (T71)	07:11			07:44
	21:06	40	20:33 (T68)	20:41	11	20:16 (T68)	19:52	19:02	25	18:15 (T71)	17:19			17:03
10	06:08		19:52 (T68)	06:35		20:08 (T68)	07:06	07:37		17:48 (T71)	07:13			07:45
	21:06	41	20:33 (T68)	20:39	7	20:15 (T68)	19:50	19:00	28	18:16 (T71)	17:18			17:03
11	06:08		19:53 (T68)	06:36			07:07	07:38		17:46 (T71)	07:14			07:46
	21:06	41	20:34 (T68)	20:38			19:49	18:58	31	18:17 (T71)	17:17			17:03
12	06:09		19:53 (T68)	06:37			07:08	07:39		17:44 (T71)	07:15			07:47
	21:05	41	20:34 (T68)	20:37			19:47	18:57	34	18:18 (T71)	17:16			17:03
13	06:10		19:52 (T68)	06:38			07:09	07:40		17:43 (T71)	07:16			07:48
	21:05	42	20:34 (T68)	20:35			19:45	18:55	36	18:19 (T71)	17:15			17:03
14	06:11		19:52 (T68)	06:39			07:10	07:41		17:41 (T71)	07:17			07:48
	21:04	42	20:34 (T68)	20:34			19:44	18:54	38	18:19 (T71)	17:14			17:03
15	06:11		19:53 (T68)	06:40			07:11	07:42		17:40 (T71)	07:18			07:49
	21:04	42	20:35 (T68)	20:33			19:42	18:52	40	18:20 (T71)	17:13			17:04
16	06:12		19:53 (T68)	06:41			07:12	07:43		17:40 (T71)	07:20			07:50
	21:03	42	20:35 (T68)	20:31			19:40	18:51	41	18:21 (T71)	17:12			17:04
17	06:13		19:52 (T68)	06:42			07:13	07:45		17:40 (T71)	07:21			07:51
	21:02	43	20:35 (T68)	20:30			19:39	18:49	41	18:21 (T71)	17:12			17:04
18	06:14		19:52 (T68)	06:43			07:14	07:46		17:39 (T71)	07:22			07:51
	21:02	43	20:35 (T68)	20:28			19:37	18:47	42	18:21 (T71)	17:11			17:05
19	06:15		19:52 (T68)	06:44			07:15	07:47		17:38 (T71)	07:23			07:52
	21:01	43	20:35 (T68)	20:27			19:35	18:46	43	18:21 (T71)	17:10			17:05
20	06:16		19:53 (T68)	06:45			07:16	07:48		17:38 (T71)	07:24			07:52
	21:00	43	20:36 (T68)	20:26			19:33	18:45	43	18:21 (T71)	17:09			17:05
21	06:16		19:53 (T68)	06:46			07:17	07:49		17:37 (T71)	07:26			07:53
	21:00	42	20:35 (T68)	20:24			19:32	18:43	43	18:20 (T71)	17:09			17:06
22	06:17		19:52 (T68)	06:47			07:18	07:50		17:38 (T71)	07:27			07:54
	20:59	42	20:34 (T68)	20:23			19:30	18:42	41	18:19 (T71)	17:08			17:06
23	06:18		19:52 (T68)	06:48			07:19	07:51		17:38 (T71)	07:28			07:54
	20:58	41	20:33 (T68)	20:21			19:28	18:40	39	18:17 (T71)	17:08			17:07
24	06:19		19:53 (T68)	06:49			07:20	07:52		17:38 (T71)	07:29			07:54
	20:57	39	20:32 (T68)	20:20			19:27	18:39	38	18:16 (T71)	17:07			17:07
25	06:20		19:53 (T68)	06:50			07:21	07:54		17:38 (T71)	07:30			07:55
	20:57	39	20:32 (T68)	20:18			19:25	18:37	36	18:14 (T71)	17:06			17:08
26	06:21		19:53 (T68)	06:51			07:22	07:55		17:39 (T71)	07:31			07:55
	20:56	38	20:31 (T68)	20:17			19:23	18:36	34	18:13 (T71)	17:06			17:09
27	06:22		19:54 (T68)	06:52			07:23	07:56		17:39 (T71)	07:32			07:56
	20:55	36	20:30 (T68)	20:15			19:22	18:35	33	18:12 (T71)	17:05			17:09
28	06:23		19:54 (T68)	06:53			07:24	07:57		17:40 (T71)	07:33			07:56
	20:54	35	20:29 (T68)	20:13			19:20	18:33	30	18:10 (T71)	17:05			17:10
29	06:24		19:54 (T68)	06:54			07:25	07:58		17:40 (T71)	07:35			07:56
	20:53	35	20:29 (T68)	20:12			19:18	18:32	29	18:09 (T71)	17:05			17:11
30	06:25		19:55 (T68)	06:55			07:26	07:59		17:42 (T71)	07:36			07:56
	20:52	33	20:28 (T68)	20:10			19:16	18:31	26	18:08 (T71)	17:04			17:11
31	06:26		19:54 (T68)	06:56				08:01		17:43 (T71)				07:57
	20:51	32	20:26 (T68)	20:09				18:29	23	18:06 (T71)				17:12
Potential sun hours	459			428			375	345			298			288
Total, worst case		1221			205				847			72		
Sun reduction		0.66			0.61				0.48			0.30		
Oper. time red.		1.00			1.00				1.00			1.00		
Wind dir. red.		0.56			0.56				0.70			0.70		
Total reduction		0.37			0.35				0.34			0.21		
Total, real		456			71				291			15		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1518 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8953)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April	May	June
1	07:57	08:19 (T68)	07:43	08:19 (T68)	07:07		07:27 (T67)	07:16	06:30	06:02
	17:13	93	16:12 (T69)	17:48	58	09:17 (T68)	18:22	3	07:30 (T67)	19:56	20:27	20:57
2	07:57	08:19 (T68)	07:42	08:19 (T68)	07:06		07:25 (T67)	07:15	06:29	06:01
	17:14	94	16:13 (T69)	17:49	58	09:17 (T68)	18:23	8	07:33 (T67)	19:57	20:28	20:57
3	07:57	08:19 (T68)	07:41	08:20 (T68)	07:04		07:23 (T67)	07:13	06:28	06:01
	17:15	95	16:13 (T69)	17:50	57	09:17 (T68)	18:24	12	07:35 (T67)	19:58	20:29	20:58
4	07:57	08:19 (T68)	07:40	08:19 (T68)	07:02		07:22 (T67)	07:11	06:27	06:01
	17:16	95	16:13 (T69)	17:51	57	09:16 (T68)	18:25	15	07:37 (T67)	19:59	20:30	20:59
5	07:57	08:19 (T68)	07:39	08:20 (T68)	07:01		07:20 (T67)	07:10	06:25	06:00
	17:17	95	16:13 (T69)	17:53	55	09:15 (T68)	18:26	18	07:38 (T67)	20:00	20:31	20:59
6	07:57	08:19 (T68)	07:38	08:20 (T68)	06:59		07:19 (T67)	07:08	06:24	06:00
	17:18	96	16:14 (T69)	17:54	55	09:15 (T68)	18:28	20	07:39 (T67)	20:00	20:32	21:00
7	07:57	08:19 (T68)	07:37	08:21 (T68)	06:58		07:17 (T67)	07:06	06:23	06:00
	17:19	96	16:14 (T69)	17:55	54	09:15 (T68)	18:29	22	07:39 (T67)	20:01	20:33	21:01
8	07:57	08:19 (T68)	07:36	08:22 (T68)	07:56		08:15 (T67)	07:05	06:22	05:59
	17:20	96	16:14 (T69)	17:56	52	09:14 (T68)	19:30	24	08:39 (T67)	20:02	20:34	21:01
9	07:57	08:19 (T68)	07:35	08:23 (T68)	07:54		08:14 (T67)	07:03	06:21	05:59
	17:21	96	16:14 (T69)	17:58	51	09:14 (T68)	19:31	26	08:40 (T67)	20:03	20:35	21:02
10	07:57	08:18 (T68)	07:33	08:23 (T68)	07:53		08:12 (T67)	07:02	06:20	05:59
	17:22	97	16:14 (T69)	17:59	49	09:12 (T68)	19:32	28	08:40 (T67)	20:04	20:36	21:03
11	07:56	08:18 (T68)	07:32	08:24 (T68)	07:51		08:10 (T67)	07:00	06:18	05:59
	17:23	97	16:14 (T69)	18:00	48	09:12 (T68)	19:33	29	08:39 (T67)	20:06	20:37	21:03
12	07:56	08:18 (T68)	07:31	08:25 (T68)	07:50		08:09 (T67)	06:58	06:17	05:59
	17:24	96	16:14 (T69)	18:01	46	09:11 (T68)	19:34	30	08:39 (T67)	20:07	20:38	21:04
13	07:56	08:17 (T68)	07:30	08:27 (T68)	07:48		08:07 (T67)	06:57	06:16	05:59
	17:25	97	16:13 (T69)	18:03	43	09:10 (T68)	19:35	32	08:39 (T67)	20:08	20:39	21:04
14	07:55	08:17 (T68)	07:28	08:27 (T68)	07:46		08:06 (T67)	06:55	06:15	05:59
	17:26	96	16:13 (T69)	18:04	41	09:08 (T68)	19:37	32	08:38 (T67)	20:09	20:40	21:05
15	07:55	08:16 (T68)	07:27	08:29 (T68)	07:45		08:07 (T67)	06:54	06:14	05:59
	17:27	97	16:13 (T69)	18:05	38	09:07 (T68)	19:38	30	08:37 (T67)	20:10	20:41	21:05
16	07:55	08:17 (T68)	07:26	08:31 (T68)	07:43		08:08 (T67)	06:52	06:13	05:59
	17:28	95	16:13 (T69)	18:06	34	09:05 (T68)	19:39	28	08:36 (T67)	20:11	20:42	21:06
17	07:54	08:16 (T68)	07:25	08:33 (T68)	07:41		08:08 (T67)	06:51	06:12	05:59
	17:30	94	16:12 (T69)	18:08	29	09:02 (T68)	19:40	26	08:34 (T67)	20:12	20:43	21:06
18	07:54	08:17 (T68)	07:23	08:36 (T68)	07:40		08:10 (T67)	06:49	06:11	05:59
	17:31	93	16:12 (T69)	18:09	24	09:00 (T68)	19:41	24	08:34 (T67)	20:13	20:44	21:06
19	07:53	08:16 (T68)	07:22	08:39 (T68)	07:38		08:11 (T67)	06:47	06:11	05:59
	17:32	91	16:10 (T69)	18:10	16	08:55 (T68)	19:42	20	08:31 (T67)	20:14	20:45	21:07
20	07:53	08:17 (T68)	07:20			07:36	08:12 (T67)	06:46	06:10	05:59
	17:33	89	16:10 (T69)	18:11		19:43	16	08:28 (T67)	20:15	20:46	21:07
21	07:52	08:17 (T68)	07:19			07:35	08:16 (T67)	06:44	06:09	05:59
	17:34	85	16:08 (T69)	18:12		19:44	9	08:25 (T67)	20:16	20:47	21:07
22	07:51	08:17 (T68)	07:18			07:33		06:43	06:08	05:59
	17:35	83	16:07 (T69)	18:14		19:45		20:17	20:48	21:07
23	07:51	08:17 (T68)	07:16			07:31		06:42	06:07	06:00
	17:37	78	16:05 (T69)	18:15		19:46		20:18	20:49	21:08
24	07:50	08:17 (T68)	07:15			07:30		06:40	06:07	06:00
	17:38	72	16:02 (T69)	18:16		19:47		20:19	20:50	21:08
25	07:49	08:17 (T68)	07:13			07:28		06:39	06:06	06:00
	17:39	58	09:15 (T68)	18:17		19:48		20:20	20:51	21:08
26	07:48	08:17 (T68)	07:12			07:26		06:37	06:05	06:00
	17:40	58	09:15 (T68)	18:18		19:50		20:21	20:52	21:08
27	07:48	08:17 (T68)	07:10			07:25		06:36	06:05	06:01
	17:42	59	09:16 (T68)	18:20		19:51		20:23	20:52	21:08
28	07:47	08:17 (T68)	07:09			07:23		06:34	06:04	06:01
	17:43	59	09:16 (T68)	18:21		19:52		20:24	20:53	21:08
29	07:46	08:18 (T68)				07:21		06:33	06:03	06:02
	17:44	59	09:17 (T68)			19:53		20:25	20:54	21:08
30	07:45	08:18 (T68)				07:20		06:32	06:03	06:02
	17:45	59	09:17 (T68)			19:54		20:26	20:55	21:08
31	07:44	08:19 (T68)				07:18			06:02	
	17:46	58	09:17 (T68)			19:55			20:56	
Potential sun hours	297		297			370		399	448	452
Total, worst case		2626		865			452			
Sun reduction		0.31		0.40			0.44			
Oper. time red.		1.00		1.00			1.00			
Wind dir. red.		0.61		0.52			0.58			
Total reduction		0.19		0.21			0.26			
Total, real		502		182			117			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1518 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8953)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August	September			October			November			December		
1	06:03	06:27	06:57			07:28		07:47 (T67)	07:02		07:53 (T68)	07:37		08:00 (T68)
	21:08	20:50	20:07			19:15	31	08:18 (T67)	17:28	49	08:42 (T68)	17:04	97	15:56 (T69)
2	06:03	06:28	06:58			07:29		07:48 (T67)	07:03		07:52 (T68)	07:38		08:01 (T68)
	21:08	20:49	20:05			19:13	30	08:18 (T67)	17:27	51	08:43 (T68)	17:04	97	15:57 (T69)
3	06:04	06:29	06:59			07:30		07:49 (T67)	07:04		07:52 (T68)	07:39		08:02 (T68)
	21:08	20:48	20:04			19:11	28	08:17 (T67)	17:26	52	08:44 (T68)	17:04	97	15:58 (T69)
4	06:04	06:30	07:00			07:31		07:50 (T67)	07:05		07:51 (T68)	07:40		08:03 (T68)
	21:08	20:47	20:02			19:10	27	08:17 (T67)	17:25	54	08:45 (T68)	17:03	96	15:58 (T69)
5	06:05	06:30	07:01			07:32		07:52 (T67)	07:07		07:50 (T68)	07:41		08:04 (T68)
	21:08	20:45	20:01			19:08	25	08:17 (T67)	17:23	55	08:45 (T68)	17:03	96	15:59 (T69)
6	06:05	06:31	07:02			07:33		07:53 (T67)	07:08		07:50 (T68)	07:42		08:05 (T68)
	21:07	20:44	19:57			19:07	23	08:16 (T67)	17:22	55	08:45 (T68)	17:03	96	16:00 (T69)
7	06:06	06:32	07:03			07:34		07:54 (T67)	07:09		07:50 (T68)	07:43		08:06 (T68)
	21:07	20:43	19:56			19:05	21	08:15 (T67)	17:21	56	08:46 (T68)	17:03	95	16:00 (T69)
8	06:07	06:33	07:04			07:35		07:55 (T67)	07:10		07:50 (T68)	07:44		08:07 (T68)
	21:07	20:42	19:54			19:03	19	08:14 (T67)	17:20	57	08:47 (T68)	17:03	95	16:01 (T69)
9	06:07	06:34	07:05			07:36		07:56 (T67)	07:11		07:49 (T68)	07:44		08:08 (T68)
	21:06	20:41	19:52			19:02	16	08:12 (T67)	17:19	58	08:47 (T68)	17:03	94	16:02 (T69)
10	06:08	06:35	07:06			07:37		07:57 (T67)	07:13		07:50 (T68)	07:45		08:09 (T68)
	21:06	20:39	19:51			19:00	14	08:11 (T67)	17:18	58	08:48 (T68)	17:03	94	16:03 (T69)
11	06:09	06:36	07:07			07:38		07:58 (T67)	07:14		07:49 (T68)	07:46		08:10 (T68)
	21:06	20:38	19:49			18:58	10	08:08 (T67)	17:17	59	08:48 (T68)	17:03	94	16:04 (T69)
12	06:09	06:37	07:08			07:39		07:59 (T67)	07:15		07:49 (T68)	07:47		08:10 (T68)
	21:05	20:37	19:47			18:57	6	08:05 (T67)	17:16	59	08:48 (T68)	17:03	93	16:03 (T69)
13	06:10	06:38	07:09			07:40			07:16		07:49 (T68)	07:48		08:11 (T68)
	21:05	20:35	19:45			18:55			17:15	59	08:48 (T68)	17:03	93	16:04 (T69)
14	06:11	06:39	07:10			07:41			07:17		07:50 (T68)	07:49		08:12 (T68)
	21:04	20:34	19:44			18:54			17:14	59	08:49 (T68)	17:04	92	16:05 (T69)
15	06:12	06:40	07:11			07:42			07:19		07:50 (T68)	07:49		08:13 (T68)
	21:04	20:33	19:42			18:52			17:13	59	08:49 (T68)	17:04	93	16:06 (T69)
16	06:12	06:41	07:12			07:44			07:20		07:50 (T68)	07:50		08:13 (T68)
	21:03	20:31	19:40			18:51			17:13	58	08:48 (T68)	17:04	92	16:06 (T69)
17	06:13	06:42	07:13			07:45			07:21		07:51 (T68)	07:51		08:14 (T68)
	21:03	20:30	19:39			18:49			17:12	58	08:49 (T68)	17:04	92	16:07 (T69)
18	06:14	06:43	07:14			07:46			07:22		07:51 (T68)	07:51		08:15 (T68)
	21:02	20:28	19:37			18:48			17:11	72	15:36 (T69)	17:05	91	16:07 (T69)
19	06:15	06:44	07:15			07:47			07:23		07:51 (T68)	07:52		08:15 (T68)
	21:01	20:27	19:35			18:46			17:10	78	15:39 (T69)	17:05	91	16:07 (T69)
20	06:16	06:45	07:16			07:48			07:24		07:52 (T68)	07:53		08:16 (T68)
	21:01	20:26	19:34			18:45			17:10	83	15:42 (T69)	17:05	91	16:08 (T69)
21	06:16	06:46	07:17			07:49			07:26		07:52 (T68)	07:53		08:16 (T68)
	21:00	20:24	19:32			18:43			17:09	85	15:43 (T69)	17:06	91	16:08 (T69)
22	06:17	06:47	07:18		08:02 (T67)	07:50		09:14 (T68)	07:27		07:53 (T68)	07:54		08:17 (T68)
	20:59	20:23	19:30	6	08:08 (T67)	18:42	7	09:21 (T68)	17:08	88	15:46 (T69)	17:06	91	16:09 (T69)
23	06:18	06:48	07:19		07:57 (T67)	07:51		09:08 (T68)	07:28		07:53 (T68)	07:54		08:17 (T68)
	20:58	20:21	19:28	15	08:12 (T67)	18:40	19	09:27 (T68)	17:08	91	15:47 (T69)	17:07	91	16:09 (T69)
24	06:19	06:49	07:20		07:55 (T67)	07:53		09:05 (T68)	07:29		07:54 (T68)	07:55		08:18 (T68)
	20:57	20:20	19:27	19	08:14 (T67)	18:39	25	09:30 (T68)	17:07	93	15:49 (T69)	17:07	91	16:10 (T69)
25	06:20	06:50	07:21		07:52 (T67)	07:54		09:02 (T68)	07:30		07:54 (T68)	07:55		08:18 (T68)
	20:57	20:18	19:25	24	08:16 (T67)	18:37	30	09:32 (T68)	17:06	95	15:50 (T69)	17:08	92	16:10 (T69)
26	06:21	06:51	07:22		07:51 (T67)	07:55		09:01 (T68)	07:31		07:55 (T68)	07:55		08:18 (T68)
	20:56	20:17	19:23	26	08:17 (T67)	18:36	34	09:35 (T68)	17:06	95	15:51 (T69)	17:09	91	16:10 (T69)
27	06:22	06:52	07:23		07:49 (T67)	07:56		08:59 (T68)	07:32		07:56 (T68)	07:56		08:19 (T68)
	20:55	20:15	19:22	28	08:17 (T67)	18:35	38	09:37 (T68)	17:06	97	15:53 (T69)	17:09	92	16:12 (T69)
28	06:23	06:53	07:24		07:48 (T67)	07:57		08:57 (T68)	07:34		07:57 (T68)	07:56		08:19 (T68)
	20:54	20:13	19:20	30	08:18 (T67)	18:33	41	09:38 (T68)	17:05	96	15:53 (T69)	17:10	93	16:12 (T69)
29	06:24	06:54	07:25		07:47 (T67)	07:58		08:55 (T68)	07:35		07:58 (T68)	07:56		08:19 (T68)
	20:53	20:12	19:18	31	08:18 (T67)	18:32	44	09:39 (T68)	17:05	97	15:54 (T69)	17:11	92	16:12 (T69)
30	06:25	06:55	07:26		07:46 (T67)	07:59		08:55 (T68)	07:36		07:59 (T68)	07:57		08:19 (T68)
	20:52	20:10	19:17	32	08:18 (T67)	18:31	46	09:41 (T68)	17:04	96	15:55 (T69)	17:12	93	16:12 (T69)
31	06:26	06:56				08:01		08:54 (T68)				07:57		08:19 (T68)
	20:51	20:09				18:29	48	09:42 (T68)				17:12	93	16:12 (T69)
Potential sun hours	459	428	375			345			298			288		
Total, worst case				211			582			2122			2889	
Sun reduction				0.59			0.48			0.30			0.22	
Oper. time red.				1.00			1.00			1.00			1.00	
Wind dir. red.				0.58			0.54			0.57			0.65	
Total reduction				0.35			0.26			0.17			0.15	
Total, real				73			154			366			421	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1526 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8960)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February		March		April		May	June
1	07:57	07:43		07:07		07:31 (T61)	07:16	08:21 (T61)	06:31	06:02
	17:13	17:48		18:22	76	08:47 (T61)	19:56	73	09:34 (T61)	20:27	20:57
2	07:57	07:42		07:06		07:29 (T61)	07:15	08:22 (T61)	06:29	06:01
	17:14	17:49		18:23	79	08:48 (T61)	19:57	71	09:33 (T61)	20:28	20:58
3	07:57	07:41		07:04		07:29 (T61)	07:13	08:22 (T61)	06:28	06:01
	17:15	17:50		18:24	80	08:49 (T61)	19:58	69	09:31 (T61)	20:29	20:58
4	07:57	07:40		07:03		07:28 (T61)	07:11	08:23 (T61)	06:27	06:01
	17:16	17:52		18:25	81	08:49 (T61)	19:59	66	09:29 (T61)	20:30	20:59
5	07:57	07:39		07:01		07:26 (T61)	07:10	08:25 (T61)	06:25	06:00
	17:17	17:53		18:27	83	08:49 (T61)	20:00	63	09:28 (T61)	20:31	21:00
6	07:57	07:38		06:59		07:26 (T61)	07:08	08:25 (T61)	06:24	06:00
	17:18	17:54		18:28	84	08:50 (T61)	20:00	61	09:26 (T61)	20:32	21:00
7	07:57	07:37		06:58		07:25 (T61)	07:06	08:26 (T61)	06:23	06:00
	17:19	17:55		18:29	85	08:50 (T61)	20:01	58	09:24 (T61)	20:33	21:01
8	07:57	07:36		07:56		08:24 (T61)	07:05	08:28 (T61)	06:22	05:59
	17:20	17:57		19:30	86	09:50 (T61)	20:02	54	09:22 (T61)	20:34	21:02
9	07:57	07:35		07:55		08:24 (T61)	07:03	08:29 (T61)	06:21	05:59
	17:21	17:58		19:31	86	09:50 (T61)	20:04	50	09:19 (T61)	20:35	21:02
10	07:57	07:34		07:53		08:22 (T61)	07:02	08:31 (T61)	06:20	05:59
	17:22	17:59		19:32	88	09:50 (T61)	20:05	47	09:18 (T61)	20:36	21:03
11	07:57	07:32		07:51		08:23 (T61)	07:00	08:33 (T61)	06:19	05:59
	17:23	18:00		19:33	88	09:51 (T61)	20:06	41	09:14 (T61)	20:37	21:03
12	07:56	07:31		07:50		08:22 (T61)	06:58	08:35 (T61)	06:17	05:59
	17:24	18:02		19:34	88	09:50 (T61)	20:07	36	09:11 (T61)	20:38	21:04
13	07:56	07:30		07:48		08:21 (T61)	06:57	08:38 (T61)	06:16	05:59
	17:25	18:03		19:36	89	09:50 (T61)	20:08	30	09:08 (T61)	20:39	21:04
14	07:56	07:29		07:46		08:21 (T61)	06:55	08:41 (T61)	06:15	05:59
	17:26	18:04		19:37	89	09:50 (T61)	20:09	22	09:03 (T61)	20:40	21:05
15	07:55	07:27		07:45		08:20 (T61)	06:54	08:50 (T61)	06:14	05:59
	17:27	18:05		19:38	90	09:50 (T61)	20:10	5	08:55 (T61)	20:41	21:05
16	07:55	07:26	07:59 (T61)	07:43		08:20 (T61)	06:52		06:13	05:59
	17:28	18:06	22 08:21 (T61)	19:39	89	09:49 (T61)	20:11		20:42	21:06
17	07:54	07:25	07:54 (T61)	07:41		08:20 (T61)	06:51		06:12	05:59
	17:30	18:08	31 08:25 (T61)	19:40	89	09:49 (T61)	20:12		20:43	21:06
18	07:54	07:23	07:51 (T61)	07:40		08:19 (T61)	06:49		06:12	05:59
	17:31	18:09	38 08:29 (T61)	19:41	89	09:48 (T61)	20:13		20:44	21:07
19	07:53	07:22	07:48 (T61)	07:38		08:19 (T61)	06:48		06:11	05:59
	17:32	18:10	44 08:32 (T61)	19:42	89	09:48 (T61)	20:14		20:45	21:07
20	07:53	07:21	07:45 (T61)	07:36		08:18 (T61)	06:46		06:10	05:59
	17:33	18:11	49 08:34 (T61)	19:43	89	09:47 (T61)	20:15		20:46	21:07
21	07:52	07:19	07:44 (T61)	07:35		08:19 (T61)	06:45		06:09	05:59
	17:34	18:13	53 08:37 (T61)	19:44	88	09:47 (T61)	20:16		20:47	21:07
22	07:52	07:18	07:41 (T61)	07:33		08:18 (T61)	06:43		06:08	05:59
	17:35	18:14	57 08:38 (T61)	19:45	88	09:46 (T61)	20:17		20:48	21:08
23	07:51	07:16	07:40 (T61)	07:31		08:18 (T61)	06:42		06:07	06:00
	17:37	18:15	60 08:40 (T61)	19:46	86	09:44 (T61)	20:18		20:49	21:08
24	07:50	07:15	07:37 (T61)	07:30		08:19 (T61)	06:40		06:07	06:00
	17:38	18:16	64 08:41 (T61)	19:48	85	09:44 (T61)	20:20		20:50	21:08
25	07:49	07:13	07:36 (T61)	07:28		08:19 (T61)	06:39		06:06	06:00
	17:39	18:17	67 08:43 (T61)	19:49	84	09:43 (T61)	20:21		20:51	21:08
26	07:49	07:12	07:34 (T61)	07:26		08:19 (T61)	06:37		06:05	06:01
	17:40	18:18	70 08:44 (T61)	19:50	83	09:42 (T61)	20:22		20:52	21:08
27	07:48	07:10	07:33 (T61)	07:25		08:19 (T61)	06:36		06:05	06:01
	17:42	18:20	72 08:45 (T61)	19:51	82	09:41 (T61)	20:23		20:53	21:08
28	07:47	07:09	07:32 (T61)	07:23		08:19 (T61)	06:35		06:04	06:01
	17:43	18:21	74 08:46 (T61)	19:52	81	09:40 (T61)	20:24		20:54	21:08
29	07:46			07:21		08:19 (T61)	06:33		06:03	06:02
	17:44			19:53	79	09:38 (T61)	20:25		20:54	21:08
30	07:45			07:20		08:20 (T61)	06:32		06:03	06:02
	17:45			19:54	78	09:38 (T61)	20:26		20:55	21:08
31	07:44			07:18		08:21 (T61)			06:02	
	17:47			19:55	75	09:36 (T61)			20:56	
Potential sun hours	297	297		370			399		448	452
Total, worst case			701		2626			746		
Sun reduction			0.40		0.44			0.52		
Oper. time red.			1.00		1.00			1.00		
Wind dir. red.			0.57		0.57			0.57		
Total reduction			0.23		0.25			0.30		
Total, real			160		657			221		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1526 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8960)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August		September		October		November	December
1	06:03	06:27		06:58	08:32 (T61)	07:28	08:00 (T61)	07:02	07:37
	21:08	20:50		20:07 41	09:13 (T61)	19:15 89	09:29 (T61)	17:28	17:04
2	06:03	06:28		06:59	08:29 (T61)	07:29	08:00 (T61)	07:03	07:38
	21:08	20:49		20:06 47	09:16 (T61)	19:13 89	09:29 (T61)	17:27	17:04
3	06:04	06:29		07:00	08:27 (T61)	07:30	08:01 (T61)	07:04	07:39
	21:08	20:48		20:04 50	09:17 (T61)	19:12 88	09:29 (T61)	17:26	17:04
4	06:04	06:30		07:01	08:25 (T61)	07:31	08:01 (T61)	07:06	07:40
	21:08	20:47		20:02 54	09:19 (T61)	19:10 87	09:28 (T61)	17:25	17:03
5	06:05	06:31		07:02	08:23 (T61)	07:32	08:01 (T61)	07:07	07:41
	21:08	20:46		20:01 58	09:21 (T61)	19:08 87	09:28 (T61)	17:24	17:03
6	06:05	06:32		07:03	08:21 (T61)	07:33	08:01 (T61)	07:08	07:42
	21:08	20:44		19:57 61	09:22 (T61)	19:07 86	09:27 (T61)	17:22	17:03
7	06:06	06:33		07:04	08:20 (T61)	07:34	08:01 (T61)	07:09	07:43
	21:07	20:43		19:56 63	09:23 (T61)	19:05 85	09:26 (T61)	17:21	17:03
8	06:07	06:34		07:05	08:18 (T61)	07:35	08:02 (T61)	07:10	07:44
	21:07	20:42		19:54 66	09:24 (T61)	19:03 83	09:25 (T61)	17:20	17:03
9	06:07	06:35		07:06	08:17 (T61)	07:36	08:02 (T61)	07:12	07:45
	21:07	20:41		19:52 68	09:25 (T61)	19:02 82	09:24 (T61)	17:19	17:03
10	06:08	06:36		07:07	08:15 (T61)	07:37	08:02 (T61)	07:13	07:46
	21:06	20:39		19:51 71	09:26 (T61)	19:00 81	09:23 (T61)	17:18	17:03
11	06:09	06:37		07:07	08:14 (T61)	07:38	08:03 (T61)	07:14	07:46
	21:06	20:38		19:49 73	09:27 (T61)	18:59 79	09:22 (T61)	17:17	17:03
12	06:09	06:38		07:08	08:13 (T61)	07:39	08:03 (T61)	07:15	07:47
	21:05	20:37		19:47 75	09:28 (T61)	18:57 78	09:21 (T61)	17:16	17:03
13	06:10	06:39		07:09	08:12 (T61)	07:40	08:04 (T61)	07:16	07:48
	21:05	20:36		19:46 77	09:29 (T61)	18:55 75	09:19 (T61)	17:15	17:03
14	06:11	06:40		07:10	08:11 (T61)	07:41	08:06 (T61)	07:18	07:49
	21:04	20:34		19:44 78	09:29 (T61)	18:54 73	09:19 (T61)	17:14	17:04
15	06:12	06:41		07:11	08:09 (T61)	07:43	08:06 (T61)	07:19	07:49
	21:04	20:33		19:42 80	09:29 (T61)	18:52 71	09:17 (T61)	17:13	17:04
16	06:12	06:42		07:12	08:08 (T61)	07:44	08:07 (T61)	07:20	07:50
	21:03	20:31		19:40 81	09:29 (T61)	18:51 69	09:16 (T61)	17:13	17:04
17	06:13	06:43		07:13	08:07 (T61)	07:45	08:08 (T61)	07:21	07:51
	21:03	20:30		19:39 83	09:30 (T61)	18:49 66	09:14 (T61)	17:12	17:04
18	06:14	06:44		07:14	08:06 (T61)	07:46	08:09 (T61)	07:22	07:52
	21:02	20:29		19:37 84	09:30 (T61)	18:48 63	09:12 (T61)	17:11	17:05
19	06:15	06:45		07:15	08:05 (T61)	07:47	08:11 (T61)	07:23	07:52
	21:01	20:27		19:35 85	09:30 (T61)	18:46 59	09:10 (T61)	17:10	17:05
20	06:16	06:46		07:16	08:05 (T61)	07:48	08:13 (T61)	07:25	07:53
	21:01	20:26		19:34 86	09:31 (T61)	18:45 56	09:09 (T61)	17:10	17:06
21	06:17	06:47		07:17	08:04 (T61)	07:49	08:15 (T61)	07:26	07:53
	21:00	20:24		19:32 87	09:31 (T61)	18:43 52	09:07 (T61)	17:09	17:06
22	06:17	06:48		07:18	08:03 (T61)	07:50	08:17 (T61)	07:27	07:54
	20:59	20:23		19:30 88	09:31 (T61)	18:42 47	09:04 (T61)	17:08	17:06
23	06:18	06:49		07:19	08:03 (T61)	07:52	08:19 (T61)	07:28	07:54
	20:58	20:21		19:29 88	09:31 (T61)	18:40 42	09:01 (T61)	17:08	17:07
24	06:19	06:50		07:20	08:02 (T61)	07:53	08:21 (T61)	07:29	07:55
	20:58	20:20		19:27 89	09:31 (T61)	18:39 37	08:58 (T61)	17:07	17:08
25	06:20	06:51		07:21	08:02 (T61)	07:54	08:26 (T61)	07:30	07:55
	20:57	20:18		19:25 89	09:31 (T61)	18:38 29	08:55 (T61)	17:07	17:08
26	06:21	06:52		07:23	08:01 (T61)	07:55	08:30 (T61)	07:31	07:56
	20:56	20:17		19:23 90	09:31 (T61)	18:36 20	08:50 (T61)	17:06	17:09
27	06:22	06:53		07:24	08:01 (T61)	07:56		07:33	07:56
	20:55	20:15		19:22 89	09:30 (T61)	18:35		17:06	17:09
28	06:23	06:54	08:49 (T61)	07:25	08:01 (T61)	07:57		07:34	07:56
	20:54	20:14 8	08:57 (T61)	19:20 89	09:30 (T61)	18:33		17:05	17:10
29	06:24	06:55	08:42 (T61)	07:26	08:00 (T61)	07:58		07:35	07:56
	20:53	20:12 22	09:04 (T61)	19:18 90	09:30 (T61)	18:32		17:05	17:11
30	06:25	06:56	08:38 (T61)	07:27	08:00 (T61)	08:00		07:36	07:57
	20:52	20:10 30	09:08 (T61)	19:17 89	09:29 (T61)	18:31		17:04	17:12
31	06:26	06:57	08:34 (T61)			08:01			07:57
	20:51	20:09 37	09:11 (T61)			18:30			17:12
Potential sun hours	459	428		375		345		298	288
Total, worst case		97		2269		1773			
Sun reduction		0.61		0.59		0.48			
Oper. time red.		1.00		1.00		1.00			
Wind dir. red.		0.57		0.57		0.57			
Total reduction		0.35		0.34		0.27			
Total, real		34		762		484			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1531 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8965)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January	February	March			April			May			June		
1	07:58	07:44	07:07			07:16		07:36 (T26)	06:30		06:51 (T25)	06:01		06:28 (T75)
	17:13	17:48	18:22			19:56	31	08:07 (T26)	20:27	60	07:51 (T25)	20:57	69	07:45 (T25)
2	07:58	07:43	07:06			07:15		07:37 (T26)	06:29		06:51 (T25)	06:01		06:29 (T75)
	17:14	17:49	18:23			19:57	30	08:07 (T26)	20:28	60	07:51 (T25)	20:58	68	07:45 (T25)
3	07:58	07:42	07:04			07:13		07:37 (T26)	06:28		06:50 (T25)	06:01		06:29 (T75)
	17:15	17:50	18:24			19:58	28	08:05 (T26)	20:29	62	07:52 (T25)	20:59	66	07:44 (T25)
4	07:58	07:41	07:03			07:11		07:38 (T26)	06:26		06:49 (T25)	06:00		06:30 (T75)
	17:16	17:51	18:25			19:59	25	08:03 (T26)	20:30	62	07:51 (T25)	20:59	65	07:44 (T25)
5	07:58	07:40	07:01			07:10		07:39 (T26)	06:25		06:49 (T25)	06:00		06:31 (T75)
	17:17	17:53	18:26			20:00	24	08:03 (T26)	20:32	62	07:51 (T25)	21:00	63	07:44 (T25)
6	07:58	07:39	07:00			07:08		07:40 (T26)	06:24		06:49 (T25)	06:00		06:31 (T75)
	17:17	17:54	18:28			20:00	20	08:00 (T26)	20:33	62	07:51 (T25)	21:01	60	07:43 (T25)
7	07:58	07:37	06:58			07:06		07:42 (T26)	06:23		06:49 (T25)	05:59		06:32 (T75)
	17:18	17:55	18:29			20:02	15	07:57 (T26)	20:34	62	07:51 (T25)	21:01	58	07:43 (T25)
8	07:58	07:36	07:56			07:05		07:45 (T26)	06:22		06:49 (T25)	05:59		06:34 (T75)
	17:19	17:56	19:30			20:03	9	07:54 (T26)	20:35	63	07:52 (T25)	21:02	55	07:43 (T25)
9	07:57	07:35	07:55			07:03			06:20		06:49 (T25)	05:59		06:35 (T75)
	17:20	17:58	19:31			20:04			20:36	63	07:52 (T25)	21:03	53	07:43 (T25)
10	07:57	07:34	07:53			07:01			06:19		06:40 (T75)	05:59		06:36 (T75)
	17:21	17:59	19:32			20:05			20:37	65	07:52 (T25)	21:03	51	07:43 (T25)
11	07:57	07:33	07:51			07:00			06:18		06:38 (T75)	05:58		06:37 (T75)
	17:23	18:00	19:33			20:06			20:38	67	07:50 (T25)	21:04	49	07:43 (T25)
12	07:57	07:31	07:50			06:58			06:17		06:37 (T75)	05:58		06:37 (T75)
	17:24	18:01	19:34			20:07			20:39	70	07:50 (T25)	21:04	46	07:42 (T25)
13	07:56	07:30	07:48			06:57			06:16		06:36 (T75)	05:58		06:38 (T75)
	17:25	18:03	19:36			20:08			20:40	72	07:50 (T25)	21:05	44	07:42 (T25)
14	07:56	07:29	07:46			06:55			06:15		06:36 (T75)	05:58		07:03 (T25)
	17:26	18:04	19:37			20:09			20:41	74	07:51 (T25)	21:05	39	07:42 (T25)
15	07:56	07:28	07:45			06:54			06:14		06:35 (T75)	05:58		07:03 (T25)
	17:27	18:05	19:38			20:10			20:42	75	07:51 (T25)	21:06	39	07:42 (T25)
16	07:55	07:26	07:43			06:52		07:16 (T25)	06:13		06:34 (T75)	05:58		07:03 (T25)
	17:28	18:06	19:39			20:11	16	07:32 (T25)	20:43	76	07:50 (T25)	21:06	39	07:42 (T25)
17	07:55	07:25	07:41			06:50		07:12 (T25)	06:12		06:33 (T75)	05:58		07:05 (T25)
	17:29	18:08	19:40			20:12	24	07:36 (T25)	20:44	77	07:50 (T25)	21:07	38	07:43 (T25)
18	07:54	07:24	07:40			06:49		07:08 (T25)	06:11		06:32 (T75)	05:58		07:05 (T25)
	17:30	18:09	19:41			20:13	31	07:39 (T25)	20:45	78	07:50 (T25)	21:07	37	07:42 (T25)
19	07:54	07:22	07:38		07:57 (T26)	06:47		07:07 (T25)	06:10		06:31 (T75)	05:58		07:05 (T25)
	17:32	18:10	19:42	2	07:59 (T26)	20:14	34	07:41 (T25)	20:46	78	07:49 (T25)	21:07	37	07:42 (T25)
20	07:53	07:21	07:36		07:56 (T26)	06:46		07:05 (T25)	06:09		06:30 (T75)	05:59		07:05 (T25)
	17:33	18:11	19:43	8	08:04 (T26)	20:15	37	07:42 (T25)	20:47	78	07:49 (T25)	21:08	37	07:42 (T25)
21	07:53	07:19	07:35		07:54 (T26)	06:44		07:04 (T25)	06:09		06:30 (T75)	05:59		07:05 (T25)
	17:34	18:12	19:44	12	08:06 (T26)	20:17	40	07:44 (T25)	20:48	78	07:49 (T25)	21:08	37	07:42 (T25)
22	07:52	07:18	07:33		07:52 (T26)	06:43		07:02 (T25)	06:08		06:29 (T75)	05:59		07:05 (T25)
	17:35	18:14	19:45	15	08:07 (T26)	20:18	43	07:45 (T25)	20:49	78	07:48 (T25)	21:08	37	07:42 (T25)
23	07:51	07:16	07:31		07:50 (T26)	06:41		07:01 (T25)	06:07		06:28 (T75)	05:59		07:06 (T25)
	17:36	18:15	19:46	17	08:07 (T26)	20:19	45	07:46 (T25)	20:50	79	07:48 (T25)	21:08	37	07:43 (T25)
24	07:51	07:15	07:30		07:49 (T26)	06:40		06:59 (T25)	06:06		06:27 (T75)	05:59		07:06 (T25)
	17:38	18:16	19:48	20	08:09 (T26)	20:20	48	07:47 (T25)	20:50	79	07:47 (T25)	21:09	37	07:43 (T25)
25	07:50	07:13	07:28		07:47 (T26)	06:39		06:58 (T25)	06:06		06:27 (T75)	06:00		07:06 (T25)
	17:39	18:17	19:49	22	08:09 (T26)	20:21	50	07:48 (T25)	20:51	78	07:47 (T25)	21:09	37	07:43 (T25)
26	07:49	07:12	07:26		07:45 (T26)	06:37		06:57 (T25)	06:05		06:26 (T75)	06:00		07:07 (T25)
	17:40	18:18	19:50	24	08:09 (T26)	20:22	52	07:49 (T25)	20:52	79	07:47 (T25)	21:09	38	07:45 (T25)
27	07:48	07:10	07:25		07:44 (T26)	06:36		06:55 (T25)	06:04		06:27 (T75)	06:00		07:06 (T25)
	17:41	18:20	19:51	26	08:10 (T26)	20:23	54	07:49 (T25)	20:53	77	07:47 (T25)	21:09	39	07:45 (T25)
28	07:47	07:09	07:23		07:42 (T26)	06:34		06:54 (T25)	06:04		06:27 (T75)	06:01		07:06 (T25)
	17:43	18:21	19:52	27	08:09 (T26)	20:24	56	07:50 (T25)	20:54	76	07:46 (T25)	21:09	39	07:45 (T25)
29	07:47		07:21		07:40 (T26)	06:33		06:53 (T25)	06:03		06:27 (T75)	06:01		06:43 (T75)
	17:44		19:53	29	08:09 (T26)	20:25	57	07:50 (T25)	20:55	73	07:45 (T25)	21:09	42	07:46 (T25)
30	07:46		07:20		07:39 (T26)	06:32		06:51 (T25)	06:02		06:28 (T75)	06:02		06:42 (T75)
	17:45		19:54	30	08:09 (T26)	20:26	59	07:50 (T25)	20:56	72	07:46 (T25)	21:09	45	07:46 (T25)
31	07:45		07:18		07:37 (T26)				06:02		06:28 (T75)			
	17:46		19:55	31	08:08 (T26)				20:56	71	07:46 (T25)			
Potential sun hours	297	297	370			399			449			453		
Total, worst case				263			828			2206			1401	
Sun reduction				0.44			0.52			0.57			0.64	
Oper. time red.				1.00			1.00			1.00			1.00	
Wind dir. red.				0.63			0.67			0.68			0.68	
Total reduction				0.28			0.35			0.39			0.44	
Total, real				73			287			858			611	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1531 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8965)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October	November	December
1	06:02		06:41 (T75)	06:26		06:48 (T75)	06:57	07:28	07:02	07:37
	21:09	49	07:47 (T25)	20:50	70	08:01 (T25)	20:07	19:15	17:28	17:04
2	06:03		06:40 (T75)	06:27		06:49 (T75)	06:58	07:29	07:03	07:38
	21:09	50	07:47 (T25)	20:49	67	08:01 (T25)	20:06	19:13	17:27	17:03
3	06:03		06:40 (T75)	06:28		06:50 (T75)	06:59	07:30	07:05	07:39
	21:09	53	07:48 (T25)	20:48	64	08:01 (T25)	20:04	19:12	17:26	17:03
4	06:04		06:39 (T75)	06:29		06:58 (T25)	07:00	07:43 (T26)	07:31	07:06	07:40
	21:08	55	07:48 (T25)	20:47	63	08:01 (T25)	20:03	8	07:51 (T26)	19:10	17:24	17:03
5	06:04		06:39 (T75)	06:30		06:58 (T25)	07:01	07:39 (T26)	07:32	07:07	07:41
	21:08	57	07:49 (T25)	20:46	63	08:01 (T25)	20:01	15	07:54 (T26)	19:08	17:23	17:03
6	06:05		06:38 (T75)	06:31		06:58 (T25)	07:02	07:36 (T26)	07:33	07:08	07:42
	21:08	58	07:49 (T25)	20:45	63	08:01 (T25)	19:58	20	07:56 (T26)	19:07	17:22	17:03
7	06:05		06:38 (T75)	06:32		06:59 (T25)	07:03	07:34 (T26)	07:34	07:09	07:43
	21:08	61	07:50 (T25)	20:44	62	08:01 (T25)	19:56	24	07:58 (T26)	19:05	17:21	17:03
8	06:06		06:38 (T75)	06:33		06:59 (T25)	07:04	07:33 (T26)	07:35	07:11	07:44
	21:07	63	07:51 (T25)	20:42	62	08:01 (T25)	19:54	26	07:59 (T26)	19:03	17:20	17:03
9	06:07		06:37 (T75)	06:34		06:59 (T25)	07:05	07:31 (T26)	07:36	07:12	07:45
	21:07	65	07:51 (T25)	20:41	61	08:00 (T25)	19:52	28	07:59 (T26)	19:02	17:19	17:03
10	06:07		06:37 (T75)	06:35		06:59 (T25)	07:06	07:30 (T26)	07:37	07:13	07:46
	21:07	67	07:52 (T25)	20:40	61	08:00 (T25)	19:51	30	08:00 (T26)	19:00	17:18	17:03
11	06:08		06:37 (T75)	06:36		06:59 (T25)	07:07	07:29 (T26)	07:38	07:14	07:47
	21:06	69	07:53 (T25)	20:39	61	08:00 (T25)	19:49	31	08:00 (T26)	18:58	17:17	17:03
12	06:09		06:36 (T75)	06:37		07:00 (T25)	07:08	07:29 (T26)	07:39	07:15	07:48
	21:06	70	07:53 (T25)	20:37	59	07:59 (T25)	19:47	31	08:00 (T26)	18:57	17:16	17:03
13	06:10		06:36 (T75)	06:38		07:00 (T25)	07:09	07:30 (T26)	07:41	07:17	07:48
	21:05	72	07:54 (T25)	20:36	59	07:59 (T25)	19:46	30	08:00 (T26)	18:55	17:15	17:03
14	06:10		06:36 (T75)	06:39		07:01 (T25)	07:10	07:31 (T26)	07:42	07:18	07:49
	21:05	73	07:54 (T25)	20:35	57	07:58 (T25)	19:44	29	08:00 (T26)	18:54	17:14	17:03
15	06:11		06:36 (T75)	06:40		07:02 (T25)	07:11	07:31 (T26)	07:43	07:19	07:50
	21:04	75	07:55 (T25)	20:33	55	07:57 (T25)	19:42	27	07:58 (T26)	18:52	17:13	17:03
16	06:12		06:35 (T75)	06:41		07:03 (T25)	07:12	07:32 (T26)	07:44	07:20	07:51
	21:04	76	07:55 (T25)	20:32	53	07:56 (T25)	19:41	26	07:58 (T26)	18:51	17:12	17:04
17	06:13		06:35 (T75)	06:42		07:04 (T25)	07:13	07:33 (T26)	07:45	07:21	07:51
	21:03	78	07:56 (T25)	20:30	51	07:55 (T25)	19:39	24	07:57 (T26)	18:49	17:11	17:04
18	06:14		06:36 (T75)	06:43		07:05 (T25)	07:14	07:34 (T26)	07:46	07:23	07:52
	21:03	78	07:57 (T25)	20:29	49	07:54 (T25)	19:37	22	07:56 (T26)	18:48	17:11	17:04
19	06:14		06:37 (T75)	06:44		07:06 (T25)	07:15	07:35 (T26)	07:47	07:24	07:53
	21:02	78	07:57 (T25)	20:27	47	07:53 (T25)	19:35	20	07:55 (T26)	18:46	17:10	17:05
20	06:15		06:38 (T75)	06:45		07:06 (T25)	07:16	07:36 (T26)	07:48	07:25	07:53
	21:01	78	07:58 (T25)	20:26	45	07:51 (T25)	19:34	18	07:54 (T26)	18:45	17:09	17:05
21	06:16		06:38 (T75)	06:46		07:07 (T25)	07:17	07:37 (T26)	07:49	07:26	07:54
	21:00	80	07:58 (T25)	20:25	42	07:49 (T25)	19:32	15	07:52 (T26)	18:43	17:09	17:06
22	06:17		06:39 (T75)	06:47		07:08 (T25)	07:18	07:38 (T26)	07:51	07:27	07:54
	21:00	79	07:58 (T25)	20:23	40	07:48 (T25)	19:30	12	07:50 (T26)	18:42	17:08	17:06
23	06:18		06:40 (T75)	06:48		07:09 (T25)	07:19	07:39 (T26)	07:52	07:28	07:55
	20:59	79	07:59 (T25)	20:22	37	07:46 (T25)	19:29	9	07:48 (T26)	18:40	17:07	17:07
24	06:19		06:41 (T75)	06:49		07:10 (T25)	07:20	07:40 (T26)	07:53	07:30	07:55
	20:58	78	07:59 (T25)	20:20	34	07:44 (T25)	19:27	4	07:44 (T26)	18:39	17:07	17:07
25	06:20		06:42 (T75)	06:50		07:11 (T25)	07:22		07:54	07:31	07:56
	20:57	78	08:00 (T25)	20:18	30	07:41 (T25)	19:25		18:37	17:06	17:08
26	06:21		06:43 (T75)	06:51		07:14 (T25)	07:23		07:55	07:32	07:56
	20:56	77	08:00 (T25)	20:17	24	07:38 (T25)	19:23		18:36	17:06	17:08
27	06:22		06:44 (T75)	06:52		07:18 (T25)	07:24		07:56	07:33	07:56
	20:55	77	08:01 (T25)	20:15	15	07:33 (T25)	19:22		18:35	17:05	17:09
28	06:23		06:45 (T75)	06:53			07:25		07:58	07:34	07:57
	20:54	75	08:01 (T25)	20:14			19:20		18:33	17:05	17:10
29	06:23		06:45 (T75)	06:54			07:26		07:59	07:35	07:57
	20:53	74	08:00 (T25)	20:12			19:18		18:32	17:04	17:10
30	06:24		06:46 (T75)	06:55			07:27		08:00	07:36	07:57
	20:52	74	08:01 (T25)	20:11			19:17		18:31	17:04	17:11
31	06:25		06:47 (T75)	06:56					08:01		07:57
	20:51	72	08:01 (T25)	20:09					18:29		17:12
Potential sun hours	460			429			375		345	297	287
Total, worst case		2168			1394			449				
Sun reduction		0.66			0.61			0.59				
Oper. time red.		1.00			1.00			1.00				
Wind dir. red.		0.69			0.68			0.63				
Total reduction		0.45			0.41			0.37				
Total, real		980			576			166				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1549 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8980)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May	June
1	07:57	15:54 (T69)	07:43	15:47 (T69)	07:07	07:27 (T68)	07:16	07:35 (T67)	06:30	06:02
	17:13 46	16:40 (T69)	17:48 83	17:10 (T69)	18:22 96	17:01 (T69)	19:56 45	08:44 (T68)	20:27	20:57
2	07:57	15:54 (T69)	07:42	15:47 (T69)	07:06	07:25 (T68)	07:15	07:34 (T67)	06:29	06:01
	17:14 47	16:41 (T69)	17:49 83	17:10 (T69)	18:23 96	16:59 (T69)	19:57 36	08:39 (T68)	20:28	20:57
3	07:57	15:53 (T69)	07:41	15:47 (T69)	07:04	07:23 (T68)	07:13	07:32 (T67)	06:28	06:01
	17:15 49	16:42 (T69)	17:50 84	17:11 (T69)	18:24 96	16:57 (T69)	19:58 27	07:59 (T67)	20:29	20:58
4	07:57	15:53 (T69)	07:40	15:46 (T69)	07:02	07:22 (T68)	07:11	07:30 (T67)	06:27	06:01
	17:16 50	16:43 (T69)	17:51 84	17:10 (T69)	18:25 95	16:56 (T69)	19:59 28	07:58 (T67)	20:30	20:59
5	07:57	15:53 (T69)	07:39	15:46 (T69)	07:01	07:20 (T68)	07:10	07:29 (T67)	06:25	06:00
	17:17 52	16:45 (T69)	17:53 85	17:11 (T69)	18:26 93	16:53 (T69)	20:00 29	07:58 (T67)	20:31	20:59
6	07:57	15:53 (T69)	07:38	15:46 (T69)	06:59	07:19 (T68)	07:08	07:28 (T67)	06:24	06:00
	17:18 53	16:46 (T69)	17:54 85	17:11 (T69)	18:28 90	16:51 (T69)	20:00 29	07:57 (T67)	20:32	21:00
7	07:57	15:53 (T69)	07:37	15:46 (T69)	06:58	07:17 (T68)	07:06	07:28 (T67)	06:23	06:00
	17:19 54	16:47 (T69)	17:55 85	17:11 (T69)	18:29 88	16:48 (T69)	20:01 28	07:56 (T67)	20:33	21:01
8	07:57	15:53 (T69)	07:36	15:47 (T69)	07:56	08:15 (T68)	07:05	07:30 (T67)	06:22	05:59
	17:20 55	16:48 (T69)	17:57 85	17:12 (T69)	19:30 84	17:45 (T69)	20:02 25	07:55 (T67)	20:34	21:01
9	07:57	15:53 (T69)	07:35	15:47 (T69)	07:54	08:15 (T68)	07:03	07:30 (T67)	06:21	05:59
	17:21 57	16:50 (T69)	17:58 85	17:12 (T69)	19:31 76	17:41 (T69)	20:03 23	07:53 (T67)	20:35	21:02
10	07:57	15:52 (T69)	07:33	15:46 (T69)	07:53	08:13 (T68)	07:02	07:31 (T67)	06:20	05:59
	17:22 58	16:50 (T69)	17:59 85	17:11 (T69)	19:32 56	09:09 (T68)	20:04 20	07:51 (T67)	20:36	21:03
11	07:56	15:52 (T69)	07:32	15:47 (T69)	07:51	08:12 (T68)	07:00	07:33 (T67)	06:18	05:59
	17:23 59	16:51 (T69)	18:00 85	17:12 (T69)	19:33 56	09:08 (T68)	20:06 17	07:50 (T67)	20:37	21:03
12	07:56	15:52 (T69)	07:31	15:47 (T69)	07:50	08:13 (T68)	06:58	07:35 (T67)	06:17	05:59
	17:24 61	16:53 (T69)	18:01 85	17:12 (T69)	19:34 56	09:09 (T68)	20:07 11	07:46 (T67)	20:38	21:04
13	07:56	15:51 (T69)	07:30	15:48 (T69)	07:48	08:12 (T68)	06:57		06:16	05:59
	17:25 62	16:53 (T69)	18:03 84	17:12 (T69)	19:35 57	09:09 (T68)	20:08		20:39	21:04
14	07:55	15:51 (T69)	07:28	15:47 (T69)	07:46	08:11 (T68)	06:55		06:15	05:59
	17:26 64	16:55 (T69)	18:04 84	17:11 (T69)	19:37 57	09:08 (T68)	20:09		20:40	21:05
15	07:55	15:50 (T69)	07:27	15:48 (T69)	07:45	08:11 (T68)	06:54		06:14	05:59
	17:27 65	16:55 (T69)	18:05 83	17:11 (T69)	19:38 57	09:08 (T68)	20:10		20:41	21:05
16	07:55	15:50 (T69)	07:26	15:49 (T69)	07:43	08:11 (T68)	06:52		06:13	05:59
	17:28 67	16:57 (T69)	18:06 82	17:11 (T69)	19:39 57	09:08 (T68)	20:11		20:42	21:06
17	07:54	15:50 (T69)	07:25	15:49 (T69)	07:41	08:10 (T68)	06:51		06:12	05:59
	17:30 67	16:57 (T69)	18:08 81	17:10 (T69)	19:40 57	09:07 (T68)	20:12		20:43	21:06
18	07:54	15:50 (T69)	07:23	15:50 (T69)	07:40	08:11 (T68)	06:49		06:11	05:59
	17:31 69	16:59 (T69)	18:09 80	17:10 (T69)	19:41 56	09:07 (T68)	20:13		20:44	21:06
19	07:53	15:49 (T69)	07:22	15:49 (T69)	07:38	08:10 (T68)	06:47		06:11	05:59
	17:32 70	16:59 (T69)	18:10 80	17:09 (T69)	19:42 56	09:06 (T68)	20:14		20:45	21:07
20	07:53	15:49 (T69)	07:20	15:51 (T69)	07:36	08:10 (T68)	06:46		06:10	05:59
	17:33 72	17:01 (T69)	18:11 78	17:09 (T69)	19:43 55	09:05 (T68)	20:15		20:46	21:07
21	07:52	15:49 (T69)	07:19	15:52 (T69)	07:35	08:11 (T68)	06:44		06:09	05:59
	17:34 73	17:02 (T69)	18:12 77	17:09 (T69)	19:44 54	09:05 (T68)	20:16		20:47	21:07
22	07:51	15:48 (T69)	07:18	15:52 (T69)	07:33	08:11 (T68)	06:43		06:08	05:59
	17:35 74	17:02 (T69)	18:14 76	17:08 (T69)	19:45 52	09:03 (T68)	20:17		20:48	21:07
23	07:51	15:49 (T69)	07:16	15:53 (T69)	07:31	08:11 (T68)	06:42		06:07	06:00
	17:37 75	17:04 (T69)	18:15 74	17:07 (T69)	19:46 51	09:02 (T68)	20:18		20:49	21:08
24	07:50	15:48 (T69)	07:15	15:53 (T69)	07:30	07:49 (T67)	06:40		06:07	06:00
	17:38 76	17:04 (T69)	18:16 73	17:06 (T69)	19:47 52	09:01 (T68)	20:19		20:50	21:08
25	07:49	15:48 (T69)	07:13	07:38 (T68)	07:28	07:47 (T67)	06:39		06:06	06:00
	17:39 77	17:05 (T69)	18:17 83	17:06 (T69)	19:48 55	09:00 (T68)	20:20		20:51	21:08
26	07:48	15:47 (T69)	07:12	07:33 (T68)	07:26	07:45 (T67)	06:37		06:05	06:00
	17:40 78	17:05 (T69)	18:18 90	17:04 (T69)	19:50 56	08:58 (T68)	20:21		20:52	21:08
27	07:48	15:47 (T69)	07:10	07:30 (T68)	07:25	07:44 (T67)	06:36		06:05	06:01
	17:42 79	17:06 (T69)	18:20 94	17:03 (T69)	19:51 56	08:57 (T68)	20:23		20:52	21:08
28	07:47	15:47 (T69)	07:09	07:28 (T68)	07:23	07:42 (T67)	06:35		06:04	06:01
	17:43 80	17:07 (T69)	18:21 96	17:02 (T69)	19:52 56	08:55 (T68)	20:24		20:53	21:08
29	07:46	15:47 (T69)			07:21	07:40 (T67)	06:33		06:03	06:02
	17:44 81	17:08 (T69)			19:53 54	08:52 (T68)	20:25		20:54	21:08
30	07:45	15:47 (T69)			07:20	07:39 (T67)	06:32		06:03	06:02
	17:45 82	17:09 (T69)			19:54 53	08:51 (T68)	20:26		20:55	21:08
31	07:44	15:47 (T69)			07:18	07:37 (T67)			06:02	
	17:46 82	17:09 (T69)			19:55 49	08:47 (T68)			20:56	
Potential sun hours	297		297		370		399		448	452
Total, worst case	2034		2329		2022		318			
Sun reduction	0.31		0.40		0.44		0.52			
Oper. time red.	1.00		1.00		1.00		1.00			
Wind dir. red.	0.73		0.72		0.61		0.63			
Total reduction	0.23		0.29		0.27		0.33			
Total, real	467		684		550		106			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1549 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8980)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July	August			September			October			November			December		
1	06:03	06:27			06:57		07:32 (T67)	07:28		07:51 (T68)	07:02		15:16 (T69)	07:37		15:34 (T69)
	21:08	20:50			20:07	17	07:49 (T67)	19:15	57	08:48 (T68)	17:28	85	16:41 (T69)	17:04	60	16:34 (T69)
2	06:03	06:28			06:58		07:30 (T67)	07:29		07:51 (T68)	07:03		15:16 (T69)	07:38		15:35 (T69)
	21:08	20:49			20:05	20	07:50 (T67)	19:13	56	08:47 (T68)	17:27	85	16:41 (T69)	17:04	58	16:33 (T69)
3	06:04	06:29			06:59		07:28 (T67)	07:30		07:51 (T68)	07:04		15:16 (T69)	07:39		15:36 (T69)
	21:08	20:48			20:04	23	07:51 (T67)	19:11	55	08:46 (T68)	17:26	85	16:41 (T69)	17:04	57	16:33 (T69)
4	06:04	06:30			07:00		07:27 (T67)	07:31		07:51 (T68)	07:05		15:16 (T69)	07:40		15:37 (T69)
	21:08	20:47			20:02	25	07:52 (T67)	19:10	71	17:15 (T69)	17:25	85	16:41 (T69)	17:03	55	16:32 (T69)
5	06:05	06:31			07:01		07:25 (T67)	07:32		07:52 (T68)	07:07		15:16 (T69)	07:41		15:38 (T69)
	21:08	20:45			20:01	28	07:53 (T67)	19:08	80	17:20 (T69)	17:23	85	16:41 (T69)	17:03	54	16:32 (T69)
6	06:05	06:31			07:02		07:24 (T67)	07:33		07:53 (T68)	07:08		15:16 (T69)	07:42		15:39 (T69)
	21:07	20:44			19:57	29	07:53 (T67)	19:07	86	17:24 (T69)	17:22	84	16:40 (T69)	17:03	53	16:32 (T69)
7	06:06	06:32			07:03		07:24 (T67)	07:34		07:54 (T68)	07:09		15:17 (T69)	07:43		15:40 (T69)
	21:07	20:43			19:56	29	07:53 (T67)	19:05	90	17:26 (T69)	17:21	84	16:41 (T69)	17:03	52	16:32 (T69)
8	06:07	06:33			07:04		07:25 (T67)	07:35		07:55 (T68)	07:10		15:17 (T69)	07:44		15:41 (T69)
	21:07	20:42			19:54	28	07:53 (T67)	19:03	92	17:28 (T69)	17:20	84	16:41 (T69)	17:03	51	16:32 (T69)
9	06:07	06:34			07:05		07:26 (T67)	07:36		07:56 (T68)	07:11		15:17 (T69)	07:44		15:42 (T69)
	21:06	20:41			19:52	27	07:53 (T67)	19:02	94	17:29 (T69)	17:19	83	16:40 (T69)	17:03	50	16:32 (T69)
10	06:08	06:35			07:06		07:27 (T67)	07:37		07:57 (T68)	07:13		15:18 (T69)	07:45		15:44 (T69)
	21:06	20:39			19:51	34	08:31 (T68)	19:00	95	17:31 (T69)	17:18	83	16:41 (T69)	17:03	47	16:31 (T69)
11	06:09	06:36			07:07		07:28 (T67)	07:38		07:58 (T68)	07:14		15:18 (T69)	07:46		15:45 (T69)
	21:06	20:38			19:49	44	08:36 (T68)	18:58	96	17:32 (T69)	17:17	82	16:40 (T69)	17:03	47	16:32 (T69)
12	06:09	06:37			07:08		07:28 (T67)	07:39		07:59 (T68)	07:15		15:18 (T69)	07:47		15:45 (T69)
	21:05	20:37			19:47	49	08:38 (T68)	18:57	96	17:33 (T69)	17:16	82	16:40 (T69)	17:03	46	16:31 (T69)
13	06:10	06:38			07:09		07:29 (T67)	07:40		08:00 (T68)	07:16		15:18 (T69)	07:48		15:46 (T69)
	21:05	20:35			19:45	52	08:40 (T68)	18:55	96	17:34 (T69)	17:15	81	16:39 (T69)	17:03	45	16:31 (T69)
14	06:11	06:39			07:10		07:30 (T67)	07:41		08:01 (T68)	07:17		15:20 (T69)	07:49		15:47 (T69)
	21:04	20:34			19:44	54	08:42 (T68)	18:54	95	17:35 (T69)	17:14	80	16:40 (T69)	17:04	44	16:31 (T69)
15	06:12	06:40			07:11		07:31 (T67)	07:42		08:03 (T68)	07:19		15:20 (T69)	07:49		15:48 (T69)
	21:04	20:33			19:42	56	08:44 (T68)	18:52	93	17:36 (T69)	17:13	79	16:39 (T69)	17:04	43	16:31 (T69)
16	06:12	06:41			07:12		07:32 (T67)	07:44		08:07 (T68)	07:20		15:20 (T69)	07:50		15:48 (T69)
	21:03	20:31			19:40	57	08:45 (T68)	18:51	87	17:37 (T69)	17:13	78	16:38 (T69)	17:04	43	16:31 (T69)
17	06:13	06:42			07:13		07:33 (T67)	07:45		08:13 (T68)	07:21		15:22 (T69)	07:51		15:50 (T69)
	21:03	20:30			19:39	56	08:46 (T68)	18:49	76	17:37 (T69)	17:12	77	16:39 (T69)	17:04	41	16:31 (T69)
18	06:14	06:43			07:14		07:34 (T67)	07:46		16:25 (T69)	07:22		15:22 (T69)	07:51		15:51 (T69)
	21:02	20:28			19:37	55	08:47 (T68)	18:48	73	17:38 (T69)	17:11	76	16:38 (T69)	17:05	41	16:32 (T69)
19	06:15	06:44			07:15		07:35 (T67)	07:47		16:23 (T69)	07:23		15:23 (T69)	07:52		15:51 (T69)
	21:01	20:27			19:35	52	08:47 (T68)	18:46	75	17:38 (T69)	17:10	75	16:38 (T69)	17:05	40	16:31 (T69)
20	06:16	06:45			07:16		07:58 (T68)	07:48		16:22 (T69)	07:24		15:23 (T69)	07:53		15:52 (T69)
	21:01	20:26			19:34	50	08:48 (T68)	18:45	77	17:39 (T69)	17:10	74	16:37 (T69)	17:05	40	16:32 (T69)
21	06:16	06:46			07:17		07:57 (T68)	07:49		16:22 (T69)	07:26		15:24 (T69)	07:53		15:52 (T69)
	21:00	20:24			19:32	51	08:48 (T68)	18:43	78	17:40 (T69)	17:09	73	16:37 (T69)	17:06	40	16:32 (T69)
22	06:17	06:47			07:18		07:56 (T68)	07:50		16:21 (T69)	07:27		15:25 (T69)	07:54		15:53 (T69)
	20:59	20:23			19:30	53	08:49 (T68)	18:42	79	17:40 (T69)	17:08	72	16:37 (T69)	17:06	40	16:33 (T69)
23	06:18	06:48			07:19		07:55 (T68)	07:51		16:20 (T69)	07:28		15:26 (T69)	07:54		15:53 (T69)
	20:58	20:21			19:28	54	08:49 (T68)	18:40	80	17:40 (T69)	17:08	71	16:37 (T69)	17:07	40	16:33 (T69)
24	06:19	06:49			07:20		07:54 (T68)	07:53		16:19 (T69)	07:29		15:27 (T69)	07:55		15:54 (T69)
	20:57	20:20			19:27	55	08:49 (T68)	18:39	81	17:40 (T69)	17:07	69	16:36 (T69)	17:07	40	16:34 (T69)
25	06:20	06:50			07:21		07:53 (T68)	07:54		16:18 (T69)	07:30		15:28 (T69)	07:55		15:54 (T69)
	20:57	20:18			19:25	56	08:49 (T68)	18:37	82	17:40 (T69)	17:06	67	16:35 (T69)	17:08	41	16:35 (T69)
26	06:21	06:51			07:22		07:53 (T68)	07:55		16:18 (T69)	07:31		15:28 (T69)	07:55		15:54 (T69)
	20:56	20:17			19:23	56	08:49 (T68)	18:36	83	17:41 (T69)	17:06	67	16:35 (T69)	17:09	41	16:35 (T69)
27	06:22	06:52			07:23		07:52 (T68)	07:56		16:18 (T69)	07:32		15:30 (T69)	07:56		15:54 (T69)
	20:55	20:15			19:22	57	08:49 (T68)	18:35	83	17:41 (T69)	17:06	65	16:35 (T69)	17:09	43	16:37 (T69)
28	06:23	06:53			07:24		07:52 (T68)	07:57		16:17 (T69)	07:34		15:31 (T69)	07:56		15:54 (T69)
	20:54	20:13			19:20	57	08:49 (T68)	18:33	84	17:41 (T69)	17:05	64	16:35 (T69)	17:10	43	16:37 (T69)
29	06:24	06:54			07:25		07:51 (T68)	07:58		16:16 (T69)	07:35		15:32 (T69)	07:56		15:54 (T69)
	20:53	20:12			19:18	58	08:49 (T68)	18:32	85	17:41 (T69)	17:05	62	16:34 (T69)	17:11	44	16:38 (T69)
30	06:25	06:55			07:26		07:51 (T68)	07:59		16:17 (T69)	07:36		15:33 (T69)	07:57		15:54 (T69)
	20:52	20:10			19:17	57	08:48 (T68)	18:31	85	17:42 (T69)	17:04	61	16:34 (T69)	17:12	44	16:38 (T69)
31	06:26	06:56		07:35 (T67)				08:01		16:16 (T69)				07:57		15:54 (T69)
	20:51	20:09	11	07:46 (T67)				18:29	85	17:41 (T69)				17:12	45	16:39 (T69)
Potential sun hours	459	428			375			345			298			288		
Total, worst case			11			1339			2545			2298			1428	
Sun reduction			0.61			0.59			0.48			0.30			0.22	
Oper. time red.			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.			0.64			0.59			0.69			0.73			0.73	
Total reduction			0.40			0.36			0.33			0.22			0.16	
Total, real			4			476			851			510			233	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1551 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8982)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March			April			May			June		
1	07:57		15:52 (T77)	07:43		08:10 (T76)	07:07		17:09 (T42)	07:16		19:13 (T41)	06:30			06:01		20:00 (T40)
	17:13	33	16:25 (T77)	17:47	34	17:23 (T42)	18:22	26	17:35 (T42)	19:56	21	19:34 (T41)	20:27			20:57	26	20:26 (T40)
2	07:57		15:52 (T77)	07:42		08:11 (T76)	07:06		17:10 (T42)	07:14		19:11 (T41)	06:29			06:01		20:01 (T40)
	17:14	33	16:25 (T77)	17:49	38	17:25 (T42)	18:23	22	17:32 (T42)	19:57	24	19:35 (T41)	20:28			20:58	26	20:27 (T40)
3	07:57		15:53 (T77)	07:41		08:13 (T76)	07:04		17:13 (T42)	07:13		19:11 (T41)	06:28			06:01		20:01 (T40)
	17:15	32	16:25 (T77)	17:50	40	17:26 (T42)	18:24	15	17:28 (T42)	19:58	26	19:37 (T41)	20:29			20:58	25	20:26 (T40)
4	07:57		15:54 (T77)	07:40		08:14 (T76)	07:02			07:11		19:11 (T41)	06:26			06:00		20:02 (T40)
	17:16	31	16:25 (T77)	17:51	41	17:28 (T42)	18:25			19:59	26	19:37 (T41)	20:30			20:59	24	20:26 (T40)
5	07:57		15:55 (T77)	07:39		08:15 (T76)	07:01			07:09		19:10 (T41)	06:25			06:00		20:03 (T40)
	17:16	30	16:25 (T77)	17:52	42	17:29 (T42)	18:26			20:00	28	19:38 (T41)	20:31			21:00	23	20:26 (T40)
6	07:57		08:20 (T76)	07:38		08:16 (T76)	06:59			07:08		19:10 (T41)	06:24		20:07 (T40)	05:59		20:03 (T40)
	17:17	32	16:25 (T77)	17:54	41	17:30 (T42)	18:27			20:00	30	19:40 (T41)	20:32	3	20:10 (T40)	21:00	22	20:25 (T40)
7	07:57		08:19 (T76)	07:37		08:19 (T76)	06:58			07:06		19:10 (T41)	06:23		20:05 (T40)	05:59		20:04 (T40)
	17:18	31	16:24 (T77)	17:55	38	17:31 (T42)	18:29			20:01	30	19:40 (T41)	20:33	6	20:11 (T40)	21:01	21	20:25 (T40)
8	07:57		08:19 (T76)	07:36		17:04 (T42)	07:56			07:05		19:11 (T41)	06:22		20:03 (T40)	05:59		20:05 (T40)
	17:19	32	16:24 (T77)	17:56	29	17:33 (T42)	19:30			20:02	30	19:41 (T41)	20:34	9	20:12 (T40)	21:02	20	20:25 (T40)
9	07:57		08:19 (T76)	07:35		17:04 (T42)	07:54			07:03		19:10 (T41)	06:20		20:01 (T40)	05:59		20:06 (T40)
	17:20	33	16:24 (T77)	17:57	30	17:34 (T42)	19:31			20:03	30	19:40 (T41)	20:35	11	20:12 (T40)	21:02	18	20:24 (T40)
10	07:57		08:19 (T76)	07:34		17:03 (T42)	07:53			07:01		19:10 (T41)	06:19		20:00 (T40)	05:59		20:06 (T40)
	17:21	31	16:23 (T77)	17:59	33	17:36 (T42)	19:32			20:05	29	19:39 (T41)	20:36	13	20:13 (T40)	21:03	18	20:24 (T40)
11	07:57		08:18 (T76)	07:32		17:02 (T42)	07:51			07:00		19:12 (T41)	06:18		19:59 (T40)	05:58		20:07 (T40)
	17:23	31	16:22 (T77)	18:00	34	17:36 (T42)	19:33			20:06	26	19:38 (T41)	20:37	15	20:14 (T40)	21:04	17	20:24 (T40)
12	07:56		08:18 (T76)	07:31		17:02 (T42)	07:50			06:58		19:12 (T41)	06:17		19:58 (T40)	05:58		20:07 (T40)
	17:24	29	16:21 (T77)	18:01	36	17:38 (T42)	19:34			20:07	24	19:36 (T41)	20:38	17	20:15 (T40)	21:04	16	20:23 (T40)
13	07:56		08:18 (T76)	07:30		17:02 (T42)	07:48			06:57		19:14 (T41)	06:16		19:58 (T40)	05:58		20:08 (T40)
	17:25	28	16:20 (T77)	18:02	38	17:40 (T42)	19:35			20:08	21	19:35 (T41)	20:39	18	20:16 (T40)	21:05	15	20:23 (T40)
14	07:56		08:17 (T76)	07:29		17:01 (T42)	07:46			06:55		19:15 (T41)	06:15		19:57 (T40)	05:58		20:08 (T40)
	17:26	24	16:18 (T77)	18:04	39	17:40 (T42)	19:36			20:09	17	19:32 (T41)	20:41	20	20:17 (T40)	21:05	15	20:23 (T40)
15	07:55		08:17 (T76)	07:27		17:01 (T42)	07:45			06:53		19:17 (T41)	06:14		19:57 (T40)	05:58		20:09 (T40)
	17:27	17	08:34 (T76)	18:05	41	17:42 (T42)	19:38			20:10	12	19:29 (T41)	20:42	21	20:18 (T40)	21:05	13	20:22 (T40)
16	07:55		08:16 (T76)	07:26		17:01 (T42)	07:43			06:52			06:13		19:57 (T40)	05:58		20:09 (T40)
	17:28	18	08:34 (T76)	18:06	43	17:44 (T42)	19:39			20:11			20:42	23	20:20 (T40)	21:06	13	20:22 (T40)
17	07:54		08:16 (T76)	07:25		17:00 (T42)	07:41			06:50			06:12		19:57 (T40)	05:58		20:11 (T40)
	17:29	19	08:35 (T76)	18:07	44	17:44 (T42)	19:40			20:12			20:43	23	20:20 (T40)	21:06	12	20:23 (T40)
18	07:54		08:15 (T76)	07:23		17:01 (T42)	07:40			06:49			06:11		19:57 (T40)	05:58		20:11 (T40)
	17:30	21	08:36 (T76)	18:09	43	17:44 (T42)	19:41			20:13			20:44	24	20:21 (T40)	21:07	12	20:23 (T40)
19	07:53		08:15 (T76)	07:22		17:01 (T42)	07:38			06:47			06:10		19:56 (T40)	05:58		20:11 (T40)
	17:31	22	08:37 (T76)	18:10	43	17:44 (T42)	19:42			20:14			20:45	26	20:22 (T40)	21:07	12	20:23 (T40)
20	07:53		08:14 (T76)	07:20		17:01 (T42)	07:36			06:46			06:09		19:56 (T40)	05:58		20:12 (T40)
	17:33	23	08:37 (T76)	18:11	43	17:44 (T42)	19:43			20:15			20:46	27	20:23 (T40)	21:07	11	20:23 (T40)
21	07:52		08:13 (T76)	07:19		17:01 (T42)	07:35			06:44			06:09		19:56 (T40)	05:59		20:12 (T40)
	17:34	24	08:37 (T76)	18:12	43	17:44 (T42)	19:44			20:16			20:47	27	20:23 (T40)	21:08	11	20:23 (T40)
22	07:52		08:13 (T76)	07:18		17:01 (T42)	07:33			06:43			06:08		19:57 (T40)	05:59		20:12 (T40)
	17:35	26	08:39 (T76)	18:13	42	17:43 (T42)	19:45			20:17			20:48	28	20:25 (T40)	21:08	11	20:23 (T40)
23	07:51		08:12 (T76)	07:16		17:02 (T42)	07:31			06:41			06:07		19:57 (T40)	05:59		20:13 (T40)
	17:36	27	08:39 (T76)	18:15	40	17:42 (T42)	19:46			20:18			20:49	28	20:25 (T40)	21:08	11	20:24 (T40)
24	07:50		08:11 (T76)	07:15		17:02 (T42)	07:30			06:40			06:06		19:57 (T40)	05:59		20:12 (T40)
	17:37	28	08:39 (T76)	18:16	39	17:41 (T42)	19:47			20:19			20:50	29	20:26 (T40)	21:08	12	20:24 (T40)
25	07:49		08:10 (T76)	07:13		17:04 (T42)	07:28			06:38			06:06		19:58 (T40)	06:00		20:12 (T40)
	17:39	29	08:39 (T76)	18:17	37	17:41 (T42)	19:48			20:21			20:51	29	20:27 (T40)	21:08	12	20:24 (T40)
26	07:49		08:09 (T76)	07:12		17:04 (T42)	07:26		19:25 (T41)	06:37			06:05		19:58 (T40)	06:00		20:13 (T40)
	17:40	30	08:39 (T76)	18:18	35	17:39 (T42)	19:50	3	19:28 (T41)	20:22			20:52	29	20:27 (T40)	21:08	12	20:25 (T40)
27	07:48		08:09 (T76)	07:10		17:06 (T42)	07:24		19:21 (T41)	06:36			06:04		19:58 (T40)	06:00		20:12 (T40)
	17:41	31	08:40 (T76)	18:19	32	17:38 (T42)	19:51	8	19:29 (T41)	20:23			20:53	29	20:27 (T40)	21:08	13	20:25 (T40)
28	07:47		08:08 (T76)	07:09		17:06 (T42)	07:23		19:19 (T41)	06:34			06:04		19:59 (T40)	06:01		20:12 (T40)
	17:42	32	08:40 (T76)	18:21	30	17:36 (T42)	19:52	11	19:30 (T41)	20:24			20:54	28	20:27 (T40)	21:09	14	20:26 (T40)
29	07:46		08:09 (T76)				07:21		19:16 (T41)	06:33			06:03		19:58 (T40)	06:01		20:12 (T40)
	17:44	31	08:40 (T76)				19:53	15	19:31 (T41)	20:25			20:54	29	20:27 (T40)	21:09	15	20:27 (T40)
30	07:45		08:09 (T76)				07:19		19:15 (T41)	06:32			06:02		19:59 (T40)	06:02		20:11 (T40)
	17:45	31	08:40 (T76)				19:54	17	19:32 (T41)	20:26			20:55	28	20:27 (T40)	21:09	16	20:27 (T40)
31	07:44		08:10 (T76)				07:18		19:14 (T41)				06:02		19:59 (T40)			
	17:46	29	08:39 (T76)				19:55	20	19:34 (T41)				20:56	27	20:26 (T40)			
Potential sun hours	297			297			370			399			449			453		
Total, worst case		868			1068			137			374			567			486	
Sun reduction		0.31			0.40			0.44			0.52			0.57			0.64	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.61			0.68			0.66			0.61			0.55			0.55	
Total reduction		0.19			0.28			0.30			0.33			0.32			0.36	
Total, real		168			298			40			122			183			176	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1551 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8982)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		20:11 (T40)	06:26		20:09 (T40)	06:57		19:11 (T41)	07:27			07:02		16:32 (T42)	07:37		08:00 (T76)
	21:08	17	20:28 (T40)	20:50	16	20:25 (T40)	20:07	26	19:37 (T41)	19:15			17:28	32	17:04 (T42)	17:04	31	16:04 (T77)
2	06:03		20:11 (T40)	06:27		20:10 (T40)	06:58		19:09 (T41)	07:29			07:03		16:34 (T42)	07:38		08:01 (T76)
	21:08	17	20:28 (T40)	20:49	14	20:24 (T40)	20:06	29	19:38 (T41)	19:13			17:27	30	17:04 (T42)	17:03	31	16:05 (T77)
3	06:03		20:11 (T40)	06:28		20:11 (T40)	06:59		19:08 (T41)	07:30			07:04		16:34 (T42)	07:39		08:03 (T76)
	21:08	18	20:29 (T40)	20:48	12	20:23 (T40)	20:04	30	19:38 (T41)	19:11			17:26	28	17:02 (T42)	17:03	33	16:08 (T77)
4	06:04		20:10 (T40)	06:29		20:12 (T40)	07:00		19:08 (T41)	07:31			07:06		07:49 (T76)	07:40		08:04 (T76)
	21:08	20	20:30 (T40)	20:47	10	20:22 (T40)	20:02	30	19:38 (T41)	19:10			17:24	38	17:01 (T42)	17:03	32	16:09 (T77)
5	06:04		20:10 (T40)	06:30		20:13 (T40)	07:01		19:07 (T41)	07:32			07:07		07:46 (T76)	07:41		08:05 (T76)
	21:08	21	20:31 (T40)	20:46	8	20:21 (T40)	20:01	30	19:37 (T41)	19:08			17:23	40	16:59 (T42)	17:03	32	16:10 (T77)
6	06:05		20:09 (T40)	06:31		20:15 (T40)	07:02		19:06 (T41)	07:33			07:08		07:45 (T76)	07:42		08:06 (T76)
	21:08	22	20:31 (T40)	20:44	5	20:20 (T40)	19:57	30	19:36 (T41)	19:06			17:22	42	16:59 (T42)	17:03	32	16:11 (T77)
7	06:05		20:10 (T40)	06:32		20:18 (T40)	07:03		19:06 (T41)	07:34			07:09		07:44 (T76)	07:43		08:06 (T76)
	21:07	22	20:32 (T40)	20:43	1	20:19 (T40)	19:56	28	19:34 (T41)	19:05			17:21	40	16:57 (T42)	17:03	31	16:11 (T77)
8	06:06		20:10 (T40)	06:33			07:04		19:06 (T41)	07:35			07:10		07:42 (T76)	07:44		15:41 (T77)
	21:07	23	20:33 (T40)	20:42			19:54	27	19:33 (T41)	19:03			17:20	40	16:56 (T42)	17:03	31	16:12 (T77)
9	06:07		20:09 (T40)	06:34			07:05		19:05 (T41)	07:36			07:12		07:42 (T76)	07:45		15:41 (T77)
	21:07	24	20:33 (T40)	20:41			19:52	26	19:31 (T41)	19:01			17:19	38	16:56 (T42)	17:03	32	16:13 (T77)
10	06:07		20:09 (T40)	06:35			07:06		19:05 (T41)	07:37		17:50 (T42)	07:13		07:41 (T76)	07:46		15:42 (T77)
	21:06	25	20:34 (T40)	20:39			19:51	23	19:28 (T41)	19:00	11	18:01 (T42)	17:18	33	16:54 (T42)	17:03	32	16:14 (T77)
11	06:08		20:09 (T40)	06:36			07:07		19:05 (T41)	07:38		17:46 (T42)	07:14		07:41 (T76)	07:46		15:42 (T77)
	21:06	25	20:34 (T40)	20:38			19:49	22	19:27 (T41)	18:58	18	18:04 (T42)	17:17	29	08:10 (T76)	17:03	33	16:15 (T77)
12	06:09		20:08 (T40)	06:37			07:08		19:05 (T41)	07:39		17:43 (T42)	07:15		07:40 (T76)	07:47		15:42 (T77)
	21:06	26	20:34 (T40)	20:37			19:47	20	19:25 (T41)	18:57	24	18:07 (T42)	17:16	31	08:11 (T76)	17:03	33	16:15 (T77)
13	06:10		20:08 (T40)	06:38			07:09		19:06 (T41)	07:40		17:40 (T42)	07:16		07:41 (T76)	07:48		15:43 (T77)
	21:05	27	20:35 (T40)	20:36			19:45	17	19:23 (T41)	18:55	28	18:08 (T42)	17:15	31	08:12 (T76)	17:03	33	16:16 (T77)
14	06:10		20:08 (T40)	06:39			07:10		19:06 (T41)	07:41		17:38 (T42)	07:18		07:40 (T76)	07:49		15:42 (T77)
	21:05	28	20:36 (T40)	20:34			19:44	16	19:22 (T41)	18:54	31	18:09 (T42)	17:14	32	08:12 (T76)	17:03	34	16:16 (T77)
15	06:11		20:08 (T40)	06:40			07:11		19:08 (T41)	07:42		17:38 (T42)	07:19		07:41 (T76)	07:50		15:43 (T77)
	21:04	28	20:36 (T40)	20:33			19:42	12	19:20 (T41)	18:52	33	18:11 (T42)	17:13	31	08:12 (T76)	17:03	34	16:17 (T77)
16	06:12		20:07 (T40)	06:41			07:12		19:09 (T41)	07:44		17:36 (T42)	07:20		07:42 (T76)	07:50		15:43 (T77)
	21:03	29	20:36 (T40)	20:31			19:40	9	19:18 (T41)	18:50	36	18:12 (T42)	17:12	30	08:12 (T76)	17:04	35	16:18 (T77)
17	06:13		20:07 (T40)	06:42			07:13		19:12 (T41)	07:45		17:35 (T42)	07:21		07:44 (T76)	07:51		15:43 (T77)
	21:03	30	20:37 (T40)	20:30			19:39	5	19:17 (T41)	18:49	38	18:13 (T42)	17:11	29	08:13 (T76)	17:04	35	16:18 (T77)
18	06:14		20:07 (T40)	06:43			07:14			07:46		17:34 (T42)	07:22		07:45 (T76)	07:52		15:44 (T77)
	21:02	30	20:37 (T40)	20:29			19:37			18:47	39	18:13 (T42)	17:11	28	08:13 (T76)	17:04	35	16:19 (T77)
19	06:14		20:07 (T40)	06:44			07:15			07:47		17:33 (T42)	07:23		07:46 (T76)	07:52		15:44 (T77)
	21:02	30	20:37 (T40)	20:27			19:35			18:46	40	18:13 (T42)	17:10	27	08:13 (T76)	17:05	36	16:20 (T77)
20	06:15		20:07 (T40)	06:45			07:16			07:48		17:32 (T42)	07:25		07:48 (T76)	07:53		15:44 (T77)
	21:01	29	20:36 (T40)	20:26			19:33			18:44	41	18:13 (T42)	17:09	26	08:14 (T76)	17:05	36	16:20 (T77)
21	06:16		20:06 (T40)	06:46			07:17			07:49		17:32 (T42)	07:26		07:49 (T76)	07:53		15:45 (T77)
	21:00	29	20:35 (T40)	20:24			19:32			18:43	42	18:14 (T42)	17:08	24	08:13 (T76)	17:05	36	16:21 (T77)
22	06:17		20:07 (T40)	06:47			07:18			07:50		17:31 (T42)	07:27		07:50 (T76)	07:54		15:45 (T77)
	20:59	27	20:34 (T40)	20:23			19:30			18:41	43	18:14 (T42)	17:08	23	08:13 (T76)	17:06	36	16:21 (T77)
23	06:18		20:07 (T40)	06:48			07:19			07:51		17:31 (T42)	07:28		07:51 (T76)	07:54		15:46 (T77)
	20:59	26	20:33 (T40)	20:21			19:28			18:40	43	18:14 (T42)	17:07	22	08:13 (T76)	17:07	36	16:22 (T77)
24	06:19		20:07 (T40)	06:49			07:20			07:53		17:30 (T42)	07:29		07:52 (T76)	07:55		15:46 (T77)
	20:58	26	20:33 (T40)	20:20			19:27			18:39	44	18:14 (T42)	17:07	21	08:13 (T76)	17:07	36	16:22 (T77)
25	06:20		20:07 (T40)	06:50			07:21			07:54		17:31 (T42)	07:30		07:54 (T76)	07:55		15:47 (T77)
	20:57	25	20:32 (T40)	20:18			19:25			18:37	44	18:15 (T42)	17:06	19	08:13 (T76)	17:08	35	16:22 (T77)
26	06:21		20:07 (T40)	06:51			07:22			07:55		17:31 (T42)	07:32		07:55 (T76)	07:56		15:48 (T77)
	20:56	24	20:31 (T40)	20:17			19:23			18:36	42	18:13 (T42)	17:06	18	08:13 (T76)	17:08	35	16:23 (T77)
27	06:22		20:08 (T40)	06:52			07:23			07:56		17:30 (T42)	07:33		07:56 (T76)	07:56		15:48 (T77)
	20:55	23	20:31 (T40)	20:15			19:21			18:34	41	18:11 (T42)	17:05	17	08:13 (T76)	17:09	35	16:23 (T77)
28	06:22		20:07 (T40)	06:53		19:19 (T41)	07:24			07:57		17:30 (T42)	07:34		07:57 (T76)	07:56		15:48 (T77)
	20:54	22	20:29 (T40)	20:14	12	19:31 (T41)	19:20			18:33	40	18:10 (T42)	17:05	23	15:57 (T77)	17:10	35	16:23 (T77)
29	06:23		20:07 (T40)	06:54		19:16 (T41)	07:25			07:58		17:30 (T42)	07:35		07:58 (T76)	07:57		15:49 (T77)
	20:53	21	20:28 (T40)	20:12	17	19:33 (T41)	19:18			18:32	38	18:08 (T42)	17:04	27	16:00 (T77)	17:10	34	16:23 (T77)
30	06:24		20:08 (T40)	06:55		19:14 (T41)	07:26			08:00		17:32 (T42)	07:36		07:59 (T76)	07:57		15:50 (T77)
	20:52	19	20:27 (T40)	20:10	21	19:35 (T41)	19:16			18:30	35	18:07 (T42)	17:04	29	16:02 (T77)	17:11	34	16:24 (T77)
31	06:25		20:08 (T40)	06:56		19:12 (T41)				08:01		17:32 (T42)				07:57		15:51 (T77)
	20:51	18	20:26 (T40)	20:09	24	19:36 (T41)				18:29	34	18:06 (T42)				17:12	33	16:24 (T77)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		751			140			380			785			878			1046	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.55			0.58			0.61			0.71			0.58			0.74	
Total reduction		0.37			0.36			0.37			0.35			0.18			0.17	
Total, real		280			51			141			273			155			173	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1552 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8983)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:58		07:44		07:07		07:16		07:41 (T25)		06:30	
	17:13		17:48		18:22		19:56	76	08:57 (T25)	59	08:33 (T25)	06:50 (T75)
2	07:58		07:43		07:06		07:15		07:41 (T25)		06:29	
	17:14		17:49		18:23	8	07:33 (T26)	77	08:58 (T25)	59	08:31 (T25)	06:49 (T75)
3	07:58		07:42		07:04		07:24 (T26)		07:40 (T25)		06:28	
	17:15		17:50		18:24	12	07:36 (T26)	77	08:57 (T25)	56	08:29 (T25)	06:48 (T75)
4	07:58		07:41		07:03		07:22 (T26)		07:39 (T25)		06:26	
	17:16		17:51		18:25	15	07:37 (T26)	78	08:57 (T25)	54	08:26 (T25)	06:46 (T75)
5	07:58		07:40		07:01		07:20 (T26)		07:39 (T25)		06:25	
	17:17		17:53		18:26	18	07:38 (T26)	78	08:57 (T25)	51	08:24 (T25)	06:45 (T75)
6	07:58		07:39		07:00		07:19 (T26)		07:38 (T25)		06:24	
	17:17		17:54		18:28	21	07:40 (T26)	79	08:57 (T25)	47	08:21 (T25)	06:44 (T75)
7	07:58		07:37		06:58		07:17 (T26)		07:37 (T25)		06:23	
	17:18		17:55		18:29	23	07:40 (T26)	79	08:56 (T25)	41	08:18 (T25)	06:43 (T75)
8	07:58		07:36		07:56		08:16 (T26)		07:37 (T25)		06:22	
	17:19		17:56		19:30	25	08:41 (T26)	79	08:56 (T25)	25	07:07 (T75)	06:42 (T75)
9	07:57		07:35		07:55		08:14 (T26)		07:37 (T25)		06:20	
	17:20		17:58		19:31	27	08:41 (T26)	79	08:56 (T25)	26	07:07 (T75)	06:41 (T75)
10	07:57		07:34		07:53		08:12 (T26)		07:36 (T25)		06:19	
	17:21		17:59		19:32	29	08:41 (T26)	79	08:55 (T25)	27	07:07 (T75)	06:40 (T75)
11	07:57		07:33		07:51		08:11 (T26)		07:37 (T25)		06:18	
	17:23		18:00		19:33	31	08:42 (T26)	78	08:55 (T25)	27	07:05 (T75)	06:38 (T75)
12	07:57		07:31		07:50		08:09 (T26)		07:36 (T25)		06:17	
	17:24		18:01		19:34	32	08:41 (T26)	78	08:54 (T25)	27	07:05 (T75)	06:38 (T75)
13	07:56		07:30		07:48		08:07 (T26)		07:36 (T25)		06:16	
	17:25		18:03		19:36	34	08:41 (T26)	78	08:54 (T25)	27	07:05 (T75)	06:38 (T75)
14	07:56		07:29		07:46		08:06 (T26)		07:36 (T25)		06:15	
	17:26		18:04		19:37	35	08:41 (T26)	76	08:52 (T25)	25	07:05 (T75)	06:40 (T75)
15	07:56		07:28		07:45		08:05 (T26)		07:37 (T25)		06:14	
	17:27		18:05		19:38	35	08:40 (T26)	75	08:52 (T25)	25	07:05 (T75)	06:40 (T75)
16	07:55		07:26		07:43		08:05 (T26)		07:36 (T25)		06:13	
	17:28		18:06		19:39	36	08:41 (T25)	75	08:51 (T25)	23	07:04 (T75)	06:41 (T75)
17	07:55		07:25		07:41		08:05 (T25)		07:37 (T25)		06:12	
	17:29		18:07		19:40	39	08:44 (T25)	74	08:51 (T25)	22	07:03 (T75)	06:41 (T75)
18	07:54		07:24		07:40		08:02 (T25)		07:37 (T25)		06:11	
	17:30		18:09		19:41	44	08:46 (T25)	72	08:49 (T25)	20	07:02 (T75)	06:42 (T75)
19	07:54		07:22		07:38		07:59 (T25)		07:38 (T25)		06:10	
	17:32		18:10		19:42	49	08:48 (T25)	71	08:49 (T25)	18	07:01 (T75)	06:43 (T75)
20	07:53		07:21		07:36		07:57 (T25)		07:37 (T25)		06:09	
	17:33		18:11		19:43	53	08:50 (T25)	70	08:47 (T25)	16	07:00 (T75)	06:44 (T75)
21	07:53		07:19		07:35		07:55 (T25)		07:38 (T25)		06:09	
	17:34		18:12		19:44	56	08:51 (T25)	69	08:47 (T25)	14	07:00 (T75)	06:46 (T75)
22	07:52		07:18		07:33		07:53 (T25)		07:38 (T25)		06:08	
	17:35		18:14		19:45	59	08:52 (T25)	67	08:45 (T25)	11	06:58 (T75)	06:47 (T75)
23	07:51		07:16		07:31		07:51 (T25)		07:39 (T25)		06:07	
	17:36		18:15		19:46	62	08:53 (T25)	65	08:44 (T25)	5	06:55 (T75)	06:50 (T75)
24	07:51		07:15		07:30		07:50 (T25)		07:39 (T25)		06:06	
	17:38		18:16		19:48	64	08:54 (T25)	64	08:43 (T25)		20:50	05:59
25	07:50		07:13		07:28		07:48 (T25)		07:40 (T25)		06:06	
	17:39		18:17		19:49	67	08:55 (T25)	62	08:42 (T25)		20:51	21:09
26	07:49		07:12		07:26		07:47 (T25)		07:42 (T25)		06:05	
	17:40		18:18		19:50	68	08:55 (T25)	59	08:41 (T25)		20:52	21:09
27	07:48		07:10		07:25		07:46 (T25)		07:42 (T25)		06:04	
	17:41		18:19		19:51	70	08:56 (T25)	57	08:39 (T25)		20:53	21:09
28	07:47		07:09		07:23		07:45 (T25)		06:54 (T75)		06:04	
	17:43		18:21		19:52	71	08:56 (T25)	59	08:38 (T25)		20:54	21:09
29	07:47				07:21		07:43 (T25)		06:53 (T75)		06:03	
	17:44				19:53	74	08:57 (T25)	60	08:37 (T25)		20:55	21:09
30	07:46				07:20		07:43 (T25)		06:51 (T75)		06:02	
	17:45				19:54	74	08:57 (T25)	60	08:34 (T25)		20:56	21:09
31	07:45				07:18		07:42 (T25)				06:02	
	17:46				19:55	75	08:57 (T25)				20:56	
Potential sun hours	297		297		370		399		449		453	
Total, worst case					1306			2150		705		
Sun reduction					0.44			0.52		0.57		
Oper. time red.					1.00			1.00		1.00		
Wind dir. red.					0.61			0.62		0.67		
Total reduction					0.27			0.32		0.38		
Total, real					348			694		269		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1552 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8983)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November	December
1	06:02			06:26		06:49 (T75)	06:57		07:35 (T25)	07:28		07:48 (T26)	07:02	07:37
	21:09			20:50	27	07:16 (T75)	20:07	79	08:54 (T25)	19:15	33	08:21 (T26)	17:28	17:04
2	06:03			06:27		06:49 (T75)	06:58		07:35 (T25)	07:29		07:49 (T26)	07:03	07:38
	21:09			20:49	27	07:16 (T75)	20:06	79	08:54 (T25)	19:13	31	08:20 (T26)	17:27	17:03
3	06:03			06:28		06:50 (T75)	06:59		07:35 (T25)	07:30		07:50 (T26)	07:05	07:39
	21:09			20:48	26	07:16 (T75)	20:04	79	08:54 (T25)	19:12	30	08:20 (T26)	17:26	17:03
4	06:04			06:29		06:51 (T75)	07:00		07:34 (T25)	07:31		07:51 (T26)	07:06	07:40
	21:08			20:47	25	07:16 (T75)	20:03	79	08:53 (T25)	19:10	28	08:19 (T26)	17:24	17:03
5	06:04			06:30		06:52 (T75)	07:01		07:34 (T25)	07:32		07:52 (T26)	07:07	07:41
	21:08			20:46	34	08:24 (T25)	20:01	79	08:53 (T25)	19:08	26	08:18 (T26)	17:23	17:03
6	06:05			06:31		06:53 (T75)	07:02		07:34 (T25)	07:33		07:53 (T26)	07:08	07:42
	21:08			20:45	44	08:29 (T25)	19:58	79	08:53 (T25)	19:07	24	08:17 (T26)	17:22	17:03
7	06:05			06:32		06:54 (T75)	07:03		07:34 (T25)	07:34		07:54 (T26)	07:09	07:43
	21:08			20:44	49	08:32 (T25)	19:56	78	08:52 (T25)	19:05	22	08:16 (T26)	17:21	17:03
8	06:06			06:33		06:55 (T75)	07:04		07:34 (T25)	07:35		07:55 (T26)	07:11	07:44
	21:07			20:42	52	08:35 (T25)	19:54	78	08:52 (T25)	19:03	20	08:15 (T26)	17:20	17:03
9	06:07			06:34		06:56 (T75)	07:05		07:34 (T25)	07:36		07:56 (T26)	07:12	07:45
	21:07			20:41	56	08:37 (T25)	19:52	78	08:52 (T25)	19:02	17	08:13 (T26)	17:19	17:03
10	06:07			06:35		06:57 (T75)	07:06		07:34 (T25)	07:37		07:57 (T26)	07:13	07:46
	21:07			20:40	58	08:39 (T25)	19:51	77	08:51 (T25)	19:00	14	08:11 (T26)	17:18	17:03
11	06:08			06:36		06:58 (T75)	07:07		07:34 (T25)	07:38		07:58 (T26)	07:14	07:47
	21:06			20:39	58	08:40 (T25)	19:49	76	08:50 (T25)	18:58	10	08:08 (T26)	17:17	17:03
12	06:09			06:37		06:59 (T75)	07:08		07:34 (T25)	07:39		07:59 (T26)	07:15	07:48
	21:06			20:37	60	08:42 (T25)	19:47	76	08:50 (T25)	18:57	5	08:04 (T26)	17:16	17:03
13	06:10			06:38		07:00 (T75)	07:09		07:34 (T25)	07:40			07:17	07:48
	21:05			20:36	60	08:43 (T25)	19:46	75	08:49 (T25)	18:55			17:15	17:03
14	06:10			06:39		07:01 (T75)	07:10		07:35 (T25)	07:42			07:18	07:49
	21:05			20:35	60	08:45 (T25)	19:44	73	08:48 (T25)	18:54			17:14	17:03
15	06:11			06:40		07:02 (T75)	07:11		07:34 (T25)	07:43			07:19	07:50
	21:04			20:33	58	08:46 (T25)	19:42	72	08:46 (T25)	18:52			17:13	17:03
16	06:12			06:41		07:49 (T25)	07:12		07:34 (T25)	07:44			07:20	07:51
	21:04			20:32	58	08:47 (T25)	19:41	71	08:45 (T25)	18:51			17:12	17:04
17	06:13			06:42		07:48 (T25)	07:13		07:35 (T25)	07:45			07:21	07:51
	21:03			20:30	60	08:48 (T25)	19:39	69	08:44 (T25)	18:49			17:11	17:04
18	06:14			06:43		07:47 (T25)	07:14		07:35 (T25)	07:46			07:23	07:52
	21:03			20:29	62	08:49 (T25)	19:37	67	08:42 (T25)	18:47			17:11	17:04
19	06:14			06:44		07:45 (T25)	07:15		07:36 (T25)	07:47			07:24	07:53
	21:02			20:27	64	08:49 (T25)	19:35	65	08:41 (T25)	18:46			17:10	17:05
20	06:15			06:45		07:44 (T25)	07:16		07:37 (T25)	07:48			07:25	07:53
	21:01			20:26	65	08:49 (T25)	19:34	62	08:39 (T25)	18:45			17:09	17:05
21	06:16		06:58 (T75)	06:46		07:43 (T25)	07:17		07:38 (T25)	07:49			07:26	07:54
	21:00	8	07:06 (T75)	20:25	67	08:50 (T25)	19:32	60	08:38 (T25)	18:43			17:09	17:06
22	06:17		06:56 (T75)	06:47		07:42 (T25)	07:18		07:39 (T25)	07:51			07:27	07:54
	21:00	12	07:08 (T75)	20:23	69	08:51 (T25)	19:30	57	08:36 (T25)	18:42			17:08	17:06
23	06:18		06:55 (T75)	06:48		07:41 (T25)	07:19		07:40 (T25)	07:52			07:28	07:55
	20:59	15	07:10 (T75)	20:22	70	08:51 (T25)	19:29	54	08:34 (T25)	18:40			17:07	17:07
24	06:19		06:54 (T75)	06:49		07:40 (T25)	07:20		07:42 (T25)	07:53			07:30	07:55
	20:58	17	07:11 (T75)	20:20	72	08:52 (T25)	19:27	50	08:32 (T25)	18:39			17:07	17:07
25	06:20		06:53 (T75)	06:50		07:40 (T25)	07:22		07:43 (T25)	07:54			07:31	07:56
	20:57	19	07:12 (T75)	20:18	72	08:52 (T25)	19:25	46	08:29 (T25)	18:37			17:06	17:08
26	06:21		06:52 (T75)	06:51		07:39 (T25)	07:23		07:45 (T25)	07:55			07:32	07:56
	20:56	21	07:13 (T75)	20:17	74	08:53 (T25)	19:23	42	08:27 (T25)	18:36			17:06	17:08
27	06:22		06:52 (T75)	06:52		07:38 (T25)	07:24		07:47 (T26)	07:56			07:33	07:56
	20:55	22	07:14 (T75)	20:15	75	08:53 (T25)	19:22	36	08:23 (T25)	18:35			17:05	17:09
28	06:22		06:51 (T75)	06:53		07:38 (T25)	07:25		07:46 (T26)	07:58			07:34	07:57
	20:54	24	07:15 (T75)	20:14	75	08:53 (T25)	19:20	34	08:20 (T26)	18:33			17:05	17:10
29	06:23		06:50 (T75)	06:54		07:37 (T25)	07:26		07:45 (T26)	07:59			07:35	07:57
	20:53	25	07:15 (T75)	20:12	76	08:53 (T25)	19:18	35	08:20 (T26)	18:32			17:04	17:10
30	06:24		06:49 (T75)	06:55		07:36 (T25)	07:27		07:46 (T26)	08:00			07:36	07:57
	20:52	26	07:15 (T75)	20:11	78	08:54 (T25)	19:17	34	08:20 (T26)	18:31			17:04	17:11
31	06:25		06:49 (T75)	06:56		07:36 (T25)				08:01				07:57
	20:51	27	07:16 (T75)	20:09	78	08:54 (T25)				18:29				17:12
Potential sun hours	460			429			375			345			297	287
Total, worst case		216			1809			1939			260			
Sun reduction		0.66			0.61			0.59			0.48			
Oper. time red.		1.00			1.00			1.00			1.00			
Wind dir. red.		0.70			0.63			0.62			0.58			
Total reduction		0.46			0.38			0.36			0.28			
Total, real		99			696			704			72			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1568 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8991)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April	May	June
1	07:57	15:53 (T30)	07:44		08:04 (T31)	07:07	07:27 (T28)	07:16	06:30	06:01
	17:13	44 16:37 (T30)	17:47	28	08:32 (T31)	18:22	37 08:04 (T28)	19:56	20:27	20:57
2	07:57	15:53 (T30)	07:43		08:03 (T31)	07:06	07:25 (T28)	07:14	06:29	06:01
	17:14	45 16:38 (T30)	17:49	30	08:33 (T31)	18:23	39 08:04 (T28)	19:57	20:28	20:58
3	07:58	15:54 (T30)	07:42		08:02 (T31)	07:04	07:23 (T28)	07:13	06:28	06:00
	17:15	44 16:38 (T30)	17:50	31	08:33 (T31)	18:24	43 18:02 (T27)	19:58	20:29	20:58
4	07:58	15:54 (T30)	07:40		08:01 (T31)	07:02	07:22 (T28)	07:11	06:26	06:00
	17:15	45 16:39 (T30)	17:51	32	08:33 (T31)	18:25	53 18:04 (T27)	19:59	20:30	20:59
5	07:58	15:55 (T30)	07:39		08:00 (T31)	07:01	07:20 (T28)	07:09	06:25	06:00
	17:16	44 16:39 (T30)	17:52	33	08:33 (T31)	18:26	58 18:04 (T27)	20:00	20:31	21:00
6	07:58	15:55 (T30)	07:38		08:00 (T31)	06:59	07:19 (T28)	07:08	06:24	05:59
	17:17	45 16:40 (T30)	17:54	31	08:31 (T31)	18:27	63 18:06 (T27)	20:00	20:32	21:01
7	07:57	15:56 (T30)	07:37		08:00 (T31)	06:58	07:17 (T28)	07:06	06:23	05:59
	17:18	44 16:40 (T30)	17:55	31	08:31 (T31)	18:29	68 18:07 (T27)	20:01	20:33	21:01
8	07:57	15:56 (T30)	07:36		08:01 (T31)	07:56	08:16 (T28)	07:05	06:21	05:59
	17:19	44 16:40 (T30)	17:56	30	08:31 (T31)	19:30	71 19:08 (T27)	20:02	20:34	21:02
9	07:57	15:56 (T30)	07:35		08:02 (T31)	07:54	08:17 (T28)	07:03	06:20	05:59
	17:20	44 16:40 (T30)	17:57	28	08:30 (T31)	19:31	72 19:10 (T27)	20:03	20:35	21:03
10	07:57	15:57 (T30)	07:34		08:04 (T31)	07:53	08:16 (T28)	07:01	06:19	05:58
	17:21	44 16:41 (T30)	17:59	26	08:30 (T31)	19:32	75 19:10 (T27)	20:05	20:37	21:03
11	07:57	15:58 (T30)	07:32		08:04 (T31)	07:51	08:16 (T28)	07:00	06:18	05:58
	17:22	43 16:41 (T30)	18:00	24	08:28 (T31)	19:33	76 19:11 (T27)	20:06	20:38	21:04
12	07:56	15:58 (T30)	07:31		08:06 (T31)	07:50	08:17 (T28)	06:58	06:17	05:58
	17:23	43 16:41 (T30)	18:01	20	08:26 (T31)	19:34	77 19:13 (T27)	20:07	20:39	21:04
13	07:56	15:59 (T30)	07:30		08:08 (T31)	07:48	08:17 (T28)	06:56	06:16	05:58
	17:25	42 16:41 (T30)	18:02	17	08:25 (T31)	19:35	77 19:14 (T27)	20:08	20:40	21:05
14	07:56	15:59 (T30)	07:29		08:12 (T31)	07:46	08:17 (T28)	06:55	06:15	05:58
	17:26	42 16:41 (T30)	18:04	10	08:22 (T31)	19:36	78 19:15 (T27)	20:09	20:41	21:05
15	07:55	16:00 (T30)	07:27			07:45	08:18 (T28)	06:53	06:14	05:58
	17:27	42 16:42 (T30)	18:05			19:38	77 19:16 (T27)	20:10	20:42	21:06
16	07:55	16:00 (T30)	07:26			07:43	08:18 (T28)	06:52	06:13	05:58
	17:28	41 16:41 (T30)	18:06			19:39	77 19:17 (T27)	20:11	20:43	21:06
17	07:55	16:02 (T30)	07:25			07:41	08:19 (T28)	06:50	06:12	05:58
	17:29	40 16:42 (T30)	18:07			19:40	74 19:17 (T27)	20:12	20:44	21:06
18	07:54	08:15 (T31)	07:23			07:40	08:20 (T28)	06:49	06:11	05:58
	17:30	43 16:41 (T30)	18:09			19:41	71 19:17 (T27)	20:13	20:45	21:07
19	07:53	08:15 (T31)	07:22			07:38	08:21 (T28)	06:47	06:10	05:58
	17:31	43 16:41 (T30)	18:10			19:42	66 19:15 (T27)	20:14	20:46	21:07
20	07:53	08:14 (T31)	07:21			07:36	08:23 (T28)	06:46	06:09	05:58
	17:33	45 16:41 (T30)	18:11			19:43	61 19:14 (T27)	20:15	20:46	21:07
21	07:52	08:13 (T31)	07:19		07:39 (T28)	07:35	08:25 (T28)	06:44	06:08	05:59
	17:34	46 16:40 (T30)	18:12	12	07:51 (T28)	19:44	56 19:14 (T27)	20:16	20:47	21:08
22	07:52	08:13 (T31)	07:18		07:37 (T28)	07:33	08:28 (T28)	06:43	06:08	05:59
	17:35	46 16:40 (T30)	18:13	17	07:54 (T28)	19:45	46 19:12 (T27)	20:17	20:48	21:08
23	07:51	08:12 (T31)	07:16		07:36 (T28)	07:31	08:34 (T28)	06:41	06:07	05:59
	17:36	46 16:40 (T30)	18:15	21	07:57 (T28)	19:46	30 19:10 (T27)	20:18	20:49	21:08
24	07:50	08:11 (T31)	07:15		07:34 (T28)	07:30	18:46 (T27)	06:40	06:06	05:59
	17:37	46 16:39 (T30)	18:16	24	07:58 (T28)	19:47	23 19:09 (T27)	20:20	20:50	21:08
25	07:50	08:10 (T31)	07:13		07:33 (T28)	07:28	18:47 (T27)	06:38	06:05	06:00
	17:39	46 16:38 (T30)	18:17	27	08:00 (T28)	19:48	19 19:06 (T27)	20:21	20:51	21:08
26	07:49	08:10 (T31)	07:12		07:31 (T28)	07:26	18:50 (T27)	06:37	06:05	06:00
	17:40	45 16:37 (T30)	18:18	30	08:01 (T28)	19:50	12 19:02 (T27)	20:22	20:52	21:09
27	07:48	08:09 (T31)	07:10		07:30 (T28)	07:24		06:36	06:04	06:00
	17:41	43 16:36 (T30)	18:19	32	08:02 (T28)	19:51		20:23	20:53	21:09
28	07:47	08:08 (T31)	07:09		07:28 (T28)	07:23		06:34	06:03	06:01
	17:42	40 16:34 (T30)	18:20	35	08:03 (T28)	19:52		20:24	20:54	21:09
29	07:46	08:07 (T31)				07:21		06:33	06:03	06:01
	17:44	34 16:30 (T30)				19:53		20:25	20:55	21:09
30	07:45	08:06 (T31)				07:19		06:31	06:02	06:01
	17:45	26 08:32 (T31)				19:54		20:26	20:55	21:09
31	07:44	08:05 (T31)				07:18			06:02	
	17:46	27 08:32 (T31)				19:55			20:56	
Potential sun hours	297		297			370		399	449	453
Total, worst case		1312		569			1499			
Sun reduction		0.31		0.40			0.44			
Oper. time red.		1.00		1.00			1.00			
Wind dir. red.		0.70		0.55			0.61			
Total reduction		0.22		0.22			0.27			
Total, real		293		127			410			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1568 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8991)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September			October			November			December		
1	06:02		06:26		06:57			07:27		07:56 (T28)	07:02		07:32 (T31)	07:37		15:40 (T30)
	21:09		20:50		20:07			19:15	76	18:52 (T27)	17:28	27	07:59 (T31)	17:04	43	16:23 (T30)
2	06:02		06:27		06:58			07:29		07:55 (T28)	07:03		07:32 (T31)	07:38		15:40 (T30)
	21:08		20:49		20:06			19:13	75	18:50 (T27)	17:27	28	08:00 (T31)	17:03	44	16:24 (T30)
3	06:03		06:28		06:59			07:30		07:54 (T28)	07:04		07:31 (T31)	07:39		15:41 (T30)
	21:08		20:48		20:04			19:11	75	18:49 (T27)	17:25	30	08:01 (T31)	17:03	43	16:24 (T30)
4	06:03		06:29		07:00			07:31		07:53 (T28)	07:06		07:30 (T31)	07:40		15:41 (T30)
	21:08		20:47		20:02			19:10	74	18:47 (T27)	17:24	31	08:01 (T31)	17:03	44	16:25 (T30)
5	06:04		06:30		07:01			07:32		07:54 (T28)	07:07		07:29 (T31)	07:41		15:41 (T30)
	21:08		20:46		20:01			19:08	71	18:46 (T27)	17:23	32	08:01 (T31)	17:03	44	16:25 (T30)
6	06:05		06:31		07:02			07:33		07:54 (T28)	07:08		07:30 (T31)	07:42		15:41 (T30)
	21:08		20:45		19:57			19:06	68	18:44 (T27)	17:22	33	08:03 (T31)	17:03	45	16:26 (T30)
7	06:05		06:32		07:03			07:34		07:54 (T28)	07:09		07:31 (T31)	07:43		15:42 (T30)
	21:08		20:43		19:56			19:05	66	18:43 (T27)	17:21	32	08:03 (T31)	17:02	44	16:26 (T30)
8	06:06		06:33		07:04			07:35		07:55 (T28)	07:10		07:32 (T31)	07:44		15:42 (T30)
	21:07		20:42		19:54			19:03	60	18:41 (T27)	17:20	31	08:03 (T31)	17:02	45	16:27 (T30)
9	06:07		06:34		07:05			07:36		07:56 (T28)	07:12		07:34 (T31)	07:45		15:42 (T30)
	21:07		20:41		19:52			19:01	56	18:39 (T27)	17:19	29	08:03 (T31)	17:02	44	16:26 (T30)
10	06:07		06:35		07:06			07:37		07:57 (T28)	07:13		07:35 (T31)	07:46		15:42 (T30)
	21:06		20:40		19:51			19:00	49	18:37 (T27)	17:18	28	08:03 (T31)	17:02	45	16:27 (T30)
11	06:08		06:36		07:07			07:38		07:58 (T28)	07:14		07:36 (T31)	07:47		15:43 (T30)
	21:06		20:38		19:49			18:58	40	08:38 (T28)	17:17	27	08:03 (T31)	17:02	44	16:27 (T30)
12	06:09		06:37		07:08			07:39		07:59 (T28)	07:15		07:37 (T31)	07:47		15:44 (T30)
	21:06		20:37		19:47			18:57	38	08:37 (T28)	17:16	26	08:03 (T31)	17:03	44	16:28 (T30)
13	06:09		06:38		07:09			07:40		08:00 (T28)	07:16		07:39 (T31)	07:48		15:44 (T30)
	21:05		20:36		19:45			18:55	36	08:36 (T28)	17:15	35	16:03 (T30)	17:03	44	16:28 (T30)
14	06:10		06:39		07:10			07:41		08:02 (T28)	07:18		07:40 (T31)	07:49		15:45 (T30)
	21:05		20:34		19:44			18:53	34	08:36 (T28)	17:14	41	16:06 (T30)	17:03	44	16:29 (T30)
15	06:11		06:40		07:11			07:42		08:03 (T28)	07:19		07:41 (T31)	07:50		15:45 (T30)
	21:04		20:33		19:42			18:52	32	08:35 (T28)	17:13	43	16:08 (T30)	17:03	44	16:29 (T30)
16	06:12		06:41		07:12			07:44		08:04 (T28)	07:20		07:43 (T31)	07:50		15:45 (T30)
	21:04		20:32		19:40			18:50	29	08:33 (T28)	17:12	45	16:10 (T30)	17:03	45	16:30 (T30)
17	06:13		06:42		07:13		18:39 (T27)	07:45		08:05 (T28)	07:21		07:44 (T31)	07:51		15:46 (T30)
	21:03		20:30		19:39	10	18:49 (T27)	18:49	26	08:31 (T28)	17:11	46	16:12 (T30)	17:04	44	16:30 (T30)
18	06:13		06:43		07:14		18:35 (T27)	07:46		08:06 (T28)	07:22		07:45 (T31)	07:52		15:46 (T30)
	21:02		20:29		19:37	18	18:53 (T27)	18:47	23	08:29 (T28)	17:10	46	16:13 (T30)	17:04	44	16:30 (T30)
19	06:14		06:44		07:15		18:32 (T27)	07:47		08:07 (T28)	07:24		07:46 (T31)	07:52		15:47 (T30)
	21:02		20:27		19:35	23	18:55 (T27)	18:46	20	08:27 (T28)	17:10	46	16:14 (T30)	17:04	44	16:31 (T30)
20	06:15		06:45		07:16		18:30 (T27)	07:48		08:09 (T28)	07:25		07:48 (T31)	07:53		15:47 (T30)
	21:01		20:26		19:33	26	18:56 (T27)	18:44	16	08:25 (T28)	17:09	46	16:15 (T30)	17:05	44	16:31 (T30)
21	06:16		06:46		07:17		08:14 (T28)	07:49		08:10 (T28)	07:26		07:49 (T31)	07:53		15:48 (T30)
	21:00		20:24		19:32	44	18:57 (T27)	18:43	11	08:21 (T28)	17:08	46	16:16 (T30)	17:05	44	16:32 (T30)
22	06:17		06:47		07:18		08:10 (T28)	07:50			07:27		07:50 (T31)	07:54		15:48 (T30)
	20:59		20:23		19:30	53	18:58 (T27)	18:41			17:08	45	16:17 (T30)	17:06	44	16:32 (T30)
23	06:18		06:48		07:19		08:08 (T28)	07:51			07:28		07:51 (T31)	07:54		15:49 (T30)
	20:59		20:21		19:28	58	18:58 (T27)	18:40			17:07	43	16:17 (T30)	17:06	44	16:33 (T30)
24	06:19		06:49		07:20		08:05 (T28)	07:53			07:29		07:53 (T31)	07:55		15:49 (T30)
	20:58		20:20		19:27	66	18:59 (T27)	18:39			17:07	43	16:19 (T30)	17:07	44	16:33 (T30)
25	06:20		06:50		07:21		08:03 (T28)	07:54			07:31		15:40 (T30)	07:55		15:49 (T30)
	20:57		20:18		19:25	70	18:59 (T27)	18:37			17:06	40	16:20 (T30)	17:07	44	16:33 (T30)
26	06:20		06:51		07:22		08:02 (T28)	07:55			07:32		15:40 (T30)	07:56		15:50 (T30)
	20:56		20:17		19:23	72	18:59 (T27)	18:36			17:05	40	16:20 (T30)	17:08	44	16:34 (T30)
27	06:21		06:52		07:23		08:00 (T28)	07:56			07:33		15:39 (T30)	07:56		15:50 (T30)
	20:55		20:15		19:21	76	18:59 (T27)	18:34			17:05	42	16:21 (T30)	17:09	45	16:35 (T30)
28	06:22		06:53		07:24		07:59 (T28)	07:57		08:40 (T31)	07:34		15:39 (T30)	07:56		15:51 (T30)
	20:54		20:14		19:20	77	18:57 (T27)	18:33	11	08:51 (T31)	17:05	42	16:21 (T30)	17:09	44	16:35 (T30)
29	06:23		06:54		07:25		07:58 (T28)	07:58		08:37 (T31)	07:35		15:39 (T30)	07:57		15:52 (T30)
	20:53		20:12		19:18	77	18:56 (T27)	18:32	18	08:55 (T31)	17:04	42	16:21 (T30)	17:10	44	16:36 (T30)
30	06:24		06:55		07:26		07:57 (T28)	08:00		08:35 (T31)	07:36		15:39 (T30)	07:57		15:52 (T30)
	20:52		20:10		19:16	77	18:54 (T27)	18:30	21	08:56 (T31)	17:04	43	16:22 (T30)	17:11	44	16:36 (T30)
31	06:25		06:56					08:01		08:34 (T31)				07:57		15:52 (T30)
	20:51		20:09					18:29	24	08:58 (T31)				17:12	45	16:37 (T30)
Potential sun hours	460		429		375			345			297			287		
Total, worst case						747			1049			1128			1368	
Sun reduction						0.59			0.48			0.30			0.22	
Oper. time red.						1.00			1.00			1.00			1.00	
Wind dir. red.						0.62			0.59			0.64			0.74	
Total reduction						0.37			0.29			0.20			0.17	
Total, real						280			302			223			228	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1603 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9023)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:58		15:41 (T13)	07:44		17:09 (T12)	07:07	07:16			06:30		19:16 (T10)	06:01		20:00 (T9)
	17:13	45	16:26 (T13)	17:47	14	17:23 (T12)	18:22	19:56			20:27	28	19:44 (T10)	20:57	25	20:25 (T9)
2	07:58		15:42 (T13)	07:43		17:09 (T12)	07:06	07:14			06:29		19:17 (T10)	06:01		20:00 (T9)
	17:13	45	16:27 (T13)	17:48	15	17:24 (T12)	18:23	19:57			20:28	25	19:42 (T10)	20:58	24	20:24 (T9)
3	07:58		15:43 (T13)	07:42		17:08 (T12)	07:04	07:13			06:27		19:19 (T10)	06:00		20:01 (T9)
	17:14	44	16:27 (T13)	17:50	18	17:26 (T12)	18:24	19:58			20:29	21	19:40 (T10)	20:59	23	20:24 (T9)
4	07:58		15:43 (T13)	07:41		17:08 (T12)	07:03	07:11			06:26		19:21 (T10)	06:00		20:02 (T9)
	17:15	44	16:27 (T13)	17:51	19	17:27 (T12)	18:25	19:59			20:30	17	19:38 (T10)	20:59	22	20:24 (T9)
5	07:58		15:44 (T13)	07:40		17:07 (T12)	07:01	07:09		19:31 (T10)	06:25		19:25 (T10)	05:59		20:02 (T9)
	17:16	43	16:27 (T13)	17:52	22	17:29 (T12)	18:26	20:00	7	19:38 (T10)	20:31	13	20:09 (T9)	21:00	21	20:23 (T9)
6	07:58		15:45 (T13)	07:38		17:07 (T12)	06:59	07:08		19:27 (T10)	06:24		20:03 (T9)	05:59		20:03 (T9)
	17:17	43	16:28 (T13)	17:54	23	17:30 (T12)	18:27	20:00	13	19:40 (T10)	20:33	7	20:10 (T9)	21:01	20	20:23 (T9)
7	07:58		15:46 (T13)	07:37		17:06 (T12)	06:58	07:06		19:23 (T10)	06:22		20:02 (T9)	05:59		20:04 (T9)
	17:18	42	16:28 (T13)	17:55	25	17:31 (T12)	18:29	20:01	17	19:40 (T10)	20:34	9	20:11 (T9)	21:01	19	20:23 (T9)
8	07:58		15:47 (T13)	07:36		17:06 (T12)	07:56	07:05		19:22 (T10)	06:21		19:59 (T9)	05:59		20:05 (T9)
	17:19	41	16:28 (T13)	17:56	26	17:32 (T12)	19:30	20:03	20	19:42 (T10)	20:35	12	20:11 (T9)	21:02	18	20:23 (T9)
9	07:57		15:47 (T13)	07:35		17:07 (T12)	07:55	07:03		19:19 (T10)	06:20		19:58 (T9)	05:58		20:05 (T9)
	17:20	40	16:27 (T13)	17:57	27	17:34 (T12)	19:31	20:04	24	19:43 (T10)	20:36	15	20:13 (T9)	21:03	17	20:22 (T9)
10	07:57		15:48 (T13)	07:34		17:07 (T12)	07:53	07:01		19:17 (T10)	06:19		19:58 (T9)	05:58		20:06 (T9)
	17:21	40	16:28 (T13)	17:59	28	17:35 (T12)	19:32	20:05	26	19:43 (T10)	20:37	16	20:14 (T9)	21:03	16	20:22 (T9)
11	07:57		15:50 (T13)	07:33		17:08 (T12)	07:51	07:00		19:17 (T10)	06:18		19:57 (T9)	05:58		20:07 (T9)
	17:22	38	16:28 (T13)	18:00	29	17:37 (T12)	19:33	20:06	28	19:45 (T10)	20:38	18	20:15 (T9)	21:04	14	20:21 (T9)
12	07:57		15:50 (T13)	07:31		17:07 (T12)	07:50	06:58		19:15 (T10)	06:17		19:56 (T9)	05:58		20:07 (T9)
	17:23	37	16:27 (T13)	18:01	30	17:37 (T12)	19:34	20:07	31	19:46 (T10)	20:39	20	20:16 (T9)	21:04	14	20:21 (T9)
13	07:56		15:51 (T13)	07:30		17:08 (T12)	07:48	06:56		19:15 (T10)	06:16		19:56 (T9)	05:58		20:08 (T9)
	17:24	36	16:27 (T13)	18:02	29	17:37 (T12)	19:35	20:08	32	19:47 (T10)	20:40	20	20:16 (T9)	21:05	13	20:21 (T9)
14	07:56		15:53 (T13)	07:29		17:09 (T12)	07:46	06:55		19:13 (T10)	06:15		19:55 (T9)	05:58		20:09 (T9)
	17:25	34	16:27 (T13)	18:04	28	17:37 (T12)	19:36	20:09	35	19:48 (T10)	20:41	22	20:17 (T9)	21:05	11	20:20 (T9)
15	07:56		15:54 (T13)	07:27		17:09 (T12)	07:45	06:53		19:12 (T10)	06:14		19:55 (T9)	05:58		20:10 (T9)
	17:27	32	16:26 (T13)	18:05	27	17:36 (T12)	19:38	20:10	36	19:48 (T10)	20:42	23	20:18 (T9)	21:06	10	20:20 (T9)
16	07:55		15:55 (T13)	07:26		17:10 (T12)	07:43	06:52		19:12 (T10)	06:13		19:55 (T9)	05:58		20:11 (T9)
	17:28	31	16:26 (T13)	18:06	25	17:35 (T12)	19:39	20:11	38	19:50 (T10)	20:43	24	20:19 (T9)	21:06	9	20:20 (T9)
17	07:55		15:56 (T13)	07:25		17:12 (T12)	07:41	06:50		19:11 (T10)	06:12		19:55 (T9)	05:58		20:11 (T9)
	17:29	29	16:25 (T13)	18:07	22	17:34 (T12)	19:40	20:12	39	19:50 (T10)	20:44	25	20:20 (T9)	21:07	8	20:19 (T9)
18	07:54		15:59 (T13)	07:23		17:13 (T12)	07:40	06:49		19:11 (T10)	06:11		19:55 (T9)	05:58		20:12 (T9)
	17:30	26	16:25 (T13)	18:08	19	17:32 (T12)	19:41	20:13	41	19:52 (T10)	20:45	27	20:22 (T9)	21:07	7	20:19 (T9)
19	07:54		16:00 (T13)	07:22		17:16 (T12)	07:38	06:47		19:10 (T10)	06:10		19:55 (T9)	05:58		20:12 (T9)
	17:31	23	16:23 (T13)	18:10	14	17:30 (T12)	19:42	20:14	43	19:53 (T10)	20:46	27	20:22 (T9)	21:07	7	20:19 (T9)
20	07:53		16:02 (T13)	07:21		17:20 (T12)	07:36	06:46		19:11 (T10)	06:09		19:55 (T9)	05:58		20:14 (T9)
	17:32	19	16:21 (T13)	18:11	5	17:25 (T12)	19:43	20:15	42	19:53 (T10)	20:47	28	20:23 (T9)	21:08	5	20:19 (T9)
21	07:53		16:06 (T13)	07:19			07:35	06:44		19:10 (T10)	06:08		19:55 (T9)	05:58		20:14 (T9)
	17:34	14	16:20 (T13)	18:12			19:44	20:16	42	19:52 (T10)	20:48	29	20:24 (T9)	21:08	5	20:19 (T9)
22	07:52		16:11 (T13)	07:18			07:33	06:43		19:11 (T10)	06:07		19:55 (T9)	05:59		20:14 (T9)
	17:35	4	16:15 (T13)	18:13			19:45	20:18	41	19:52 (T10)	20:49	29	20:24 (T9)	21:08	5	20:19 (T9)
23	07:51			07:16			07:31	06:41		19:11 (T10)	06:07		19:56 (T9)	05:59		20:13 (T9)
	17:36			18:15			19:46	20:19	41	19:52 (T10)	20:50	30	20:26 (T9)	21:08	6	20:19 (T9)
24	07:50			07:15			07:30	06:40		19:11 (T10)	06:06		19:56 (T9)	05:59		20:14 (T9)
	17:37			18:16			19:47	20:20	40	19:51 (T10)	20:50	30	20:26 (T9)	21:09	7	20:21 (T9)
25	07:50			07:13			07:28	06:38		19:12 (T10)	06:05		19:56 (T9)	05:59		20:13 (T9)
	17:38			18:17			19:48	20:21	39	19:51 (T10)	20:51	30	20:26 (T9)	21:09	8	20:21 (T9)
26	07:49			07:12			07:26	06:37		19:11 (T10)	06:05		19:57 (T9)	06:00		20:13 (T9)
	17:40			18:18			19:50	20:22	38	19:49 (T10)	20:52	30	20:27 (T9)	21:09	8	20:21 (T9)
27	07:48			07:10			07:24	06:35		19:12 (T10)	06:04		19:57 (T9)	06:00		20:13 (T9)
	17:41			18:19			19:51	20:23	37	19:49 (T10)	20:53	29	20:26 (T9)	21:09	10	20:23 (T9)
28	07:47		17:15 (T12)	07:09			07:23	06:34		19:13 (T10)	06:03		19:58 (T9)	06:00		20:12 (T9)
	17:42	3	17:18 (T12)	18:20			19:52	20:24	35	19:48 (T10)	20:54	28	20:26 (T9)	21:09	11	20:23 (T9)
29	07:46		17:13 (T12)				07:21	06:33		19:14 (T10)	06:03		19:58 (T9)	06:01		20:12 (T9)
	17:43	6	17:19 (T12)				19:53	20:25	32	19:46 (T10)	20:55	28	20:26 (T9)	21:09	12	20:24 (T9)
30	07:46		17:11 (T12)				07:19	06:31		19:15 (T10)	06:02		19:59 (T9)	06:01		20:12 (T9)
	17:45	9	17:20 (T12)				19:54	20:26	30	19:45 (T10)	20:56	27	20:26 (T9)	21:09	13	20:25 (T9)
31	07:45		17:10 (T12)				07:18				06:02		19:59 (T9)			
	17:46	11	17:21 (T12)				19:55				20:56	26	20:25 (T9)			
Potential sun hours	297			297			370	399			449			453		
Total, worst case		779			445				847			713			388	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.74			0.71				0.58			0.56			0.55	
Total reduction		0.24			0.30				0.32			0.33			0.37	
Total, real		188			133				269			237			144	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)		First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1603 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9023)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September			October			November			December		
1	06:02		20:11 (T9)	06:26		20:07 (T9)	06:57		19:16 (T10)	07:28			07:02		16:37 (T12)	07:37		15:32 (T13)
	21:09	14	20:25 (T9)	20:50	19	20:26 (T9)	20:07	28	19:44 (T10)	19:15			17:28	28	17:05 (T12)	17:03	38	16:10 (T13)
2	06:02		20:11 (T9)	06:27		20:08 (T9)	06:58		19:16 (T10)	07:29			07:03		16:36 (T12)	07:38		15:31 (T13)
	21:09	15	20:26 (T9)	20:49	17	20:25 (T9)	20:06	26	19:42 (T10)	19:13			17:27	27	17:03 (T12)	17:03	40	16:11 (T13)
3	06:03		20:10 (T9)	06:28		20:08 (T9)	06:59		19:17 (T10)	07:30			07:05		16:36 (T12)	07:39		15:31 (T13)
	21:09	17	20:27 (T9)	20:48	16	20:24 (T9)	20:04	24	19:41 (T10)	19:11			17:25	26	17:02 (T12)	17:03	40	16:11 (T13)
4	06:03		20:10 (T9)	06:29		20:09 (T9)	07:00		19:19 (T10)	07:31			07:06		16:36 (T12)	07:40		15:31 (T13)
	21:08	18	20:28 (T9)	20:47	14	20:23 (T9)	20:02	20	19:39 (T10)	19:10			17:24	24	17:00 (T12)	17:03	41	16:12 (T13)
5	06:04		20:09 (T9)	06:30		20:10 (T9)	07:01		19:20 (T10)	07:32			07:07		16:37 (T12)	07:41		15:31 (T13)
	21:08	19	20:28 (T9)	20:46	12	20:22 (T9)	20:01	18	19:38 (T10)	19:08			17:23	23	17:00 (T12)	17:03	42	16:13 (T13)
6	06:05		20:09 (T9)	06:31		20:12 (T9)	07:02		19:23 (T10)	07:33			07:08		16:37 (T12)	07:42		15:31 (T13)
	21:08	20	20:29 (T9)	20:45	9	20:21 (T9)	19:57	13	19:36 (T10)	19:06			17:22	21	16:58 (T12)	17:02	43	16:14 (T13)
7	06:05		20:09 (T9)	06:32		20:13 (T9)	07:03		19:27 (T10)	07:34			07:09		16:38 (T12)	07:43		15:31 (T13)
	21:08	21	20:30 (T9)	20:44	7	20:20 (T9)	19:56	7	19:34 (T10)	19:05			17:21	19	16:57 (T12)	17:02	43	16:14 (T13)
8	06:06		20:08 (T9)	06:33		19:33 (T10)	07:04			07:35			07:11		16:39 (T12)	07:44		15:32 (T13)
	21:07	22	20:30 (T9)	20:42	14	20:18 (T9)	19:54			19:03			17:20	17	16:56 (T12)	17:02	43	16:15 (T13)
9	06:06		20:08 (T9)	06:34		19:30 (T10)	07:05			07:36			07:12		16:40 (T12)	07:45		15:32 (T13)
	21:07	23	20:31 (T9)	20:41	18	19:48 (T10)	19:52			19:01			17:19	15	16:55 (T12)	17:02	44	16:16 (T13)
10	06:07		20:08 (T9)	06:35		19:28 (T10)	07:06			07:37			07:13		16:40 (T12)	07:46		15:32 (T13)
	21:07	24	20:32 (T9)	20:40	22	19:50 (T10)	19:51			19:00			17:18	14	16:54 (T12)	17:02	45	16:17 (T13)
11	06:08		20:07 (T9)	06:36		19:26 (T10)	07:07			07:38			07:14		16:41 (T12)	07:47		15:32 (T13)
	21:06	25	20:32 (T9)	20:38	26	19:52 (T10)	19:49			18:58			17:17	11	16:52 (T12)	17:02	44	16:16 (T13)
12	06:09		20:07 (T9)	06:37		19:24 (T10)	07:08			07:39			07:15		16:43 (T12)	07:48		15:32 (T13)
	21:06	26	20:33 (T9)	20:37	28	19:52 (T10)	19:47			18:57			17:16	9	16:52 (T12)	17:02	45	16:17 (T13)
13	06:09		20:07 (T9)	06:38		19:22 (T10)	07:09			07:40			07:17		16:45 (T12)	07:48		15:32 (T13)
	21:05	27	20:34 (T9)	20:36	31	19:53 (T10)	19:46			18:55			17:15	6	16:51 (T12)	17:03	46	16:18 (T13)
14	06:10		20:07 (T9)	06:39		19:21 (T10)	07:10			07:41			07:18		16:47 (T12)	07:49		15:33 (T13)
	21:05	28	20:35 (T9)	20:34	33	19:54 (T10)	19:44			18:53			17:14	2	16:49 (T12)	17:03	46	16:19 (T13)
15	06:11		20:06 (T9)	06:40		19:20 (T10)	07:11			07:43			07:19			07:50		15:33 (T13)
	21:04	29	20:35 (T9)	20:33	35	19:55 (T10)	19:42			18:52			17:13			17:03	46	16:19 (T13)
16	06:12		20:06 (T9)	06:41		19:19 (T10)	07:12			07:44			07:20			07:51		15:33 (T13)
	21:04	29	20:35 (T9)	20:32	37	19:56 (T10)	19:40			18:50			17:12			17:03	46	16:19 (T13)
17	06:12		20:06 (T9)	06:42		19:18 (T10)	07:13			07:45			07:21			07:51		15:34 (T13)
	21:03	30	20:36 (T9)	20:30	38	19:56 (T10)	19:39			18:49			17:11			17:04	46	16:20 (T13)
18	06:13		20:06 (T9)	06:43		19:17 (T10)	07:14			07:46			07:23			07:52		15:34 (T13)
	21:03	30	20:36 (T9)	20:29	40	19:57 (T10)	19:37			18:47			17:10			17:04	46	16:20 (T13)
19	06:14		20:05 (T9)	06:44		19:17 (T10)	07:15			07:47			07:24			07:53		15:35 (T13)
	21:02	31	20:36 (T9)	20:27	40	19:57 (T10)	19:35			18:46			17:10			17:04	46	16:21 (T13)
20	06:15		20:05 (T9)	06:45		19:16 (T10)	07:16			07:48			07:25		15:46 (T13)	07:53		15:36 (T13)
	21:01	31	20:36 (T9)	20:26	41	19:57 (T10)	19:34			18:44			17:09	4	15:50 (T13)	17:05	46	16:22 (T13)
21	06:16		20:05 (T9)	06:46		19:15 (T10)	07:17			07:49			07:26		15:41 (T13)	07:54		15:36 (T13)
	21:00	30	20:35 (T9)	20:24	42	19:57 (T10)	19:32			18:43			17:08	14	15:55 (T13)	17:05	46	16:22 (T13)
22	06:17		20:05 (T9)	06:47		19:15 (T10)	07:18			07:50		17:48 (T12)	07:27		15:38 (T13)	07:54		15:36 (T13)
	21:00	30	20:35 (T9)	20:23	42	19:57 (T10)	19:30			18:41	9	17:57 (T12)	17:08	19	15:57 (T13)	17:06	47	16:23 (T13)
23	06:18		20:06 (T9)	06:48		19:15 (T10)	07:19			07:52		17:45 (T12)	07:28		15:37 (T13)	07:55		15:37 (T13)
	20:59	28	20:34 (T9)	20:21	42	19:57 (T10)	19:28			18:40	15	18:00 (T12)	17:07	23	16:00 (T13)	17:06	46	16:23 (T13)
24	06:18		20:06 (T9)	06:49		19:14 (T10)	07:20			07:53		17:43 (T12)	07:30		15:36 (T13)	07:55		15:37 (T13)
	20:58	27	20:33 (T9)	20:20	42	19:56 (T10)	19:27			18:38	20	18:03 (T12)	17:06	26	16:02 (T13)	17:07	46	16:23 (T13)
25	06:19		20:06 (T9)	06:50		19:14 (T10)	07:21			07:54		17:41 (T12)	07:31		15:35 (T13)	07:56		15:38 (T13)
	20:57	27	20:33 (T9)	20:18	41	19:55 (T10)	19:25			18:37	23	18:04 (T12)	17:06	28	16:03 (T13)	17:07	46	16:24 (T13)
26	06:20		20:05 (T9)	06:51		19:14 (T10)	07:22			07:55		17:40 (T12)	07:32		15:34 (T13)	07:56		15:38 (T13)
	20:56	26	20:31 (T9)	20:17	39	19:53 (T10)	19:23			18:36	25	18:05 (T12)	17:05	30	16:04 (T13)	17:08	46	16:24 (T13)
27	06:21		20:05 (T9)	06:52		19:14 (T10)	07:23			07:56		17:39 (T12)	07:33		15:33 (T13)	07:56		15:38 (T13)
	20:55	25	20:30 (T9)	20:15	38	19:52 (T10)	19:22			18:34	26	18:05 (T12)	17:05	32	16:05 (T13)	17:09	46	16:24 (T13)
28	06:22		20:05 (T9)	06:53		19:14 (T10)	07:24			07:57		17:38 (T12)	07:34		15:32 (T13)	07:57		15:40 (T13)
	20:54	24	20:29 (T9)	20:14	36	19:50 (T10)	19:20			18:33	28	18:06 (T12)	17:04	34	16:06 (T13)	17:09	46	16:26 (T13)
29	06:23		20:06 (T9)	06:54		19:14 (T10)	07:25			07:59		17:38 (T12)	07:35		15:32 (T13)	07:57		15:40 (T13)
	20:53	22	20:28 (T9)	20:12	35	19:49 (T10)	19:18			18:32	29	18:07 (T12)	17:04	36	16:08 (T13)	17:10	46	16:26 (T13)
30	06:24		20:06 (T9)	06:55		19:15 (T10)	07:27			08:00		17:37 (T12)	07:36		15:32 (T13)	07:57		15:40 (T13)
	20:52	22	20:28 (T9)	20:11	32	19:47 (T10)	19:16			18:30	30	18:07 (T12)	17:04	37	16:09 (T13)	17:11	46	16:26 (T13)
31	06:25		20:07 (T9)	06:56		19:15 (T10)				08:01		17:36 (T12)				07:57		15:41 (T13)
	20:51	20	20:27 (T9)	20:09	31	19:46 (T10)				18:29	29	18:05 (T12)				17:12	45	16:26 (T13)
Potential sun hours	460			429			375			345			297			287		
Total, worst case		760			917			136			234			525			1382	
Sun reduction		0.66			0.61			0.59			0.48			0.30			0.22	
Oper. time red.		1.00			1.00			1.00			1.00			1.00			1.00	
Wind dir. red.		0.55			0.58			0.58			0.71			0.73			0.74	
Total reduction		0.38			0.37			0.36			0.36			0.23			0.17	
Total, real		291			340			49			84			120			237	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
EDR
217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1620 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9038)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January		February		March		April		May		June	
1	07:57		07:43	08:04 (T44)	07:07		07:16	07:35 (T77)	06:30		06:02	06:25 (T42)
	17:13		17:48 11	08:15 (T44)	18:22		19:56 28	08:03 (T77)	20:27		20:57 40	07:05 (T42)
2	07:57		07:42	08:03 (T44)	07:06		07:15	07:33 (T77)	06:29		06:01	06:25 (T42)
	17:14		17:49 14	08:17 (T44)	18:23		19:57 30	08:03 (T77)	20:28		20:58 40	07:05 (T42)
3	07:57		07:41	08:02 (T44)	07:04		07:13	07:32 (T77)	06:28		06:01	06:25 (T42)
	17:15		17:50 16	08:18 (T44)	18:24		19:58 32	08:04 (T77)	20:29		20:58 39	07:04 (T42)
4	07:58		07:40	08:01 (T44)	07:03		07:11	07:30 (T77)	06:26		06:00	06:25 (T42)
	17:16		17:51 18	08:19 (T44)	18:25		19:59 33	08:03 (T77)	20:30		20:59 40	07:05 (T42)
5	07:57		07:39	08:00 (T44)	07:01		07:10	07:29 (T77)	06:25		06:00	06:26 (T42)
	17:17		17:53 20	08:20 (T44)	18:26		20:00 35	08:04 (T77)	20:31		21:00 39	07:05 (T42)
6	07:57		07:38	07:58 (T44)	06:59		07:08	07:27 (T77)	06:24	06:44 (T42)	06:00	06:26 (T42)
	17:18		17:54 21	08:19 (T44)	18:28		20:00 36	08:03 (T77)	20:32 2	06:46 (T42)	21:01 38	07:04 (T42)
7	07:57		07:37	07:57 (T44)	06:58		07:06	07:25 (T77)	06:23	06:43 (T42)	05:59	06:26 (T42)
	17:19		17:55 23	08:20 (T44)	18:29		20:01 37	08:02 (T77)	20:33 8	06:51 (T42)	21:01 39	07:05 (T42)
8	07:57		07:36	07:56 (T44)	07:56		07:05	07:26 (T77)	06:22	06:42 (T42)	05:59	06:27 (T42)
	17:20		17:56 24	08:20 (T44)	19:30		20:02 36	08:02 (T77)	20:34 12	06:54 (T42)	21:02 38	07:05 (T42)
9	07:57		07:35	07:55 (T44)	07:55		07:03	07:25 (T77)	06:20	06:41 (T42)	05:59	06:27 (T42)
	17:21		17:58 26	08:21 (T44)	19:31		20:04 36	08:01 (T77)	20:35 14	06:55 (T42)	21:02 38	07:05 (T42)
10	07:57		07:34	07:54 (T44)	07:53		07:01	07:25 (T77)	06:19	06:40 (T42)	05:59	06:28 (T42)
	17:22		17:59 27	08:21 (T44)	19:32		20:05 35	08:00 (T77)	20:36 17	06:57 (T42)	21:03 37	07:05 (T42)
11	07:57		07:32	07:52 (T44)	07:51		07:00	07:26 (T77)	06:18	06:38 (T42)	05:58	06:28 (T42)
	17:23		18:00 28	08:20 (T44)	19:33		20:06 34	08:00 (T77)	20:38 19	06:57 (T42)	21:04 38	07:06 (T42)
12	07:56		07:31	07:51 (T44)	07:50		06:58	07:26 (T77)	06:17	06:37 (T42)	05:58	06:29 (T42)
	17:24		18:01 30	08:21 (T44)	19:34		20:07 32	07:58 (T77)	20:39 21	06:58 (T42)	21:04 37	07:06 (T42)
13	07:56		07:30	07:50 (T44)	07:48		06:57	07:28 (T77)	06:16	06:36 (T42)	05:58	06:28 (T42)
	17:25		18:03 31	08:21 (T44)	19:35		20:08 29	07:57 (T77)	20:40 23	06:59 (T42)	21:05 37	07:05 (T42)
14	07:56		07:29	07:51 (T44)	07:46		06:55	07:28 (T77)	06:15	06:36 (T42)	05:58	06:28 (T42)
	17:26		18:04 29	08:20 (T44)	19:37		20:09 27	07:55 (T77)	20:41 25	07:01 (T42)	21:05 37	07:05 (T42)
15	07:55		07:27	07:51 (T44)	07:45		06:53	07:30 (T77)	06:14	06:35 (T42)	05:58	06:28 (T42)
	17:27		18:05 28	08:19 (T44)	19:38		20:10 24	07:54 (T77)	20:42 26	07:01 (T42)	21:06 37	07:05 (T42)
16	07:55		07:26	07:52 (T44)	07:43		06:52	07:31 (T77)	06:13	06:34 (T42)	05:58	06:30 (T42)
	17:28		18:06 27	08:19 (T44)	19:39		20:11 21	07:52 (T77)	20:43 28	07:02 (T42)	21:06 36	07:06 (T42)
17	07:54		07:25	07:53 (T44)	07:41		06:50	07:34 (T77)	06:12	06:33 (T42)	05:58	06:30 (T42)
	17:29		18:07 24	08:17 (T44)	19:40		20:12 15	07:49 (T77)	20:44 29	07:02 (T42)	21:06 36	07:06 (T42)
18	07:54		07:23	07:54 (T44)	07:40		06:49	07:37 (T77)	06:11	06:32 (T42)	05:58	06:30 (T42)
	17:30		18:09 22	08:16 (T44)	19:41		20:13 7	07:44 (T77)	20:45 30	07:02 (T42)	21:07 36	07:06 (T42)
19	07:53		07:22	07:56 (T44)	07:38		06:47		06:10	06:31 (T42)	05:58	06:30 (T42)
	17:32		18:10 18	08:14 (T44)	19:42		20:14		20:45 32	07:03 (T42)	21:07 36	07:06 (T42)
20	07:53		07:21	07:58 (T44)	07:36		06:46		06:09	06:30 (T42)	05:59	06:30 (T42)
	17:33		18:11 13	08:11 (T44)	19:43		20:15		20:46 33	07:03 (T42)	21:07 36	07:06 (T42)
21	07:52		07:19		07:35		06:44		06:09	06:30 (T42)	05:59	06:30 (T42)
	17:34		18:12		19:44		20:16		20:47 34	07:04 (T42)	21:08 36	07:06 (T42)
22	07:52		07:18		07:33		06:43		06:08	06:29 (T42)	05:59	06:30 (T42)
	17:35		18:14		19:45		20:17		20:48 35	07:04 (T42)	21:08 36	07:06 (T42)
23	07:51		07:16		07:31		06:41		06:07	06:28 (T42)	05:59	06:31 (T42)
	17:36		18:15		19:46		20:18		20:49 36	07:04 (T42)	21:08 36	07:07 (T42)
24	07:50		07:15		07:30		06:40		06:06	06:27 (T42)	05:59	06:31 (T42)
	17:38		18:16		19:47		20:20		20:50 37	07:04 (T42)	21:08 36	07:07 (T42)
25	07:50		07:13		07:28	07:47 (T77)	06:39		06:06	06:27 (T42)	06:00	06:31 (T42)
	17:39		18:17		19:49 7	07:54 (T77)	20:21		20:51 37	07:04 (T42)	21:08 36	07:07 (T42)
26	07:49		07:12		07:26	07:45 (T77)	06:37		06:05	06:26 (T42)	06:00	06:32 (T42)
	17:40		18:18		19:50 12	07:57 (T77)	20:22		20:52 38	07:04 (T42)	21:08 36	07:08 (T42)
27	07:48		07:10		07:25	07:44 (T77)	06:36		06:04	06:26 (T42)	06:00	06:32 (T42)
	17:41		18:19		19:51 15	07:59 (T77)	20:23		20:53 39	07:05 (T42)	21:09 36	07:08 (T42)
28	07:47		07:09		07:23	07:42 (T77)	06:34		06:04	06:25 (T42)	06:01	06:31 (T42)
	17:43		18:21		19:52 19	08:01 (T77)	20:24		20:54 39	07:04 (T42)	21:09 37	07:08 (T42)
29	07:46	08:07 (T44)			07:21	07:40 (T77)	06:33		06:03	06:25 (T42)	06:01	06:32 (T42)
	17:44 2	08:09 (T44)			19:53 21	08:01 (T77)	20:25		20:54 40	07:05 (T42)	21:09 37	07:09 (T42)
30	07:45	08:06 (T44)			07:20	07:39 (T77)	06:32		06:03	06:24 (T42)	06:02	06:32 (T42)
	17:45 6	08:12 (T44)			19:54 24	08:03 (T77)	20:26		20:55 41	07:05 (T42)	21:09 37	07:09 (T42)
31	07:44	08:05 (T44)			07:18	07:37 (T77)			06:02	06:25 (T42)		
	17:46 9	08:14 (T44)			19:55 26	08:03 (T77)			20:56 40	07:05 (T42)		
Potential sun hours	297		297		370		399		448		453	
Total, worst case	17		450		124		527		735		1117	
Sun reduction	0.31		0.40		0.44		0.52		0.57		0.64	
Oper. time red.	1.00		1.00		1.00		1.00		1.00		1.00	
Wind dir. red.	0.55		0.55		0.64		0.64		0.71		0.71	
Total reduction	0.17		0.22		0.28		0.33		0.40		0.45	
Total, real	3		97		34		173		293		501	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

Licensed user:
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217 Montgomery St., Suite 1000
US-SYRACUSE, NY 13202
(315) 471 0688

Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1620 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9038)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July		August		September		October		November		December
1	06:02		06:32 (T42)	06:26		06:48 (T42)	06:57		07:25 (T77)	07:28			07:02		07:23 (T44)	07:37
	21:09	38	07:10 (T42)	20:50	20	07:08 (T42)	20:07	34	07:59 (T77)	19:15			17:28	27	07:50 (T44)	17:04
2	06:03		06:32 (T42)	06:27		06:49 (T42)	06:58		07:24 (T77)	07:29			07:03		07:25 (T44)	07:38
	21:08	37	07:09 (T42)	20:49	18	07:07 (T42)	20:06	35	07:59 (T77)	19:13			17:27	26	07:51 (T44)	17:03
3	06:03		06:32 (T42)	06:28		06:50 (T42)	06:59		07:23 (T77)	07:30			07:04		07:26 (T44)	07:39
	21:08	38	07:10 (T42)	20:48	16	07:06 (T42)	20:04	36	07:59 (T77)	19:11			17:26	24	07:50 (T44)	17:03
4	06:04		06:32 (T42)	06:29		06:51 (T42)	07:00		07:23 (T77)	07:31			07:06		07:27 (T44)	07:40
	21:08	38	07:10 (T42)	20:47	13	07:04 (T42)	20:02	36	07:59 (T77)	19:10			17:24	23	07:50 (T44)	17:03
5	06:04		06:32 (T42)	06:30		06:52 (T42)	07:01		07:22 (T77)	07:32			07:07		07:28 (T44)	07:41
	21:08	39	07:11 (T42)	20:46	10	07:02 (T42)	20:01	37	07:59 (T77)	19:08			17:23	21	07:49 (T44)	17:03
6	06:05		06:32 (T42)	06:31		06:53 (T42)	07:02		07:23 (T77)	07:33			07:08		07:30 (T44)	07:42
	21:08	39	07:11 (T42)	20:44	6	06:59 (T42)	19:57	36	07:59 (T77)	19:06			17:22	19	07:49 (T44)	17:03
7	06:06		06:32 (T42)	06:32			07:03		07:24 (T77)	07:34			07:09		07:31 (T44)	07:43
	21:07	39	07:11 (T42)	20:43			19:56	35	07:59 (T77)	19:05			17:21	17	07:48 (T44)	17:03
8	06:06		06:33 (T42)	06:33			07:04		07:25 (T77)	07:35			07:10		07:32 (T44)	07:44
	21:07	39	07:12 (T42)	20:42			19:54	33	07:58 (T77)	19:03			17:20	15	07:47 (T44)	17:03
9	06:07		06:32 (T42)	06:34			07:05		07:26 (T77)	07:36			07:12		07:34 (T44)	07:45
	21:07	40	07:12 (T42)	20:41			19:52	32	07:58 (T77)	19:02			17:19	13	07:47 (T44)	17:03
10	06:08		06:33 (T42)	06:35			07:06		07:27 (T77)	07:37			07:13		07:35 (T44)	07:46
	21:06	39	07:12 (T42)	20:40			19:51	30	07:57 (T77)	19:00			17:18	11	07:46 (T44)	17:03
11	06:08		06:33 (T42)	06:36			07:07		07:28 (T77)	07:38			07:14		07:36 (T44)	07:47
	21:06	40	07:13 (T42)	20:38			19:49	28	07:56 (T77)	18:58			17:17	8	07:44 (T44)	17:03
12	06:09		06:32 (T42)	06:37			07:08		07:28 (T77)	07:39			07:15		07:37 (T44)	07:47
	21:06	40	07:12 (T42)	20:37			19:47	26	07:54 (T77)	18:57			17:16	6	07:43 (T44)	17:03
13	06:10		06:33 (T42)	06:38			07:09		07:29 (T77)	07:40			07:16		07:39 (T44)	07:48
	21:05	40	07:13 (T42)	20:36			19:46	24	07:53 (T77)	18:55			17:15	2	07:41 (T44)	17:03
14	06:10		06:33 (T42)	06:39			07:10		07:30 (T77)	07:41			07:18			07:49
	21:05	40	07:13 (T42)	20:34			19:44	22	07:52 (T77)	18:54			17:14			17:03
15	06:11		06:34 (T42)	06:40			07:11		07:31 (T77)	07:43			07:19			07:50
	21:04	40	07:14 (T42)	20:33			19:42	19	07:50 (T77)	18:52			17:13			17:03
16	06:12		06:34 (T42)	06:41			07:12		07:32 (T77)	07:44			07:20			07:50
	21:03	39	07:13 (T42)	20:32			19:40	16	07:48 (T77)	18:50			17:12			17:04
17	06:13		06:35 (T42)	06:42			07:13		07:33 (T77)	07:45			07:21			07:51
	21:03	38	07:13 (T42)	20:30			19:39	13	07:46 (T77)	18:49			17:12			17:04
18	06:14		06:36 (T42)	06:43			07:14		07:34 (T77)	07:46			07:22			07:52
	21:02	38	07:14 (T42)	20:29			19:37	8	07:42 (T77)	18:47			17:11			17:04
19	06:14		06:37 (T42)	06:44			07:15			07:47			07:24			07:52
	21:02	37	07:14 (T42)	20:27			19:35			18:46			17:10			17:05
20	06:15		06:38 (T42)	06:45			07:16			07:48			07:25			07:53
	21:01	36	07:14 (T42)	20:26			19:34			18:44			17:09			17:05
21	06:16		06:38 (T42)	06:46			07:17			07:49		08:32 (T44)	07:26			07:53
	21:00	35	07:13 (T42)	20:24			19:32			18:43	7	08:39 (T44)	17:09			17:06
22	06:17		06:39 (T42)	06:47			07:18			07:50		08:28 (T44)	07:27			07:54
	20:59	34	07:13 (T42)	20:23			19:30			18:42	15	08:43 (T44)	17:08			17:06
23	06:18		06:40 (T42)	06:48			07:19			07:52		08:26 (T44)	07:28			07:54
	20:59	33	07:13 (T42)	20:21			19:28			18:40	19	08:45 (T44)	17:07			17:07
24	06:19		06:41 (T42)	06:49			07:20			07:53		08:24 (T44)	07:29			07:55
	20:58	32	07:13 (T42)	20:20			19:27			18:39	22	08:46 (T44)	17:07			17:07
25	06:20		06:42 (T42)	06:50		07:39 (T77)	07:21			07:54		08:23 (T44)	07:30			07:55
	20:57	31	07:13 (T42)	20:18	9	07:48 (T77)	19:25			18:37	25	08:48 (T44)	17:06			17:08
26	06:21		06:43 (T42)	06:51		07:35 (T77)	07:22			07:55		08:22 (T44)	07:32			07:56
	20:56	30	07:13 (T42)	20:17	16	07:51 (T77)	19:23			18:36	26	08:48 (T44)	17:06			17:08
27	06:22		06:44 (T42)	06:52		07:33 (T77)	07:23			07:56		08:21 (T44)	07:33			07:56
	20:55	29	07:13 (T42)	20:15	21	07:54 (T77)	19:22			18:35	28	08:49 (T44)	17:05			17:09
28	06:23		06:45 (T42)	06:53		07:31 (T77)	07:24			07:57		08:20 (T44)	07:34			07:56
	20:54	27	07:12 (T42)	20:14	24	07:55 (T77)	19:20			18:33	29	08:49 (T44)	17:05			17:10
29	06:23		06:45 (T42)	06:54		07:29 (T77)	07:25			07:58		08:20 (T44)	07:35			07:57
	20:53	26	07:11 (T42)	20:12	27	07:56 (T77)	19:18			18:32	30	08:50 (T44)	17:04			17:10
30	06:24		06:46 (T42)	06:55		07:28 (T77)	07:27			08:00		08:21 (T44)	07:36			07:57
	20:52	24	07:10 (T42)	20:10	29	07:57 (T77)	19:16			18:31	29	08:50 (T44)	17:04			17:11
31	06:25		06:47 (T42)	06:56		07:26 (T77)				08:01		08:22 (T44)				07:57
	20:51	22	07:09 (T42)	20:09	32	07:58 (T77)				18:29	28	08:50 (T44)				17:12
Potential sun hours	460			429			375			345			297			287
Total, worst case		1097			241			500			258			212		
Sun reduction		0.66			0.61			0.59			0.48			0.30		
Oper. time red.		1.00			1.00			1.00			1.00			1.00		
Wind dir. red.		0.71			0.66			0.64			0.55			0.55		
Total reduction		0.46			0.40			0.37			0.26			0.16		
Total, real		507			96			187			67			34		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1666 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9078)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	January			February			March	April			May			June		
1	07:57			07:43		16:31 (T45)	07:07	07:16			06:30		19:15 (T44)	06:01		19:16 (T44)
	17:13			17:47	51	17:22 (T45)	18:22	19:56			20:27	50	20:05 (T44)	20:57	52	20:08 (T44)
2	07:57			07:42		16:31 (T45)	07:06	07:14			06:29		19:14 (T44)	06:01		19:17 (T44)
	17:14			17:49	51	17:22 (T45)	18:23	19:57			20:28	52	20:06 (T44)	20:58	51	20:08 (T44)
3	07:57			07:41		16:31 (T45)	07:04	07:13			06:28		19:13 (T44)	06:01		19:17 (T44)
	17:15			17:50	52	17:23 (T45)	18:24	19:58			20:29	53	20:06 (T44)	20:58	50	20:07 (T44)
4	07:57			07:40		16:31 (T45)	07:02	07:11			06:26		19:13 (T44)	06:00		19:18 (T44)
	17:16			17:51	52	17:23 (T45)	18:25	19:59			20:30	54	20:07 (T44)	20:59	50	20:08 (T44)
5	07:57			07:39		16:31 (T45)	07:01	07:09			06:25		19:12 (T44)	06:00		19:19 (T44)
	17:17			17:52	51	17:22 (T45)	18:26	20:00			20:31	57	20:09 (T44)	21:00	49	20:08 (T44)
6	07:57			07:38		16:31 (T45)	06:59	07:08			06:24		19:12 (T44)	06:00		19:19 (T44)
	17:17			17:54	51	17:22 (T45)	18:27	20:00			20:32	58	20:10 (T44)	21:00	48	20:07 (T44)
7	07:57			07:37		16:31 (T45)	06:58	07:06			06:23		19:12 (T44)	05:59		19:19 (T44)
	17:18			17:55	51	17:22 (T45)	18:29	20:01			20:33	58	20:10 (T44)	21:01	48	20:07 (T44)
8	07:57		16:47 (T45)	07:36		16:32 (T45)	07:56	07:05			06:22		19:12 (T44)	05:59		19:20 (T44)
	17:19	3	16:50 (T45)	17:56	50	17:22 (T45)	19:30	20:02			20:34	58	20:10 (T44)	21:02	47	20:07 (T44)
9	07:57		16:44 (T45)	07:35		16:33 (T45)	07:54	07:03			06:20		19:11 (T44)	05:59		19:21 (T44)
	17:20	10	16:54 (T45)	17:58	49	17:22 (T45)	19:31	20:03			20:35	60	20:11 (T44)	21:02	46	20:07 (T44)
10	07:57		16:42 (T45)	07:34		16:33 (T45)	07:53	07:01			06:19		19:10 (T44)	05:59		19:21 (T44)
	17:21	14	16:56 (T45)	17:59	49	17:22 (T45)	19:32	20:05			20:36	60	20:10 (T44)	21:03	46	20:07 (T44)
11	07:57		16:40 (T45)	07:32		16:33 (T45)	07:51	07:00			06:18		19:10 (T44)	05:58		19:22 (T44)
	17:23	16	16:56 (T45)	18:00	48	17:21 (T45)	19:33	20:06			20:37	60	20:10 (T44)	21:03	45	20:07 (T44)
12	07:56		16:39 (T45)	07:31		16:34 (T45)	07:50	06:58			06:17		19:10 (T44)	05:58		19:22 (T44)
	17:24	19	16:58 (T45)	18:01	47	17:21 (T45)	19:34	20:07			20:38	60	20:10 (T44)	21:04	44	20:06 (T44)
13	07:56		16:39 (T45)	07:30		16:35 (T45)	07:48	06:57			06:16		19:10 (T44)	05:58		19:22 (T44)
	17:25	20	16:59 (T45)	18:02	46	17:21 (T45)	19:35	20:08			20:39	60	20:10 (T44)	21:05	44	20:06 (T44)
14	07:56		16:37 (T45)	07:29		16:35 (T45)	07:46	06:55			06:15		19:10 (T44)	05:58		19:22 (T44)
	17:26	23	17:00 (T45)	18:04	44	17:19 (T45)	19:36	20:09			20:40	60	20:10 (T44)	21:05	44	20:06 (T44)
15	07:55		16:37 (T45)	07:27		16:36 (T45)	07:45	06:53			06:14		19:11 (T44)	05:58		19:23 (T44)
	17:27	24	17:01 (T45)	18:05	43	17:19 (T45)	19:38	20:10			20:41	60	20:11 (T44)	21:05	43	20:06 (T44)
16	07:55		16:36 (T45)	07:26		16:38 (T45)	07:43	06:52			06:13		19:11 (T44)	05:58		19:23 (T44)
	17:28	26	17:02 (T45)	18:06	40	17:18 (T45)	19:39	20:11			20:42	60	20:11 (T44)	21:06	43	20:06 (T44)
17	07:54		16:35 (T45)	07:25		16:38 (T45)	07:41	06:50			06:12		19:11 (T44)	05:58		19:24 (T44)
	17:29	29	17:04 (T45)	18:07	38	17:16 (T45)	19:40	20:12			20:43	60	20:11 (T44)	21:06	43	20:07 (T44)
18	07:54		16:34 (T45)	07:23		16:40 (T45)	07:40	06:49			06:11		19:11 (T44)	05:58		19:25 (T44)
	17:30	31	17:05 (T45)	18:09	35	17:15 (T45)	19:41	20:13			20:44	59	20:10 (T44)	21:07	42	20:07 (T44)
19	07:53		16:35 (T45)	07:22		16:42 (T45)	07:38	06:47			06:10		19:11 (T44)	05:58		19:25 (T44)
	17:32	32	17:07 (T45)	18:10	32	17:14 (T45)	19:42	20:14			20:45	59	20:10 (T44)	21:07	42	20:07 (T44)
20	07:53		16:34 (T45)	07:20		16:44 (T45)	07:36	06:46		19:36 (T44)	06:09		19:11 (T44)	05:59		19:25 (T44)
	17:33	33	17:07 (T45)	18:11	27	17:11 (T45)	19:43	20:15	14	19:50 (T44)	20:46	59	20:10 (T44)	21:07	42	20:07 (T44)
21	07:52		16:33 (T45)	07:19		16:47 (T45)	07:35	06:44		19:32 (T44)	06:09		19:11 (T44)	05:59		19:25 (T44)
	17:34	35	17:08 (T45)	18:12	22	17:09 (T45)	19:44	20:16	23	19:55 (T44)	20:47	58	20:09 (T44)	21:07	42	20:07 (T44)
22	07:52		16:33 (T45)	07:18		16:50 (T45)	07:33	06:43		19:28 (T44)	06:08		19:12 (T44)	05:59		19:25 (T44)
	17:35	37	17:10 (T45)	18:13	15	17:05 (T45)	19:45	20:17	28	19:56 (T44)	20:48	58	20:10 (T44)	21:08	42	20:07 (T44)
23	07:51		16:33 (T45)	07:16			07:31	06:41		19:26 (T44)	06:07		19:12 (T44)	05:59		19:26 (T44)
	17:36	38	17:11 (T45)	18:15			19:46	20:18	31	19:57 (T44)	20:49	58	20:10 (T44)	21:08	42	20:08 (T44)
24	07:50		16:32 (T45)	07:15			07:30	06:40		19:24 (T44)	06:06		19:13 (T44)	05:59		19:26 (T44)
	17:38	41	17:13 (T45)	18:16			19:47	20:19	33	19:57 (T44)	20:50	56	20:09 (T44)	21:08	42	20:08 (T44)
25	07:49		16:31 (T45)	07:13			07:28	06:38		19:22 (T44)	06:06		19:14 (T44)	06:00		19:26 (T44)
	17:39	43	17:14 (T45)	18:17			19:48	20:21	37	19:59 (T44)	20:51	56	20:10 (T44)	21:08	42	20:08 (T44)
26	07:49		16:31 (T45)	07:12			07:26	06:37		19:20 (T44)	06:05		19:14 (T44)	06:00		19:26 (T44)
	17:40	44	17:15 (T45)	18:18			19:50	20:22	39	19:59 (T44)	20:52	55	20:09 (T44)	21:08	43	20:09 (T44)
27	07:48		16:32 (T45)	07:10			07:24	06:36		19:19 (T44)	06:04		19:15 (T44)	06:00		19:26 (T44)
	17:41	45	17:17 (T45)	18:19			19:51	20:23	42	20:01 (T44)	20:53	54	20:09 (T44)	21:08	43	20:09 (T44)
28	07:47		16:31 (T45)	07:09			07:23	06:34		19:18 (T44)	06:04		19:15 (T44)	06:01		19:26 (T44)
	17:42	47	17:18 (T45)	18:21			19:52	20:24	44	20:02 (T44)	20:54	54	20:09 (T44)	21:08	43	20:09 (T44)
29	07:46		16:31 (T45)				07:21	06:33		19:16 (T44)	06:03		19:15 (T44)	06:01		19:26 (T44)
	17:44	48	17:19 (T45)				19:53	20:25	46	20:02 (T44)	20:54	53	20:08 (T44)	21:08	44	20:10 (T44)
30	07:45		16:31 (T45)				07:19	06:32		19:16 (T44)	06:02		19:16 (T44)	06:02		19:26 (T44)
	17:45	50	17:21 (T45)				19:54	20:26	48	20:04 (T44)	20:55	52	20:08 (T44)	21:08	44	20:10 (T44)
31	07:44		16:31 (T45)				07:18				06:02		19:16 (T44)			
	17:46	50	17:21 (T45)				19:55				20:56	52	20:08 (T44)			
Potential sun hours	297			297			370	399			448			453		
Total, worst case		758			944				385			1763			1346	
Sun reduction		0.31			0.40				0.52			0.57			0.64	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.73			0.73				0.57			0.57			0.57	
Total reduction		0.23			0.30				0.30			0.33			0.37	
Total, real		176			282				117			588			504	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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Calculated:
9/5/2019 11:32 PM/3.2.737

SHADOW - Calendar

Calculation: 2019-09-04_Emerson GE TurbinesShadow receptor: 1666 - Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9078)

Assumptions for shadow calculations

Sunshine probability S/S0 (Sun hours/Possible sun hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.31	0.40	0.44	0.52	0.57	0.64	0.66	0.61	0.59	0.48	0.30	0.22

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
300	301	557	671	325	294	265	370	495	1,070	1,118	1,067	738	557	368	264	8,760

	July			August			September	October			November			December		
1	06:02		19:26 (T44)	06:26		19:21 (T44)	06:57	07:27			07:02		16:02 (T45)	07:37		16:22 (T45)
	21:08	45	20:11 (T44)	20:50	60	20:21 (T44)	20:07	19:15			17:28	49	16:51 (T45)	17:04	16	16:38 (T45)
2	06:03		19:26 (T44)	06:27		19:21 (T44)	06:58	07:29			07:03		16:02 (T45)	07:38		16:24 (T45)
	21:08	45	20:11 (T44)	20:49	60	20:21 (T44)	20:06	19:13			17:27	50	16:52 (T45)	17:03	14	16:38 (T45)
3	06:03		19:26 (T44)	06:28		19:21 (T44)	06:59	07:30			07:04		16:02 (T45)	07:39		16:26 (T45)
	21:08	46	20:12 (T44)	20:48	59	20:20 (T44)	20:04	19:11			17:26	50	16:52 (T45)	17:03	12	16:38 (T45)
4	06:04		19:25 (T44)	06:29		19:21 (T44)	07:00	07:31			07:06		16:01 (T45)	07:40		16:30 (T45)
	21:08	47	20:12 (T44)	20:47	59	20:20 (T44)	20:02	19:10			17:24	51	16:52 (T45)	17:03	5	16:35 (T45)
5	06:04		19:26 (T44)	06:30		19:21 (T44)	07:01	07:32			07:07		16:01 (T45)	07:41		
	21:08	47	20:13 (T44)	20:46	59	20:20 (T44)	20:01	19:08			17:23	51	16:52 (T45)	17:03		
6	06:05		19:25 (T44)	06:31		19:22 (T44)	07:02	07:33			07:08		16:01 (T45)	07:42		
	21:08	48	20:13 (T44)	20:44	58	20:20 (T44)	19:57	19:06			17:22	52	16:53 (T45)	17:03		
7	06:05		19:25 (T44)	06:32		19:22 (T44)	07:03	07:34			07:09		16:01 (T45)	07:43		
	21:07	49	20:14 (T44)	20:43	57	20:19 (T44)	19:56	19:05			17:21	52	16:53 (T45)	17:03		
8	06:06		19:25 (T44)	06:33		19:22 (T44)	07:04	07:35			07:10		16:01 (T45)	07:44		
	21:07	50	20:15 (T44)	20:42	56	20:18 (T44)	19:54	19:03			17:20	51	16:52 (T45)	17:03		
9	06:07		19:25 (T44)	06:34		19:22 (T44)	07:05	07:36			07:12		16:01 (T45)	07:45		
	21:07	49	20:14 (T44)	20:41	55	20:17 (T44)	19:52	19:01			17:19	51	16:52 (T45)	17:03		
10	06:07		19:25 (T44)	06:35		19:23 (T44)	07:06	07:37			07:13		16:02 (T45)	07:46		
	21:06	50	20:15 (T44)	20:39	53	20:16 (T44)	19:51	19:00			17:18	51	16:53 (T45)	17:03		
11	06:08		19:25 (T44)	06:36		19:23 (T44)	07:07	07:38			07:14		16:02 (T45)	07:46		
	21:06	51	20:16 (T44)	20:38	51	20:14 (T44)	19:49	18:58			17:17	50	16:52 (T45)	17:03		
12	06:09		19:24 (T44)	06:37		19:24 (T44)	07:08	07:39			07:15		16:02 (T45)	07:47		
	21:05	52	20:16 (T44)	20:37	49	20:13 (T44)	19:47	18:57			17:16	50	16:52 (T45)	17:03		
13	06:10		19:24 (T44)	06:38		19:24 (T44)	07:09	07:40			07:16		16:03 (T45)	07:48		16:16 (T46)
	21:05	53	20:17 (T44)	20:36	48	20:12 (T44)	19:45	18:55			17:15	48	16:51 (T45)	17:03	3	16:19 (T46)
14	06:10		19:24 (T44)	06:39		19:25 (T44)	07:10	07:41			07:18		16:03 (T45)	07:49		16:14 (T46)
	21:04	53	20:17 (T44)	20:34	46	20:11 (T44)	19:44	18:54			17:14	47	16:50 (T45)	17:03	7	16:21 (T46)
15	06:11		19:24 (T44)	06:40		19:26 (T44)	07:11	07:42			07:19		16:04 (T45)	07:50		16:14 (T46)
	21:04	54	20:18 (T44)	20:33	43	20:09 (T44)	19:42	18:52			17:13	45	16:49 (T45)	17:03	8	16:22 (T46)
16	06:12		19:23 (T44)	06:41		19:27 (T44)	07:12	07:44			07:20		16:04 (T45)	07:50		16:14 (T46)
	21:03	55	20:18 (T44)	20:31	41	20:08 (T44)	19:40	18:50			17:12	44	16:48 (T45)	17:04	9	16:23 (T46)
17	06:13		19:23 (T44)	06:42		19:27 (T44)	07:13	07:45			07:21		16:05 (T45)	07:51		16:14 (T46)
	21:03	55	20:18 (T44)	20:30	39	20:06 (T44)	19:39	18:49			17:11	43	16:48 (T45)	17:04	10	16:24 (T46)
18	06:14		19:23 (T44)	06:43		19:28 (T44)	07:14	07:46			07:22		16:06 (T45)	07:52		16:14 (T46)
	21:02	56	20:19 (T44)	20:29	36	20:04 (T44)	19:37	18:47			17:11	40	16:46 (T45)	17:04	11	16:25 (T46)
19	06:14		19:23 (T44)	06:44		19:30 (T44)	07:15	07:47		17:25 (T45)	07:23		16:07 (T45)	07:52		16:15 (T46)
	21:01	56	20:19 (T44)	20:27	33	20:03 (T44)	19:35	18:46	6	17:31 (T45)	17:10	38	16:45 (T45)	17:05	11	16:26 (T46)
20	06:15		19:23 (T44)	06:45		19:31 (T44)	07:16	07:48		17:19 (T45)	07:25		16:07 (T45)	07:53		16:15 (T46)
	21:01	57	20:20 (T44)	20:26	31	20:02 (T44)	19:33	18:44	18	17:37 (T45)	17:09	37	16:44 (T45)	17:05	11	16:26 (T46)
21	06:16		19:22 (T44)	06:46		19:34 (T44)	07:17	07:49		17:16 (T45)	07:26		16:09 (T45)	07:53		16:15 (T46)
	21:00	57	20:19 (T44)	20:24	26	20:00 (T44)	19:32	18:43	25	17:41 (T45)	17:09	35	16:44 (T45)	17:06	12	16:27 (T46)
22	06:17		19:22 (T44)	06:47		19:36 (T44)	07:18	07:50		17:14 (T45)	07:27		16:10 (T45)	07:54		16:15 (T46)
	20:59	58	20:20 (T44)	20:23	22	19:58 (T44)	19:30	18:41	28	17:42 (T45)	17:08	34	16:44 (T45)	17:06	12	16:27 (T46)
23	06:18		19:22 (T44)	06:48		19:41 (T44)	07:19	07:51		17:11 (T45)	07:28		16:11 (T45)	07:54		16:17 (T46)
	20:58	58	20:20 (T44)	20:21	12	19:53 (T44)	19:28	18:40	33	17:44 (T45)	17:07	32	16:43 (T45)	17:07	11	16:28 (T46)
24	06:19		19:22 (T44)	06:49			07:20	07:53		17:10 (T45)	07:29		16:11 (T45)	07:55		16:17 (T46)
	20:58	58	20:20 (T44)	20:20			19:27	18:39	35	17:45 (T45)	17:07	31	16:42 (T45)	17:07	11	16:28 (T46)
25	06:20		19:22 (T44)	06:50			07:21	07:54		17:08 (T45)	07:30		16:13 (T45)	07:55		16:17 (T46)
	20:57	59	20:21 (T44)	20:18			19:25	18:37	38	17:46 (T45)	17:06	29	16:42 (T45)	17:08	11	16:28 (T46)
26	06:21		19:22 (T44)	06:51			07:22	07:55		17:07 (T45)	07:32		16:15 (T45)	07:56		16:18 (T46)
	20:56	59	20:21 (T44)	20:17			19:23	18:36	41	17:48 (T45)	17:06	26	16:41 (T45)	17:08	11	16:29 (T46)
27	06:22		19:22 (T44)	06:52			07:23	07:56		17:06 (T45)	07:33		16:16 (T45)	07:56		16:19 (T46)
	20:55	59	20:21 (T44)	20:15			19:21	18:34	43	17:49 (T45)	17:05	25	16:41 (T45)	17:09	10	16:29 (T46)
28	06:22		19:22 (T44)	06:53			07:24	07:57		17:05 (T45)	07:34		16:17 (T45)	07:56		16:20 (T46)
	20:54	59	20:21 (T44)	20:14			19:20	18:33	44	17:49 (T45)	17:05	23	16:40 (T45)	17:10	8	16:28 (T46)
29	06:23		19:21 (T44)	06:54			07:25	07:58		17:04 (T45)	07:35		16:18 (T45)	07:57		16:21 (T46)
	20:53	60	20:21 (T44)	20:12			19:18	18:32	45	17:49 (T45)	17:04	21	16:39 (T45)	17:10	7	16:28 (T46)
30	06:24		19:21 (T44)	06:55			07:26	08:00		17:04 (T45)	07:36		16:20 (T45)	07:57		16:22 (T46)
	20:52	60	20:21 (T44)	20:10			19:16	18:31	47	17:51 (T45)	17:04	19	16:39 (T45)	17:11	5	16:27 (T46)
31	06:25		19:21 (T44)	06:56				08:01		17:03 (T45)				07:57		
	20:51	60	20:21 (T44)	20:09				18:29	48	17:51 (T45)				17:12		
Potential sun hours	460			429			375	345			297			287		
Total, worst case		1665			1053				451			1225			215	
Sun reduction		0.66			0.61				0.48			0.30			0.22	
Oper. time red.		1.00			1.00				1.00			1.00			1.00	
Wind dir. red.		0.57			0.57				0.73			0.73			0.74	
Total reduction		0.39			0.36				0.36			0.22			0.17	
Total, real		643			376				162			275			36	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker Last time (hh:mm) with flicker	(WTG causing flicker first time) (WTG causing flicker last time)

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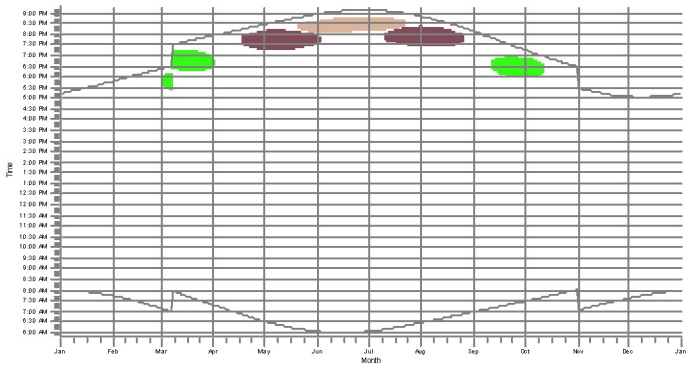
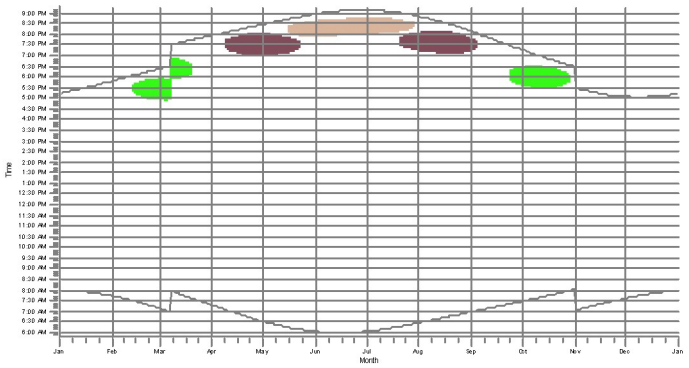
SHADOW - Calendar, graphical

Calculation: 2019-09-04_Emerson GE Turbines

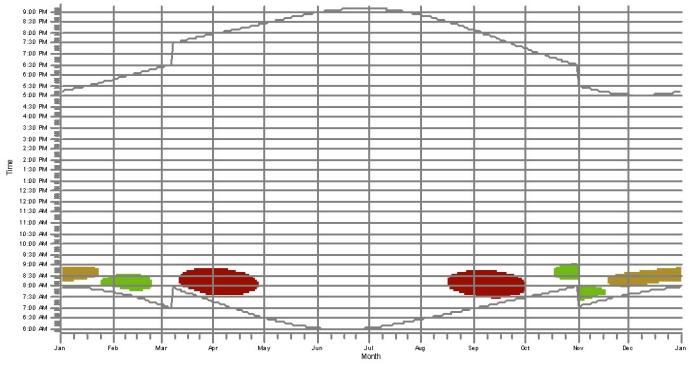
7: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7693)



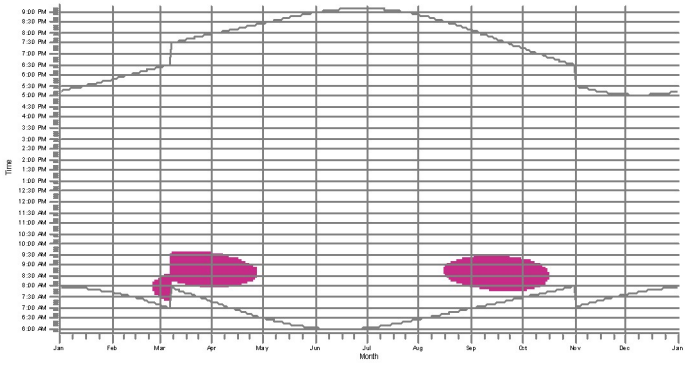
54: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7736)



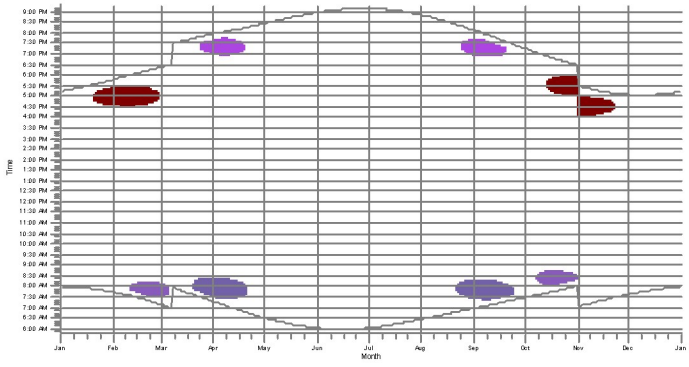
64: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7743)



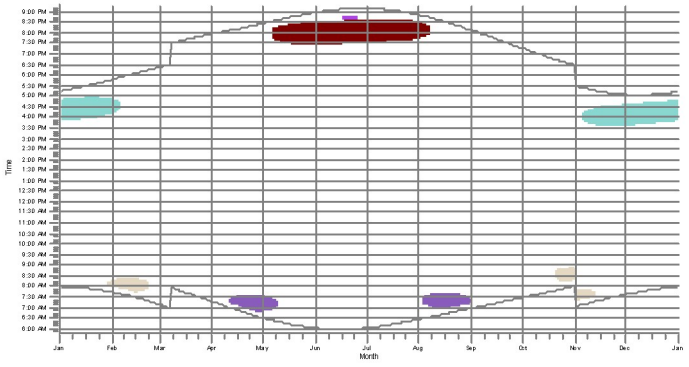
87: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7760)

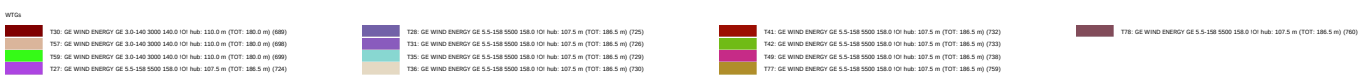


91: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7764)



104: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7774)





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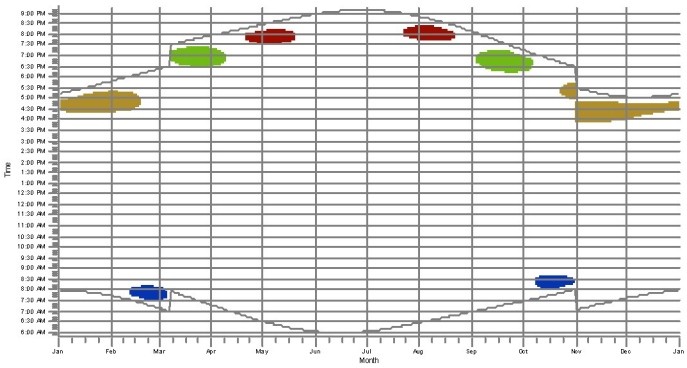
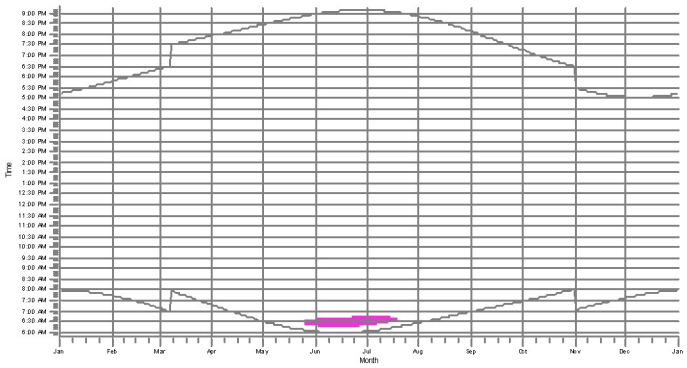
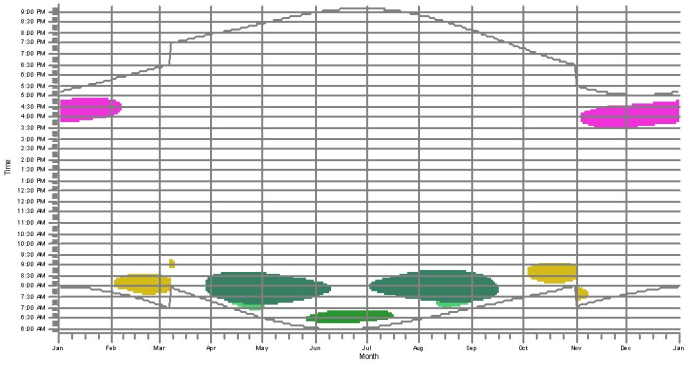
137: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7798)



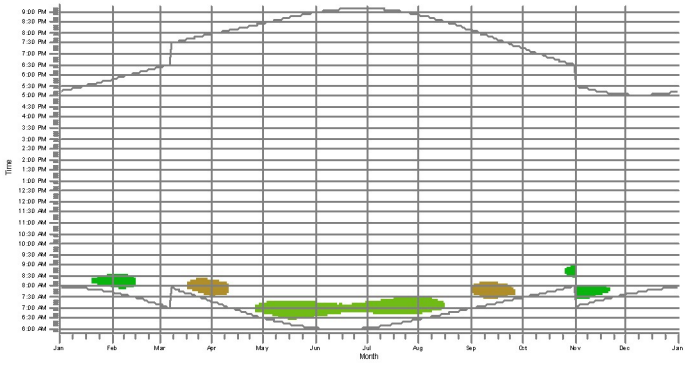
144: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7804)



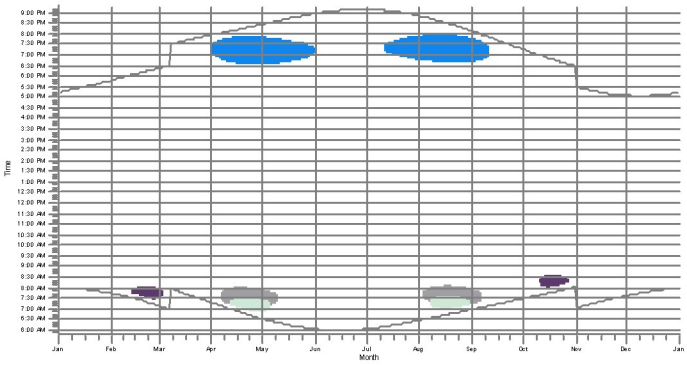
197: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7850)



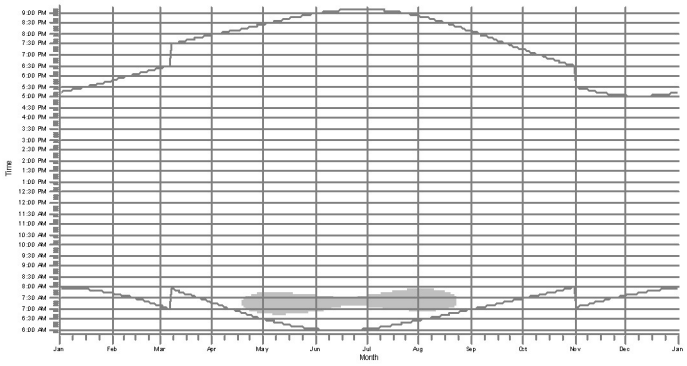
228: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7878)



232: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7882)



255: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7903)



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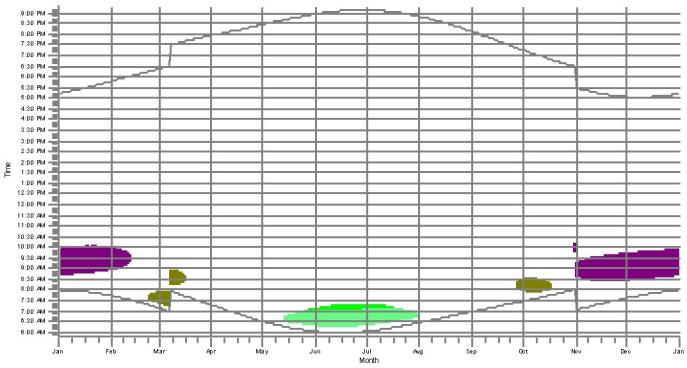
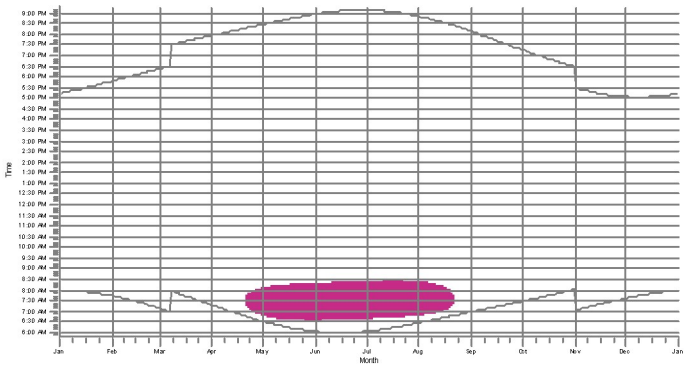
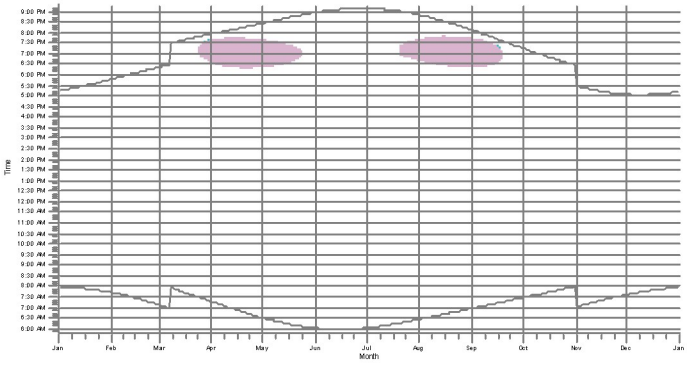
275: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7918)



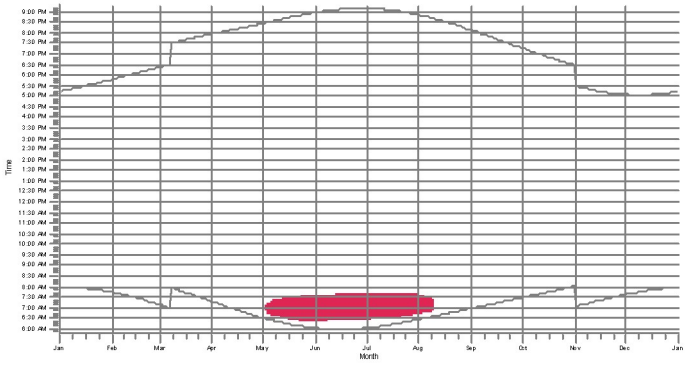
277: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7919)



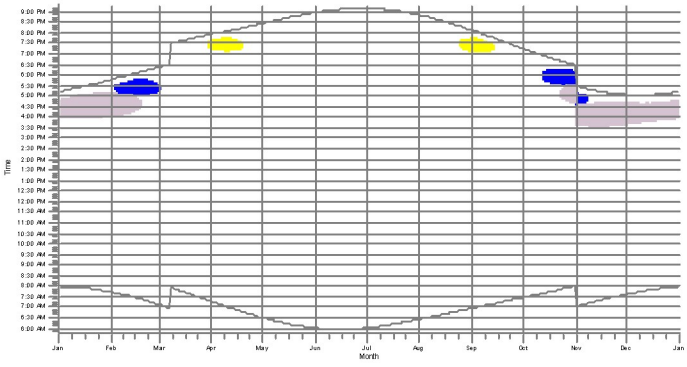
319: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7948)



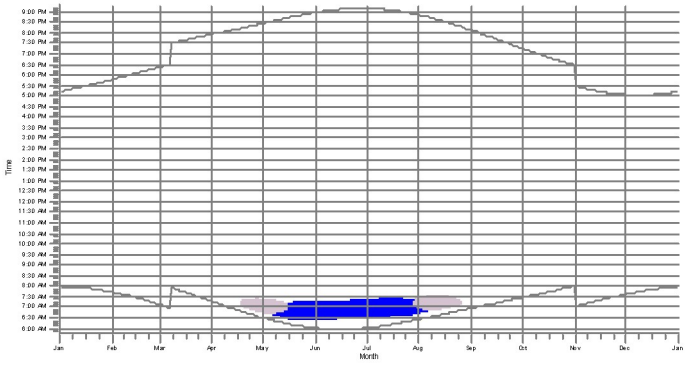
328: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7956)



332: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7960)



344: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7972)



WTGs

T3: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (683)
T4: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (684)
T34: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (690)
T37: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (691)
T38: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (692)
T62: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (700)
T5: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (706)
T43: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (734)
T49: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (738)
T79: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (761)
T87: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (768)

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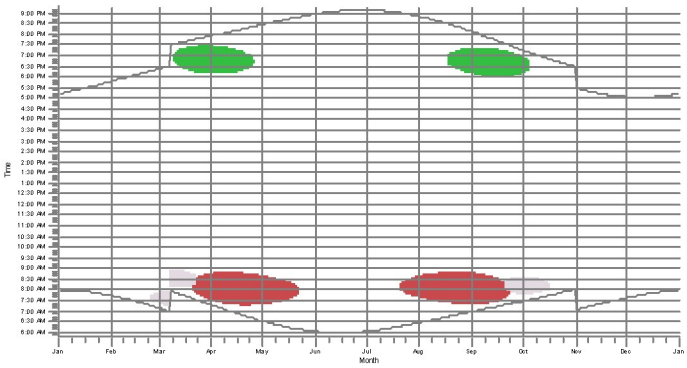
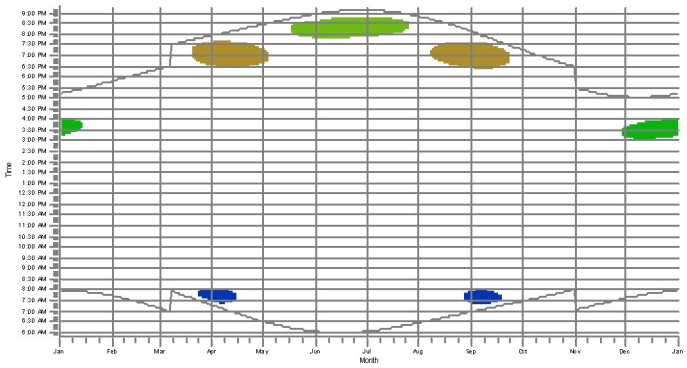
Calculation: 2019-09-04_Emerson GE Turbines

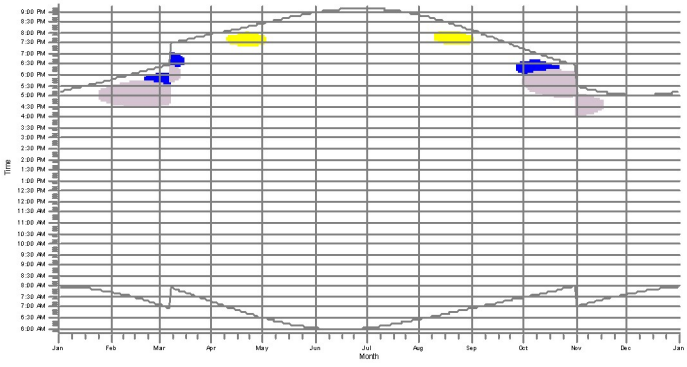
360: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (7986)



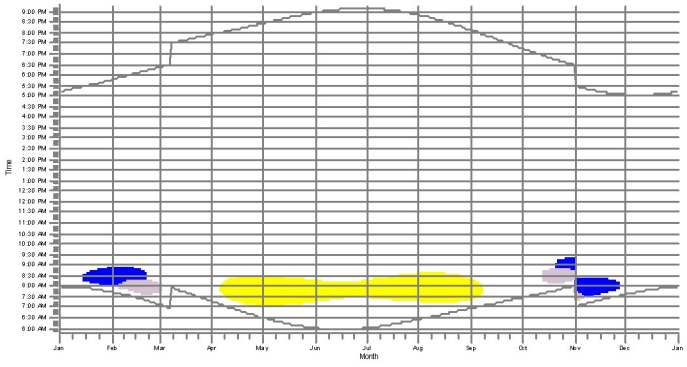
382: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8004)



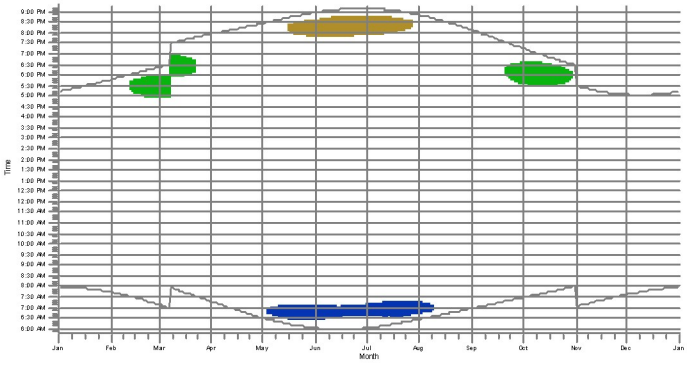
385: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8007)



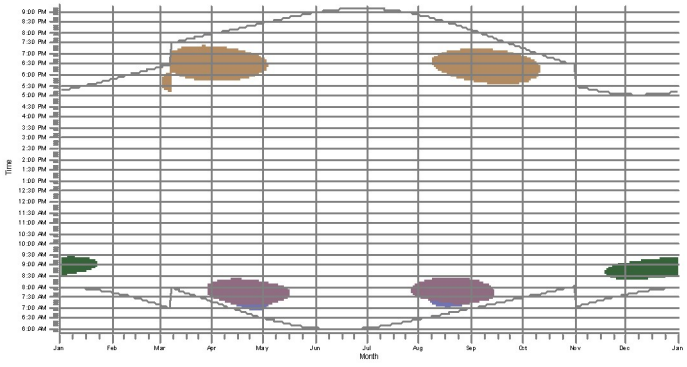
390: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8012)

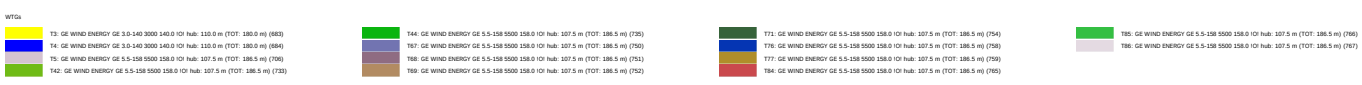


399: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8021)



404: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8026)





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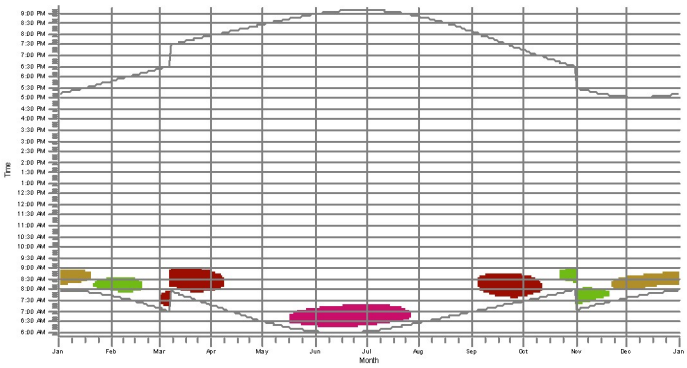
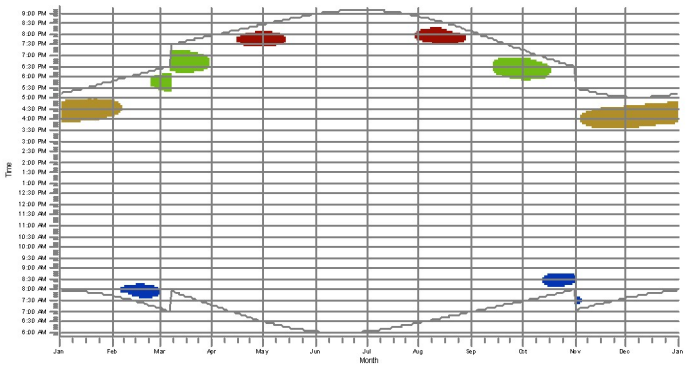
Calculation: 2019-09-04_Emerson GE Turbines

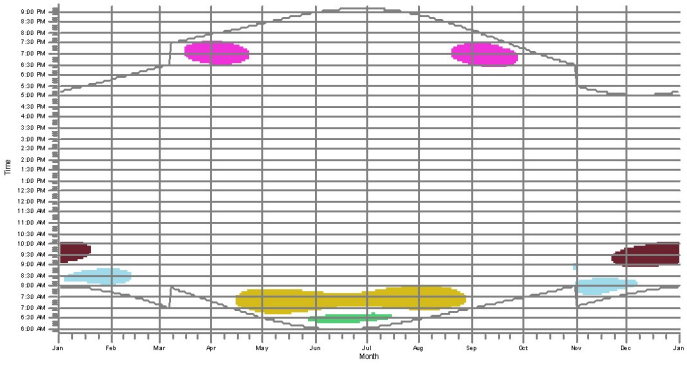
422: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8041)



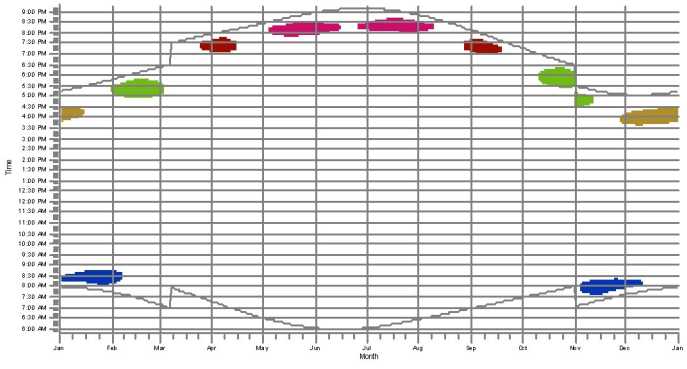
423: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8042)



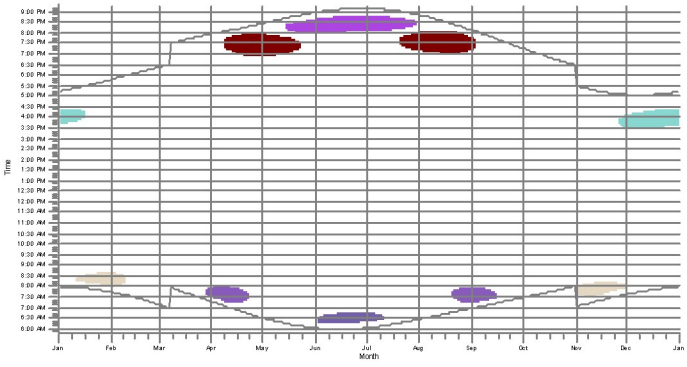
427: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8046)



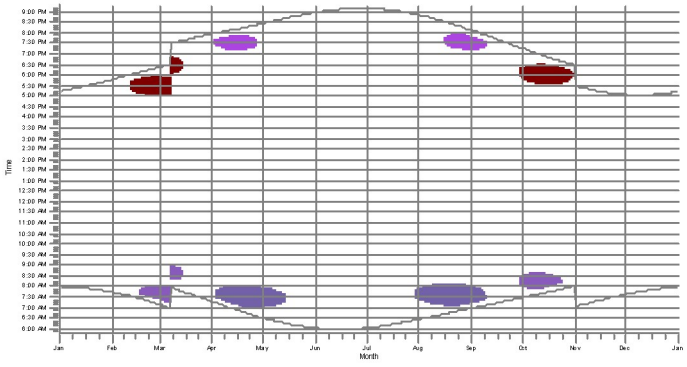
477: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8085)

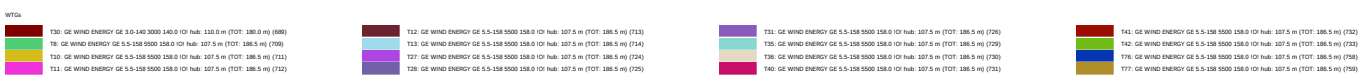


500: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8106)



501: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8107)





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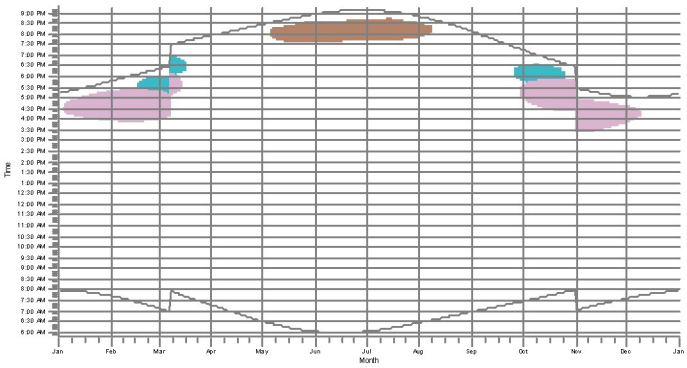
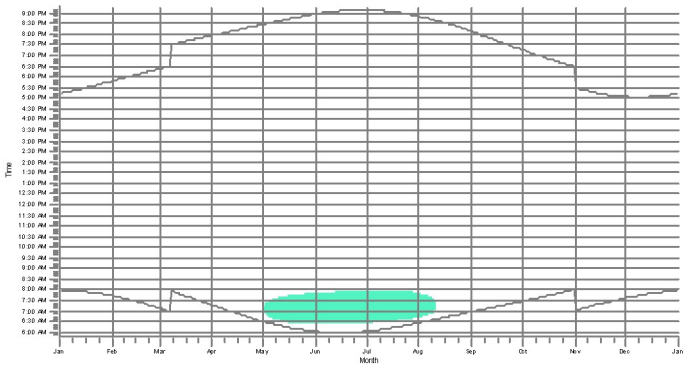
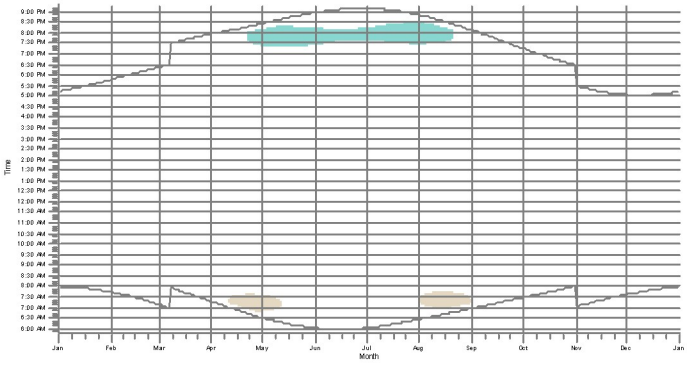
510: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8114)



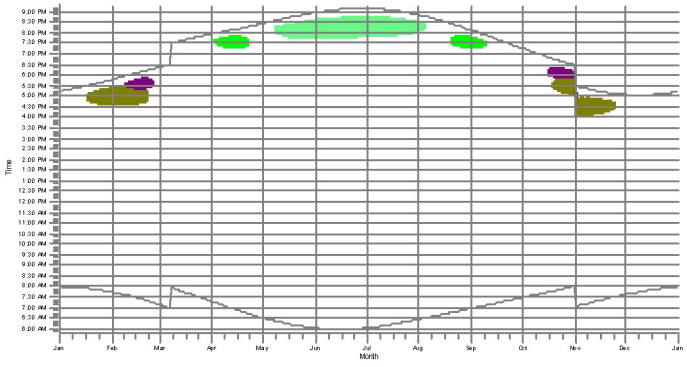
518: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8120)



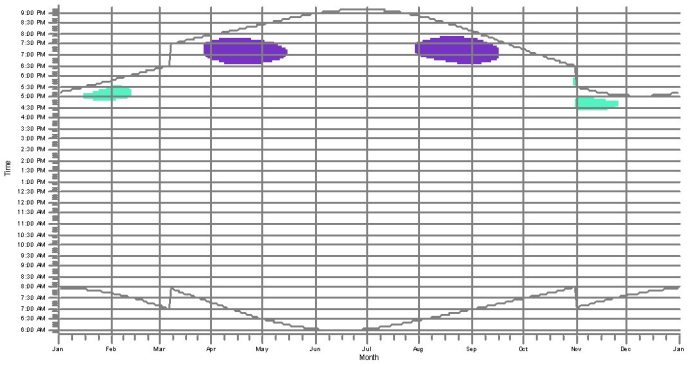
569: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8166)



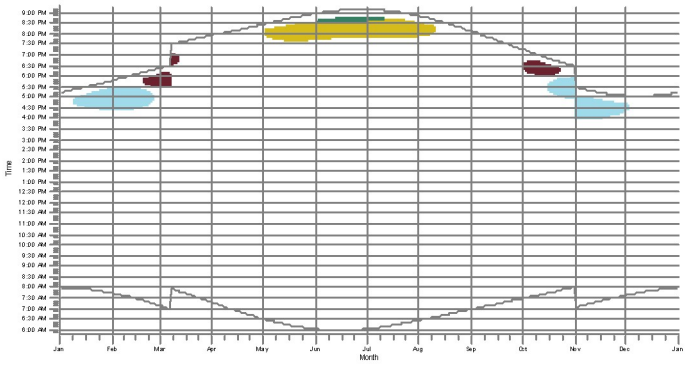
570: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8167)



576: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8173)



596: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8191)



WTGs

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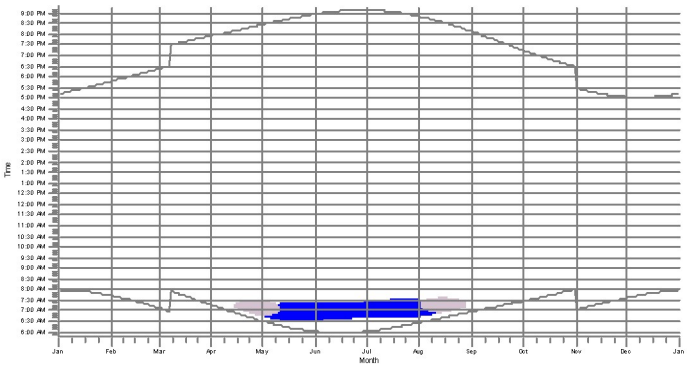
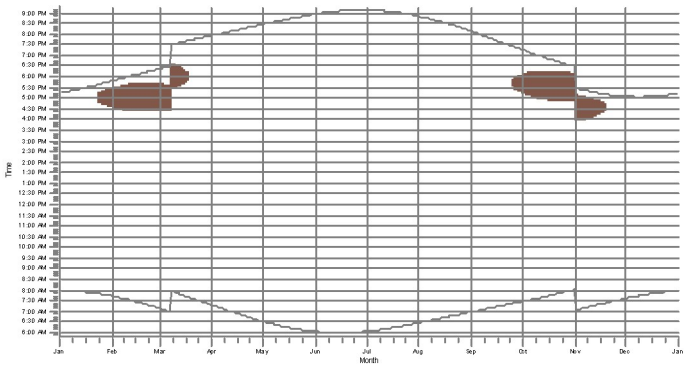
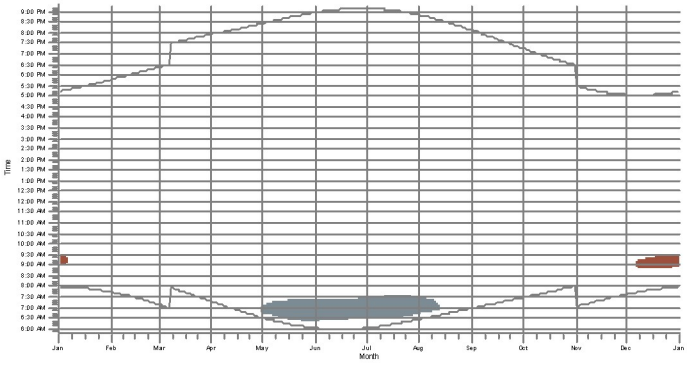
611: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8204)



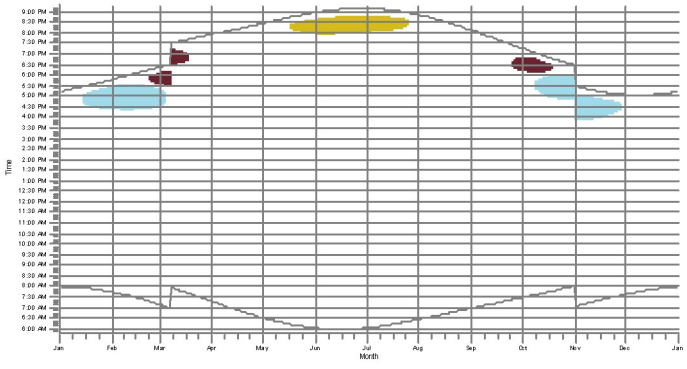
641: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8228)



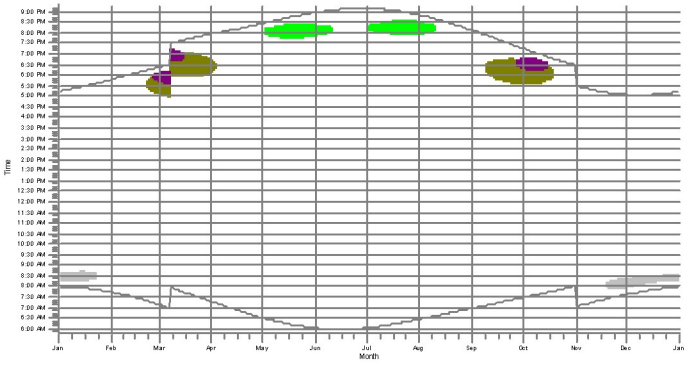
653: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8235)



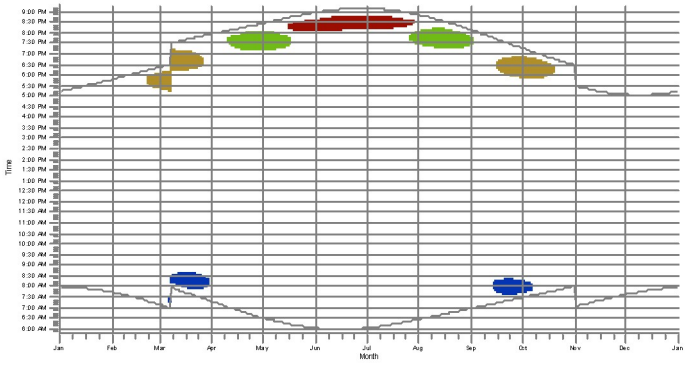
688: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8262)

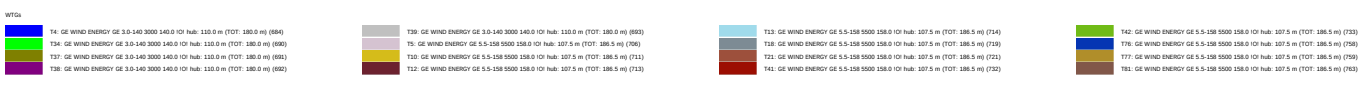


693: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8267)



718: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8286)





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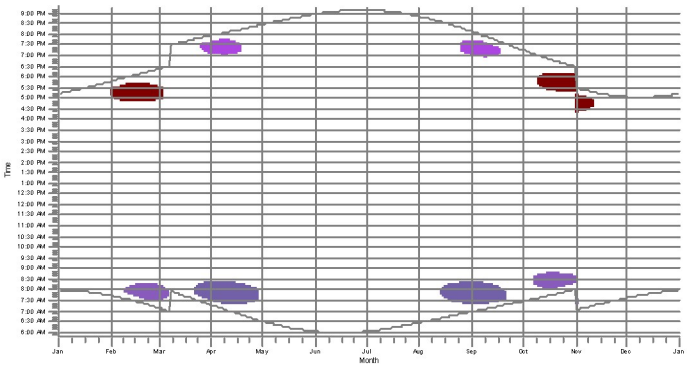
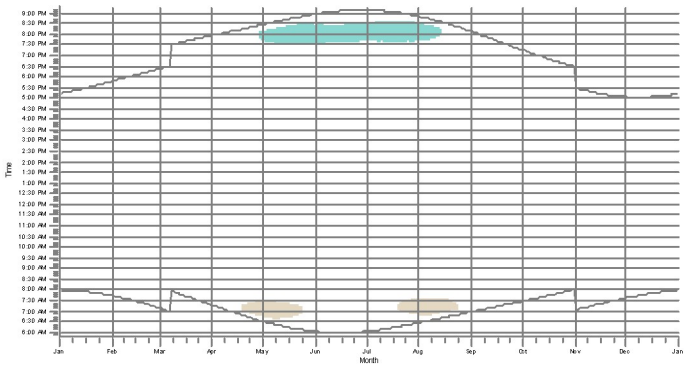
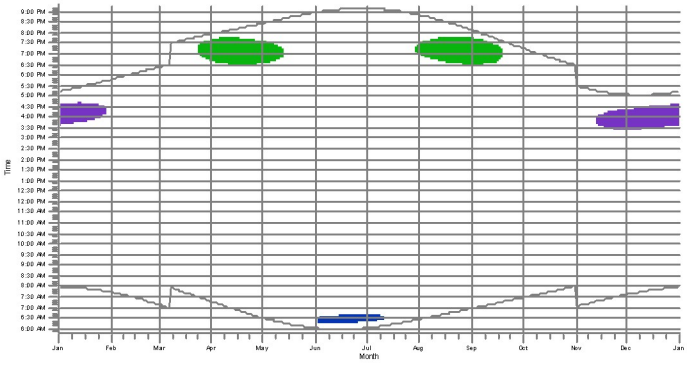
728: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8295)



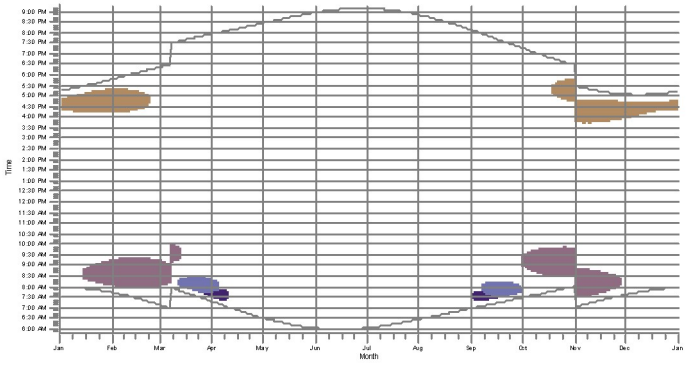
740: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8305)



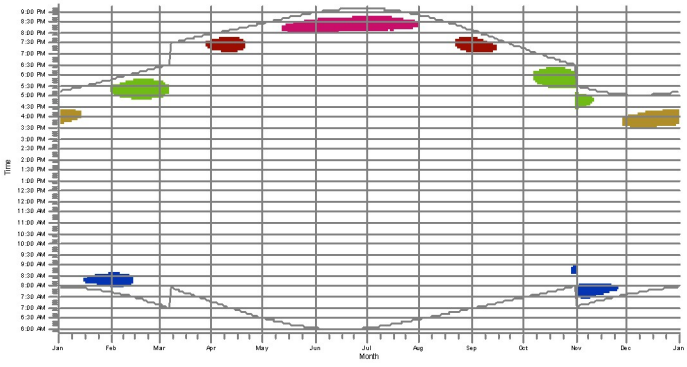
752: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8315)



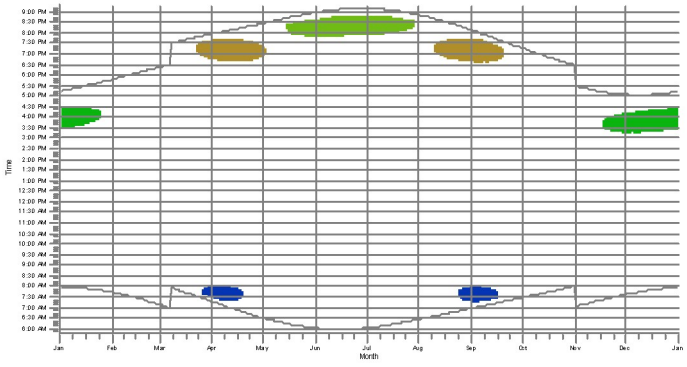
770: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8329)

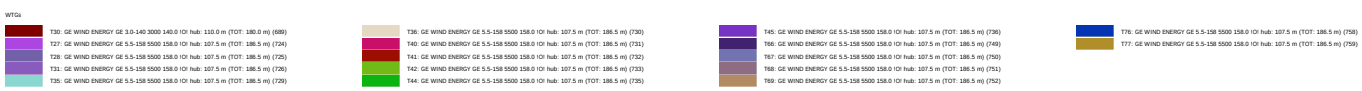


779: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8336)



785: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8342)





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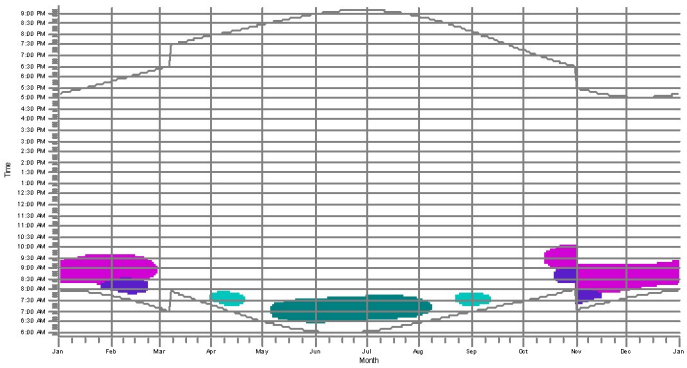
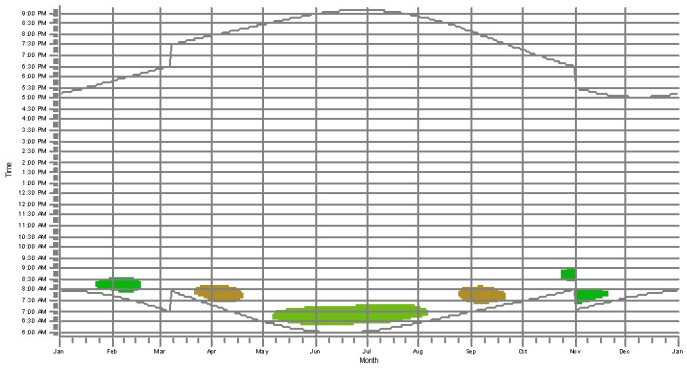
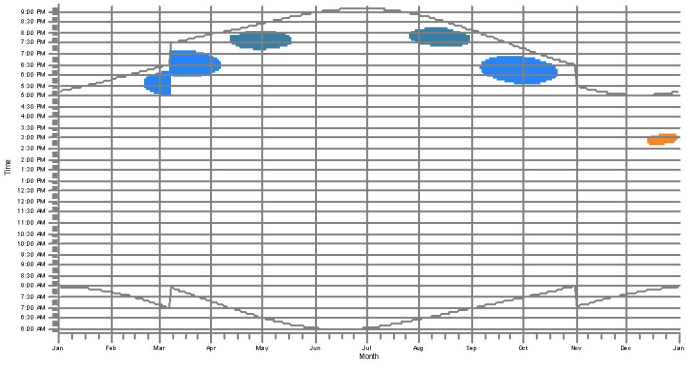
827: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8377)



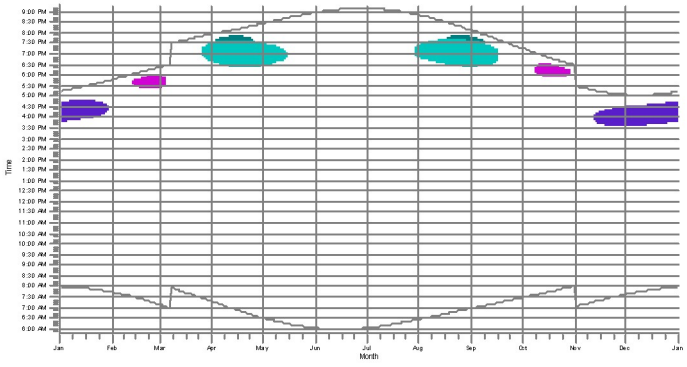
834: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8383)



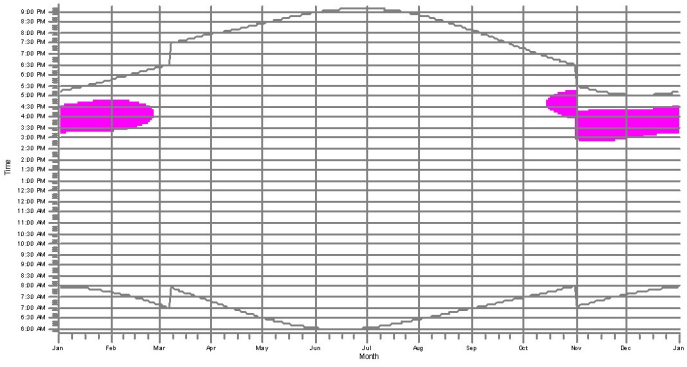
855: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8401)



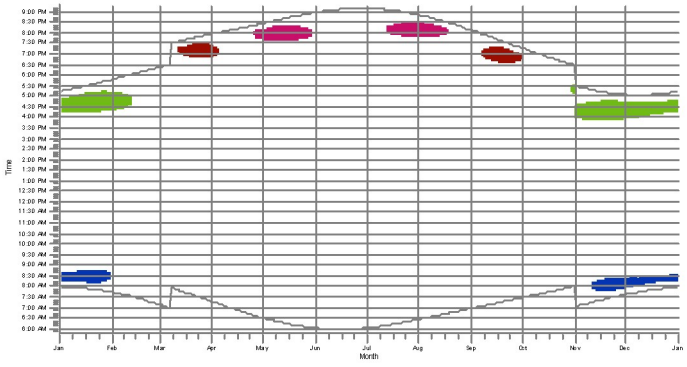
857: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8402)



860: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8403)



869: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8411)



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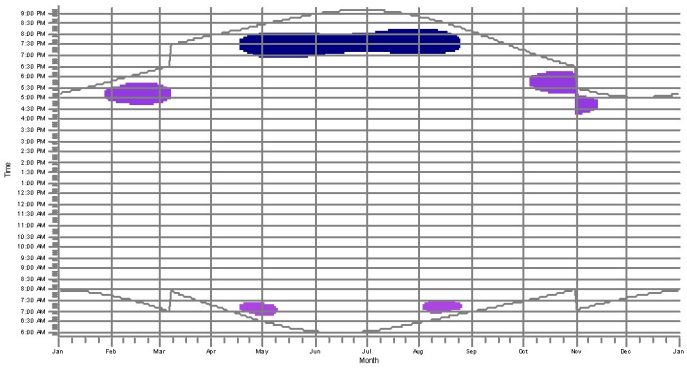
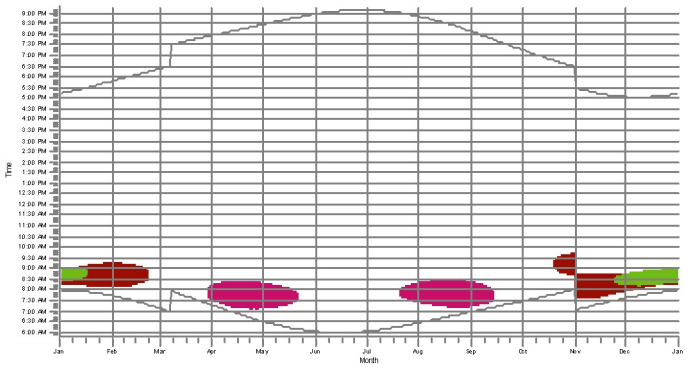
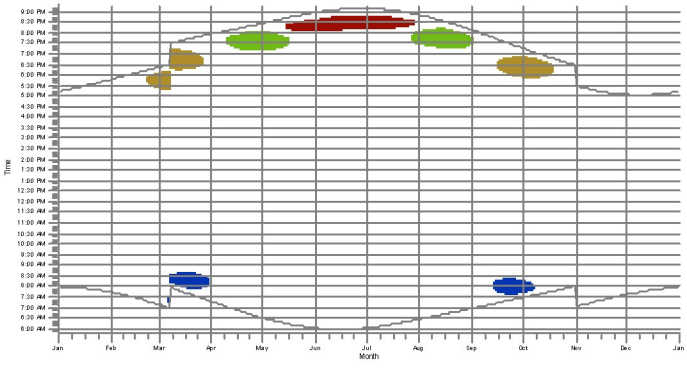
870: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8412)



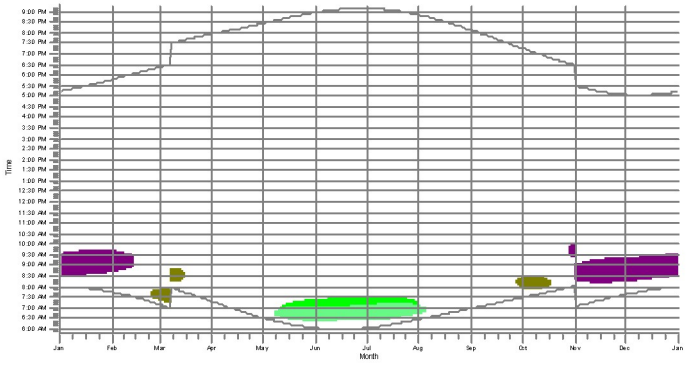
879: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8421)



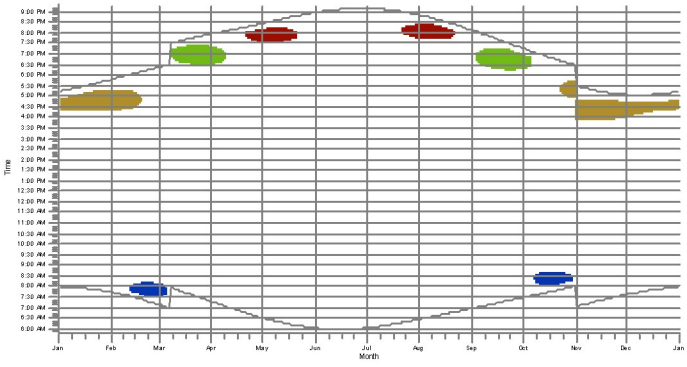
880: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8422)



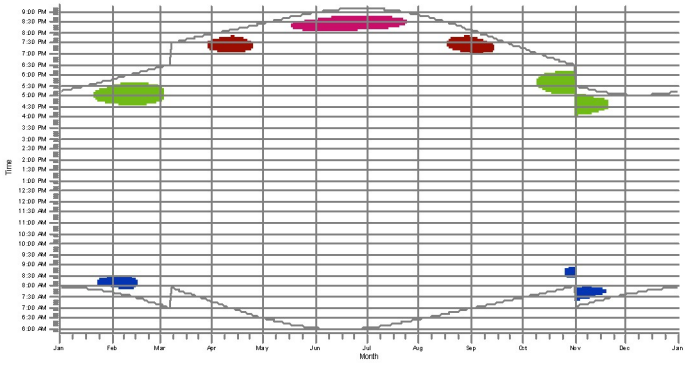
923: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8456)



932: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8465)



938: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8471)



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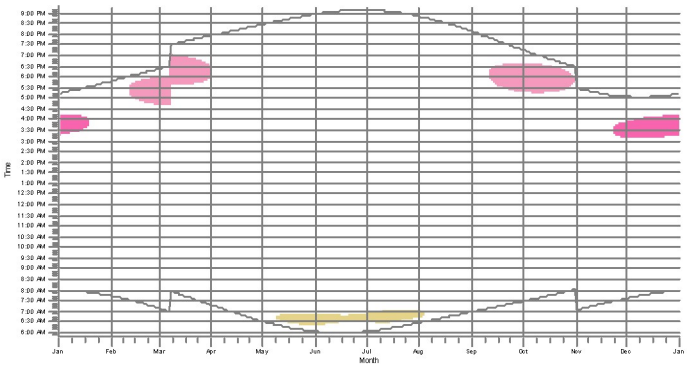
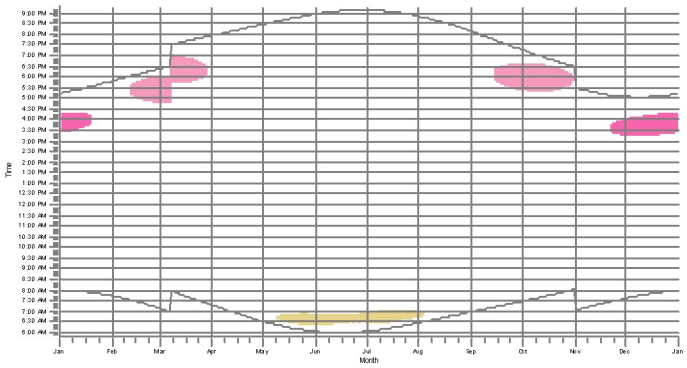
Calculation: 2019-09-04_Emerson GE Turbines

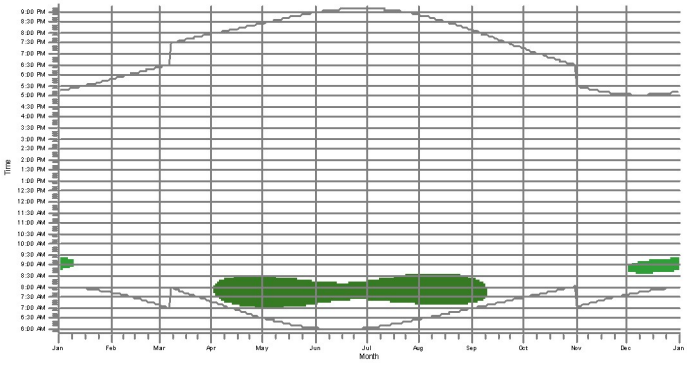
940: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8472)



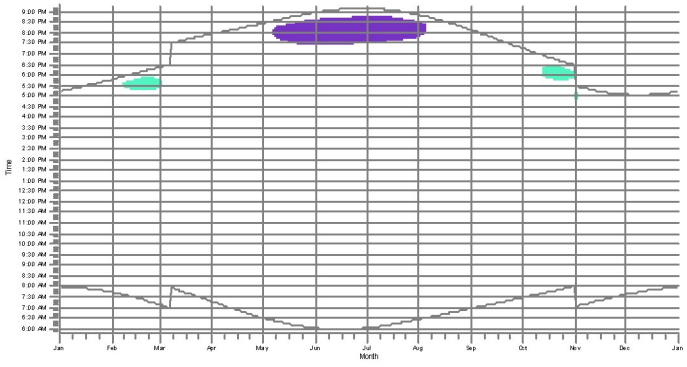
941: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8473)



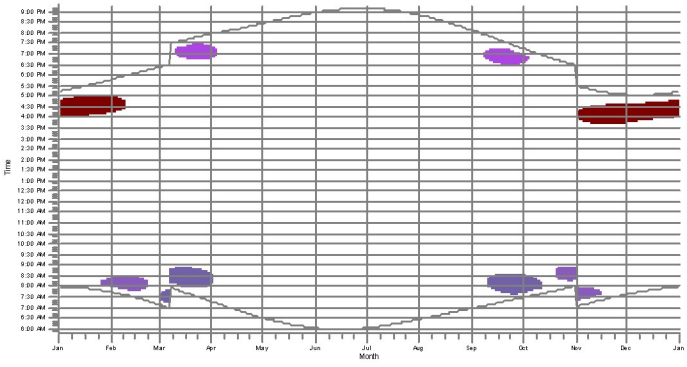
948: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8479)



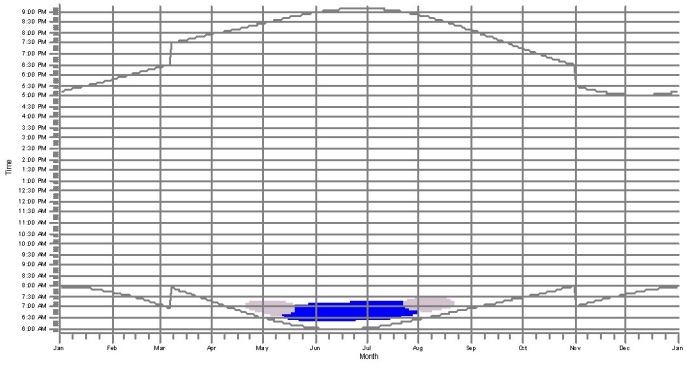
951: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8482)



956: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8486)



986: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8514)



WTGs

T4: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (684)
T30: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (689)
T63: GE WIND ENERGY GE 3.0-140 3000 140.0 IOI hub: 110.0 m (TOT: 180.0 m) (701)
T5: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (706)
T27: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (724)
T28: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (725)
T31: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (726)
T45: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (736)
T46: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (737)
T51: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (739)
T52: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (740)
T53: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (741)
T61: GE WIND ENERGY GE 5.5-158 5500 158.0 IOI hub: 107.5 m (TOT: 186.5 m) (746)

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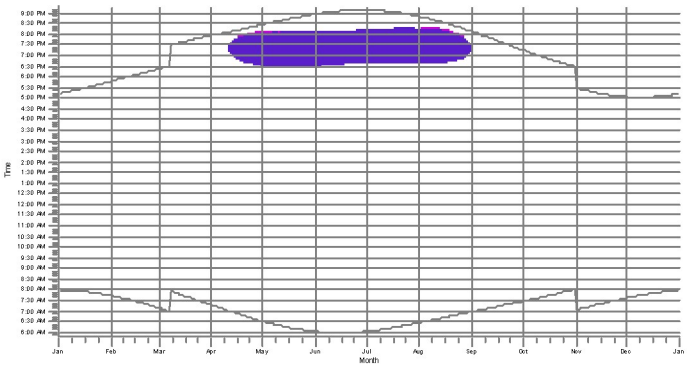
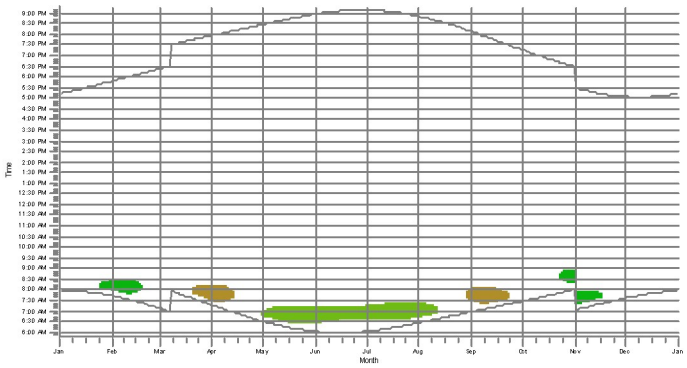
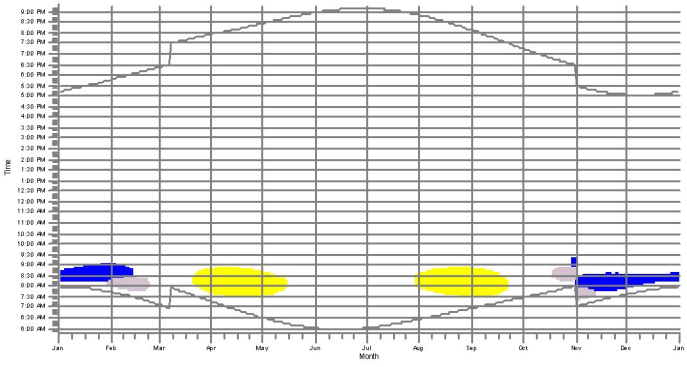
998: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8522)



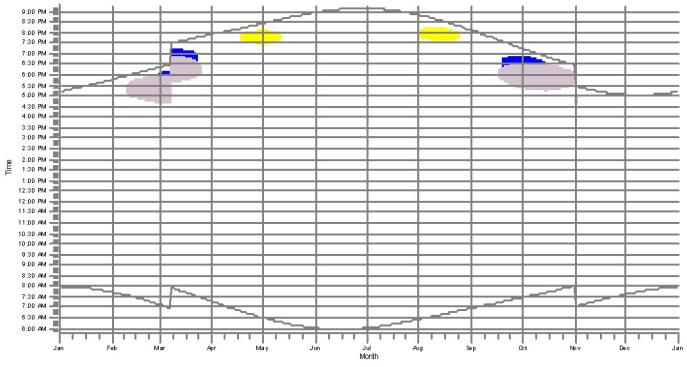
1022: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8544)



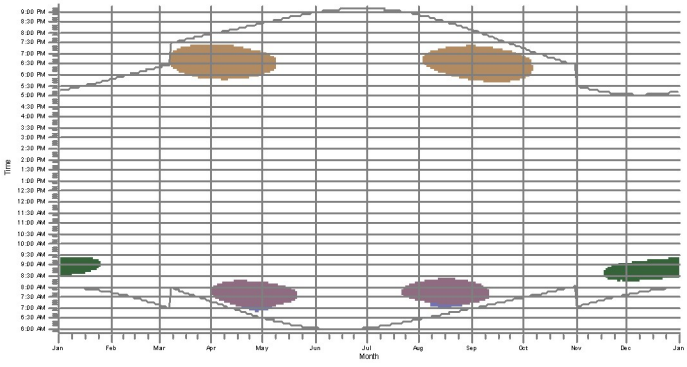
1030: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8550)



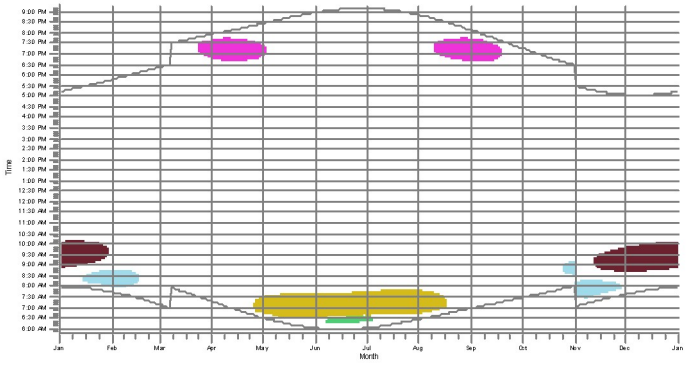
1040: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8559)

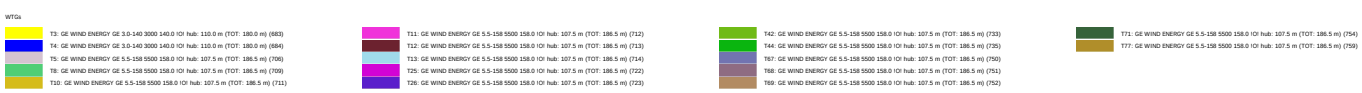


1043: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8562)



1056: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8573)





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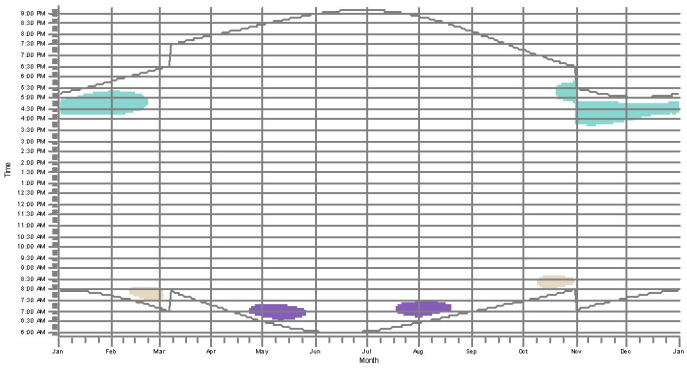
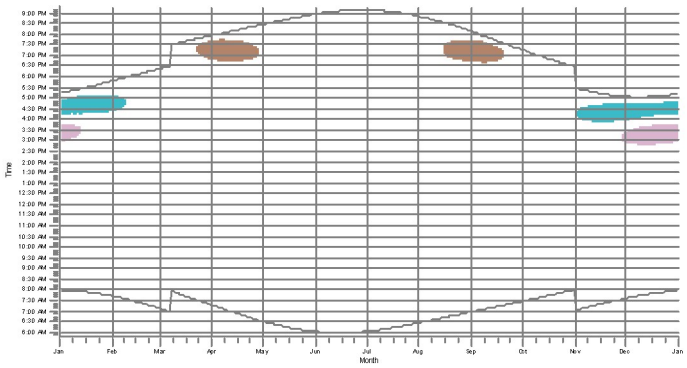
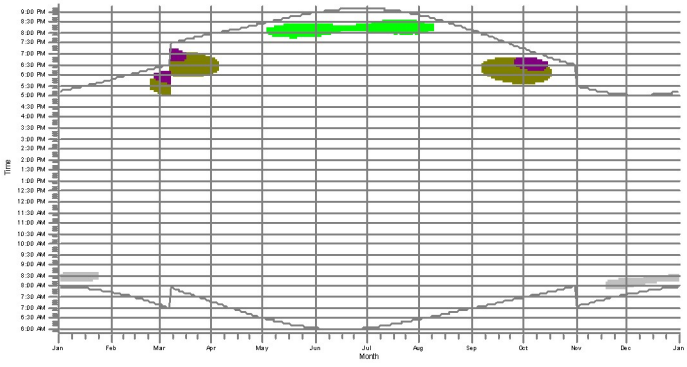
1067: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8582)



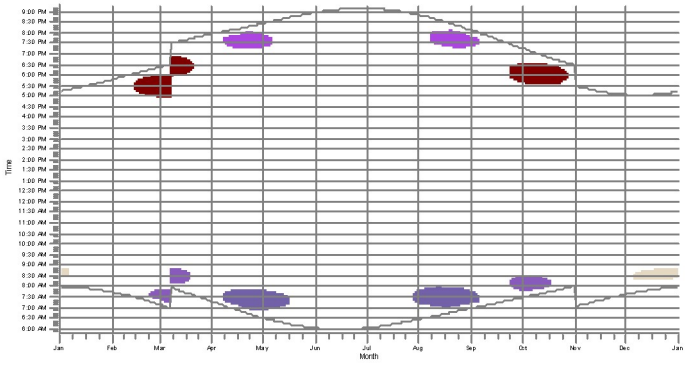
1085: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8598)



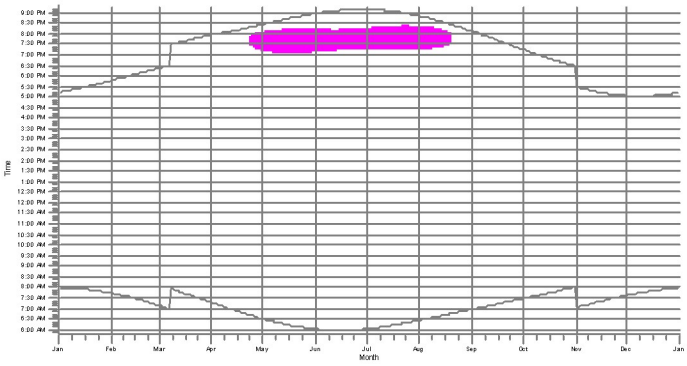
1106: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8618)



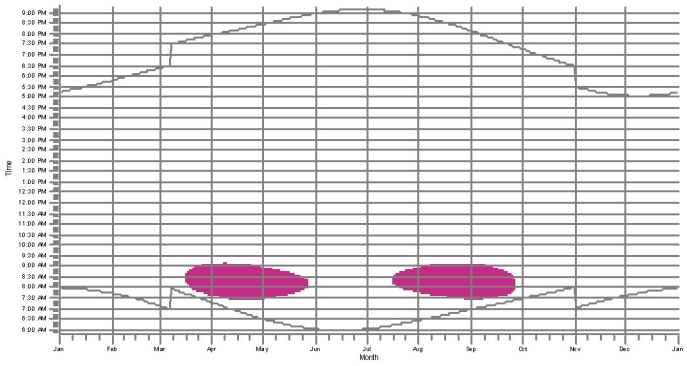
1136: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8645)



1146: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8653)



1151: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8657)



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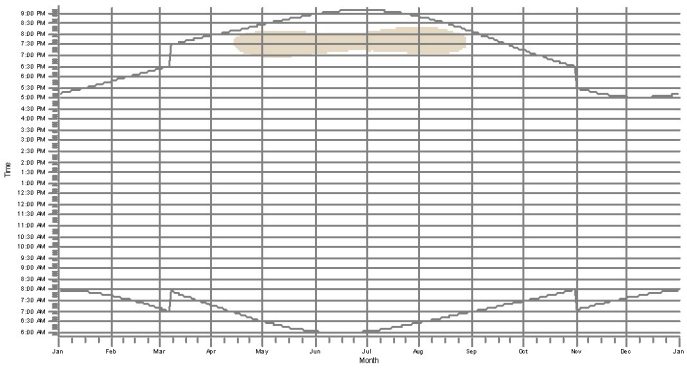
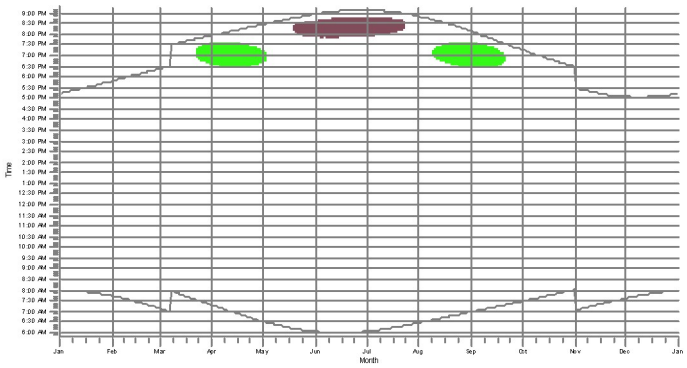
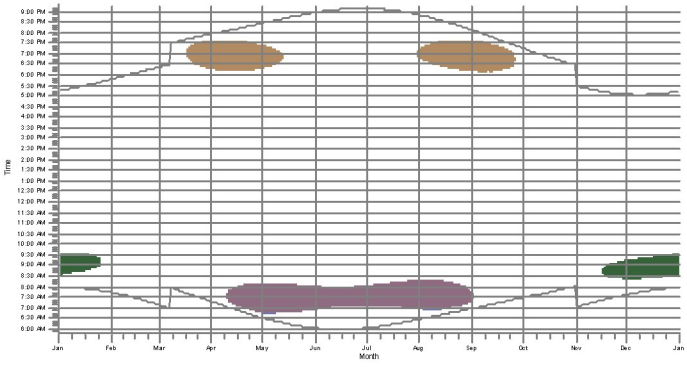
1158: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8662)



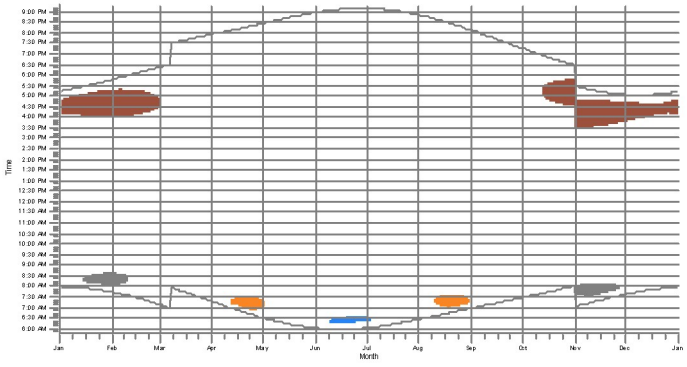
1174: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8675)



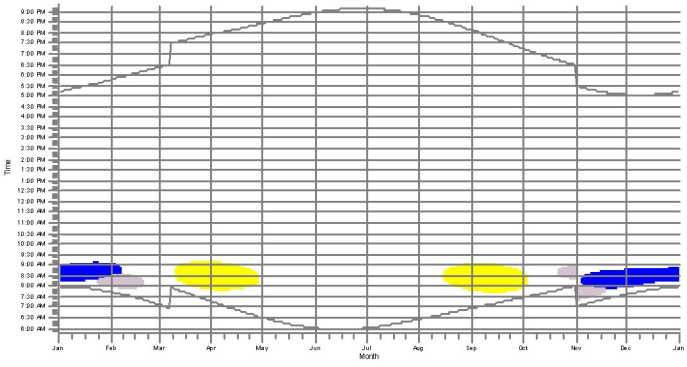
1179: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8679)



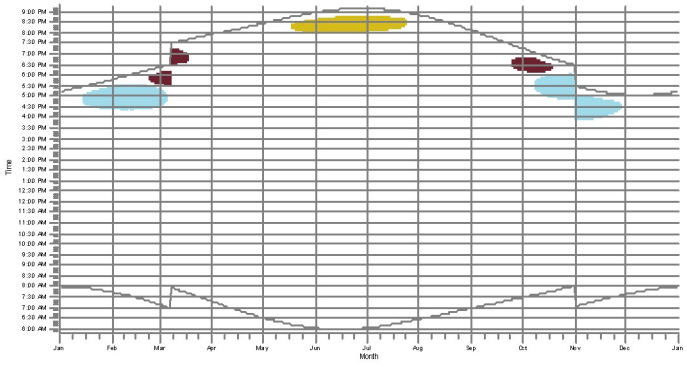
1204: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8702)

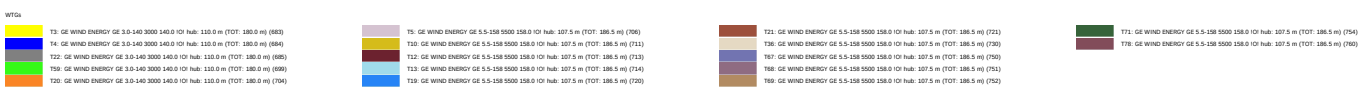


1236: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8726)



1237: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8727)





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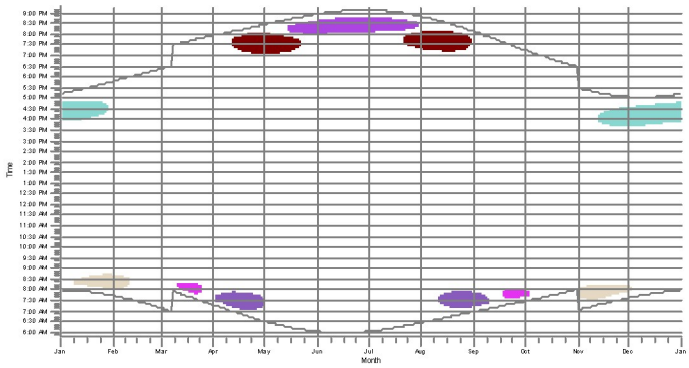
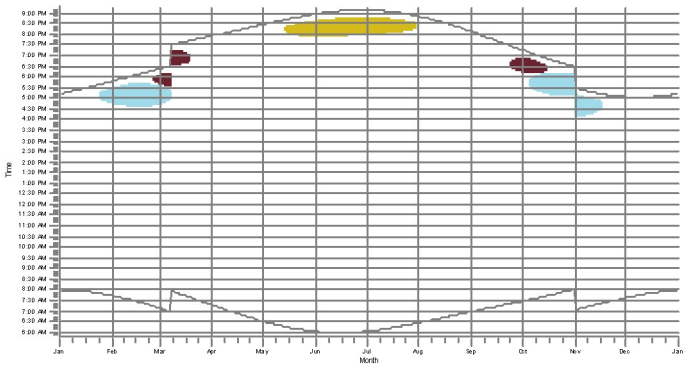
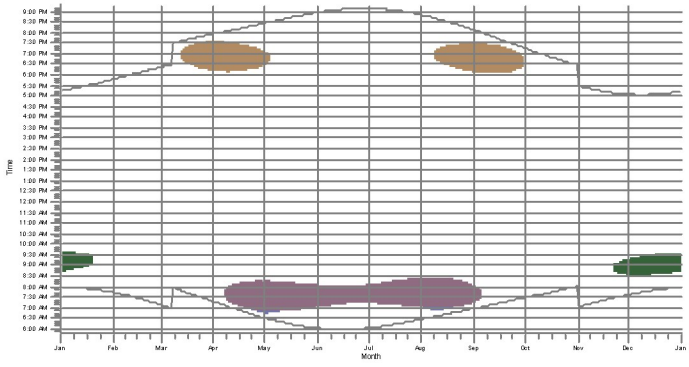
1269: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8753)



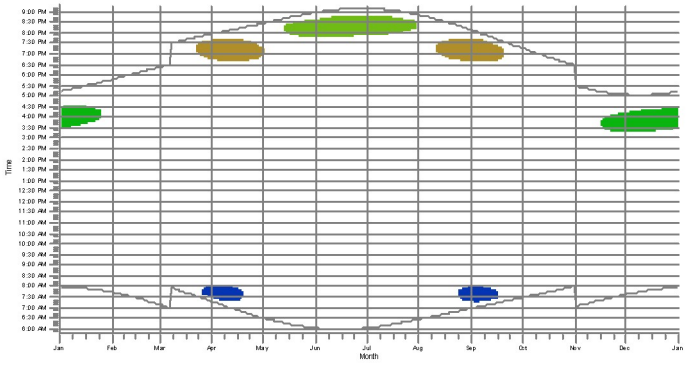
1314: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8792)



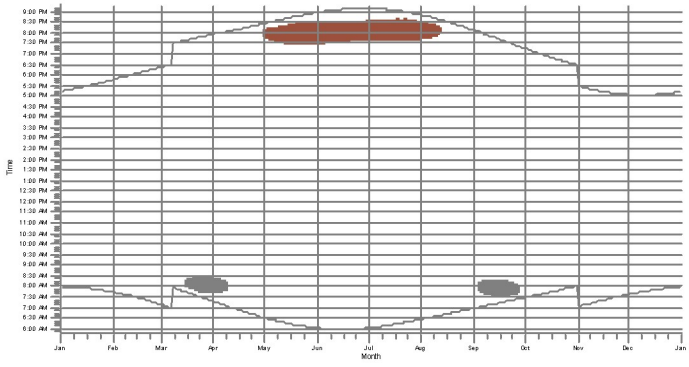
1375: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8838)



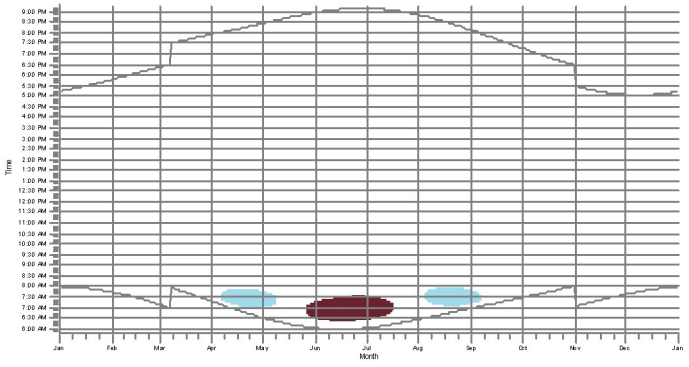
1431: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8883)

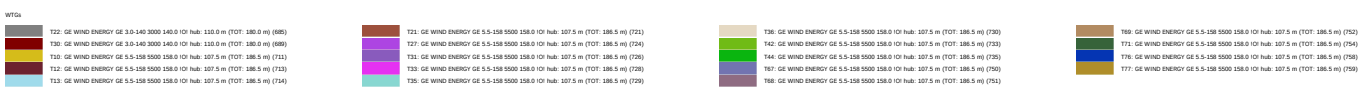


1438: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8890)



1445: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8896)





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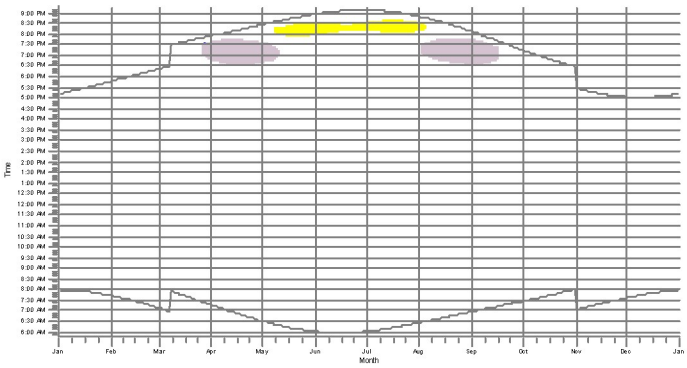
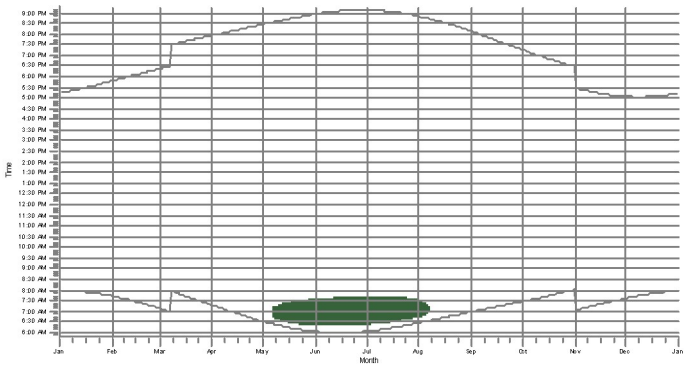
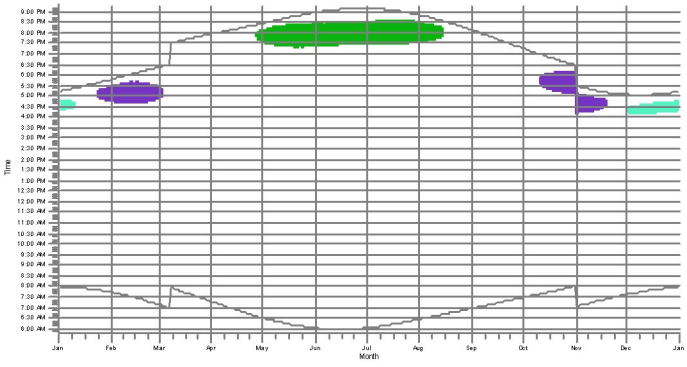
1461: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8909)



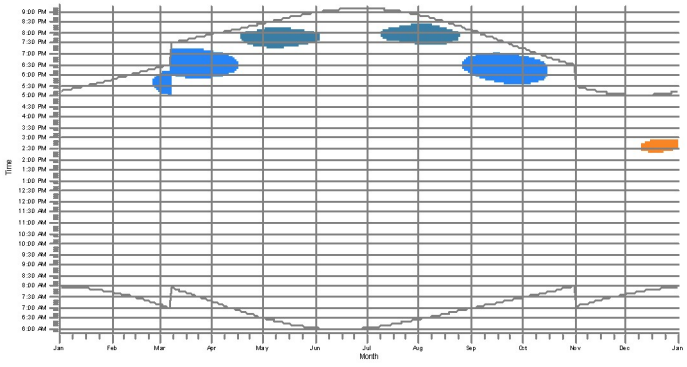
1468: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8914)



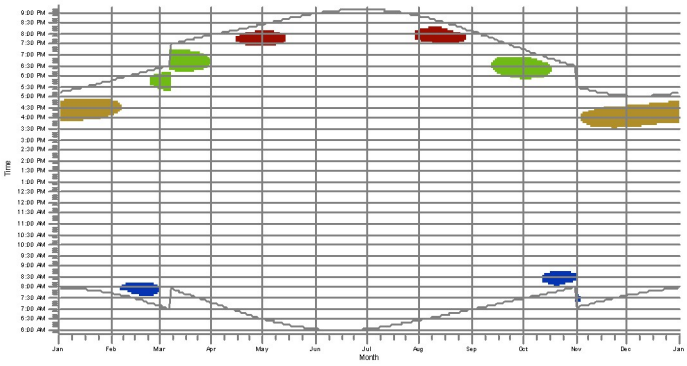
1472: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8918)



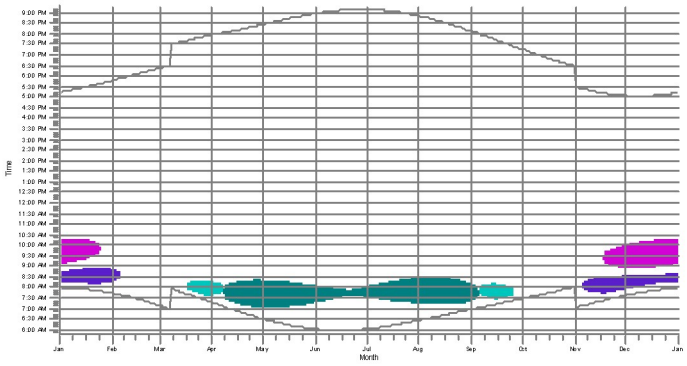
1473: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8919)

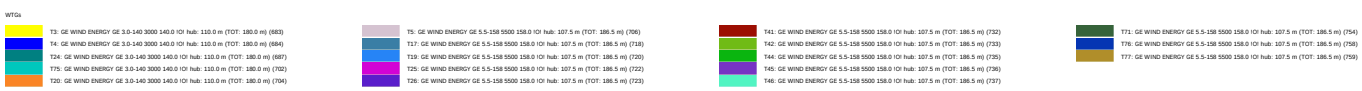


1493: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8933)



1495: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8935)





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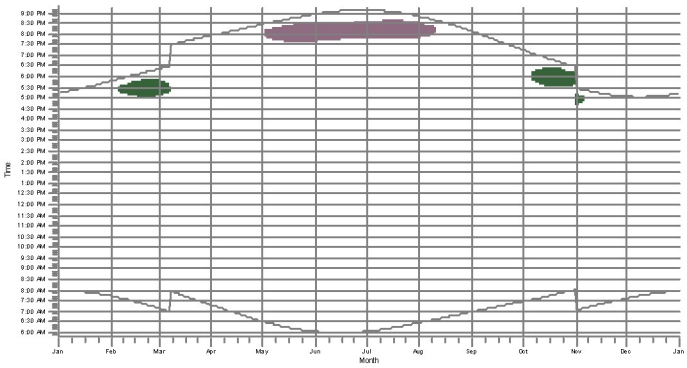
9/5/2019 11:32 PM/3.2.737

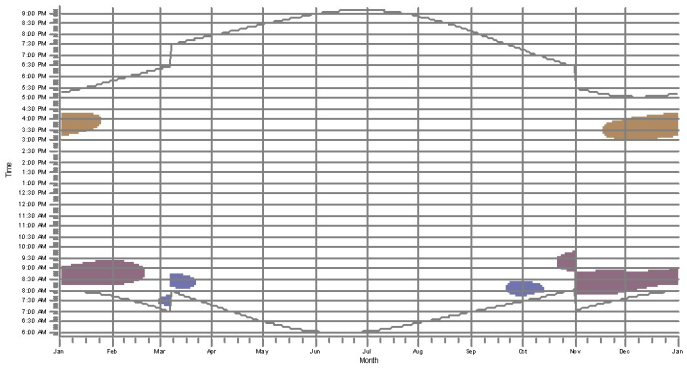
SHADOW - Calendar, graphical

Calculation: 2019-09-04_Emerson GE Turbines

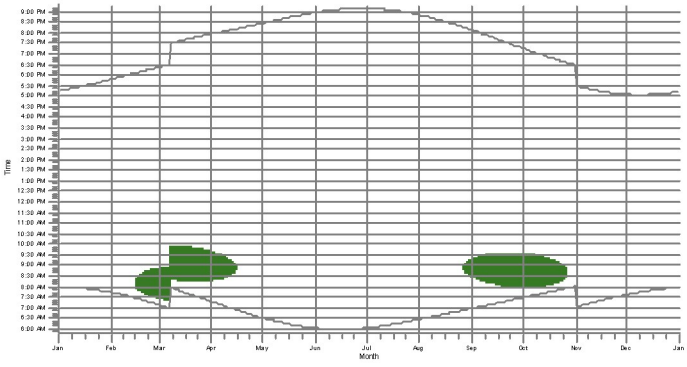
1505: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8943)



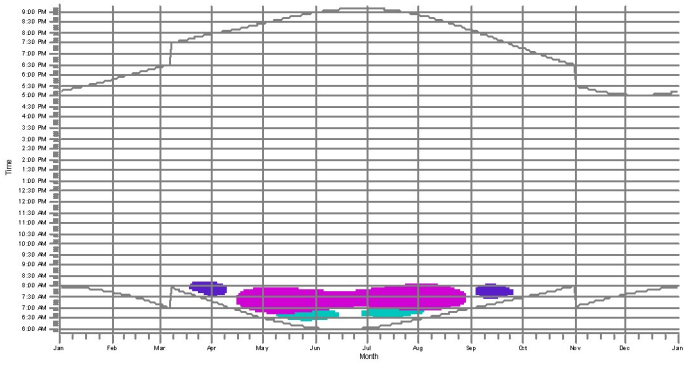
1518: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8953)



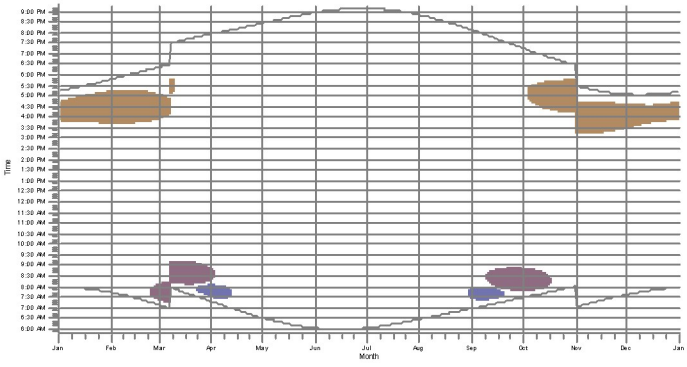
1526: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8960)



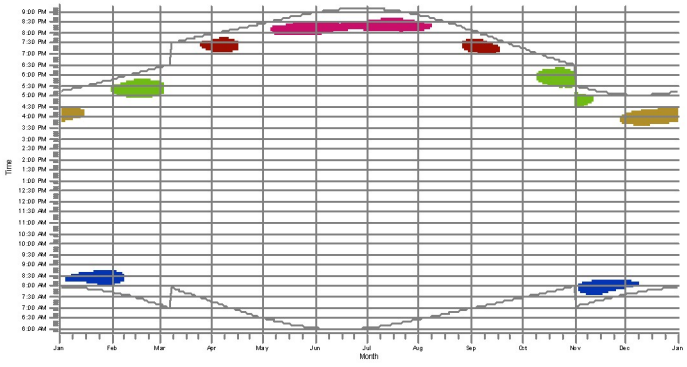
1531: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8965)

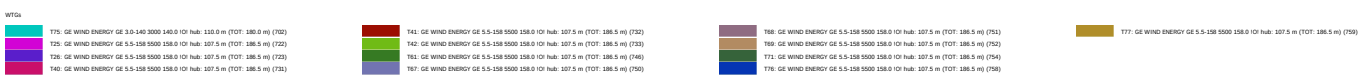


1549: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8980)



1551: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8982)





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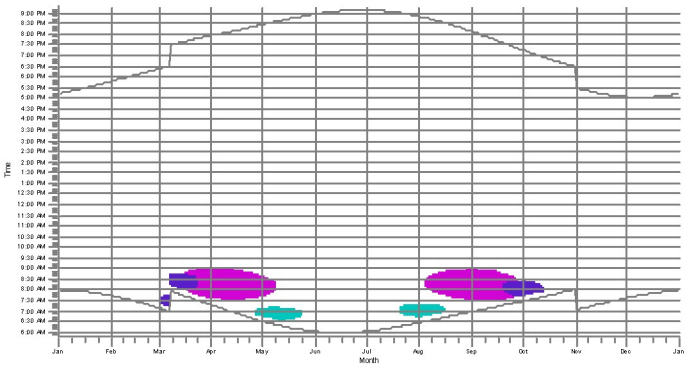
Calculated:
9/5/2019 11:32 PM/3.2.737

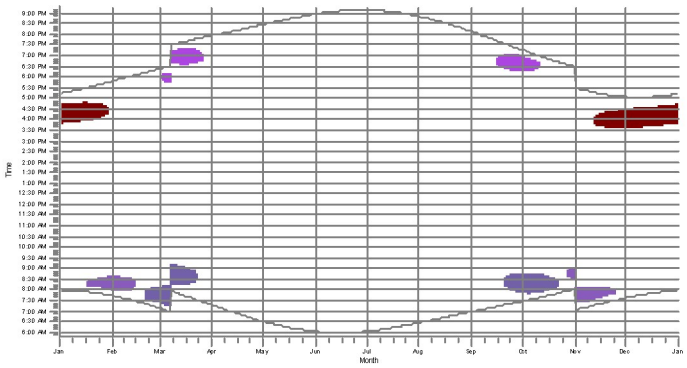
SHADOW - Calendar, graphical

Calculation: 2019-09-04_Emerson GE Turbines

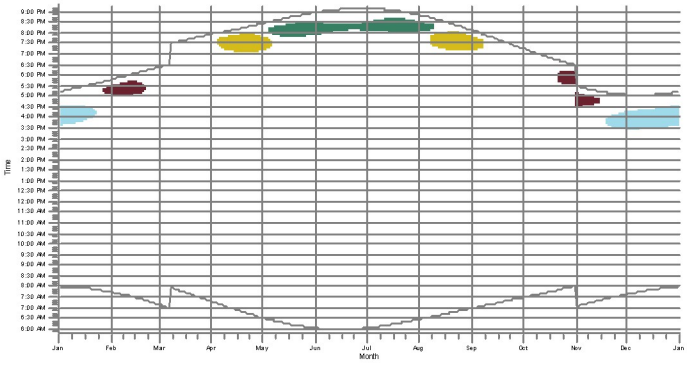
1552: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8983)



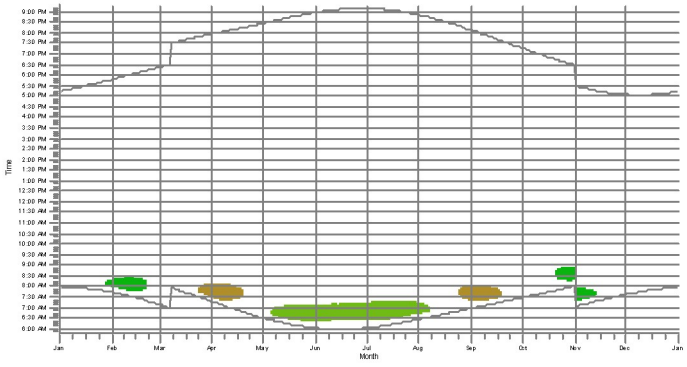
1568: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (8991)



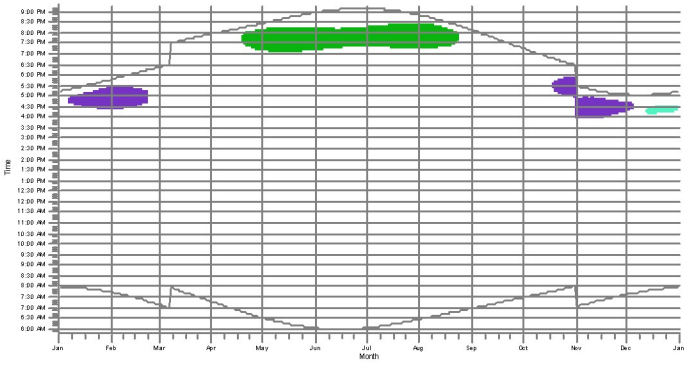
1603: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9023)



1620: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9038)



1666: Shadow Receptor: 1.0 × 1.0 Azimuth: 0.0° Slope: 0.0° (9078)



This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/17/2019 11:33:05 AM

in

Case No(s). 18-1607-EL-BGN

Summary: Response to Second Data Request from Staff of the Ohio Power Siting Board electronically filed by Christine M.T. Pirik on behalf of Firelands Wind, LLC