Ohio | Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 13-1130-EL-EEC

Mercantile Customer:	Wauseon Exempted Village School District
Electric Utility:	The Toledo Edison Company
Program Title or Description:	High School Renovation and 3-8 Building New Construction

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. 10-834-EL-POR

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name:Wauseon Exempted Village School District

Principal address:126 S Fulton Street, Wauseon, OH 43567

Address of facility for which this energy efficiency program applies:See Exhibit 1

Name and telephone number for responses to questions:Dan Dumond: 614-949-5203

Electricity use by the customer (check the box(es) that apply):

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)
- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- ☐ Individually, without electric utility participation.
- ☒ Jointly with the electric utility.

B) The electric utility is: The Toledo Edison Company

C) The customer is offering to commit (check any that apply):

- ☒ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☐ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). **If Checked, Please see Exhibit 1 and Exhibit 2**

☐ Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s):

_____.

☒ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):

See Exhibit 1.

☐ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) – (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 79,432 kWh

2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____ kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable**

3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 776,849 kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable**

4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

☐ Coincident peak-demand savings from the customer's energy efficiency program.

☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)

☐ Potential peak-demand reduction (check the one that applies):

☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.

☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

_____

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

_____ kW

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

☐ Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☒ A cash rebate of $25,117. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for _____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than $_____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____(Continue to Subsection 1, then skip Subsection 2)

☒ Utility Cost Test (UCT) . The calculated UCT value is: **See Exhibit 3** (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **See Exhibit 3**

The utility's program costs were **See Exhibit 3**

The utility's incentive costs/rebate costs were **See Exhibit 3**

Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.
- A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:
  1) any confidentiality requirements associated with the agreement;
  2) a description of any consequences of noncompliance with the terms of the commitment;
  3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
  4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
  5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

Ohio | Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 13-1130-EL-EEC

State of Ohio :

Karen Dameron, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

   Wauseon Exempted Village School District
   [insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

Karen E Dameron, Treasurer
Signature of Affiant & Title

Sworn and subscribed before me this 3rd day of JUNE, 2013 Month/Year

Signature of official administering oath

Karen Dameron, Treasurer
Print Name and Title

My commission expires on July 27, 13

Ohio | Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 13-1130-EL-EEC

State of Ohio :

Larry Brown, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

   Wauseon Exempted Village School District
   [insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

Larry C. Brown Superintendent
Signature of Affiant & Title

Sworn and subscribed before me this 3rd day of JUNE, 2013 Month/Year

Signature of official administering oath

Print Name and Title

My commission expires on JULY 27, 2013

Exhibit 1

Customer Legal Entity Name: Wauseon Exempted Village School District

Site Address: Wauseon Exempted Village SD Grades 3-8 School
Principal Address: 940 E Leggett St

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Energy Efficient Lighting	Installation of new lighting fixtures and occupancy sensors in new construction of the Grades 3-8 School for Wauseon Exempted Village School District.	Lights were counted off plans and input into the lighting countsheet (see attachment A: TE.Wauseon3-8.LightingCountsheet.A_P1). This data was input into the FE lighting rebate calculator to determine the cash rebate and the kwh savings. Attachment B (TE.Wauseon3-8.LightSpecs.B_P1.pdf) contains the light fixture and occupancy sensor specifications.	N/A	The less efficient alternative would have been to install lighting at or abovve code requirments, and not install sensors, allowing the lighting to run continuously.
2	Energy Efficient Motors	Energy Efficient motors were installed in pumps in the new facility.	Data was gathered from the mechanical schedule and spec sheets (see attachment G: TE.Wauseon3-8.Motor.specs.G.P2.pdf) and input into the motor and drives rebate calculator to determine the cash rebate amount. kWh savings were calculated using a motor calculator found in Attachment C (see attachment C: TE.Wauseon3-8.Motor.calcs.C.P2.xlsx).	N/A	The less efficient equipment would have been standard efficiency motors and not installing drives, leaving the less efficient motors to run uncontrolled.
3	Variable Frequency Drives	Variable Frequency Drives were installed on several pumps and air handling units throughout the new facility.	Data was gathered from the mechanical schedules and input into the motors and drives rebate calculator to determine the cash rebate amount. kWh savings were calculated based on approximate runtimes for the different motor applications (see attachment D: TE.Wauseon3-8.VFD.calcs.D.P3.xlsx).	N/A	The less efficient alternative would have been to make motors and pumps have a constant loading by not installing VFDs.
4	New HVAC Equipment	Two new air-cooled chillers were installed in the new facility.	Information about the two new chillers was input into the First Energy HVAC calculator to obtain both cash and kWh savings. Please see attachment E for specifications on the chiller (TE.Wauseon3-8.Chiller.specs.E.P4.pdf).	N/A	The less efficient alternative would be to install chillers with code required efficiency.
5	Heat Recovery Units	Heat Recovery Units were installed in four of the new AHUs.	Specifications were gathered from the plans and input to attachment F (TE.Wauseon3-8.HRU.calcs.F.P5.xlsx) to determine the kWh savings. This was then inputed into the custom rebate calculator to determine the cash rebate amount.	N/A	Less efficient alternative would be to install units without Heat Recovery Units.

Exhibit 2

Customer Legal Entity Name: Wauseon Exempted Village School District
Site Address: Wauseon Exempted Village SD Grades 3-8 School
Principal Address: 940 E Leggett St

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2011	452,100	452,100	1,019,190
			428,813
Average	**452,100**	**452,100**	**724,002**

Project Number	Project Name	In-Service Date	Project Cost $	50% of Project Cost $	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) $	Eligible Rebate Amount (H) $ *Note 2*
1	Energy Efficient Lighting	03/31/2010	$1,347,568	$673,784	135,255	135,255	-	$4,063	$3,047
2	Energy Efficient Motors	03/31/2010	$6,598	$3,299	7,785	7,785	-	$452	$339
3	Variable Frequency Drives	03/31/2010	$20,085	$10,043	114,082	114,082	-	$7,740	$5,805
4	New HVAC Equipment	03/31/2010	$148,000	$74,000	292,689	292,689	-	$5,000	$3,750
5	Heat Recovery Units	03/31/2010	$16,985	$8,493	17,279	17,279	-	$1,382	$1,037
					-	-	-		
					-	-	-		
		Total	**$1,539,236**		**567,090**	**567,090**	**0**	**$18,637**	**$13,978**

Docket No. 13-1130
Site: 940 E Leggett St

Notes
(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) The eligible rebate amount is based upon 75% of the rebates offered by the FirstEnergy Commercial and Industrial Energy Efficiency programs or 75% of $0.08/kWh for custom programs for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO.10-834-EL-EEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or $250,000 per project. The rebate also cannot exceed $500,000 per customer per year, per utility service territory.


Commitment
Payment
$
$0

Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost $/MWh (B)	Utility Avoided Cost $ (C)	Utility Cost $ (D)	Cash Rebate $ (E)	Administrator Variable Fee $ (F)	Total Utility Cost $ (G)	UCT (H)
1	135	$ 308	$ 41,696	$ 810	$3,047	$1,353	$ 5,210	**8.0**
2	8	$ 308	$ 2,400	$ 810	$339	$78	$ 1,227	**1.96**
3	114	$ 308	$ 35,169	$ 810	$5,805	$1,141	$ 7,756	**4.53**
4	293	$ 308	$ 90,230	$ 810	$3,750	$2,927	$ 7,487	**12.05**
5	17	$ 308	$ 5,327	$ 810	$1,037	$173	$ 2,019	**2.64**
Total	**567**	**$ 308**	**174,823**	**4,050**	**$13,978**	**$5,671**	**23,699**	**7.4**

Notes

(A) From Exhibit 2, = kWh saved / 1000

(B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices.This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) * (B)

(D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.

(E) This is the amount of the cash rebate paid to the customer for this project.

(F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

Wauseon Exempted Village School District ~ Wauseon Exempted Village SD Grades 3-8 School
Docket No. 13-1130

Site: 940 E Leggett St

FirstEnergy®

Ohio Edison • The Illuminating Company • Toledo Edison

Mercantile Customer Program - Custom Project Rebate Calculator

Project Name and Number:	P-2
Site Name:	**Wauseon 3-8 School**
Completed by (Name):	**Ben**
Date completed:	**4/30/2013**

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * $0.08
Heat Recovery Wheels	**17,279**	**1382.34**
Total Project Energy Savings kWh	**17,279**	
Total Custom Prescriptive Rebate Amount $		**$ 1,382.34**

Notes about this rebate calculation:

FirstEnergy Ohio HVAC Supplemental Calculator

Applicant Name:	Wauseon Exempted Village SD
Facility Name:	Wauseon 3-8 School
5-digit Zip Code:	43567
Region:	Toledo
Date:	4/17/2013

HVAC measures purchased and installed for existing equipment replacement or new construction use are eligible for incentives. Incentivized measures include split unitary air conditioning systems, heat pumps, and chillers with the features specified. All measures are incentivized on an equipment unit basis.

Rated efficiencies should be determined using certified test conditions described in the 2009 International Energy Conservation Code (which references ASHRAE 90.1 2007 stipulated values) and reported in the units noted below. Your equipment manufacturer or vendor should be able to provide these rated performance results.

Proposed equipment efficiencies must be greater than or equal to the minimum rated efficiencies shown on this form.

Please consider the chiller options carefully, as they depend on air-side technology.

Automated Form Fields: White cells may be used to select from drop down lists or enter project data. Blue cells are auto-populated. Use 1 row for each distinct technology/measure combination. Please submit this electronic .xls file with your application.

Project Details					Electric Cooling Specifications													
Equipment Replacement or New Construction?	Technology Type	Space/Building Type	Measure Type	Air-side System served by Chiller (when applicable)	Nominal Cooling Capacity of Proposed Equipment (tons)	Rated Cooling Capacity of Proposed Equipment		Exceed This Full Load Rated ARI Cooling Efficiency:		Proposed Equipment Full Load ARI Cooling Efficiency	Exceed This Part Load (IPLV) Rated ARI Cooling Efficiency		Proposed Equipment Part Load (IPLV) ARI Cooling Efficiency	Existing Equipment Vintage (4-digit year, if applicable)	Existing Equipment Rated Cooling Capacity (units must match proposed)	Existing Equipment Full Load Cooling Efficiency (if applicable, units must match proposed)	Existing Equipment Part Load (IPLV) Cooling Efficiency (if applicable, units must match proposed)
New Construction	Chillers	Schools	Air Cooled with Condenser ≥150 tons	VAV Reheat, Economizer	173	173	TONS	2.750	COP	3.040	2.750	COP	12.500				

Equipment Replacement or New Construction?	Electric Heating Specifications							Incentives				Cut Sheet Number
	Rated Heating Capacity of Proposed Equipment		Exceed This Rated Heating Efficiency		Proposed Equipment Heating Efficiency (when applicable)	Existing Equipment Rated Heating Capacity (units must match proposed)	Existing Equipment Heating Efficiency (if applicable, units must match proposed)	# units to be purchased & installed	$ Incentive	Incentive Units	Total Incentive	
New Construction		N/A		N/A				2	$2,500.00	each	$5,000.00	CLR-F101 , CLR-F102
										TOTAL $	$5,000.00	

Project Estimated Annual Savings Summary

HVAC	
Estimated Annual kWh Savings	292,689
Total Demand Savings (kW)	63.98

Annual Estimated Cost Savings	$29,268.88

Total Calculated Incentive	$5,000.00

Lighting Form

Lighting Inventory Form

Applicant Name: Wauseon Exempted Village School District
Facility Name: Wauseon Grade 3-8 Building
Date: 4/25/2013

Instructions: Please use one line for each fixture type in a room or area
For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.
The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations																		
Line Item	Building Address	Floor	Area Description	Interior or Exterior Fixture	Predominant Space Type	Area Cooling	Pre Fixture Qty	Pre Fixture Code	Pre Watts / Fixture (W)	Pre kW / Space (kW)	Existing Control drop down	Existing Sensor Quantity When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior Change in Connected Load (kW) excluding CFLs or Exit Signs	Change in Connected Load (kW) CFL or LED exit sign	Applicant Coincidence Factor (CF) Estimate	Coincidence Factor	Interactive Factor (demand)	Interactive Factor (energy)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual Exterior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual kWh Saved (CFL or LED exit signs only)	Annual kWh Saved (Sensors only)	Post Fixture Cut Sheet Number
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*			*646*	*194*	*1*
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*		*208*		*260*	*1A*
1	842 Parkview Street	1	School	Interior	Education - Primary School	Cooled Space	1	Cut Sheet 1	161,715	161.72	NONE		1	Cut Sheet 2	148,079	148.08	OCC	99	13.64				57%	34%	12%		30%	10.42				2,080	31,766			103,489	
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations																		
Line Item	Building Address	Floor	Area Description	Interior or Exterior Fixture	Predominant Space Type	Area Cooling	Pre Fixture Qty	Pre Fixture Code	Pre Watts / Fixture (W)	Pre kW / Space (kW)	Existing Control drop down	Existing Sensor Quantity When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior Change in Connected Load (kW) excluding CFLs or Exit Signs	Change in Connected Load (kW) CFL or LED exit sign	Applicant Coincidence Factor (CF) Estimate	Coincidence Factor	Interactive Factor (demand)	Interactive Factor (energy)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual Exterior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual kWh Saved (CFL or LED exit signs only)	Annual kWh Saved (Sensors only)	Post Fixture Cut Sheet Number
151											NONE						NONE																				
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Totals							1			161.72			1			148.08			13.64									10.42					31,766			103,489	
																			13.64									10.42					135,255				

Note: If your total change in connected load is greater than or equal to 50 kW the cell above will be red. Please see row 4 on the Instructions tab for information on adjusting the predominant space type to "Other" and estimating CF and EFLH values.

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	135,255
Total Change in Connected Load	13.64

Annual Estimated Cost Savings	$13,525.50
Annual Operating Hours	2,080

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$1,588.30
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
Total retrofit CFL Incentive @ $1/screw-in CFL lamp; $15/hard-wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	$0.00
Total retrofit LED Exit Incentive @ $10/exit sign	$0.00
Total Lighting Controls Incentive @ $25/sensor (includes all Lighting Controls, both interior and exterior)	$2,475.00

Total Calculated Incentive	$4,063.30

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	1
Total Lamp Quantity for retrofit Screw-In CFLs	0
Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	99
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type “Other” indicated on the Lighting Form tab

Demand Savings (For Internal Use Only)	10.42

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Project Name:	Wauseon Schools
Site Name:	New Grades 3-8 School
Completed by (Name):	
Date completed:	4/17/2013

Motor Rebate Calculation Form

Motor ID, Location, and Operation Data				Old Motor Nameplate Data								New Motor Nameplate Data								
Unique Motor ID(s)	Number of Identical Units	Motor Location	Annual Hours of Op[2]	Loading (Constant, or if variable, indicate control type)	Load Factor (LF)[3]	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)	Loading (Constant, or if variable, indicate control type)	Load Factor (LF)[3]	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)	Total Motor Incentive[1] $
HHWP-F1(	1	P-F101	5520									VARIABLE	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
HHWP-F1(	1	P-F102	5520									VARIABLE	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
CHWP-F1(	1	P-F103	5520									VARIABLE	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
CHWP-F1(	1	P-F104	5520									VARIABLE	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
																			Incentive (through 10/11/2011)	**$452**

Motor IDs may be specified by HVAC application type and number. Application types eligible for this incentive include:
- Chilled Water Pump (CHWP),
- Heating Hot Water Pump (HHWP),
- HVAC Fans (HVACF),
- Cooling Tower Fan (CTF), and
- Condensing Water Pump (CWP).

If the HVAC application is not listed above, please describe the application on a separate sheet and include it with your application package.

(1) Motor incentives are listed in Table 2 - Incentive levels per motor located on Motor Incentive Table tab

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

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Table 1 - Minimum Motor Efficiency Requirements (NEMA Premium® Efficiencies)

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	82.50%	85.50%	77.00%	1	82.50%	85.50%	77.00%
1.5	96.50%	86.50%	84.00%	1.5	87.50%	86.50%	84.00%
2	87.50%	86.50%	85.50%	2	88.50%	86.50%	85.50%
3	88.50%	89.50%	85.50%	3	89.50%	89.50%	86.50%
5	89.50%	89.50%	86.50%	5	89.50%	89.50%	88.50%
7.5	90.20%	91.00%	88.50%	7.5	91.00%	91.70%	89.50%
10	91.70%	91.70%	89.50%	10	91.00%	91.70%	90.20%
15	91.70%	93.00%	90.20%	15	91.70%	92.40%	91.00%
20	92.40%	93.00%	91.00%	20	91.70%	93.00%	91.00%
25	93.00%	93.60%	91.70%	25	93.00%	93.60%	91.70%
30	93.60%	94.10%	91.70%	30	93.00%	93.60%	91.70%
40	94.10%	94.10%	92.40%	40	94.10%	94.10%	92.40%
50	94.10%	94.50%	93.00%	50	94.10%	94.50%	93.00%
60	94.50%	95.00%	93.60%	60	94.50%	95.00%	93.60%
75	94.50%	95.00%	93.60%	75	94.50%	95.40%	93.60%
100	95.00%	95.40%	93.60%	100	95.00%	95.40%	94.10%
125	95.00%	95.40%	94.10%	125	95.00%	95.40%	95.00%
150	95.40%	95.80%	94.10%	150	95.80%	95.80%	95.00%
200	95.40%	95.80%	95.00%	200	95.80%	96.20%	95.40%

Table 2 - Incentive Levels Per Motor

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	$20	$20	$20	1	$20	$20	$20
1.5	$25	$25	$25	1.5	$25	$25	$25
2	$54	$54	$54	2	$54	$54	$54
3	$54	$54	$54	3	$54	$54	$54
5	$54	$54	$54	5	$54	$54	$54
7.5	$70	$70	$70	7.5	$70	$70	$70
10	$70	$70	$70	10	$70	$70	$70
15	$113	$113	$113	15	$113	$113	$113
20	$113	$113	$113	20	$113	$113	$113
25	$140	$140	$140	25	$140	$140	$140
30	$170	$170	$170	30	$170	$170	$170
40	$200	$200	$200	40	$200	$200	$200
50	$230	$230	$230	50	$230	$230	$230
60	$260	$260	$260	60	$260	$260	$260
75	$290	$290	$290	75	$290	$290	$290
100	$320	$320	$320	100	$320	$320	$320
125	$350	$350	$350	125	$350	$350	$350
150	$380	$380	$380	150	$380	$380	$380
200	$400	$400	$400	200	$400	$400	$400

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Project Name:	Wauseon Schools
Site Name:	New Grades 3-8 School
Completed by (Name):	
Date completed:	4/17/2013

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											
Motor Application	**VFD Manufacturer**	**VFD Model Number**	**Unique Motor ID(s)**	**Motor Location**	**Enclosure type: TEFC or ODP**	**Annual Hours of Operation[2]**	**Load Factor (LF)[3]**	**Motor Model Number**	**Motor HP**	**Motor Nominal Efficiency**	**Total Motor Incentive [1] $**
Supply Fan	ABB	ACH550	VFD-C101	AHU-C101	TEFC	2790	0.8	EM2539T	40	94.1	**1,200**
Exhaust Fan	ABB	ACH550	VFD-C102	AHU-C101	TEFC	2790	0.8	EM3611T	3	89.5	**90**
Supply Fan	ABB	ACH550	VFD-D101	AHU-D101	TEFC	2790	0.8	EM2333T	15	92.4	**450**
Exhaust Fan	ABB	ACH550	VFD-D102	AHU-D101	TEFC	2790	0.8	EM3558T	2	86.5	**60**
Heating Water Pum	ABB	ACH550	VFD-F101	P-F101	ODP	5520	0.8	EM2515T	20	93	**600**
Heating Water Pum	ABB	ACH550	VFD-F102	P-F102	ODP	5520	0.8	EM2515T	20	93	**600**
										Incentive through 10/11/2011 @ $30/hp	**3,000**

(1) VFD incentives are calculated at a flat rate of $30 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.
When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x $30/hp = $900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

FirstEnergy

Ohio Edison • The Illuminating Company • Toledo Edison

Project Name:	Wauseon Schools
Site Name:	New Grades 3-8 School
Completed by (Name):	
Date completed:	4/17/2013

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											
Motor Application	**VFD Manufacturer**	**VFD Model Number**	**Unique Motor ID(s)**	**Motor Location**	**Enclosure type: TEFC or ODP**	**Annual Hours of Operation[2]**	**Load Factor (LF)[3]**	**Motor Model Number**	**Motor HP**	**Motor Nominal Efficiency**	**Total Motor Incentive [1] $**
Chilled Water Pum	ABB	ACH550	VFD-F103	P-F103	ODP	5520	0.8	EM2515T	20	93	**600**
Chilled Water Pum	ABB	ACH550	VFD-F104	P-F104	ODP	5520	0.8	EM2515T	20	93	**600**
Supply Fan	ABB	ACH550	VFD-F105	AHU-F102	TEFC	2790	0.8	EM2539T	40	94.1	**1,200**
Exhaust Fan	ABB	ACH550	VFD-F106	AHU-F102	TEFC	2790	0.8	EM3615T	5	89.5	**150**
Supply Fan	ABB	ACH550	VFD-F107	AHU-F101	TEFC	2790	0.8	EM4104T	30	93.6	**900**
Supply Fan	ABB	ACH550	VFD-G101	AHU-G101	TEFC	2790	0.8	EM2539T	40	94.1	**1,200**
										Incentive through 10/11/2011 @ $30/hp	**4,650**

(1) VFD incentives are calculated at a flat rate of $30 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.
When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x $30/hp = $900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

FirstEnergy

Ohio Edison • The Illuminating Company • Toledo Edison

Project Name:	Wauseon Schools
Site Name:	New Grades 3-8 School
Completed by (Name):	
Date completed:	4/17/2013

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											
Motor Application	**VFD Manufacturer**	**VFD Model Number**	**Unique Motor ID(s)**	**Motor Location**	**Enclosure type: TEFC or ODP**	**Annual Hours of Operation[2]**	**Load Factor (LF)[3]**	**Motor Model Number**	**Motor HP**	**Motor Nominal Efficiency**	**Total Motor Incentive [1] $**
Exhaust Fan	ABB	ACH550	VFD-G102	AHU-G101	TEFC	2790	0.8	EM3611T	3	89.5	**90**
										Incentive through 10/11/2011 @ $30/hp	**90**

(1) VFD incentives are calculated at a flat rate of $30 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.
When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x $30/hp = $900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

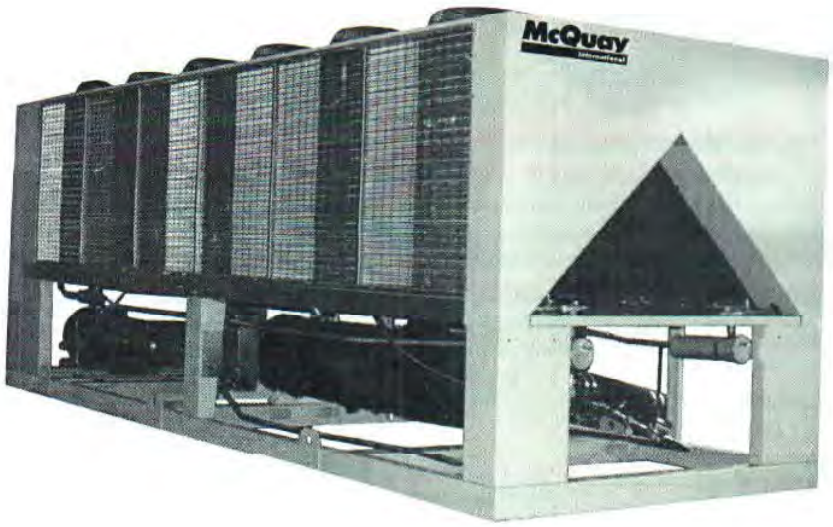
Catalog

Cat AGSD3

Air-Cooled Screw Compressor Chillers

Models AGS 140DS/E to AGS 210DS/E, Packaged
Models AGS 140DM/F to AGS 210DM/F, Remote Evaporator

140 to 210 Tons, 490 to 740 kW
R-134a, 60 Hz



McQuay
Air Conditioning

JOB NAME	BE0800	REP. OFFICE	Wadsworth & Associates
JOB DESCRIPTION	Wauseon New Grades 3-8 School	SALESMAN	DC
		CUSTOMER	Warner Mechanical Corp.
MODEL NUMBER	Standard Efficiency	VERSION	7.77.002
UNIT TAGGING	CLR-F101		

GENERAL DATA	
Approval listing	ETL / Canadian ETL Listed and Labeled

PHYSICAL DATA			
Length (ins)	267.4	Shipping weight (lb)	11170.0
Width (ins)	88.0	Operating weight (lb)	11730.0
Height (ins)	100.1	Refrigerant	R134a
		Refrigerant charge (lb)	380.0

EVAPORATOR DATA		CONDENSER DATA	
LWT (°F)	42.0	Design ambient (°F)	88.0
EWT (°F)	53.9	Altitude (ft)	0
Flow (gpm)	375.0	Fan diameter (ins)	30
Delta T (°F)	11.9	Fan motor HP	2
Fluid type	Ethylene	Fan RPM	1140
Percentage of fluid	25	Low ambient control to (°F)	35.0
Number of passes	2	Unit airflow (cfm)	130360
Fouling Factor (F.ft².h/Btu)	0.00010		
Tube material	Cu		
Tube wall thickness (ins)	0.025		
Water pressure drop (ftHd)	8.3		
Water volume (gal)	63.6		

COMPRESSOR ELECTRICAL DATA						
Type / Quantity	Screw/2					
	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6
RLA	136.0	136.0	N/A	N/A	N/A	N/A
LRA						
Across the Line	N/A	N/A	N/A	N/A	N/A	N/A
Reduced Inrush / Part Winding	288.0	288.0	N/A	N/A	N/A	N/A
Reduced Inrush / Solid Sate	349.0	349.0	N/A	N/A	N/A	N/A

DESIGN PERFORMANCE										
Capacity (tons)	Input power (kW)	Performance (EER)	Flow (gpm)	IPLV	Evaporator			Condenser		
					P.D. (ftHd)	T in °F)	T out (°F)	Ambient (°F)	Altitude (ft)	n/a
172.6	199.9	10.4	375.0	12.5	8.3	53.9	42.0	88.0	0	n/a

PART LOAD PERFORMANCE AT ARI STANDARD CONDITIONS				
P#	%load request	Capacity (tons)	Total unit input power (kW)	Performance (EER)
1	100	176.5	217.3	9.7
2	75	132.4	140.4	11.3
3	50	88.3	78.2	13.5
4	25	44.1	42.1	12.6

SOUND DATA								
Sound pressure (at 30 feet) – octave band at center frequency (dBA) (Without sound insulation)								
63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	Overall
41	46	54	59	65	66	62	56	70
Sound power – octave band at center frequency (dBA) (Without sound insulation)								
63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	Overall
68	72	80	85	91	93	89	82	97
Sound data rated in accordance with ARI Standard-370. Sound data may not be available for all models.								

NOTES:

The ARI 60 hertz Certification Program covers models that are:

- rated up to 200 tons at ARI Standard Rating Conditions
- voltages less than or equal to 600 volts
- leaving chilled water temperature 40 to 48 °F
- ambient temperature 55 to 125 °F
- hermetic or open type electric motor driven
- chiller selections that are within the scope of the Application Rating Conditions of ARI Standard 550/590-1998 have chiller performance this is "Certified in accordance with the ARI Water-Chilling Packages Using the Vapor Compression Cycle Certification Program, which is based on ARI Standard 550/590."

The ARI Certification Program specifically excludes:

- chillers above 200 tons
- chillers with voltages above 600 volts
- secondary coolant ratings other than water (e.g. glycol ratings)
- chiller selections that are not within the scope of the Application Rating Conditions of ARI Standard 550/590-1998 have chiller performance this is "Rated in accordance with ARI Standard 550/590-Outside the scope of Certification Program."

- Above RLA values are per compressor. kW values are total unit kW.

Attachment F: Heat Recovery Unit Calculations

HEAT RECOVERY UNIT SAVINGS SUMMARY

	AHU-1	AHU2	AHU-3	AHU-4						TOTAL
kWh:	4,477.1	2,742.0	5,694.2	4,366.0						17,279
Dollars:	$358.17	219.36	455.54	349.28						$ 1,382.34
75%	$ 268.63	$ 164.52	$ 341.65	$ 261.96						$ 1,036.76

725250TY.bin Toledo

HEAT RECOVERY UNIT SAVINGS

ERU 2-1

INPUTS

Minimum Fraction Outdoor Air:	70%			
Heat Recover Effectiveness:	36.0%			
Summer Set Point Temperature:	72	F	Winter Set Point	55
Set Point Enthalpy:	26.39	Btu/lba	Set Point Enthalpy:	22.72
Supply Air Temperature:	53	F		
Supply Air Enthalpy:	21.86	Btu/lba		
Supply Air Volume:	10200	cfm		
Supply Air Density:	0.075	lb/ft^3		

Rate:	$0.08
IPLV	12.5
SAVINGS	
Cooling kWh:	4,477.14
Dollars:	$358.17
75%	$268.63

HRU on 50% of weekend
Weekend Factor
0.142857

StrTemp	EndTemp	T(F)	h(Btu/lba)	hrs9-16	foa	Tma(F)	hma(Btu/lba)	Q (mmBTU)
105	109	107	-99	0	70%	96.5	-61.50	0.00
100	104	102	-99	0	70%	93.0	-61.50	0.00
95	99	97	-99	0	70%	89.5	-61.50	0.00
90	94	91.3	38.3	11	70%	85.5	34.74	1.52
85	89	87.7	36.2	57	70%	83.0	33.27	6.47
80	84	82.1	33.3	229	70%	79.1	31.23	18.32
75	79	76.7	31.2	289	70%	75.3	29.76	16.09
70	74	72.5	29.6	246	70%	72.4	28.64	9.14
65	69	67.9	28.2	260	100%	67.9	28.20	7.76
60	64	62.6	24.9	243	100%	62.6	24.90	6.00
55	59	57.2	21.7	172	100%	57.2	21.70	2.90
50	54	52.1	19.1	192	95%	53.0	19.43	10.97
45	49	47.4	16.8	133	77%	53.0	18.98	10.05
40	44	43	14.8	199	70%	51.7	18.27	18.26
35	39	37.4	12.7	248	70%	47.7	16.79	28.78
30	34	32.1	10.6	182	70%	44.0	15.32	25.55
25	29	27.6	9	146	70%	40.9	14.20	23.20
20	24	23.1	7.4	100	70%	37.7	13.08	17.75
15	19	17.4	5.6	110	70%	33.7	11.82	21.81
10	14	12	4	58	70%	29.9	10.70	12.58
5	9	7.4	2.7	20	70%	26.7	9.78	4.64
0	4	2.6	1.3	19	70%	23.4	8.80	4.71
-5	-1	-1.7	0.1	6	70%	20.3	7.96	1.57
-10	-6	-7.1	-1.3	0				
-15	-11	-13	-99	0				**248.05**
-20	-16	-18	-99	0				
-25	-21	-23	-99	0				
-30	-26	-28	-99	0				

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HEAT RECOVERY UNIT SAVINGS

ERU 3-1

INPUTS

Minimum Fraction Outdoor Air:	80%			
Heat Recover Effectiveness:	36.0%			
Summer Set Point Temperature:	72	F	Winter Set Point	70
Set Point Enthalpy:	26.39	Btu/lba	Set Point Enthalpy:	22.72
Supply Air Temperature:	53	F		
Supply Air Enthalpy:	21.86	Btu/lba		
Supply Air Volume:	5600	cfm		
Supply Air Density:	0.075	lb/ft^3		

Rate:	$0.08
IPLV	12.5
SAVINGS	
Cooling kWh:	2,741.98
Dollars:	$219.36
75%	$164.52

HRU on 50% of weekend
Weekend Factor
0.142857

StrTemp	EndTemp	T(F)	h(Btu/lba)	hrs9-16	foa	Tma(F)	hma(Btu/lba)	Q (mmBTU)
105	109	107	-99	0	80%	100.1	-74.37	0.00
100	104	102	-99	0	80%	96.1	-74.37	0.00
95	99	97	-99	0	80%	92.1	-74.37	0.00
90	94	91.3	38.3	11	80%	87.5	35.96	0.95
85	89	87.7	36.2	57	80%	84.6	34.27	4.07
80	84	82.1	33.3	229	80%	80.1	31.94	11.53
75	79	76.7	31.2	289	80%	75.8	30.26	10.13
70	74	72.5	29.6	246	80%	72.4	28.97	5.75
65	69	67.9	28.2	260	100%	67.9	28.20	4.26
60	64	62.6	24.9	243	100%	62.6	24.90	3.29
55	59	57.2	21.7	172	100%	57.2	21.70	1.59
50	54	52.1	19.1	192	95%	53.0	19.43	6.02
45	49	47.4	16.8	133	80%	52.2	18.68	5.74
40	44	43	14.8	199	80%	48.7	17.08	11.49
35	39	37.4	12.7	248	80%	44.2	15.39	18.12
30	34	32.1	10.6	182	80%	39.9	13.70	16.08
25	29	27.6	9	146	80%	36.3	12.42	14.60
20	24	23.1	7.4	100	80%	32.7	11.13	11.17
15	19	17.4	5.6	110	80%	28.1	9.68	13.73
10	14	12	4	58	80%	23.8	8.40	7.92
5	9	7.4	2.7	20	80%	20.1	7.35	2.92
0	4	2.6	1.3	19	80%	16.2	6.23	2.97
-5	-1	-1.7	0.1	6	80%	12.8	5.26	0.99
-10	-6	-7.1	-1.3	0				
-15	-11	-13	-99	0				**153.31**
-20	-16	-18	-99	0				
-25	-21	-23	-99	0				
-30	-26	-28	-99	0				

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HEAT RECOVERY UNIT SAVINGS

ERU 4-1

INPUTS

Minimum Fraction Outdoor Air:	97%			
Heat Recover Effectiveness:	36.0%			
Summer Set Point Temperature:	72 F	Winter Set Point	70	
Set Point Enthalpy:	26.39 Btu/lba	Set Point Enthalpy:	22.72	
Supply Air Temperature:	53 F			
Supply Air Enthalpy:	21.86 Btu/lba			
Supply Air Volume:	10000 cfm			
Supply Air Density:	0.075 lb/ft^3			

Rate:	$0.08
IPLV	12.5
SAVINGS	
Cooling kWh:	5,694.21
Dollars:	$455.54
75%	$341.65

HRU on 50% of weekend
Weekend Factor
0.142857

StrTemp	EndTemp	T(F)	h(Btu/lba)	hrs9-16	foa	Tma(F)	hma(Btu/lba)	Q (mmBTU)
105	109	107	-99	0	97%	105.8	-94.61	0.00
100	104	102	-99	0	97%	101.0	-94.61	0.00
95	99	97	-99	0	97%	96.1	-94.61	0.00
90	94	91.3	38.3	11	97%	90.6	37.88	2.05
85	89	87.7	36.2	57	97%	87.2	35.86	8.74
80	84	82.1	33.3	229	97%	81.7	33.06	24.72
75	79	76.7	31.2	289	97%	76.5	31.03	21.71
70	74	72.5	29.6	246	97%	72.5	29.49	12.33
65	69	67.9	28.2	260	100%	67.9	28.20	7.61
60	64	62.6	24.9	243	100%	62.6	24.90	5.88
55	59	57.2	21.7	172	100%	57.2	21.70	2.84
50	54	52.1	19.1	192	97%	52.8	19.36	10.87
45	49	47.4	16.8	133	97%	48.3	17.14	12.31
40	44	43	14.8	199	97%	44.0	15.21	24.64
35	39	37.4	12.7	248	97%	38.6	13.18	38.85
30	34	32.1	10.6	182	97%	33.5	11.15	34.48
25	29	27.6	9	146	97%	29.2	9.61	31.31
20	24	23.1	7.4	100	97%	24.8	8.06	23.95
15	19	17.4	5.6	110	97%	19.3	6.33	29.44
10	14	12	4	58	97%	14.1	4.78	16.97
5	9	7.4	2.7	20	97%	9.7	3.53	6.26
0	4	2.6	1.3	19	97%	5.0	2.18	6.36
-5	-1	-1.7	0.1	6	97%	0.9	1.02	2.12
-10	-6	-7.1	-1.3	0				
-15	-11	-13	-99	0				**323.45**
-20	-16	-18	-99	0				
-25	-21	-23	-99	0				
-30	-26	-28	-99	0				

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HEAT RECOVERY UNIT SAVINGS

ERU 5-1

INPUTS

Minimum Fraction Outdoor Air:	71%			
Heat Recover Effectiveness:	36.0%			
Summer Set Point Temperature:	72 F	Winter Set Point	70	
Set Point Enthalpy:	26.39 Btu/lba	Set Point Enthalpy:	22.72	
Supply Air Temperature:	53 F			
Supply Air Enthalpy:	21.86 Btu/lba			
Supply Air Volume:	9800 cfm			
Supply Air Density:	0.075 lb/ft^3			

Rate:	$0.08
IPLV	12.5
SAVINGS	
Cooling kWh:	4,366.01
Dollars:	$349.28
75%	$261.96

HRU on 50% of weekend
Weekend Factor
0.142857

StrTemp	EndTemp	T(F)	h(Btu/lba)	hrs9-16	foa	Tma(F)	hma(Btu/lba)	Q (mmBTU)
105	109	107	-99	0	71%	97.0	-63.17	0.00
100	104	102	-99	0	71%	93.4	-63.17	0.00
95	99	97	-99	0	71%	89.9	-63.17	0.00
90	94	91.3	38.3	11	71%	85.8	34.90	1.49
85	89	87.7	36.2	57	71%	83.2	33.40	6.34
80	84	82.1	33.3	229	71%	79.2	31.33	17.93
75	79	76.7	31.2	289	71%	75.4	29.83	15.75
70	74	72.5	29.6	246	71%	72.4	28.68	8.94
65	69	67.9	28.2	260	100%	67.9	28.20	7.46
60	64	62.6	24.9	243	100%	62.6	24.90	5.76
55	59	57.2	21.7	172	100%	57.2	21.70	2.79
50	54	52.1	19.1	192	95%	53.0	19.43	10.54
45	49	47.4	16.8	133	77%	53.0	18.98	9.65
40	44	43	14.8	199	71%	51.3	18.11	17.87
35	39	37.4	12.7	248	71%	47.3	16.61	28.18
30	34	32.1	10.6	182	71%	43.5	15.11	25.01
25	29	27.6	9	146	71%	40.3	13.97	22.72
20	24	23.1	7.4	100	71%	37.1	12.83	17.37
15	19	17.4	5.6	110	71%	33.0	11.54	21.36
10	14	12	4	58	71%	29.1	10.40	12.31
5	9	7.4	2.7	20	71%	25.9	9.47	4.54
0	4	2.6	1.3	19	71%	22.4	8.47	4.62
-5	-1	-1.7	0.1	6	71%	19.4	7.61	1.54
-10	-6	-7.1	-1.3	0				
-15	-11	-13	-99	0				**242.16**
-20	-16	-18	-99	0				
-25	-21	-23	-99	0				
-30	-26	-28	-99	0				

Client: Wauseon Ex Village SD
Site: Grade 3-8 Bldg
Prepared By: TDS
Date Last Worked On: 4/24/2013

Room By Room COMcheck Summary

Area (sq ft)	Allowed Wattage	Proposed Wattage	% Above/Below Code	Watts Saved
127055	161714.8	148079	8.43%	13635.8

Hours of Operation	Electric Rate	kWh Saved	$ Saved
0	0	0	0

Whole Building COMcheck Summary

Building Type	COMcheck Rating
School	1.2

Area	Allowed Wattage	Proposed Wattage	% Above/Below Code	Watts Saved
	0	148079	#DIV/0!	-148079

Hours of Operation	Electric Rate	kWh Saved	$ Saved
0	0	0	0

Occupancy Sensor Summary

Watts Controlled	OS>500W	OS<500W	OS Total
64675	70	29	99

Photocell Sensor Summary

Watts Controlled	OS>500W	OS<500W	OS Total
0	0	0	0

Room Type	Area	COMcheck Rating	Allowed Wattage	Proposed Wattage
Audience	0	0.9	0	0
Classroom	58109	1.4	81352.6	56020
Conference Room	2411	1.3	3134.3	2640
Dining	5510	0.9	4959	25298
Dorm Room	0	1.1	0	0
Exam/Treatment	0	1.5	0	0
Exercise Area	0	0.9	0	0
Food Prep	2065	1.2	2478	2396
Gym	15500	2.3	35650	24275
Hall	22568	0.5	11284	20333
Laboratory	0	1.4	0	0
Laundry	0	0.6	0	0
Lobby	836	1.3	1086.8	1056
Locker	1318	0.6	790.8	1102
Lounge	0	1.2	0	0
Mail Sorting	0	1.2	0	0
Mech/Elec	5387	1.5	8080.5	2704
Nurse	0	1	0	0
Office	1380	1.1	1518	1976
Operating Room	0	2.2	0	0
Parking Garage	0	0.2	0	0
Patient Room	0	0.7	0	0
Pharmacy	0	1.2	0	0
Reading	3423	1.2	4107.6	4176
Restroom	4348	0.9	3913.2	2781
Sales Area	0	1.7	0	0
Stacks	0	1.7	0	0
Stairs	0	0.6	0	0
Storage	4200	0.8	3360	3322
Workshop	0	1.9	0	0
Totals	**127055**		**161714.8**	**148079**

Client: Wauseon Ex Village SD	Property of Plug Smart © 2012
Site: Grade 3-8 Bldg	Fixture Wattage
Prepared By: TDS	
Date Last Worked On: 4/24/2013	Fixture Type

Room #	Type	Area	PC	OS	F1	F1C	F2	F22	F3	F3C	F4	F6	FD1	FF2	FF3	FJ8	FJ12	FR2	FV1	FW4	K1	M1	M6	Q1
					58	58	58	44	88	88	114	200	29	58	88	116	174	55	55	138	150	458	290	500
A110	Classroom	901		1					9															
A101	Classroom	901		1					9															
A102	Classroom	901		1					9															
A103	Classroom	895		1					9															
A104	Restroom	278		1			2																	
A105	Restroom	275		1			2																	
A106	Hall	1062							10				3					1						
A107	Classroom	901		1					9															
A108	Classroom	901		1					9															
A109	Classroom	900		1					9															
B101	Classroom	901		1					9															
B102	Classroom	901		1					9															
B103	Classroom	900		1					9															
B104	Hall	1290							10															
B105	Classroom	901		1					9															
B106	Classroom	901		1					9															
B107	Classroom	895		1					9															
B108	Restroom	246		1			2						1											
B109	Restroom	246		1			2						1											
B110	Storage	40																2						
C101	Classroom	906		1					9															
C102	Classroom	901		1					9															
C103	Classroom	450		1					6															
C104	Classroom	450		1					6															
C105	Classroom	234		1					3															
C106	Hall	1009							9															
C107	Classroom	903		1					11															
C108	Classroom	914		1					12															
C109	Classroom	914		1					12															
C110	Classroom	914		1					12															
C111	Classroom	914		1					12															
C112	Classroom	915		1					12															
C113	Classroom	903		1					11															
C114	Classroom	895		1					9															
C115	Classroom	444		1					6															
C116	Classroom	444		1					6															
C117	Classroom	806		1					9															
C118	Hall	1091							9															
C119	Restroom	55					1																	
C120	Classroom	886		1						10														
C121	Storage	31					1																	
C122	Mech/Elec	56					1																	
C123	Hall	47							1															
C124	Conference Room	295		1					4															
C125	Mech/Elec	838																8						
C126	Hall	1101																9						
C127	Mech/Elec	48																1						
C128	Restroom	57					1																	
C129	Storage	95					1																	
C130	Conference Room	456		1					5															
C131	Hall	1195										7	9											
D101	Hall	147							2															
D102	Lobby	156								2														
D103	Lobby	262		1						4														
D104	Hall	315							2															
D105	Office	225		1						4														
D106	Hall	99				2																		
D107	Storage	167					2																	
D108	Restroom	56					1																	
D109	Office	146		1						2														
D110	Storage	100					1																	
D111	Hall	416							6															
D112	Office	146		1						2														
D113	Restroom	56					1																	
D114	Conference Room	127		1						2														
D115	Hall	506				6				3														
D116	Office	278																			4			
D117	Restroom	47					1																	
D118	Storage	81		1			4																	
D119	Conference Room	250		1						4														
D120	Conference Room	250		1						4														
D121	Storage	83					1																	
D122	Conference Room	340		1					4															
D123	Hall	99				2																		
D124	Office	225		1						4														
D125	Hall	315							2															
D126	Lobby	262		1						4														
D127	Lobby	156								2														
D128	Hall	147							2															
D129	Hall	1086							3															
D130	Classroom	1217		2					13															
D131	Storage	178					2																	
D132	Classroom	257							3															
D133	Classroom	595		1					7															
D134	Classroom	1042		1					12															
D135	Storage	501																4						
D136	Hall	257							10				1											
D137	Reading	3423														12	16							
D138	Classroom	900		1						12														
D139	Classroom	318		1					6															
D140	Hall	304					6																	
D142	Hall	250							6															
D143	Mech/Elec	892																9						
D144	Classroom	928		1					11															
D145	Classroom	70					1																	
D146	Office	120					2																	
D147	Storage	172					2																	
D148	Classroom	995		1					10															
D149	Hall	1040							7															
E101	Dining	5087						16								6	29							37
E102	Dining	423		1					4															
E103	Restroom	407		1			5																	
E104	Restroom	65					1																	
E105	Storage	34																2						
E106	Restroom	403		1			5											1						
E106A	Restroom	369		1			4																	
E107	Hall	577							7															
E108	Hall	291							3															
E109	Classroom	1298					9																	
E110	Classroom	1400		1					15															
E111	Classroom	1005		1					12															
E112	Hall	75					2																	
E113	Storage	345							3															
E114	Hall	568							7															
E115	Storage	453																4						
E116	Storage	126																2						
E117	Classroom	978		1					11						1									
E118	Food Prep	1334		1	2						12													
E119	Food Prep	731		1							8													
E120	Storage	332		1																3				
E121	Storage	76							1															
E122	Office	91		1					1															
E124	Storage	336					3																	
E125	Restroom	48					1																	
E126	Locker	36					1																	
F101	Hall	504							6														3	
F102	Gym	9400																	15			30		
F103	Gym	6100																	10			20		
F104	Office	74					1																	
F105	Restroom	80												1										
F106	Restroom	200												1										
F107	Locker	728					10																	
F108	Mech/Elec	49												1										
F109	Storage	398												5										
F110	Storage	398												3										
F111	Locker	554					8																	
F112	Office	75					1																	
F113	Restroom	80												1										
F114	Restroom	215												1										
F115	Hall	117					2																	
F116	Hall	80							2															
F117	Hall	1049							10															
F118	Hall	80							1															
F119	Conference Room	398							4															
F120	Mech/Elec	2235																16						
F121	Mech/Elec	316																3						
G101	Classroom	601		1					6															
G102	Classroom	601		1					6															
G103	Classroom	900		1					9															
G104	Hall	914							7															
G105	Classroom	888		1					10															
G106	Classroom	919		1					12															
G107	Classroom	919		1					12															
G108	Classroom	919		1					12															
G109	Classroom	897		1					12															
G110	Classroom	901		1						9														
G111	Classroom	601		1					6															
G112	Classroom	601		1					6															
G113	Hall	914							7															
G114	Restroom	55					1																	
G115	Classroom	873		1					11															
G116	Restroom	71					1																	
G117	Conference Room	295		1					3															
G118	Hall	44							1															
G119	Mech/Elec	52					1																	
G120	Hall	1314							9															
G121	Mech/Elec	847																8						
G122	Storage	92					1																	
G123	Mech/Elec	54																1						
G124	Restroom	55					1																	
G125	Hall	1044										7	8											
H101	Restroom	246		1			2						1											
H102	Storage	40																2						
H103	Restroom	246		1			2						1											
H104	Classroom	895		1					9															
H105	Classroom	901		1					9															
H106	Classroom	901		1					9															
H107	Hall	1433							9															
H108	Classroom	1101		2					13															
H109	Classroom	901		1					9															
H110	Classroom	901		1					9															
J101	Classroom	901		1					9															
J102	Classroom	901		1					9															
J103	Classroom	901		1					9															
J104	Classroom	895		1					9															
J105	Restroom	246		1			2						1											
J106	Storage	40																2						
J107	Restroom	246		1			2						1											
J108	Hall	1788							12															
J109	Classroom	901		1					9															
J110	Classroom	901		1					9															
J111	Classroom	1093		2					13															
J112	Storage	82					1																	
J113	Classroom	901		1					9															

Room #	Occupancy Controls			Photocell Controls		
	Watts Controlled	Watts/Sensor	OS>500W	Watts Controlled	Watts/Sensor	PS>500W
A110	792	792	1	0	0	0
A101	792	792	1	0	0	0
A102	792	792	1	0	0	0
A103	792	792	1	0	0	0
A104	116	116	0	0	0	0
A105	116	116	0	0	0	0
A106	0	0	0	0	0	0
A107	792	792	1	0	0	0
A108	792	792	1	0	0	0
A109	792	792	1	0	0	0
B101	792	792	1	0	0	0
B102	792	792	1	0	0	0
B103	792	792	1	0	0	0
B104	0	0	0	0	0	0
B105	792	792	1	0	0	0
B106	792	792	1	0	0	0
B107	792	792	1	0	0	0
B108	145	145	0	0	0	0
B109	145	145	0	0	0	0
B110	0	0	0	0	0	0
C101	792	792	1	0	0	0
C102	792	792	1	0	0	0
C103	528	528	1	0	0	0
C104	528	528	1	0	0	0
C105	264	264	0	0	0	0
C106	0	0	0	0	0	0
C107	968	968	1	0	0	0
C108	1056	1056	1	0	0	0
C109	1056	1056	1	0	0	0
C110	1056	1056	1	0	0	0
C111	1056	1056	1	0	0	0
C112	1056	1056	1	0	0	0
C113	968	968	1	0	0	0
C114	792	792	1	0	0	0
C115	528	528	1	0	0	0
C116	528	528	1	0	0	0
C117	792	792	1	0	0	0
C118	0	0	0	0	0	0
C119	0	0	0	0	0	0
C120	880	880	1	0	0	0
C121	0	0	0	0	0	0
C122	0	0	0	0	0	0
C123	0	0	0	0	0	0
C124	352	352	0	0	0	0
C125	0	0	0	0	0	0
C126	0	0	0	0	0	0
C127	0	0	0	0	0	0
C128	0	0	0	0	0	0
C129	0	0	0	0	0	0
C130	440	440	0	0	0	0
C131	0	0	0	0	0	0
D101	0	0	0	0	0	0
D102	0	0	0	0	0	0
D103	352	352	0	0	0	0
D104	0	0	0	0	0	0
D105	352	352	0	0	0	0
D106	0	0	0	0	0	0
D107	0	0	0	0	0	0
D108	0	0	0	0	0	0
D109	176	176	0	0	0	0
D110	0	0	0	0	0	0
D111	0	0	0	0	0	0
D112	176	176	0	0	0	0
D113	0	0	0	0	0	0
D114	176	176	0	0	0	0
D115	0	0	0	0	0	0
D116	0	0	0	0	0	0
D117	0	0	0	0	0	0
D118	232	232	0	0	0	0
D119	352	352	0	0	0	0
D120	352	352	0	0	0	0
D121	0	0	0	0	0	0
D122	352	352	0	0	0	0
D123	0	0	0	0	0	0
D124	352	352	0	0	0	0
D125	0	0	0	0	0	0
D126	352	352	0	0	0	0
D127	0	0	0	0	0	0
D128	0	0	0	0	0	0
D129	0	0	0	0	0	0
D130	1144	572	2	0	0	0
D131	0	0	0	0	0	0
D132	0	0	0	0	0	0
D133	616	616	1	0	0	0
D134	1056	1056	1	0	0	0
D135	0	0	0	0	0	0
D136	0	0	0	0	0	0
D137	0	0	0	0	0	0
D138	1056	1056	1	0	0	0
D139	528	528	1	0	0	0
D140	0	0	0	0	0	0
D142	0	0	0	0	0	0
D143	0	0	0	0	0	0
D144	968	968	1	0	0	0
D145	0	0	0	0	0	0
D146	0	0	0	0	0	0
D147	0	0	0	0	0	0
D148	880	880	1	0	0	0
D149	0	0	0	0	0	0
E101	0	0	0	0	0	0
E102	352	352	0	0	0	0
E103	290	290	0	0	0	0
E104	0	0	0	0	0	0
E105	0	0	0	0	0	0
E106	345	345	0	0	0	0
E106A	232	232	0	0	0	0
E107	0	0	0	0	0	0
E108	0	0	0	0	0	0
E109	0	0	0	0	0	0
E110	1320	1320	1	0	0	0
E111	1056	1056	1	0	0	0
E112	0	0	0	0	0	0
E113	0	0	0	0	0	0
E114	0	0	0	0	0	0
E115	0	0	0	0	0	0
E116	0	0	0	0	0	0
E117	1056	1056	1	0	0	0
E118	1484	1484	1	0	0	0
E119	912	912	1	0	0	0
E120	414	414	0	0	0	0
E121	0	0	0	0	0	0
E122	88	88	0	0	0	0
E124	0	0	0	0	0	0
E125	0	0	0	0	0	0
E126	0	0	0	0	0	0
F101	0	0	0	0	0	0
F102	0	0	0	0	0	0
F103	0	0	0	0	0	0
F104	0	0	0	0	0	0
F105	0	0	0	0	0	0
F106	0	0	0	0	0	0
F107	0	0	0	0	0	0
F108	0	0	0	0	0	0
F109	0	0	0	0	0	0
F110	0	0	0	0	0	0
F111	0	0	0	0	0	0
F112	0	0	0	0	0	0
F113	0	0	0	0	0	0
F114	0	0	0	0	0	0
F115	0	0	0	0	0	0
F116	0	0	0	0	0	0
F117	0	0	0	0	0	0
F118	0	0	0	0	0	0
F119	0	0	0	0	0	0
F120	0	0	0	0	0	0
F121	0	0	0	0	0	0
G101	528	528	1	0	0	0
G102	528	528	1	0	0	0
G103	792	792	1	0	0	0
G104	0	0	0	0	0	0
G105	880	880	1	0	0	0
G106	1056	1056	1	0	0	0
G107	1056	1056	1	0	0	0
G108	1056	1056	1	0	0	0
G109	1056	1056	1	0	0	0
G110	792	792	1	0	0	0
G111	528	528	1	0	0	0
G112	528	528	1	0	0	0
G113	0	0	0	0	0	0
G114	0	0	0	0	0	0
G115	968	968	1	0	0	0
G116	0	0	0	0	0	0
G117	264	264	0	0	0	0
G118	0	0	0	0	0	0
G119	0	0	0	0	0	0
G120	0	0	0	0	0	0
G121	0	0	0	0	0	0
G122	0	0	0	0	0	0
G123	0	0	0	0	0	0
G124	0	0	0	0	0	0
G125	0	0	0	0	0	0
H101	145	145	0	0	0	0
H102	0	0	0	0	0	0
H103	145	145	0	0	0	0
H104	792	792	1	0	0	0
H105	792	792	1	0	0	0
H106	792	792	1	0	0	0
H107	0	0	0	0	0	0
H108	1144	572	2	0	0	0
H109	792	792	1	0	0	0
H110	792	792	1	0	0	0
J101	792	792	1	0	0	0
J102	792	792	1	0	0	0
J103	792	792	1	0	0	0
J104	792	792	1	0	0	0
J105	145	145	0	0	0	0
J106	0	0	0	0	0	0
J107	145	145	0	0	0	0
J108	0	0	0	0	0	0
J109	792	792	1	0	0	0
J110	792	792	1	0	0	0
J111	1144	572	2	0	0	0
J112	0	0	0	0	0	0
J113	792	792	1	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
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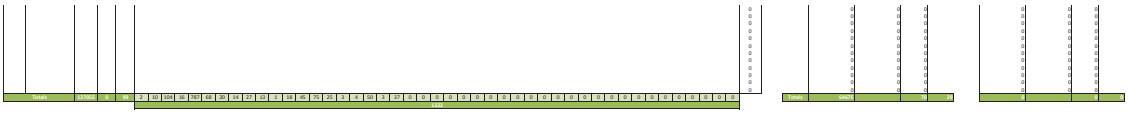
0	0	0	0	0	0	0



Fixture Type	F1	F1C	F2	F22	F3	F3C	F4	F6	FD1	FF2	FF3	FJ8	FJ12	FR2	FV1	FW4	K1	M1	M6	Q1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixture Wattage	58	58	58	44	88	88	114	200	29	58	88	116	174	55	55	138	150	458	290	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Audience	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Classroom	0	0	10	0	598	31	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conference Room	0	0	0	0	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dining	0	0	0	16	4	0	0	0	0	0	0	6	29	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dorm Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exam/Treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exercise Area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food Prep	2	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gym	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hall	0	10	10	0	160	3	0	14	21	0	0	0	0	10	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laboratory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laundry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lobby	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Locker	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lounge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mail Sorting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mech/Elec	0	0	2	0	0	0	0	0	0	1	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	4	0	1	12	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking Garage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patient Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reading	0	0	0	0	0	0	0	0	0	0	0	12	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Restroom	0	0	40	0	0	0	0	0	6	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales Area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stacks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stairs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Storage	0	0	19	0	4	0	0	0	0	8	0	0	0	18	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workshop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

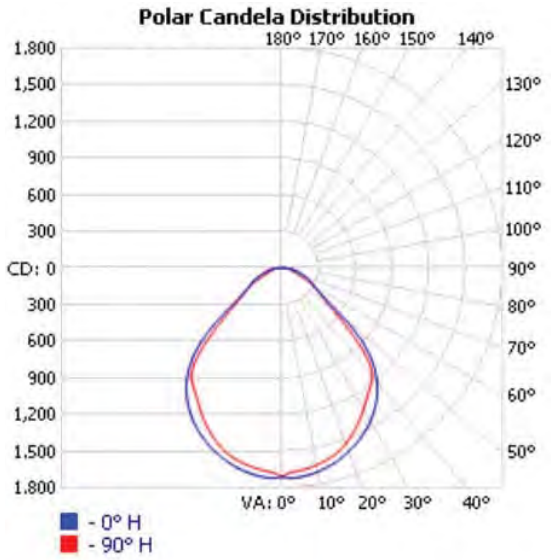
Total Fixtures	1322

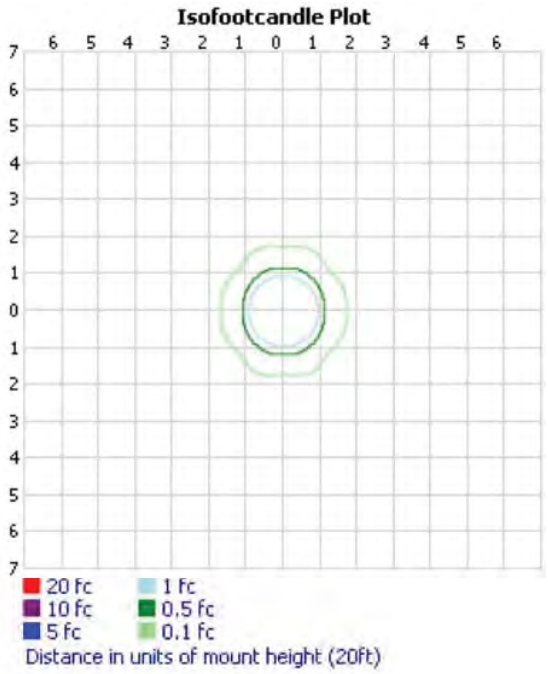
F1

INDOOR PHOTOMETRIC REPORT

CATALOG: SP8 G 2 32 K20 MVOLT GEB10IS

TEST #:	LTL19694
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	2/9/2011
CATALOG #:	SP8 G 2 32 K20 MVOLT GEB10IS
LUMINAIRE:	1 X 4 LENSED TROFFER, 2 LAMP, K20 LENS
LAMP CAT #:	F032/735/ECO
LAMP:	TWO 32-WATT LINEAR FLUORESCENT T8, HORIZONTAL POS.
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2800
BALLAST:	OTP2 X 32T8/UNV ISN-SC
INPUT WATTAGE:	55
LUMINOUS OPENING:	RECTANGLE (L: 9", W: 45.24")
CIE CLASS:	DIRECT
MAX CD:	1,726.0 AT HORIZONTAL: 0°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.26
	@ 90 = 1.17
EFFICIENCY:	**66%**





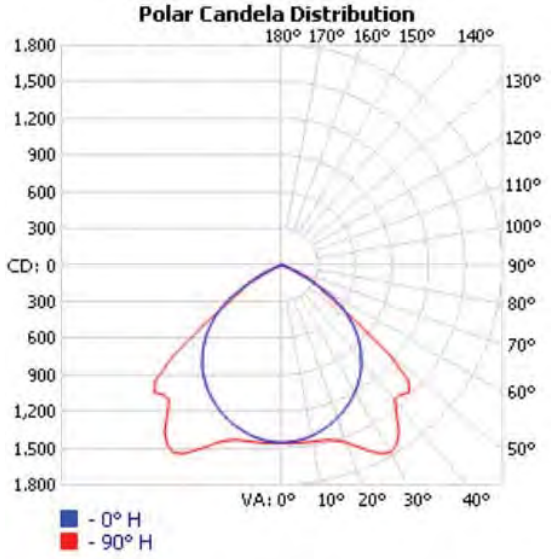
F1C

INDOOR PHOTOMETRIC REPORT

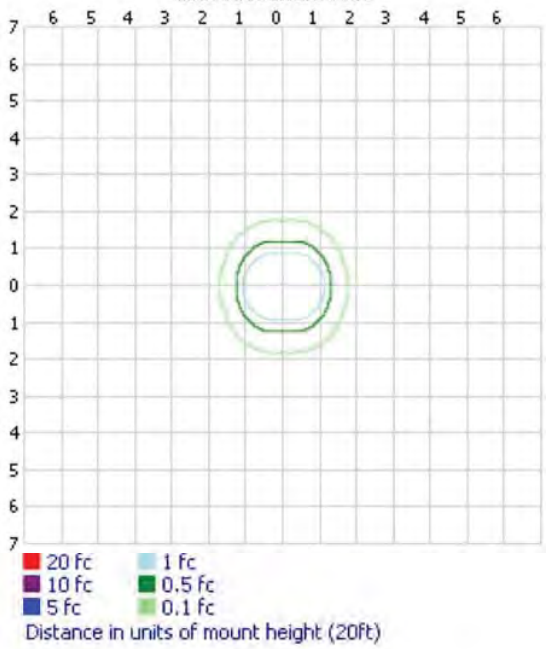
CATALOG: PM3 2 32 8LD ADDE

TEST #:	LTL6584
ISSUE DATE:	1/31/2008
CATALOG #:	PM3 2 32 8LD ADDE
LUMINAIRE:	PARAMAX PARABOLIC TROFFER 1'X4' 3" LVR 2 LP T8 8 CELL SEMI SPEC LVR ELEC
LAMP CAT #:	F32T8/SPX35
LAMP:	TWO 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2900
BALLAST:	REL-2P32-RH-TP BF=0.86
INPUT WATTAGE:	58
LUMINOUS OPENING:	RECTANGLE (L: 45.24", W: 9.24")
TER VALUE:	62 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,774.0 AT HORIZONTAL: 90°, VERTICAL: 30°
SPACING CRITERION:	@ 0 = 1.23
	@ 90 = 1.58
EFFICIENCY:	**66.9%**

Polar Candela Distribution



Isofootcandle Plot

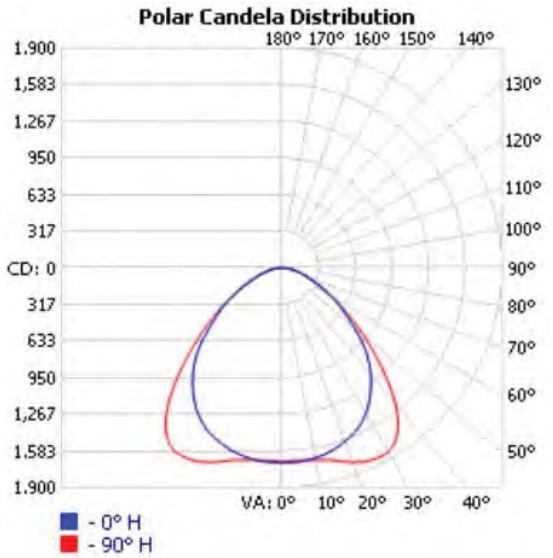


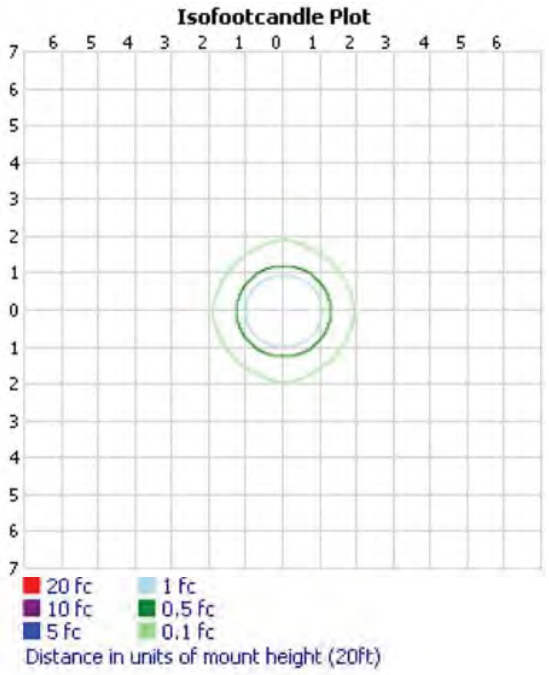
F2

INDOOR PHOTOMETRIC REPORT

CATALOG: 2SP8 G 2 32 A12125 MVOLT SSR

TEST #:	LTL16214
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 G 2 32 A12125 MVOLT SSR
LUMINAIRE:	
LAMP CAT #:	F032/735/ECO
LAMP:	TWO 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	QTP2X32T8/UNV ISN-SC MFR PUBL BF = 0.88
INPUT WATTAGE:	58.4
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 21.36")
TER VALUE:	68 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,841.0 AT HORIZONTAL: 90°, VERTICAL: 27.5°
SPACING CRITERION:	@ 0 = 1.27
	@ 90 = 1.52
EFFICIENCY:	**77.3%**



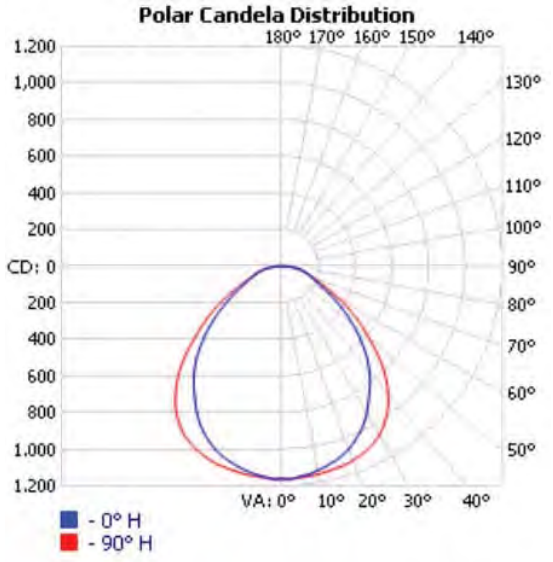


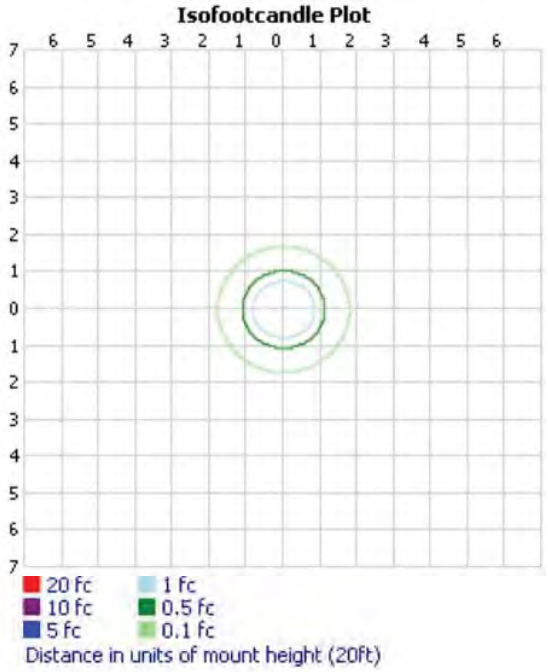
F22

INDOOR PHOTOMETRIC REPORT

CATALOG: 2SP8 3 17 A12125

TEST #:	LTL18855
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	12/3/2012
CATALOG #:	2SP8 3 17 A12125
LUMINAIRE:	2X2, 3 17W LAMPS, GENERAL PURPOSE TROFFER
LAMP CAT #:	F017/841/ECO
LAMP:	THREE 17-WATT LINEAR FLUORESCENT T8, HORIZONTAL POS.
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 1300
BALLAST:	ICN-3P32-SC
INPUT WATTAGE:	43.5
LUMINOUS OPENING:	RECTANGLE (L: 21.12", W: 21")
TER VALUE:	58 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,164.0 AT HORIZONTAL: 90°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.19
	@ 90 = 1.34
EFFICIENCY:	**72.6%**





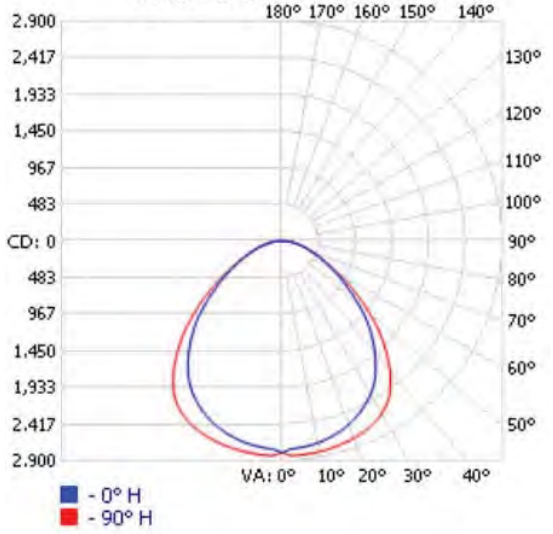
F3

INDOOR PHOTOMETRIC REPORT

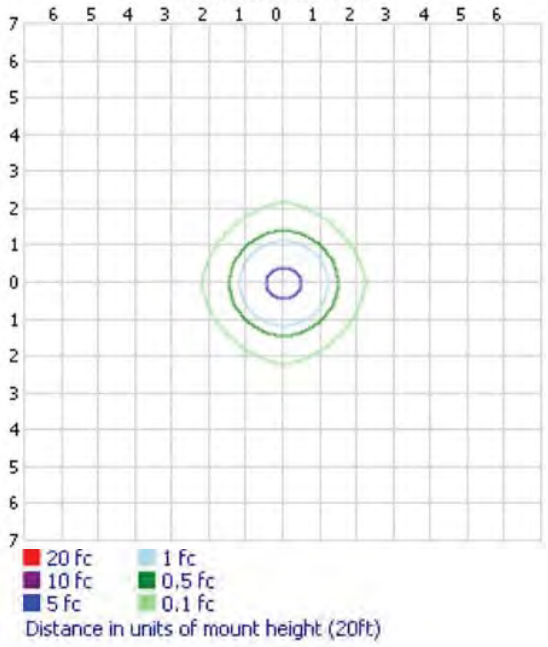
CATALOG: 2SP8 3 32 A12125 1/3 ADDE

TEST #:	LTL7427
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 3 32 A12125 1/3 ADDE
LUMINAIRE:	SP8 SPECIFICATION PREMIUM T8 TROFFER 2'X4' 3 LP T8 #A12 .125" LENS 1/3 ELEC
LAMP:	THREE 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	REL-3P32-SC
INPUT WATTAGE:	88
LUMINOUS OPENING:	RECTANGLE (L: 45.12", W: 21.24")
TER VALUE:	71 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	2,838.0 AT HORIZONTAL: 90°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.24 @ 90 = 1.37
EFFICIENCY:	**81.1%**

Polar Candela Distribution



Isofootcandle Plot

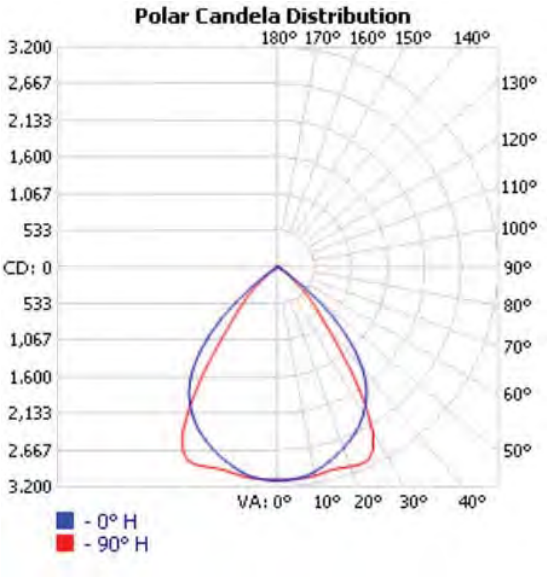


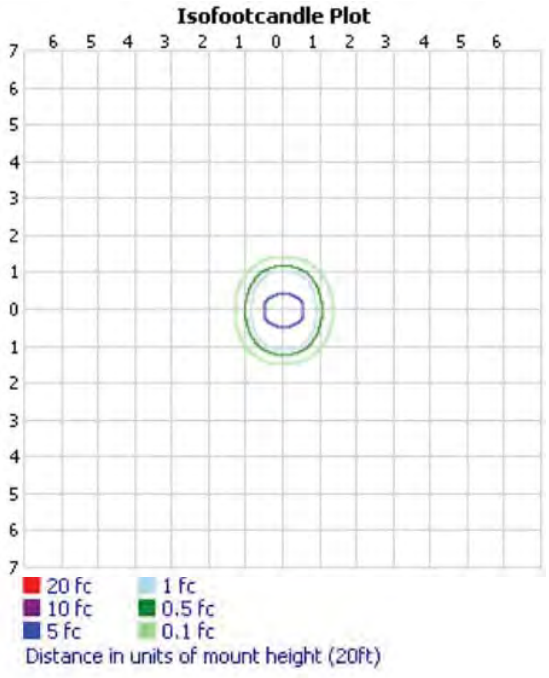
F3C

INDOOR PHOTOMETRIC REPORT

CATALOG: 2PMO G B 3 32 27LD MVOLT GEB10IS

TEST #:	LTL15287
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	10/8/2011
CATALOG #:	2PMO G B 3 32 27LD MVOLT GEB10IS
LUMINAIRE:	PARAMAX LIGHT CONTROL SYSTEM, 2' X 4', 3-LAMP T8, 27-CELL LO IRR SEMISPECULAR 'OPTIMAX' LOUVER, ELECT BALLASTS, PAINT REFL = .919.
LAMP CAT #:	FO32/735/ECO
LAMP:	THREE 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	QTP1X32T8 & QTP2X32T8/UNV-ISN-SC AVG PUBL BF = .88
INPUT WATTAGE:	87.6
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 20.76")
TER VALUE:	54 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	3,116.0 AT HORIZONTAL: 90°, VERTICAL: 22.5°
SPACING CRITERION:	@ 0 = 1.19 @ 90 = 1.23
EFFICIENCY:	**57.5%**





VISUAL PHOTOMETRIC TOOL 1.2.43 COPYRIGHT 2013, ACUITY BRANDS LIGHTING

REPORTED DATA CALCULATED FROM MANUFACTURER'S DATA FILE, BASED ON IESNA RECOMMENDED METHODS.

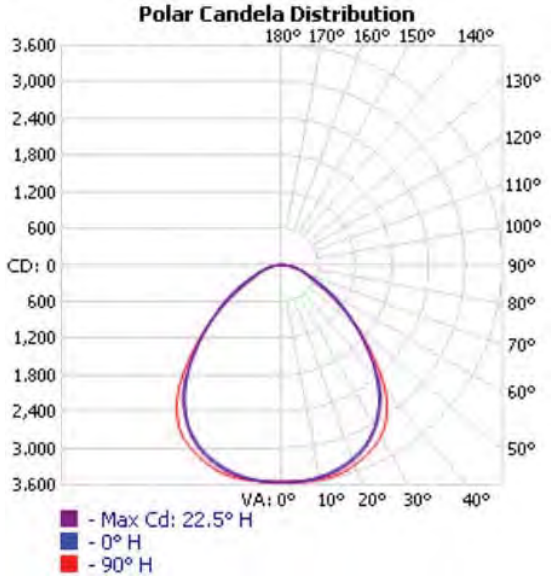
F4

INDOOR PHOTOMETRIC REPORT

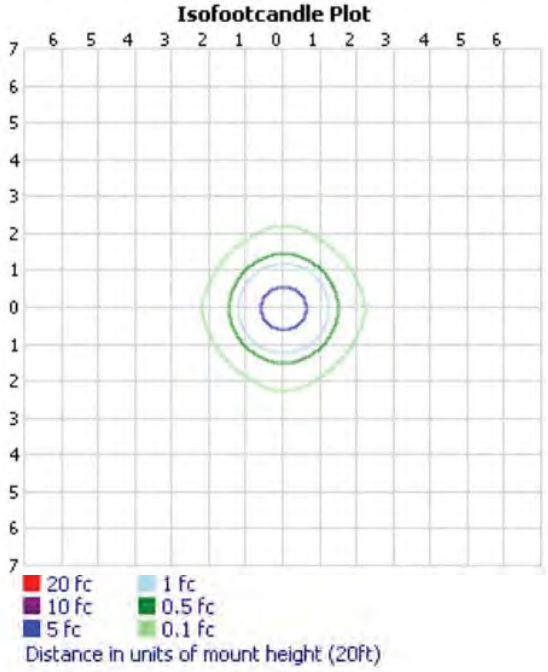
CATALOG: 2SP8 G 4 32 A12125 MVOLT SSR

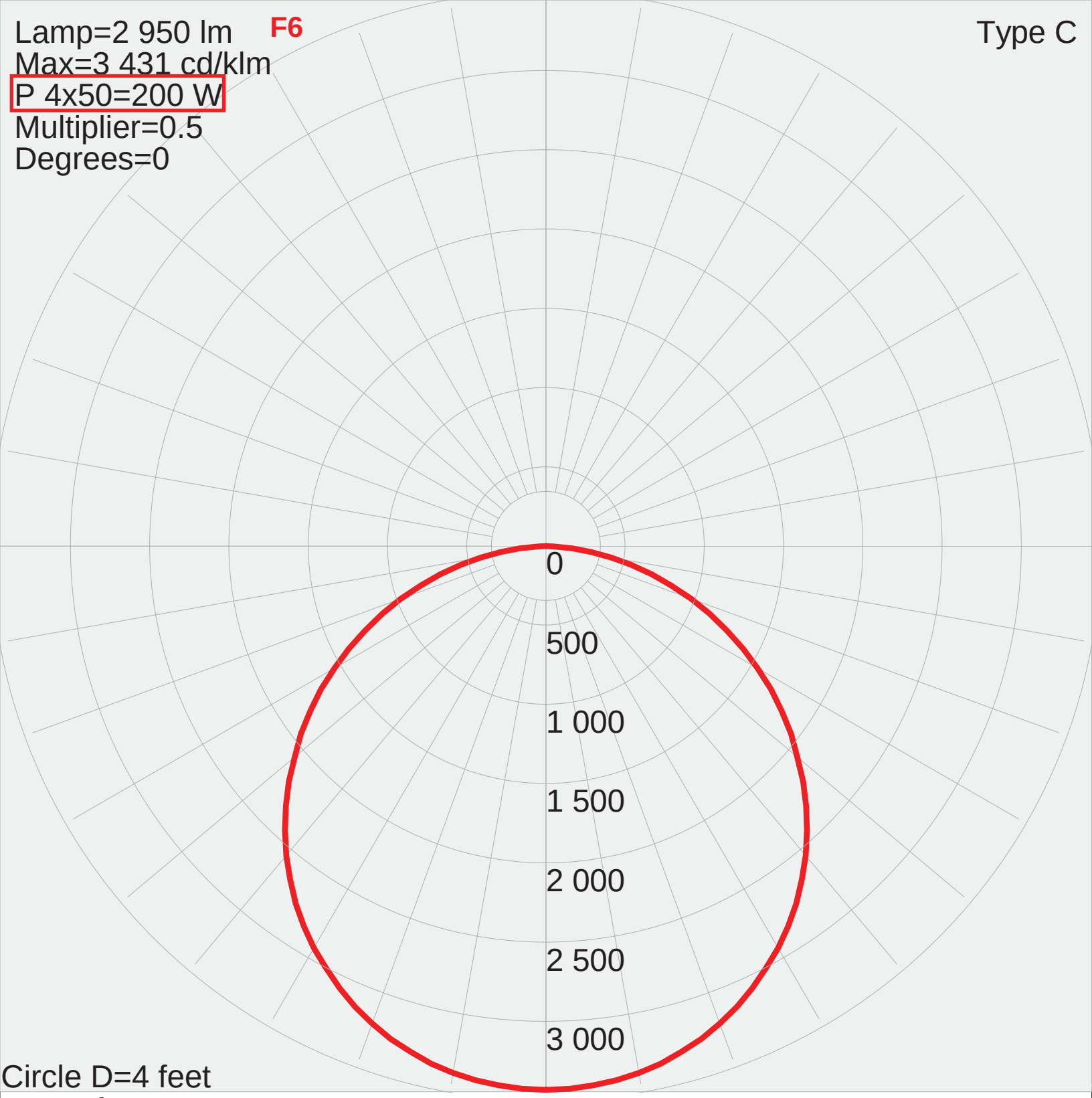
TEST #:	LTL16212
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 G 4 32 A12125 MVOLT SSR
LUMINAIRE:	SPECIFICATION PREMIUM TROFFER 2' X 4', FOUR (4) LAMPS T8, ACRYLIC PRISMATIC LENS .125" THICK IN STEEL DOOR FRAME, SPECULAR SILVER REFLECTIVE INSERTS, ELECTRONIC BALLASTS
LAMP CAT #:	SYL FO32/735/ECO
LAMP:	FOUR 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	4 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	(2) QTP2X32T8/UNV ISN-SC MFR PUBL.BF=.88
INPUT WATTAGE:	113.6
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 21.36")
TER VALUE:	66 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	3,570.0 AT HORIZONTAL: 22.5°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.26
	@ 90 = 1.33
EFFICIENCY:	**72.8%**

Polar Candela Distribution

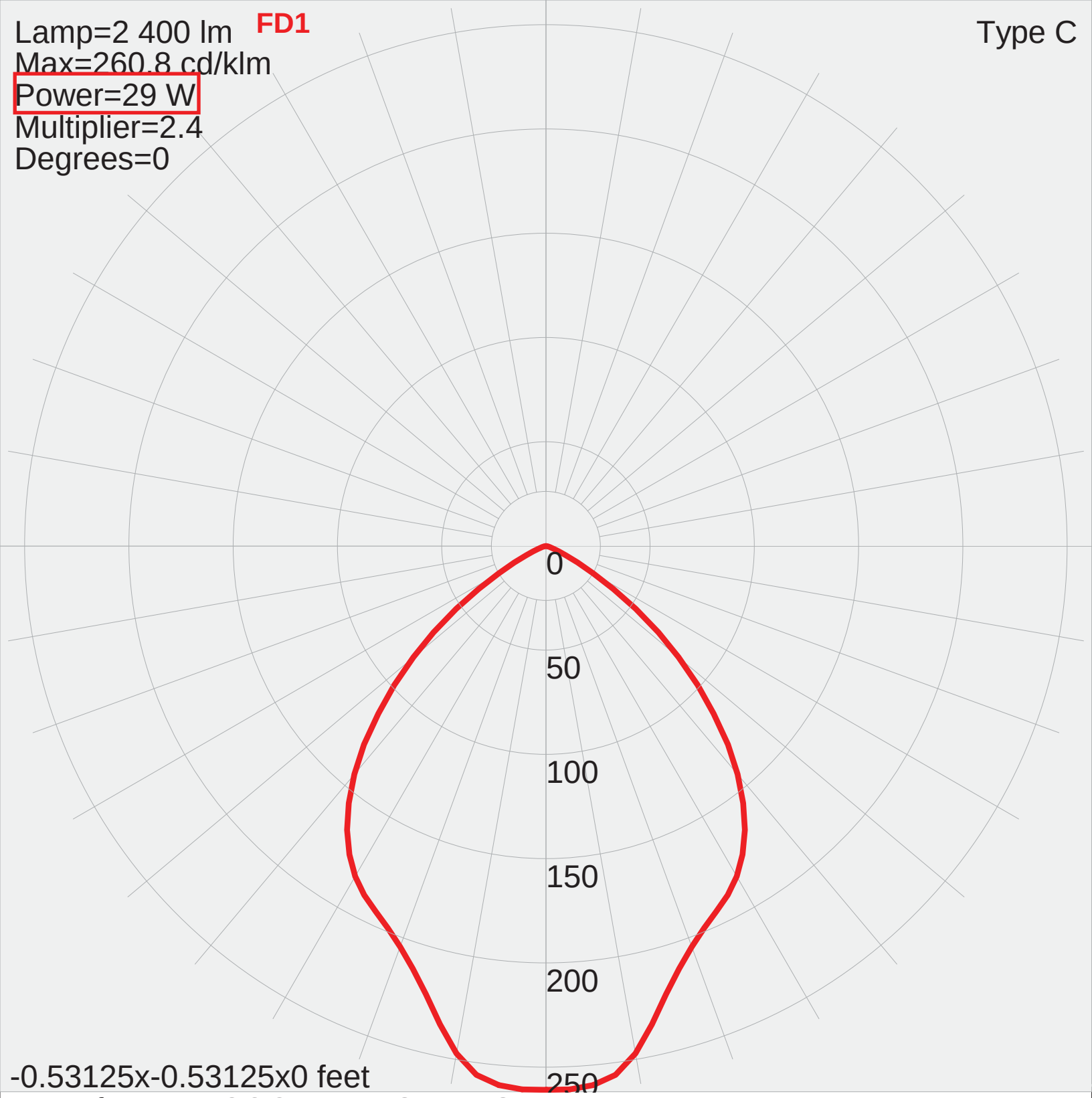


Isofootcandle Plot





Manufacturer: PRUDENTIAL
Luminaire catalog: P8940-4T8-CWA
Luminaire: 4' DIAMETER WITH WHITE INTERIOR AND WHITE ACRYLIC L
Lamp catalog: F32T8/TL841. LUMEN RATING = 2950 LMS.
Lamp: FOUR 32 WATT PHILIPS T8 LAMPS



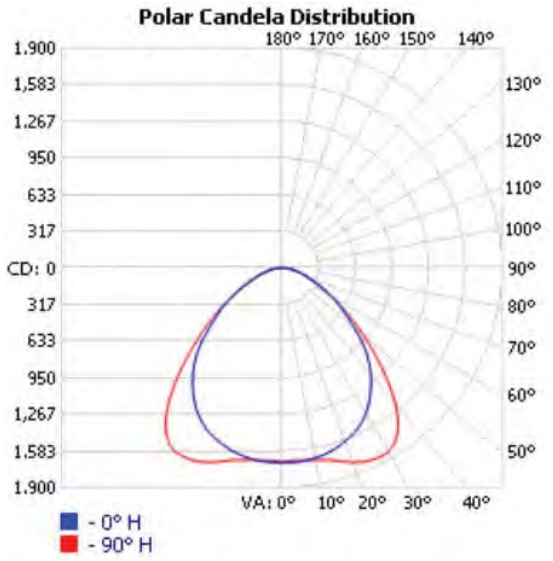
Manufacturer: COOPER LIGHTING
Luminaire catalog: CD6042E-6CLV142M1H1
Luminaire: PORTFOLIO 6 INCH CFL MEDIUM VERTICAL RECESSED DOV
Lamp catalog: F32TBX/827/A/4P
Lamp: (1) FOUR PIN GX24Q-4 BASE TTT 2700K COMPACT FLUORESCEN

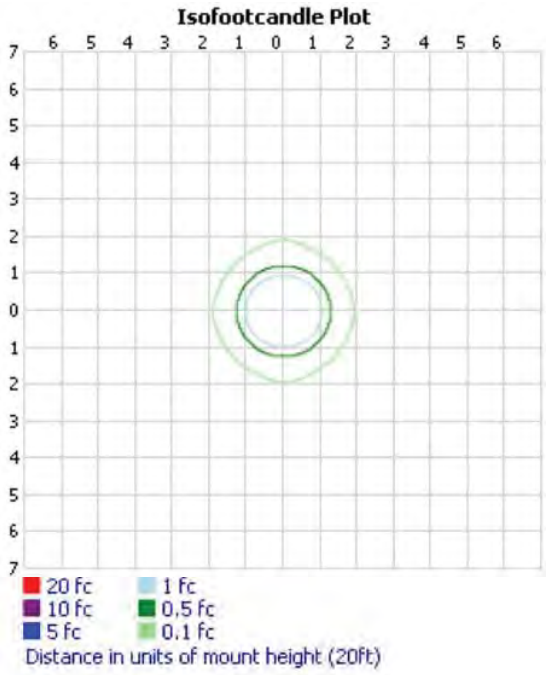
FF2

INDOOR PHOTOMETRIC REPORT

CATALOG: 2SP8 G 2 32 A12125 MVOLT SSR

TEST #:	LTL16214
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 G 2 32 A12125 MVOLT SSR
LUMINAIRE:	
LAMP CAT #:	F032/735/ECO
LAMP:	TWO 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	QTP2X32T8/UNV ISN-SC MFR PUBL BF = 0.88
INPUT WATTAGE:	58.4
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 21.36")
TER VALUE:	68 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,841.0 AT HORIZONTAL: 90°, VERTICAL: 27.5°
SPACING CRITERION:	@ 0 = 1.27
	@ 90 = 1.52
EFFICIENCY:	**77.3%**



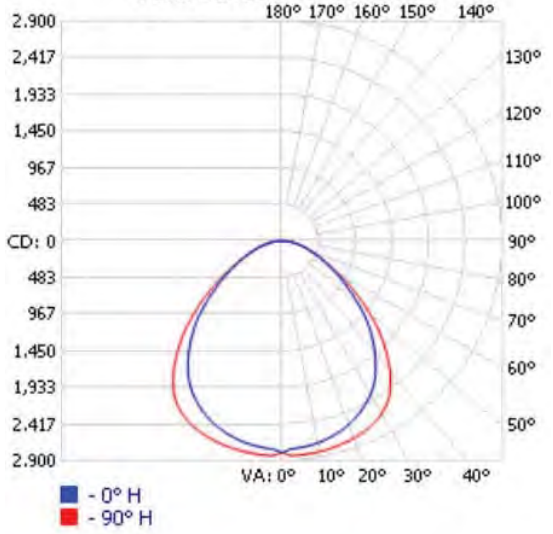


INDOOR PHOTOMETRIC REPORT

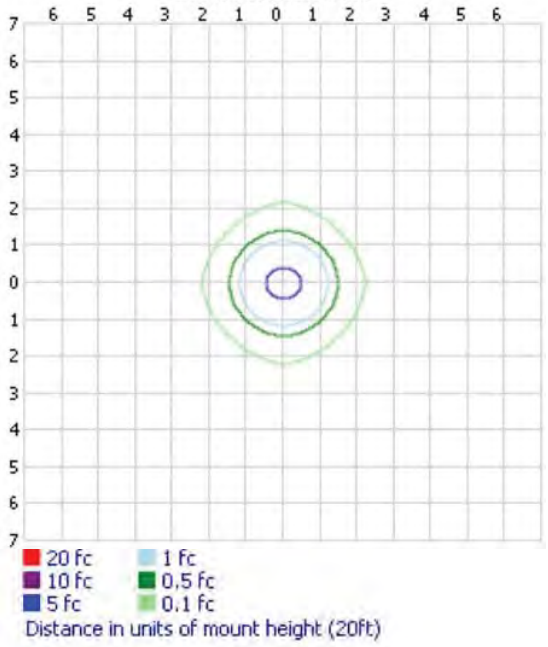
CATALOG: 2SP8 3 32 A12125 1/3 ADDE

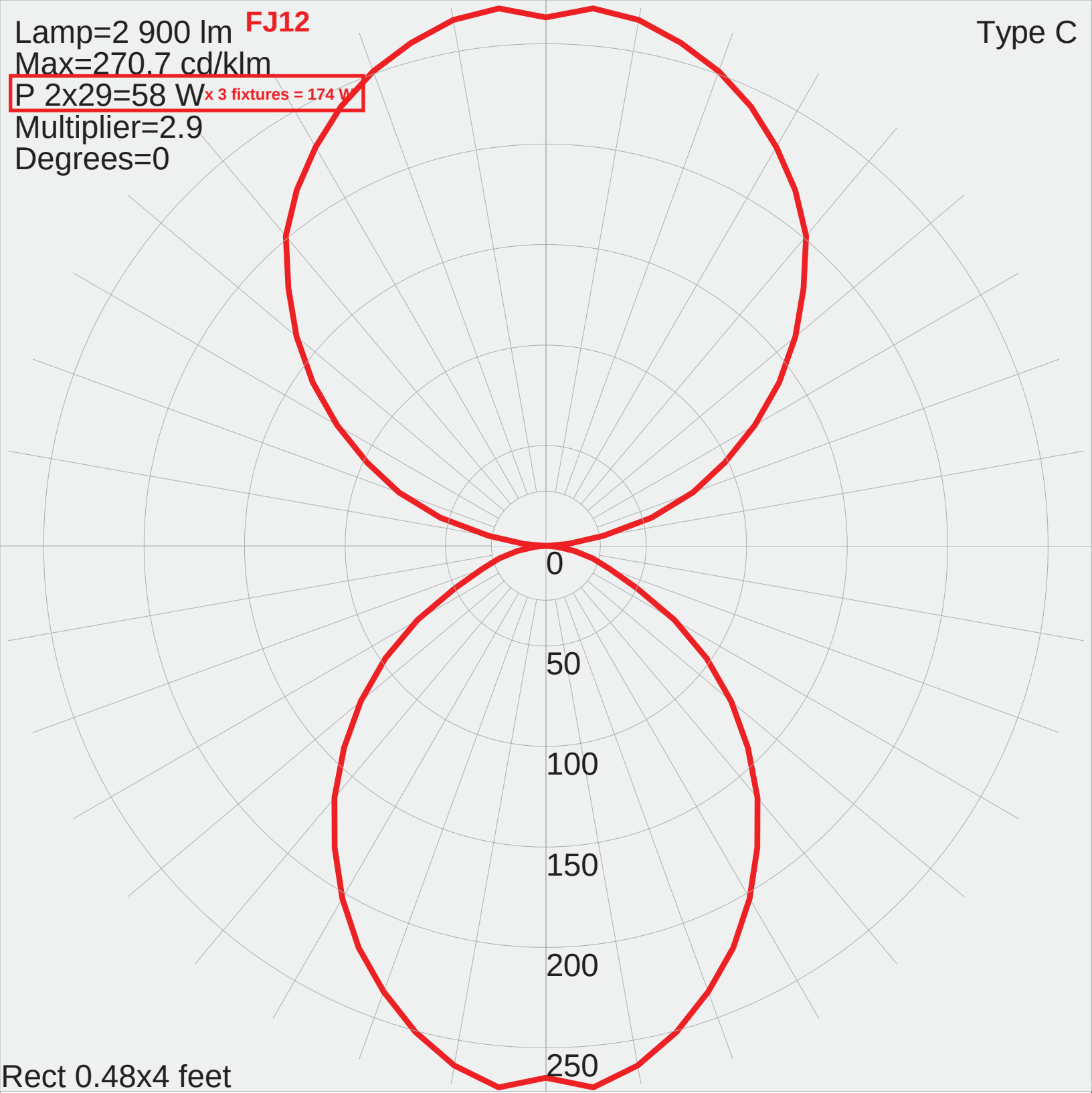
TEST #:	LTL7427
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 3 32 A12125 1/3 ADDE
LUMINAIRE:	SP8 SPECIFICATION PREMIUM T8 TROFFER 2'X4' 3 LP T8 #A12 .125" LENS 1/3 ELEC
LAMP:	THREE 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	REL-3P32-SC
INPUT WATTAGE:	88
LUMINOUS OPENING:	RECTANGLE (L: 45.12", W: 21.24")
TER VALUE:	71 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	2,838.0 AT HORIZONTAL: 90°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.24 @ 90 = 1.37
EFFICIENCY:	**81.1%**

Polar Candela Distribution



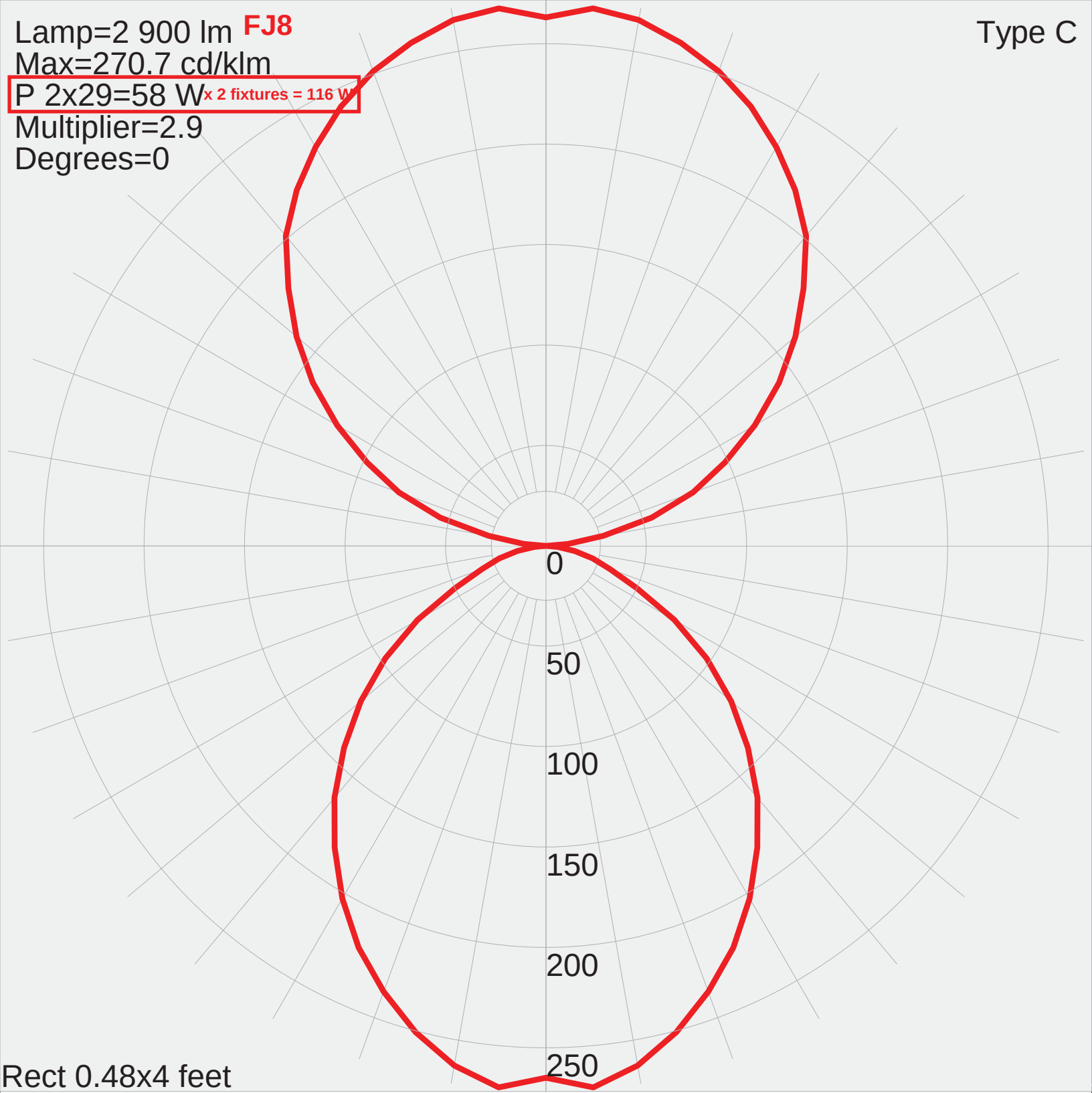
Isofootcandle Plot





Rect 0.48x4 feet

Manufacturer: LITECONTROL CORPORATION
Luminaire catalog: P-ID-9324T8-PBCWM-ELB
Luminaire: P-ID-9324T8-PBCWM-ELB
Lamp: TWO F032/41K



Rect 0.48x4 feet

Manufacturer: LITECONTROL CORPORATION
Luminaire catalog: P-ID-9324T8-PBCWM-ELB
Luminaire: P-ID-9324T8-PBCWM-ELB
Lamp: TWO F032/41K

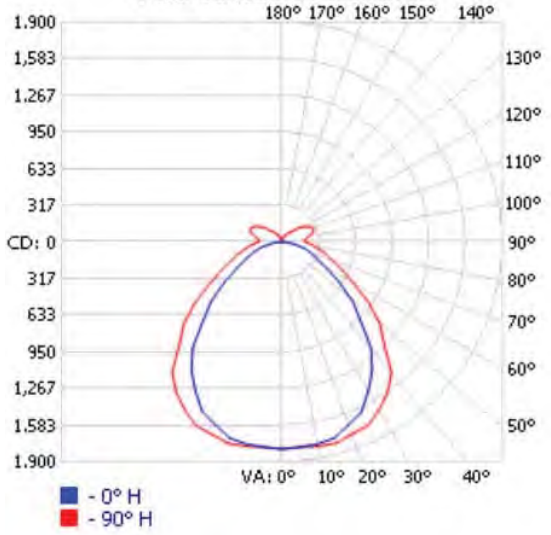
FR2

INDOOR PHOTOMETRIC REPORT

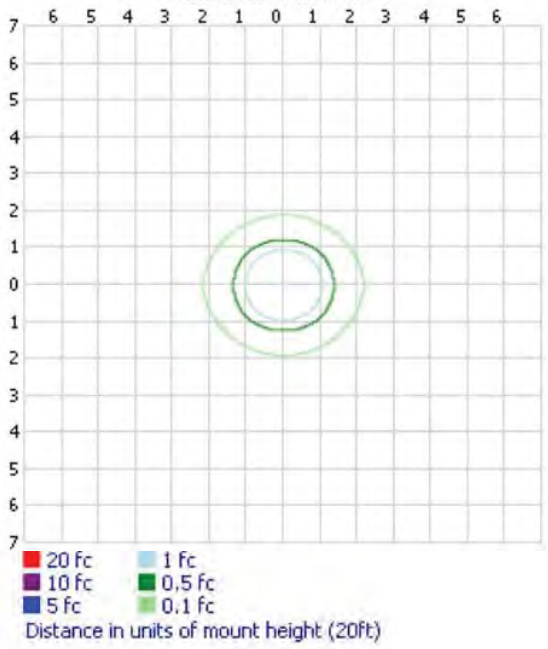
CATALOG: SB 2 32 MV

TEST #:	BALLABS TEST NO. 16519.0
TEST LAB:	BALLABS
ISSUE DATE:	2/29/2012
CATALOG #:	SB 2 32 MV
LUMINAIRE:	2/32W T8 LAMPS 4'SURFACE MOUNT SQ BASKET WRAP LUMINAIRE WHITE REFL W/CLEAR ACRYLIC PRISMATIC DIFFUSER SYLVANIA BALLAST #QTP2X32T8/UNV ISN-SC WATTS=55.1 REFL=88
LAMP CAT #:	F32T8/835/RS
LAMP:	32T8
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2950
INPUT WATTAGE:	55
LUMINOUS OPENING:	RECTANGLE W/LUMINOUS SIDES (L: 48", W: 8.76", H: 1.8")
CIE CLASS:	SEMI-DIRECT
MAX CD:	1,802.0 AT HORIZONTAL: 90°, VERTICAL: 15°
SPACING CRITERION:	@ 0 = 1.23 @ 90 = 1.38
EFFICIENCY:	**92.1%**

Polar Candela Distribution



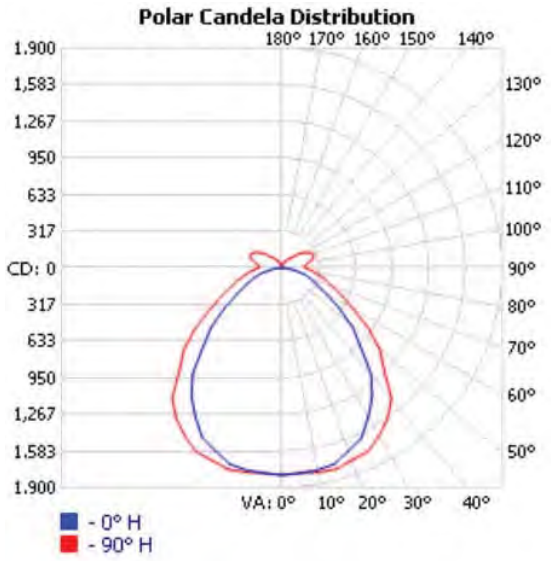
Isofootcandle Plot

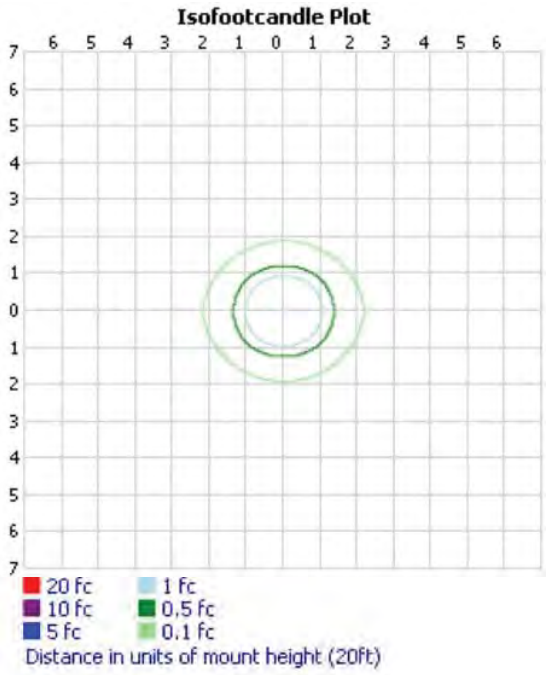


INDOOR PHOTOMETRIC REPORT

CATALOG: SB 2 32 MVOLT GEB10IS

TEST #:	BALLABS TEST NO. 16519.0
TEST LAB:	BUILDING ACOUSTICS AND LIGHTING LABORATORIES, INC.
ISSUE DATE:	2/29/2012
CATALOG #:	SB 2 32 MVOLT GEB10IS
LUMINAIRE:	2/32W T8 LAMPS 4'SURFACE MOUNT SQ BASKET WRAP LUMINAIRE WHITE REFL W/CLEAR ACRYLIC PRISMATIC DIFFUSER SYLVANIA BALLAST #QTP2X32T8/UNV ISN-SC WATTS=55.1 REFL=88
LAMP CAT #:	F32T8/835/RS
LAMP:	32T8
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2950
INPUT WATTAGE:	55
LUMINOUS OPENING:	RECTANGLE W/LUMINOUS SIDES (L: 48", W: 8.76", H: 1.8")
CIE CLASS:	SEMI-DIRECT
MAX CD:	1,802.0 AT HORIZONTAL: 90°, VERTICAL: 15°
SPACING CRITERION:	@ 0 = 1.23 @ 90 = 1.38
EFFICIENCY:	**92.1%**



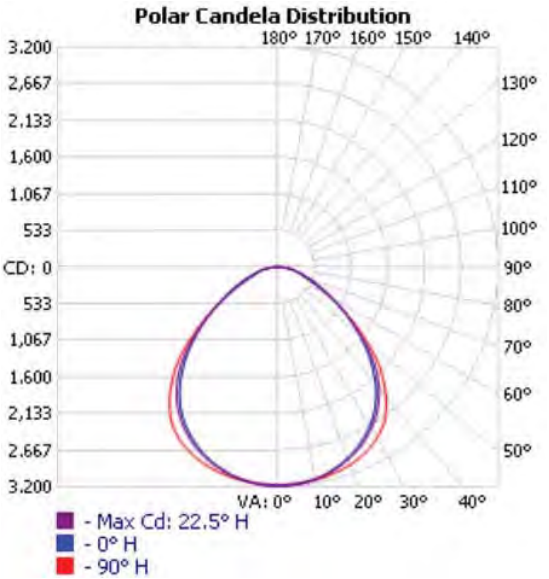


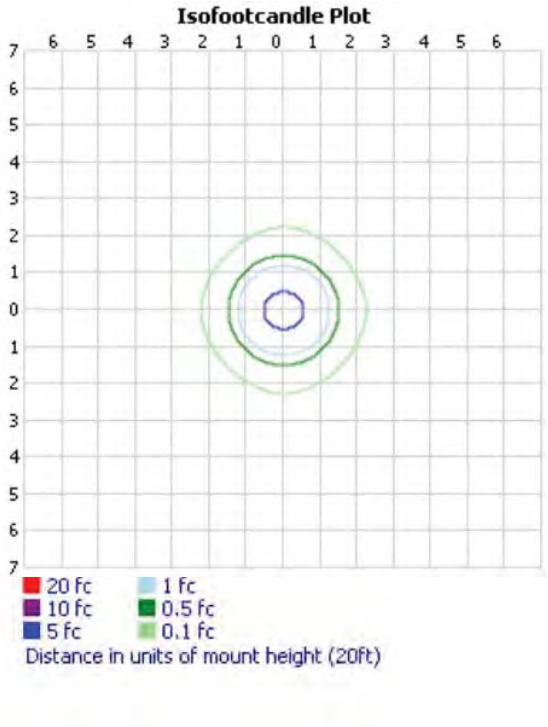
FW4

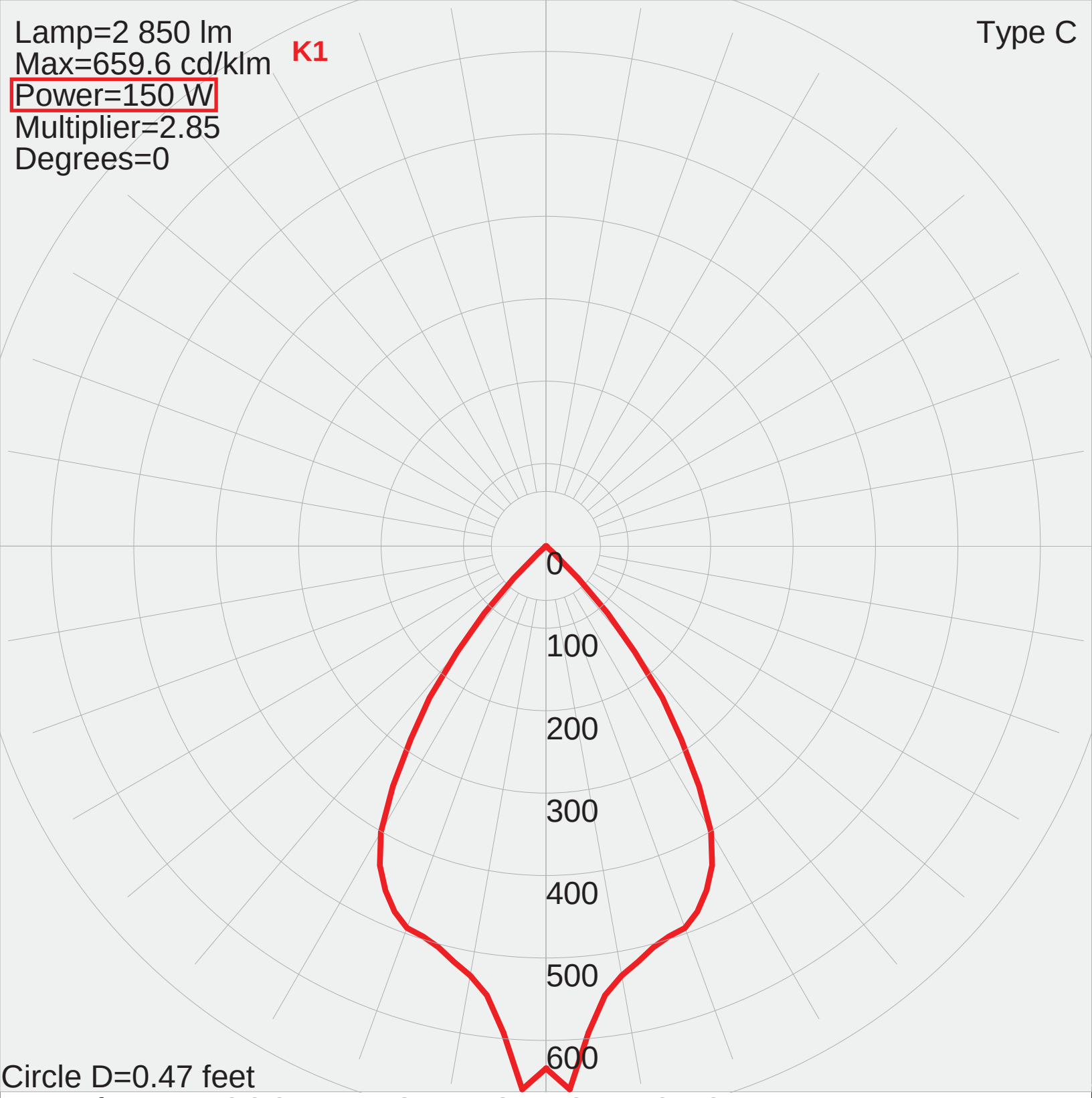
INDOOR PHOTOMETRIC REPORT

CATALOG: 2WRT G 4 32 A12125

TEST #:	LTL9804
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	3/11/2009
CATALOG #:	2WRT G 4 32 A12125
LUMINAIRE:	WET LOCATION TROFFER, 2'X4' 4LP T8 #A12125 LENS
LAMP:	FOUR 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	4 LAMPS, RATED LUMENS/LAMP: 2900
INPUT WATTAGE:	138
LUMINOUS OPENING:	RECTANGLE (L: 45.36", W: 21.48")
CIE CLASS:	DIRECT
MAX CD:	3,189.0 AT HORIZONTAL: 22.5°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.25
	@ 90 = 1.33
EFFICIENCY:	**67.9%**





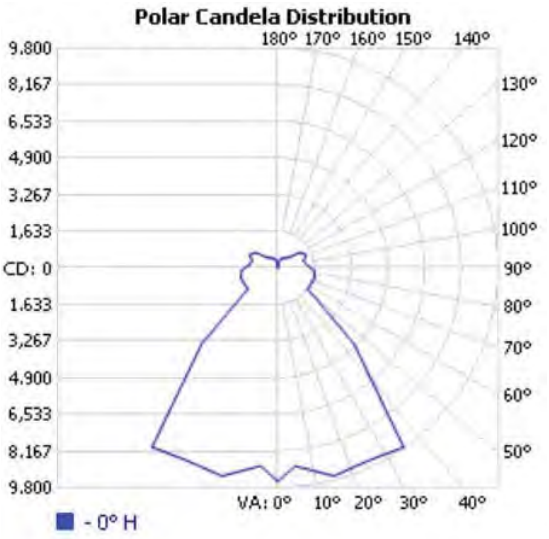


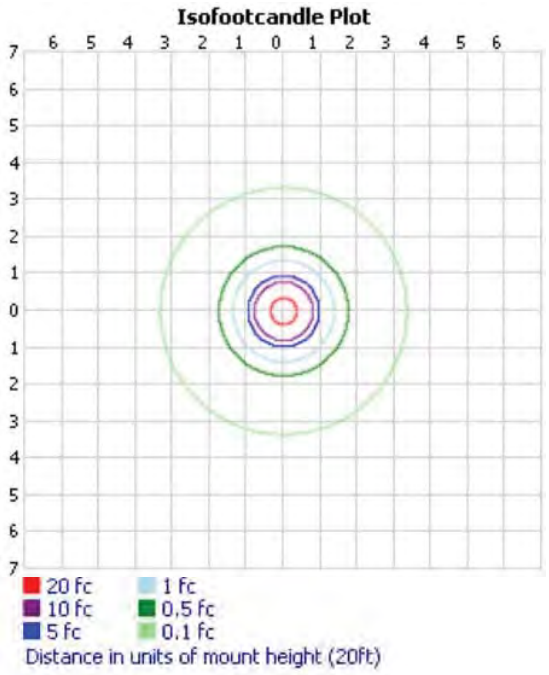
Manufacturer: COOPER LIGHTING - PORTFOLIO
Luminaire catalog: HD6-6700C
Luminaire: HALO 6" DIA RECESSED DOWNLIGHT
Lamp: 150A21/IF 150 WATTS 2850 LUMENS

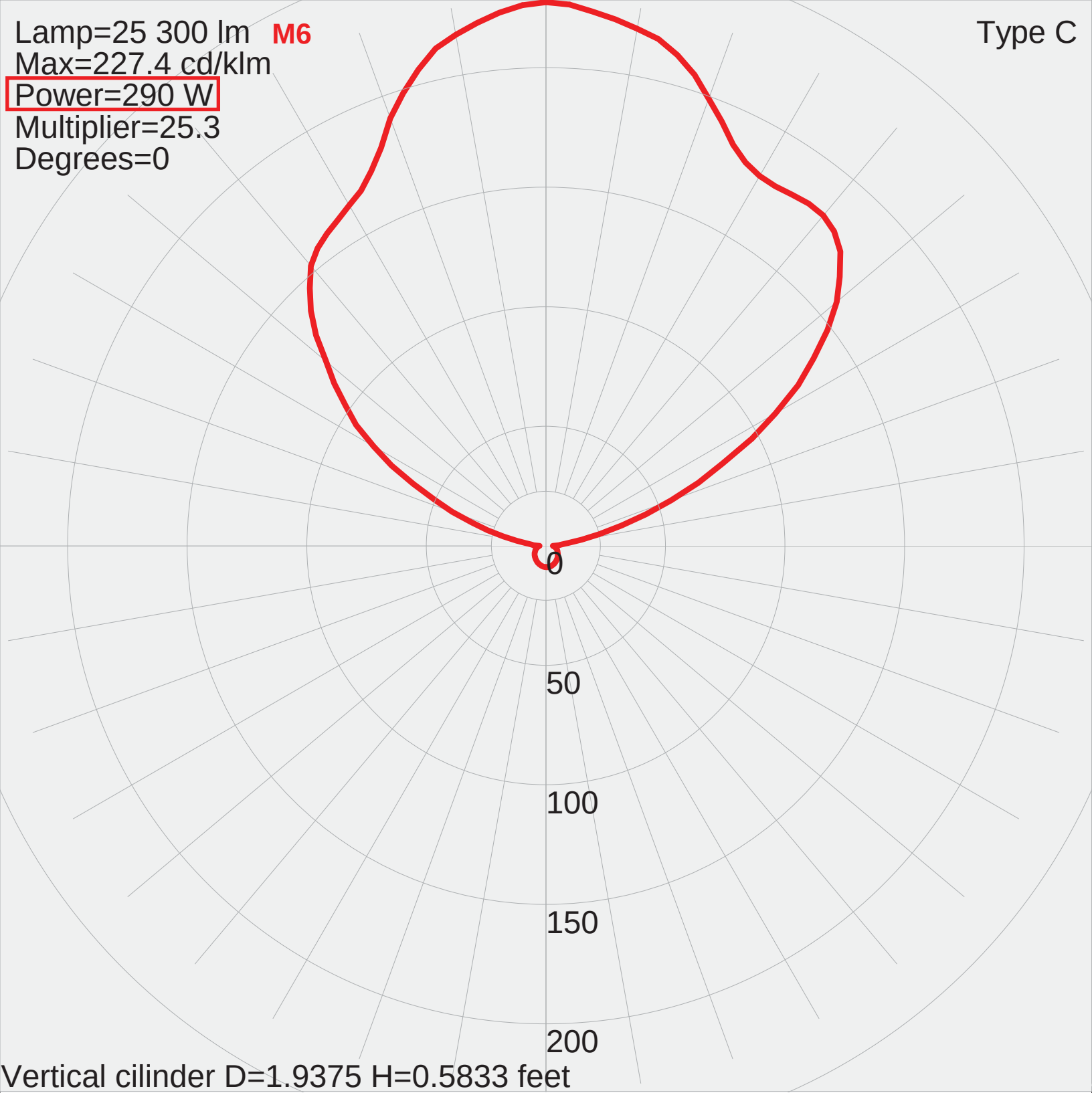
INDOOR PHOTOMETRIC REPORT

CATALOG: TPGE 400M PG16GLE M (SC=1.3)

TEST #:	1196092927
ISSUE DATE:	1/31/2008
CATALOG #:	TPGE 400M PG16GLE M (SC=1.3)
LUMINAIRE:	ENCLOSED GLASS OPTICAL, 400 MH W/ MEDIUM DISTRIBUTION
LAMP CAT #:	M400/U
LAMP:	ONE 400-WATT CLEAR BT-37 METAL HALIDE, VERTICAL BASE-UP POSITION.
LAMP OUTPUT:	1 LAMP, RATED LUMENS/LAMP: 36000
INPUT WATTAGE:	458
LUMINOUS OPENING:	VERTICAL CYLINDER (DIA : 15.96", H: 11.04")
TER VALUE:	31 (BF = 1)
TER CATEGORY:	HIGHBAY, NONLINEAR
CIE CLASS:	SEMI-DIRECT
MAX CD:	9,757.0 AT HORIZONTAL: 0°, VERTICAL: 35°
SPACING CRITERION:	@ 0 = 1.33
	@ 90 = 1.33
EFFICIENCY:	**85.6%**







Vertical cilinder D=1.9375 H=0.5833 feet

Manufacturer: SPI LIGHTING INC.
Luminaire catalog: SFR15012
Luminaire: FABRICATED WHITE PAINTED METAL CENTER MOUNTING P
Lamp: ONE 40-WATT T-5 FC12T5/835 CIRCULAR FLUORESCENT, RATED

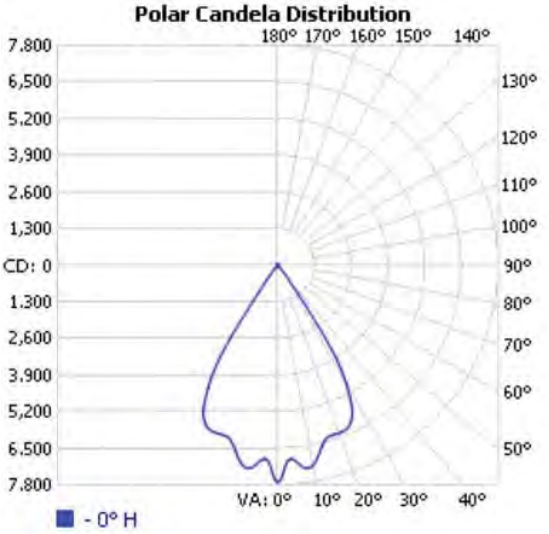
Q1

INDOOR PHOTOMETRIC REPORT

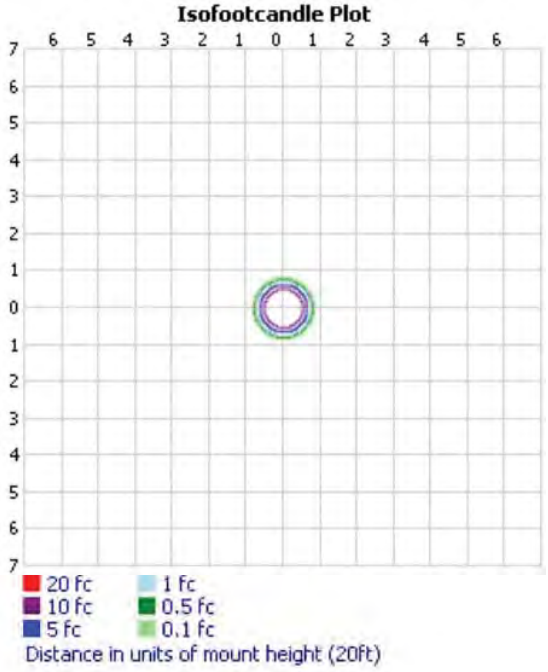
CATALOG: GQ 500 W 6AR

TEST #:	LTL13660
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	6/16/2008
CATALOG #:	GQ 500 W 6AR
LUMINAIRE:	GQ 6" APERTURE QUARTZ DOWNLIGHT 500W T4 WIDE
LAMP CAT #:	500Q EYX
LAMP:	ONE 500-WATT FROSTED T4 MINI CAN TUNGSTEN HALOGEN, VERTICAL POS.
LAMP OUTPUT:	1 LAMP, RATED LUMENS/LAMP: 10100
BALLAST:	NONE
INPUT WATTAGE:	500
LUMINOUS OPENING:	CIRCULAR (DIA: 6.24")
TER VALUE:	13 (BF = 1)
TER CATEGORY:	DOWNLIGHT, COMMERCIAL
CIE CLASS:	DIRECT
MAX CD:	7,701.0 AT HORIZONTAL: 0°, VERTICAL: 0°
SPACING CRITERION:	@ 0 = 0.91 @ 90 = 0.91
EFFICIENCY:	**63.7%**

Polar Candela Distribution

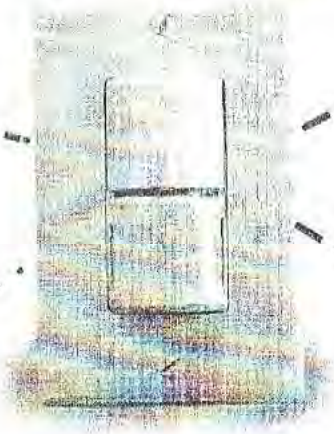


Isofootcandle Plot



TYPE: WS
PROJECT: WAUSEON 3-8 SCHOOL
CAT#: WS 200

WS-200 Passive Infrared Wall Switch Sensor



Product Overview

Description

The WS-200 automatic wall switch sensors replace existing wall switches and fit behind standard decorator wall plates. They turn lighting on and off based on occupancy and ambient light levels.

Operation

The WS-200 utilizes advanced passive infrared technology to detect occupancy. Detection occurs when the WS senses the difference between infrared energy from a human body in motion and the background space. Lighting automatically turns on when occupancy is detected. After a user-specified length of time when no occupancy is detected, lighting automatically switches off. The sensors can also be used with multiple switches for multi-level lighting.

Light Level Sensor

The WS-200 features a built-in light level sensor. This feature holds lighting systems off when natural light levels are above the pre-set level. Once lights are switched on, the sensor will not switch them off even if daylight levels increase. Using the light level feature is optional and the setting is adjustable by the user.

Applications

The WS-200 has the flexibility to work in a variety of applications including offices, conference rooms, break rooms, and utility rooms. Energy savings for these areas can be as high as 60% since lighting will no longer remain on once the room is vacant. With a competitive price, low installation cost, and high energy savings, paybacks are usually well under two years.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Detection Signature Analysis eliminates false triggers; provides immunity to RFI and EMI
- Zero crossing circuitry reduces stress on the relay and results in increased sensor life
- Digital time delay adjustment from 30 seconds up to 30 minutes
- Adjustable unit sensitivity from 20% to 100%
- Integrated light level sensor holds lights off when natural light levels are above the pre-set level
- Custom, 2-level Fresnel lens enhances detection at the desktop level
- Screw terminal wiring system eliminates the need for wire nuts, making installation quicker
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded
- LED indicates occupancy detection

WattStopper | Legrand
www.wattstopper.com
800.879.8585

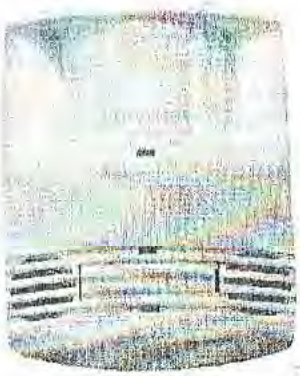
TYPE: OC1
PROJECT: WAUSEON 3-8 SCHOOL
CAT#: DT-200

DT-200 Series Dual Technology Ceiling Sensors

Combines Passive Infrared (PIR) and ultrasonic technologies

SmartSet™ automatically selects optimal settings for each space

Walk-through Mode increases savings potential



Built-in light level sensor

Accepts low-voltage switch input for manual-on operation

Automatic or manual-on operation when used with a BZ-150 Power Pack

PROJECT

LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's DT-200 Series Dual Technology Ceiling Sensors combine PIR and ultrasonic technologies into one unit to achieve precise coverage in detecting occupancy.

Operation

Low voltage DT-200 Series Sensors utilize a Watt Stopper power pack to turn lights on when both PIR and ultrasonic technologies detect occupancy. They can also work with a low voltage switch for manual-on operation. PIR technology senses motion via a change in infrared energy within the controlled area, whereas ultrasonic uses the Doppler Principle and 40 kHz high frequency ultrasound. Once on, detection by either technology holds lights on. When no occupancy is detected for the length of the time delay, lights turns off. DT-200 Series Sensors can also be set to trigger lights on when either technology or both detect occupancy or to require both technologies to hold lighting on.

SmartSet™

DT-200 Series Sensors require no adjustment at installation as SmartSet technology continuously monitors the controlled space to identify usage patterns. Based on these patterns, units automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. Sensors assign short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

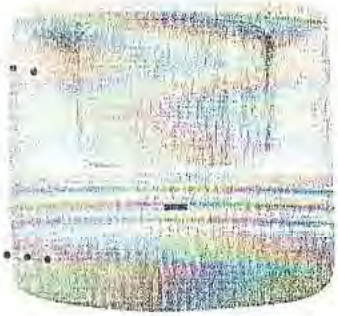
DT-200 Series Sensors have the flexibility to work in a variety of applications. Mounted at ten feet, the sensors can cover up to 2000 square feet of walking motion and 1000 square feet of desktop motion. The sensors are designed to control lighting in difficult applications where one technology alone could encounter false triggers. The DT-200 works well in classrooms, warehouses, large offices, open office spaces and computer rooms.

Features

- Advanced control logic based on RISC microcontroller provides:
  - Detector Signature Processing to eliminate false triggers and provides immunity to RFI and EMI
  - SmartSet automatically adjusts sensitivity and time delay settings to fit occupant patterns
  - Walk-through Mode turns lights off three minutes after the area is initially occupied – ideal for brief visits, such as mail delivery
  - Available with built-in light level sensor featuring simple, one-step setup
- Sensors work with low-voltage momentary switches to provide manual control
- LEDs indicate occupancy detection
- Eight occupancy logic options provide the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- Swivel mounting bracket for convenient corner mounting to wall or ceiling

TYPE: OC2
PROJECT:WAUSEON3&SCHOOL
CAT#CX100 3

CX-100 Series Passive Infrared Ceiling/Wall Sensors



OC: OCCUPANCY SENSOR

Product Overview

Description

Watt Stopper/Legrand's CX-100 Series Passive Infrared (PIR) Ceiling/Wall Sensors detect occupancy to control lighting in a wide variety of applications. These sensors provide superior coverage and performance with great energy savings.

Operation

CX-100 Series Sensors are 24 VDC and control lighting systems through Watt Stopper/Legrand power packs. Utilizing the latest PIR technology, they turn lights on when a difference is detected between infrared energy from a human body in motion and the background space. After the area is vacated and the time delay elapses, lighting automatically turns off.

Coverage Choices

The CX-100 Series Sensors are available with a choice of coverage patterns. The standard lens offers coverage up to 1000 square feet for typical desktop activity. When using the CX-100/105-1 or -3 lens, motion moving toward sensors will begin to be detected at 55 to 60 feet.

Applications

The CX sensors are ideal for large areas and can cover up to 2000 square feet of walking motion. By choosing the proper lens pattern for each application, the sensors can reliably cover large offices, computer rooms, classrooms, aisleways, warehouses and open offices where coverage cut-off is desired. Corner mounting to a wall or ceiling adds versatility and more control to the coverage.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false off without reducing sensitivity
- Detection Signature Analysis eliminates false triggers and provides immunity to RFI and EMI
- Digital time delay adjustable from 15 seconds to 30 minutes
- Adjustable sensitivity enables occupancy detection to match the level of activity for each space
- LED indicates occupancy detection
- The CX-100's integrated light level sensor can create bi-level control for added energy savings
- Multilevel Fresnel lens for superior desktop occupancy detection with four lens patterns
- Isolated relay can interface with HVAC, EMS and monitoring systems, or with an additional lighting load
- Dual-element, temperature compensated pyroelectric sensor
- Swivel mounting bracket for convenient corner mounting to wall or ceiling

Wauseon 3-8 School

Attachment C

Motor Savings
P2

Tag	Quantity	Hours Of Operation	Loading	LF	Enclosure	Make	Model	HP	EFF %	RPM	Minimum Code Efficiency	Savings (kWH)
HHWP-F101	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1200	91	1946.316909
HHWP-F102	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1200	91	1946.316909
CHWP-F103	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1200	91	1946.316909
CHWP-F104	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1800	91	1946.316909
											Totals	7785 kWh

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 3 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM3611T

SPEC. NUMBER:	36G271S266G1
CATALOG NUMBER:	EM3611T
FL AMPS:	9-8.4/4.2
208V AMPS:	9
BEARING-DRIVE-END:	6206
BEARING-OPP-DRIVE-END:	6205
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	89.5
ENCLOSURE:	TEFC
FRAME:	182T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	K
SPEED [rpm]:	1760
OUTPUT [hp]:	3
PHASE:	3
POWER-FACTOR:	75
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	208-230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 40 HP | 1400-1800 RPM |

Specifications: EM2539T

SPEC. NUMBER:	40J002X166G1
CATALOG NUMBER:	EM2539T
FL AMPS:	98/49
208V AMPS:	99
BEARING-DRIVE-END:	6312
BEARING-OPP-DRIVE-END:	6309
CUSTOMER-PART-NUMBER:	--
DESIGN CODE:	A
DOE-CODE:	010A
FL EFFICIENCY:	94.1
ENCLOSURE:	OPSB
FRAME:	324T
GREASE:	POLYREX EM
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
MAX. SPACE HEATER TEMP.:	--
SPEED [rpm]:	1770
OUTPUT [hp]:	40
PHASE:	3
POWER-FACTOR:	82
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
SPACE-HEATER-AMPS:	--
SPACE-HEATER-VOLTS:	--
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 2 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM3558

SPEC. NUMBER:	35A011M494G1
CATALOG NUMBER:	EM3558
FL AMPS:	6-5.8/2.9
208V AMPS:	--
BEARING-DRIVE-END:	6205
BEARING-OPP-DRIVE-END:	6203
DESIGN CODE:	B
DOE-CODE:	--
FL EFFICIENCY:	86.5
ENCLOSURE:	TEFC
FRAME:	56
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	L
SPEED [rpm]:	1755
OUTPUT [hp]:	2
PHASE:	3
POWER-FACTOR:	73
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	208-230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 15 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM2333T

SPEC. NUMBER:	09P011Z910G1
CATALOG NUMBER:	EM2333T
FL AMPS:	36.2/18.1
208V AMPS:	38
BEARING-DRIVE-END:	6309
BEARING-OPP-DRIVE-END:	6208
DESIGN CODE:	A
DOE-CODE:	010A
FL EFFICIENCY:	92.4
ENCLOSURE:	TEFC
FRAME:	254T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
SPEED [rpm]:	1765
OUTPUT [hp]:	15
PHASE:	3
POWER-FACTOR:	83
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 30 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM4104T

SPEC. NUMBER:	10C151Y538G1
CATALOG NUMBER:	EM4104T
FL AMPS:	76/38
208V AMPS:	78
BEARING-DRIVE-END:	6311
BEARING-OPP-DRIVE-END:	6309
CUSTOMER-PART-NUMBER:	--
DESIGN CODE:	A
DOE-CODE:	010A
FL EFFICIENCY:	93.6
ENCLOSURE:	TEFC
FRAME:	286T
GREASE:	POLYREX EM
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	J
MAX. SPACE HEATER TEMP.:	--
SPEED [rpm]:	1760
OUTPUT [hp]:	30
PHASE:	3
POWER-FACTOR:	80
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
SPACE-HEATER-AMPS:	--
SPACE-HEATER-VOLTS:	--
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 5 HP | 1400-1800 RPM |

Specifications: EM3615T

SPEC. NUMBER:	36G271S268G1
CATALOG NUMBER:	EM3615T
FL AMPS:	13.9-13.4/6.7
208V AMPS:	13.9
BEARING-DRIVE-END:	6206
BEARING-OPP-DRIVE-END:	6205
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	89.5
ENCLOSURE:	TEFC
FRAME:	184T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	J
SPEED [rpm]:	1750
OUTPUT [hp]:	5
PHASE:	3
POWER-FACTOR:	78
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	208-230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 3 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM3611T

SPEC. NUMBER:	36G271S266G1
CATALOG NUMBER:	EM3611T
FL AMPS:	9-8.4/4.2
208V AMPS:	9
BEARING-DRIVE-END:	6206
BEARING-OPP-DRIVE-END:	6205
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	89.5
ENCLOSURE:	TEFC
FRAME:	182T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	K
SPEED [rpm]:	1760
OUTPUT [hp]:	3
PHASE:	3
POWER-FACTOR:	75
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	208-230/460

* For certified information, contact your local Baldor office.

General Information

- Overview
- Specifications
- Performance Data
- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 20 HP | 1400-1800 RPM |

Specifications: EM2515T

SPEC. NUMBER:	39K057W915
CATALOG NUMBER:	EM2515T
FL AMPS:	47/23.5
208V AMPS:	49.4
BEARING-DRIVE-END:	6309
BEARING-OPP-DRIVE-END:	6208
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	93
ENCLOSURE:	OPSB
FRAME:	256T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
SPEED [rpm]:	1765
OUTPUT [hp]:	20
PHASE:	3
POWER-FACTOR:	86
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

Wauseon Schools

Attachment C

Motor Savings

P-2

Tag	Quantity	Hours Of Operation
P-F101	1	5520
P-F102	1	5520
P-F103	1	5520
P-F104	1	5520

Loading	LF	Enclosure	Make	Model	HP	EFF %	RPM
constant	0.8	ODP			20	93	1750
constant	0.8	ODP			20	93	1750
constant	0.8	ODP			20	93	1750
constant	0.8	ODP			20	93	1750

Minimum Code Efficiency	Savings (kWH)	Savings (kW)
91	1946.316909	0.352593643
91	1946.316909	0.352593643
91	1946.316909	0.352593643
91	1946.316909	0.352593643
Totals	7785	1.410374572

Wauseon 3-8 School

Attachment D

VFD Savings

P-3

Motor Application	VFD Make	Model	Tag	Location	Enclosure	Runtime	LF	Model	HP	Quantity	EFF	Savings (kWh)
Supply Fan	ABB	ACH550	VFD-C101	AHU-C101	TEFC	2790	0.8	EM2539T	40	1	94.1	13448.0
Exhaust Fan	ABB	ACH550	VFD-C102	AHU-C101	TEFC	2790	0.8	EM3611T	3	1	89.5	1060.4
Supply Fan	ABB	ACH550	VFD-D101	AHU-D101	TEFC	2790	0.8	EM2333T	15	1	92.4	5135.8
Exhaust Fan	ABB	ACH550	VFD-D102	AHU-D101	TEFC	2790	0.8	EM3558T	2	1	86.5	731.5
Heating Water Pump	ABB	ACH550	VFD-F101	P-F101	ODP	5520	0.8	EM2515T	20	1	93	13460.7
Heating Water Pump	ABB	ACH550	VFD-F102	P-F102	ODP	5520	0.8	EM2515T	20	1	93	13460.7
Chilled Water Pump	ABB	ACH550	VFD-F103	P-F103	ODP	5520	0.8	EM2515T	20	1	93	13460.7
Chilled Water Pump	ABB	ACH550	VFD-F104	P-F104	ODP	5520	0.8	EM2515T	20	1	93	13460.7
Supply Fan	ABB	ACH550	VFD-F105	AHU-F102	TEFC	2790	0.8	EM2539T	40	1	94.1	13448.0
Exhaust Fan	ABB	ACH550	VFD-F106	AHU-F102	TEFC	2790	0.8	EM3615T	5	1	89.5	1767.4
Supply Fan	ABB	ACH550	VFD-F107	AHU-F101	TEFC	2790	0.8	EM4104T	30	1	93.6	10139.9
Supply Fan	ABB	ACH550	VFD-G101	AHU-G101	TEFC	2790	0.8	EM2539T	40	1	94.1	13448.0
Exhaust Fan	ABB	ACH550	VFD-G102	AHU-G101	TEFC	2790	0.8	EM3611T	3	1	89.5	1060.4
											Totals	**114082**

Exhibit 1

Customer Legal Entity Name: Wauseon Exempted Village School District

Site Address: Wauseon Exempted Village SD High School
Principal Address: 840 Parkview Street

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Energy Efficient Lighting	Installation of new lighting fixtures and occupancy sensors in renovations completed at Wauseon High School for Wauseon Exempted Village School District.	Lights were counted off plans and input into the lighting countsheet (see attachment A: TE.WauseonHS.LightingCountsheet.A.P1). This data was input into the FE lighting rebate calculator to determine the cash rebate and the kwh savings. Attachment B (TE.WauseonHS.LightSpecs.B.P1) contains the light fixture and occupancy sensor specifications.	N/A	Used Efficient T8 Lighting over T12 lighting
2	Energy Efficient Motors	Energy Efficient motors were installed in pumps in renovations completed at Wauseon High School for Wauseon Exempted Village School District.	Data was gathered from the mechanical schedules and input into the motor and drives rebate calculator (TE.WauseonHS.Motors&DrivesProjectCashRebateForm) to determine the cash rebate amount. kWh savings were calculated using a motor calculator found in Attachment C (see attachment C: TE.WauseonHS.Motor_VFD_Calcs.P2_P3.C). Attachment D contains the specifications for the energy efficient motors (see attachment D: TE.WauseonHS.MotorSpecs.P2.D).	N/A	Used premium efficiency motors instead of standard efficiency motors.
3	Variable Frequency Drives	Variable Frequency Drives were installed on several pumps and air handling units in the renovations completed at Wauseon High School for Wauseon Exempted Village School District.	Data was gathered from the mechanical schedules and input into the motors and drives rebate calculator (TE.WauseonHS.Motors&DrivesProjectCashRebateForm) to determine the cash rebate amount. kWh savings were calculated based on approximate runtimes for the different motor applications (see attachment C: TE.WauseonHS.Motor_VFD_Calcs.P2_P3.C).	N/A	Controlled motors with VFDs instead of not using VFDs.
4	New HVAC Equipment	Two new air-cooled chillers were installed in the new facility.	Information about the two new chillers was input into the First Energy HVAC calculator (TE.WauseonHS.HVACCalculator) to obtain both cash and kWh savings. Specifications for the chillers can be found in attachment E (TE.WauseonHS.ChillerSpecs.P4.E).	N/A	Used premium efficient HVAC units instead of standard HVAC units

Exhibit 2

Customer Legal Entity Name: Wauseon Exempted Village School District
Site Address: Wauseon Exempted Village SD High School
Principal Address: 840 Parkview Street

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2011	1,467,900	1,467,900	1,725,399
Average	**1,467,900**	**1,467,900**	**1,725,399**

Project Number	Project Name	In-Service Date	Project Cost $	50% of Project Cost $	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) $	Eligible Rebate Amount (H) $ *Note 2*
1	Energy Efficient Lighting	02/10/2011	$850,813	$425,407	79,432	79,432	-	$3,151	$2,363
2	Energy Efficient Motors	02/10/2011	$8,884	$4,442	8,033	8,033	-	$626	$470
3	Variable Frequency Drives	02/10/2011	$13,905	$6,953	108,229	108,229	-	$6,075	$4,556
4	New HVAC Equipment	02/10/2011	$166,385	$83,193	93,497	93,497	-	$5,000	$3,750
					-	-	-		
					-	-	-		
					-	-	-		
		Total	**$1,039,987**		**289,191**	**289,191**	**0**	**$14,852**	**$11,139**

Docket No. 13-1130
Site: 840 Parkview Street

Notes
(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) The eligible rebate amount is based upon 75% of the rebates offered by the FirstEnergy Commercial and Industrial Energy Efficiency programs or 75% of $0.08/kWh for custom programs for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO.10-834-EL-EEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or $250,000 per project. The rebate also cannot exceed $500,000 per customer per year, per utility service territory.


Commitment
Payment
$
$0

Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost $/MWh (B)	Utility Avoided Cost $ (C)	Utility Cost $ (D)	Cash Rebate $ (E)	Administrator Variable Fee $ (F)	Total Utility Cost $ (G)	UCT (H)
1	79	$ 308	$ 24,487	$ 1,013	$2,363	$794	$ 4,170	**5.9**
2	8	$ 308	$ 2,476	$ 1,013	$470	$80	$ 1,562	**1.59**
3	108	$ 308	$ 33,365	$ 1,013	$4,556	$1,082	$ 6,651	**5.02**
4	93	$ 308	$ 28,823	$ 1,013	$3,750	$935	$ 5,697	**5.06**
Total	**289**	**$ 308**	**89,152**	**4,050**	**$11,139**	**$2,892**	**18,081**	**4.9**

Notes

(A) From Exhibit 2, = kWh saved / 1000

(B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices.This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) * (B)

(D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.

(E) This is the amount of the cash rebate paid to the customer for this project.

(F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

Wauseon Exempted Village School District ~ Wauseon Exempted Village SD High School
Docket No. 13-1130

Site: 840 Parkview Street

FirstEnergy

Ohio Edison • The Illuminating Company • Toledo Edison

Project Name:	Wauseon Schools
Site Name:	High School
Completed by (Name):	
Date completed:	4/17/2013

Motor Rebate Calculation Form

Motor ID, Location, and Operation Data				Old Motor Nameplate Data								New Motor Nameplate Data								
Unique Motor ID(s)	Number of Identical Units	Motor Location	Annual Hours of Op[2]	Loading (Constant, or if variable, indicate control type)	Load Factor (LF)[3]	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)	Loading (Constant, or if variable, indicate control type)	Load Factor (LF)[3]	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)	Total Motor Incentive[1] $
HHWP-D1	1	P-D101	5520									CONSTANT	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
HHWP-D1	1	P-D102	5520									CONSTANT	0.8	ODP	Baldor	EM2515T	20	93	1750	**$113**
CHWP-B1	1	P-B101	5520									CONSTANT	0.8	ODP	Baldor	EM2539T	40	94.1	1750	**$200**
CHWP-B1	1	P-B102	5520									CONSTANT	0.8	ODP	Baldor	EM2539T	40	94.1	1750	**$200**
																			Incentive (through 10/11/2011)	**$626**

Motor IDs may be specified by HVAC application type and number. Application types eligible for this incentive include:
- Chilled Water Pump (CHWP),
- Heating Hot Water Pump (HHWP),
- HVAC Fans (HVACF),
- Cooling Tower Fan (CTF), and
- Condensing Water Pump (CWP).

If the HVAC application is not listed above, please describe the application on a separate sheet and include it with your application package.

(1) Motor incentives are listed in Table 2 - Incentive levels per motor located on Motor Incentive Table tab

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

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Table 1 - Minimum Motor Efficiency Requirements (NEMA Premium® Efficiencies)

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	82.50%	85.50%	77.00%	1	82.50%	85.50%	77.00%
1.5	96.50%	86.50%	84.00%	1.5	87.50%	86.50%	84.00%
2	87.50%	86.50%	85.50%	2	88.50%	86.50%	85.50%
3	88.50%	89.50%	85.50%	3	89.50%	89.50%	86.50%
5	89.50%	89.50%	86.50%	5	89.50%	89.50%	88.50%
7.5	90.20%	91.00%	88.50%	7.5	91.00%	91.70%	89.50%
10	91.70%	91.70%	89.50%	10	91.00%	91.70%	90.20%
15	91.70%	93.00%	90.20%	15	91.70%	92.40%	91.00%
20	92.40%	93.00%	91.00%	20	91.70%	93.00%	91.00%
25	93.00%	93.60%	91.70%	25	93.00%	93.60%	91.70%
30	93.60%	94.10%	91.70%	30	93.00%	93.60%	91.70%
40	94.10%	94.10%	92.40%	40	94.10%	94.10%	92.40%
50	94.10%	94.50%	93.00%	50	94.10%	94.50%	93.00%
60	94.50%	95.00%	93.60%	60	94.50%	95.00%	93.60%
75	94.50%	95.00%	93.60%	75	94.50%	95.40%	93.60%
100	95.00%	95.40%	93.60%	100	95.00%	95.40%	94.10%
125	95.00%	95.40%	94.10%	125	95.00%	95.40%	95.00%
150	95.40%	95.80%	94.10%	150	95.80%	95.80%	95.00%
200	95.40%	95.80%	95.00%	200	95.80%	96.20%	95.40%

Table 2 - Incentive Levels Per Motor

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	$20	$20	$20	1	$20	$20	$20
1.5	$25	$25	$25	1.5	$25	$25	$25
2	$54	$54	$54	2	$54	$54	$54
3	$54	$54	$54	3	$54	$54	$54
5	$54	$54	$54	5	$54	$54	$54
7.5	$70	$70	$70	7.5	$70	$70	$70
10	$70	$70	$70	10	$70	$70	$70
15	$113	$113	$113	15	$113	$113	$113
20	$113	$113	$113	20	$113	$113	$113
25	$140	$140	$140	25	$140	$140	$140
30	$170	$170	$170	30	$170	$170	$170
40	$200	$200	$200	40	$200	$200	$200
50	$230	$230	$230	50	$230	$230	$230
60	$260	$260	$260	60	$260	$260	$260
75	$290	$290	$290	75	$290	$290	$290
100	$320	$320	$320	100	$320	$320	$320
125	$350	$350	$350	125	$350	$350	$350
150	$380	$380	$380	150	$380	$380	$380
200	$400	$400	$400	200	$400	$400	$400

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Project Name:	Wauseon Schools
Site Name:	High School
Completed by (Name):	
Date completed:	4/17/2013

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											
Motor Application	**VFD Manufacturer**	**VFD Model Number**	**Unique Motor ID(s)**	**Motor Location**	**Enclosure type: TEFC or ODP**	**Annual Hours of Operation[2]**	**Load Factor (LF)[3]**	**Motor Model Number**	**Motor HP**	**Motor Nominal Efficiency**	**Total Motor Incentive [1] $**
Supply Fan	ABB	ACH550	VFD-A101	RTU-A101	TEFC	2790	0.8	ECP3770T	7.5	91.7	**225**
Supply Fan	ABB	ACH550	VFD-D103	AHU-D101	TEFC	2790	0.8	EM3774T	10	91.7	**300**
Supply Fan	ABB	ACH550	VFD-D104	RTU-D101	TEFC	2790	0.8	EM2515T	20	93	**600**
Supply Fan	ABB	ACH550	VFD-E101	RTU-E101	TEFC	2790	0.8	EM4103T	25	93.6	**750**
Heating Water Pump	ABB	ACH550	VFD-D101	P-D101	ODP	5520	0.8	EM2515T	20	93	**600**
Heating Water Pump	ABB	ACH550	VFD-D102	P-D102	ODP	5520	0.8	EM2515T	20	93	**600**
										Incentive through 10/11/2011 @ $30/hp	**3,075**

(1) VFD incentives are calculated at a flat rate of $30 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.
When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x $30/hp = $900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

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Project Name:	Wauseon Schools
Site Name:	High School
Completed by (Name):	
Date completed:	4/17/2013

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											
Motor Application	**VFD Manufacturer**	**VFD Model Number**	**Unique Motor ID(s)**	**Motor Location**	**Enclosure type: TEFC or ODP**	**Annual Hours of Operation[2]**	**Load Factor (LF)[3]**	**Motor Model Number**	**Motor HP**	**Motor Nominal Efficiency**	**Total Motor Incentive [1] $**
Chilled Water Pump	ABB	ACH550	VFD-E102	P-B101	ODP	5520	0.8	EM2539T	40	94.1	**1,200**
Chilled Water Pump	ABB	ACH550	VFD-E103	P-B102	ODP	5520	0.8	EM2539T	40	94.1	**1,200**
Supply Fan	ABB	ACH550	VFD-F101	RTU-F101	TEFC	2790	0.8	EM2515T	20	93	**600**
										Incentive through 10/11/2011 @ $30/hp	**3,000**

(1) VFD incentives are calculated at a flat rate of $30 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.
When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x $30/hp = $900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

FirstEnergy Ohio HVAC Supplemental Calculator

Applicant Name: Wauseon Schools

Facility Name:

5-digit Zip Code: 43567

Region: Toledo

Date: 4/17/2013

HVAC measures purchased and installed for existing equipment replacement or new construction use are eligible for incentives. Incentivized measures include split unitary air conditioning systems

Rated efficiencies should be determined using certified test conditions described in the 2009 International Energy Conservation Code (which references ASHRAE 90.1 2007 stipulated values) and re

Proposed equipment efficiencies must be greater than or equal to the minimum rated efficiencies shown on this form.

Please consider the chiller options carefully, as they depend on air-side technology.

Automated Form Fields: White cells may be used to select from drop down lists or enter project data. Blue cells are auto-populated. Use 1 row for each distinct technology/measure combination. Please submit this electronic .xls file with your application.

Project Details					Electric Cooling Spec							
Equipment Replacement or New Construction?	Technology Type	Space/Building Type	Measure Type	Air-side System served by Chiller (when applicable)	Nominal Cooling Capacity of Proposed Equipment (tons)	Rated Cooling Capacity of Proposed Equipment		Exceed This Full Load Rated ARI Cooling Efficiency:		Proposed Equipment Full Load ARI Cooling Efficiency	Exceed This Part Load (IPLV) Rated ARI Cooling Efficiency	
New Construction	Chillers	Schools	Air Cooled with Condenser ≥150 tons	VAV Reheat, Economizer	156	156	TONS	2.750	COP	3.200	2.750	COP

FirstEnergy Ohio HVAC Supplemental Calculator

Applicant Name: Wauseon Schools

Facility Name:

5-digit Zip Code: 43567

Region: Toledo

Date: 4/17/2013

;, heat pumps, and chillers with the features specified. All measures are incentivized on an equipment unit basis.

ported in the units noted below. Your equipment manufacturer or vendor should be able to provide these rated performance results.

Automated Form Fields: White cells may be used to select from drop down lists or enter project data. Blue cells are auto-populated. Use 1 row for each distinct technology/measur

Project Details				ifications					E	
Equipment Replacement or New Construction?	Technology Type	Space/Building Type	Measure Type	Proposed Equipment Part Load (IPLV) ARI Cooling Efficiency	Existing Equipment Vintage (4-digit year, if applicable)	Existing Equipment Rated Cooling Capacity (units must match proposed)	Existing Equipment Full Load Cooling Efficiency (if applicable, units must match proposed)	Existing Equipment Part Load (IPLV) Cooling Efficiency (if applicable, units must match proposed)	Rated Heating Capacity of Proposed Equipment	Exceed This R Effici
New Construction	Chillers	Schools	Air Cooled with Condenser ≥150 tons	3.800					N/A	

FirstEnergy Ohio HVAC Supplemental Calculator

Applicant Name: Wauseon Schools

Facility Name:

5-digit Zip Code: 43567

Region: Toledo

Date: 4/17/2013

Automated Form Fields: White cells may be used to select from drop down lists or enter project data. Blue cells are auto-populated. Use 1 row for each distinct technology/measur

Project Details				lectric Heating Specifications				Incentives				
Equipment Replacement or New Construction?	Technology Type	Space/Building Type	Measure Type	ated Heating ncy	Proposed Equipment Heating Efficiency (when applicable)	Existing Equipment Rated Heating Capacity (units must match proposed)	Existing Equipment Heating Efficiency (if applicable, units must match proposed)	# units to be purchased & installed	$ Incentive	Incentive Units	Total Incentive	Cut Sheet Number
New Construction	Chillers	Schools	Air Cooled with Condenser ≥150 tons	N/A				2	$2,500.00	each	$5,000.00	CLR-E101 & E102
										TOTAL $:	$5,000.00	

Project Estimated Annual Savings Summary

HVAC	
Estimated Annual kWh Savings	93,497
Total Demand Savings (kW)	71.05

Annual Estimated Cost Savings	$9,349.66

Total Calculated Incentive	$5,000.00

YORK®
A JOHNSON CONTROLS COMPANY

Air Cooled Screw Chillers
Performance Specification

Unit Tag	Qty	Model No.	Capacity (Tons)	Volts/Ph/Hz	Refrigerant
CLR-E101 & E102	2	YCIV0177EA46	155.5	460/3/60	R134a

Pin No: **YCIV0177EA46VABBXTXXXXXLXXXX42SXXXXXHXXXSAXLXXX3XXXXXNPXXXXX**

Evaporator Data		Evaporator Data (Cont.)		Performance Data	
EWT (°F)	49.3	GPM Min. Flow Rate	160.0	EER / COP	11.0 / 3.2
LWT (°F)	42.0	GPM Max. Flow Rate	750.0	EER NPLV/COP NPLV	13.0 / 3.8
Design Flow Rate (gpm)	550.0			Minimum Unit Capacity	10 %
Pressure Drop (ft.)	35.9	**Condenser Data**		**Physical Data**	
Fluid	E.G. 25.0%	Ambient Temp. Design (°F)	88.0	Rigging Wt. (lbs.)	12789.0
Fouling Factor	0.00010	Altitude (ft.)	0	Operating Wt. (lbs.)	13582.7
Water Volume (gal)	95.0	Ambient Temp. Min (°F)	0.0		

Electrical Data				
Circuit	1	2	3	4
Compressor RLA	111	122		
Fan QTY/FLA (each)	5/2.8	4/2.8		

Single Point				
Min. Circuit Ampacity	288			
Recommended Fuse/CB Rating	350			
Max. Inverse Time CB Rating	400			
Max. Dual Element Fuse Size (Amps)	400			
Unit Short Circuit Withstand (STD)	65KA			
Wire Lugs Per Phase*	2			
Wire Range (Lug Size)	#2/0 - 500 KCM			
Unit Power Factor	0.95			

Control KVA	1.8			Starter Type	VSD
Compressor kW	154.4	Total Fan kW	15.1	Total kW	169.5

Notes: OPERATING COST SAVINGS OPPORTUNITY! Consider upgrading to the OPTIMIZED IPLV model to save approximately $2787 / YEAR in energy costs versus the standard model. Calculation based on: a) national average weather data, b) national average building load profile, c) average building annual run hours (5000 hrs.), and d) national average commercial energy cost (per D.O.E., 2005, $0.0865/kwh). For a more detailed analysis based on your project please contact your YORK representative.

RATINGS OUTSIDE THE SCOPE OF ARI STANDARD 550/590.

* Use Copper Conductors only

Part Load Rating Data				
Load %	Ambient (°F)	Capacity (Tons)	Compressor kW	Unit Efficiency
100.0	88.0	155.5	154.4	11.0 / 3.2
75.0	80.0	116.6	97.9	12.6 / 3.7
50.0	65.0	77.7	64.4	13.4 / 3.9
25.0	55.0	38.9	33.8	13.1 / 3.8

Project Name: Wauseon High School	Sold To: Warner Mechanical Corporation	
Location: Wauseon, OH	Customer Purchase Order No.: 857928-3599	
Engineer: Fanning / Howey	York Contract No.: 08261051	
Contractor: Warner Mechanical Corporation	Date: 05/23/2008	Revision Date: N/A

Lighting Form

Lighting Inventory Form

Applicant Name: Wauseon Exempted Village School District

Facility Name: Wauseon High School Building

Date: 4/26/2013

Instructions: Please use one line for each fixture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations																		Post Fixture Cut Sheet Number
Line Item	Building Address	Floor	Area Description	Interior or Exterior Fixture	Predominant Space Type	Area Cooling	Pre Fixture Qty	Pre Fixture Code	Pre Watts / Fixture (W)	Pre kW / Space (kW)	Existing Control drop down	Existing Sensor Quantity When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior Change in Connected Load (kW) excluding CFLs or Exit Signs	Change in Connected Load (kW) CFL or LED exit sign	Applicant Coincidence Factor (CF) Estimate	Coincidence Factor	Interactive Factor (demand)	Interactive Factor (energy)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual Exterior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual kWh Saved (CFL or LED exit signs only)	Annual kWh Saved (Sensors only)	
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*			*646*	*194*	*1*
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*		*208*		*260*	*1A*
1	840 Parkview Street	1	School	Interior	Education - Secondary School	Cooled Space	1	Cut Sheet 1	84,087	84.09	NONE		1	Cut Sheet 2	71,415	71.42	OCC	67	12.67				57%	34%	12%		30%	9.68				2,080	29,521			49,911	
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Lighting Form

	PROJECT BASIC INFORMATION						PRE-INSTALLATION					POST-INSTALLATION						Energy Calculations															
Line Item	Building Address	Floor	Area Description	Interior or Exterior Fixture	Predominant Space Type	Area Cooling	Pre Fixture Qty	Pre Fixture Code	Pre Watts / Fixture (W)	Pre kW / Space (kW)	Existing Control drop-down	Existing Sensor Quantity Write n/a if applicable	Post Fixture Qty	Post Fixture Code	Post Watts / Fixture (W)	Post kW / Space (kW)	Proposed Control Please select SWITCH, OCC or NONE	Proposed Sensor Quantity Write n/a if applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior Change in Connected Load (kW) excluding CFLs or Exit Signs	Change in Connected Load (kW) CFL or LED exit sign	Applicant Coincidence Factor (CF) Estimate	Coincidence Factor	Interactive Factor (demand)	Interactive Factor (energy)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual Exterior Fixture kWh Saved (excluding CFLs or Exit Signs)	Annual kWh Saved (CFL or LED exit signs only)	Annual kWh Saved (Sensors only)	Post Fixture Cut Sheet Number
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Totals							1			84.09			1			71.42			12.67									9.68					29,521			49,911	
																			12.67									9.68					79,432				

Note: If your total change in connected load is greater than or equal to 50 kW the cell above will be red. Please see row 4 on the Instructions tab for information on adjusting the predominant space type to "Other" and estimating CF and EFLH values.

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	79,432
Total Change in Connected Load	12.67

Annual Estimated Cost Savings	$7,943.20
Annual Operating Hours	2,080

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$1,476.05
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
Total retrofit CFL Incentive @ $1/screw-in CFL lamp; $15/hard-wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	$0.00
Total retrofit LED Exit Incentive @ $10/exit sign	$0.00
Total Lighting Controls Incentive @ $25/sensor (includes all Lighting Controls, both interior and exterior)	$1,675.00

Total Calculated Incentive	$3,151.05

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	1
Total Lamp Quantity for retrofit Screw-In CFLs	0
Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	67
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type “Other” indicated on the Lighting Form tab

Demand Savings (For Internal Use Only)	9.68

Client: Wauseon Ex Village SD
Site: High School
Prepared By: TDS
Date Last Worked On: 4/25/2013

Room By Room COMcheck Summary

Area (sq ft)	Allowed Wattage	Proposed Wattage	% Above/Below Code	Watts Saved
62020	84087.2	71415	✓ 15.07%	12672.2

Hours of Operation	Electric Rate	kWh Saved	$ Saved
0	0	0	0

Whole Building COMcheck Summary

Building Type	COMcheck Rating
School	1.2

Area	Allowed Wattage	Proposed Wattage	% Above/Below Code	Watts Saved
	0	71415	#DIV/0!	-71415

Hours of Operation	Electric Rate	kWh Saved	$ Saved
0	0	0	0

Occupancy Sensor Summary

Watts Controlled	OS>500W	OS<500W	OS Total
29908	26	41	67

Photocell Sensor Summary

Watts Controlled	OS>500W	OS<500W	OS Total
0	0	0	0

Room Type	Area	COMcheck Rating	Allowed Wattage	Proposed Wattage
Audience	0	0.9	0	0
Classroom	23053	1.4	32274.2	23288
Conference Room	839	1.3	1090.7	996
Dining	3400	0.9	3060	2436
Dorm Room	0	1.1	0	0
Exam/Treatment	0	1.5	0	0
Exercise Area	1145	0.9	1030.5	928
Food Prep	543	1.2	651.6	684
Gym	13128	2.3	30194.4	23744
Hall	7748	0.5	3874	7390
Laboratory	0	1.4	0	0
Laundry	0	0.6	0	0
Lobby	0	1.3	0	0
Locker	1966	0.6	1179.6	1276
Lounge	0	1.2	0	0
Mail Sorting	0	1.2	0	0
Mech/Elec	849	1.5	1273.5	605
Nurse	0	1	0	0
Office	2594	1.1	2853.4	3312
Operating Room	0	2.2	0	0
Parking Garage	0	0.2	0	0
Patient Room	0	0.7	0	0
Pharmacy	0	1.2	0	0
Reading	2643	1.2	3171.6	2728
Restroom	1441	0.9	1296.9	1305
Sales Area	0	1.7	0	0
Stacks	0	1.7	0	0
Stairs	0	0.6	0	0
Storage	2671	0.8	2136.8	2723
Workshop	0	1.9	0	0
Totals	**62020**		**84087.2**	**71415**

Client: Wauseon Ex Village SD
Site: High School
Prepared By: TDS
Date Last Worked On: 4/25/2013

Property of Plug Smart © 2012

Room #	Type	Area	PC	OS	F1C	F2	F3	F3C	F4	FD1	FR2	FV1	FW4	K1	M1
Fixture Wattage					58	58	88	88	114	29	55	55	138	150	458
A116	Classroom	958		1			13								
A116A	Storage	169		1			2								
B107	Gym	3631										8			12
C101	Classroom	1590									20				
C102	Storage	146									2				
C103	Storage	146									2				
C104	Storage	52									1				
C105	Storage	52									1				
C106	Storage	109									2				
C107	Classroom	1635									20				
C112	Classroom	511		1			6								
C113	Restroom	150		1		3									
C114	Storage	200									4				
C115	Restroom	162		1		3									
C116	Locker	269		1		4									
C117	Restroom	45				1									
C118	Hall	23				1									
C120	Classroom	399		1			6								
C121	Classroom	672		1			9								
C123	Office	197		1		4									
C125	Hall	26				1									
C126	Restroom	44				1									
C127	Hall	102				1									
C129	Storage	59									1				
D100	Hall	715					6								
D101	Classroom	1621		2			20								
D102	Classroom	68				1									
D103	Hall	41				1									
D104	Office	104		1			1								
D105	Classroom	69		1		1									
D106	Classroom	64		1		1									
D107	Classroom	99		1		1									
D108	Mech/Elec	726									9				
D111	Storage	53									1				
D114	Office	229		1				4							
D115	Office	134						2							
D116	Office	148		1				2							
D117	Office	145		1				2							
D118	Office	139		1				2							
D119	Office	139		1				2							
D120	Office	139		1				2							
D121	Conference Room	200		1				2							
D122	Office	141		1				2							
D123	Hall	368				7									
D124	Storage	64				1									
D125	Office	93		1				2							
D126	Office	108		1		1								2	
D127	Restroom	57				1									
D128	Storage	75				1									
D129	Office	236		1			3								
D130	Conference Room	362		1				6							
D131	Storage	21								1					
D132	Locker	706		1		6									
D133	Restroom	72				1									
D134	Hall	95		1		2									
D136	Office	93		1		2									
D137	Restroom	27								1					
D138	Gym	9497										24			36
D139	Hall	96				2									
D140	Exercise Area	209		1		4									
D141	Restroom	63				1									
D142	Hall	37				1									
D144	Office	140		1		2									
D145	Restroom	39				1									
D146	Locker	590		1		8									
D147	Office	151		1		2									
D148	Locker	401		1		4									
D149	Exercise Area	936		1		12									
D150	Hall	117				1									
E101	Storage	374				4									
E102	Dining	261		1		4									
E108	Classroom	678		1			9								
E109	Classroom	699		1			9								
E111	Classroom	2488		2			29								
E112	Classroom	800		1				10							
E113	Classroom	213		1			2								
E114	Conference Room	113		1		2									
E115	Office	89		1			1								
E116	Hall	44			1										
E117	Office	69		1		1									
E118	Office	69				1									
E119	Reading	2643						31							
E120	Dining	3139				38									
E121	Storage	218		1									4		
E123	Food Prep	543		1					6						
E126	Office	31				1									
E127	Hall	207				4									
E129	Restroom	43				1									
F100	Hall	1516					18			2					
F101	Storage	36					2								
F103	Storage	36				1									
F118	Hall	169					2								
F120	Hall	885					11								
F137	Storage	86		1		2									
F137A	Hall	45				1									
F137B	Restroom	77		1		1									
F138	Restroom	178		1		2									
F139	Restroom	171		1		2									
F140	Storage	616									7				
F142	Mech/Elec	123									2				
C124	Hall	127					3								
C200	Hall	305					3								
C200A	Hall	108					2								
C201	Classroom	1174		1			13								
C202	Classroom	158		1			2								
C203	Classroom	168					1								
C205	Classroom	1056		1			10								
C206	Conference Room	164		1			2								
C207	Classroom	709		1			9								
C208	Hall	38									4				
C209	Restroom	151		1		2									
C211	Hall	262				1									
C212	Restroom	162		1		2									
C213	Classroom	1092		1			12								
C214	Classroom	1073		1			15								
C215	Hall	735					5								
D200	Classroom	721		1			9								
D201	Classroom	717		1			9								
D202	Classroom	719		1			9								
D203	Classroom	717		1			9								
D204	Classroom	973		1			12								
D205	Storage	95				1									
D206	Classroom	1212		1			14								
D207	Storage	64									1				
D208	Hall	1528					13								
D110	Hall	159					2								

	Occupancy Controls			Photocell Controls		
Room #	Watts Controlled	Watts/Sensor	OS>500W	Watts Controlled	Watts/Sensor	PS>500W
A116	1144	1144	1	0	0	0
A116A	176	176	0	0	0	0
B107	0	0	0	0	0	0
C101	0	0	0	0	0	0
C102	0	0	0	0	0	0
C103	0	0	0	0	0	0
C104	0	0	0	0	0	0
C105	0	0	0	0	0	0
C106	0	0	0	0	0	0
C107	0	0	0	0	0	0
C112	528	528	1	0	0	0
C113	174	174	0	0	0	0
C114	0	0	0	0	0	0
C115	174	174	0	0	0	0
C116	232	232	0	0	0	0
C117	0	0	0	0	0	0
C118	0	0	0	0	0	0
C120	528	528	1	0	0	0
C121	792	792	1	0	0	0
C123	232	232	0	0	0	0
C125	0	0	0	0	0	0
C126	0	0	0	0	0	0
C127	0	0	0	0	0	0
C129	0	0	0	0	0	0
D100	0	0	0	0	0	0
D101	1760	880	2	0	0	0
D102	0	0	0	0	0	0
D103	0	0	0	0	0	0
D104	88	88	0	0	0	0
D105	58	58	0	0	0	0
D106	58	58	0	0	0	0
D107	58	58	0	0	0	0
D108	0	0	0	0	0	0
D111	0	0	0	0	0	0
D114	352	352	0	0	0	0
D115	0	0	0	0	0	0
D116	176	176	0	0	0	0
D117	176	176	0	0	0	0
D118	176	176	0	0	0	0
D119	176	176	0	0	0	0
D120	176	176	0	0	0	0
D121	176	176	0	0	0	0
D122	176	176	0	0	0	0
D123	0	0	0	0	0	0
D124	0	0	0	0	0	0
D125	176	176	0	0	0	0
D126	358	358	0	0	0	0
D127	0	0	0	0	0	0
D128	0	0	0	0	0	0
D129	264	264	0	0	0	0
D130	528	528	1	0	0	0
D131	0	0	0	0	0	0
D132	348	348	0	0	0	0
D133	0	0	0	0	0	0
D134	116	116	0	0	0	0
D136	116	116	0	0	0	0
D137	0	0	0	0	0	0
D138	0	0	0	0	0	0
D139	0	0	0	0	0	0
D140	232	232	0	0	0	0
D141	0	0	0	0	0	0
D142	0	0	0	0	0	0
D144	116	116	0	0	0	0
D145	0	0	0	0	0	0
D146	464	464	0	0	0	0
D147	116	116	0	0	0	0
D148	232	232	0	0	0	0
D149	696	696	1	0	0	0
D150	0	0	0	0	0	0
E101	0	0	0	0	0	0
E102	232	232	0	0	0	0
E108	792	792	1	0	0	0
E109	792	792	1	0	0	0
E111	2552	1276	2	0	0	0
E112	880	880	1	0	0	0
E113	176	176	0	0	0	0
E114	116	116	0	0	0	0
E115	88	88	0	0	0	0
E116	0	0	0	0	0	0
E117	58	58	0	0	0	0
E118	0	0	0	0	0	0
E119	0	0	0	0	0	0
E120	0	0	0	0	0	0
E121	552	552	1	0	0	0
E123	684	684	1	0	0	0
E126	0	0	0	0	0	0
E127	0	0	0	0	0	0
E129	0	0	0	0	0	0
F100	0	0	0	0	0	0
F101	0	0	0	0	0	0
F103	0	0	0	0	0	0
F118	0	0	0	0	0	0
F120	0	0	0	0	0	0
F137	116	116	0	0	0	0
F137A	0	0	0	0	0	0
F137B	58	58	0	0	0	0
F138	116	116	0	0	0	0
F139	116	116	0	0	0	0
F140	0	0	0	0	0	0
F142	0	0	0	0	0	0
C124	0	0	0	0	0	0
C200	0	0	0	0	0	0
C200A	0	0	0	0	0	0
C201	1144	1144	1	0	0	0
C202	176	176	0	0	0	0
C203	0	0	0	0	0	0
C205	880	880	1	0	0	0
C206	176	176	0	0	0	0
C207	792	792	1	0	0	0
C208	0	0	0	0	0	0
C209	116	116	0	0	0	0
C211	0	0	0	0	0	0
C212	116	116	0	0	0	0
C213	1056	1056	1	0	0	0
C214	1320	1320	1	0	0	0
C215	0	0	0	0	0	0
D200	792	792	1	0	0	0
D201	792	792	1	0	0	0
D202	792	792	1	0	0	0
D203	792	792	1	0	0	0
D204	1056	1056	1	0	0	0
D205	0	0	0	0	0	0
D206	1232	1232	1	0	0	0
D207	0	0	0	0	0	0
D208	0	0	0	0	0	0
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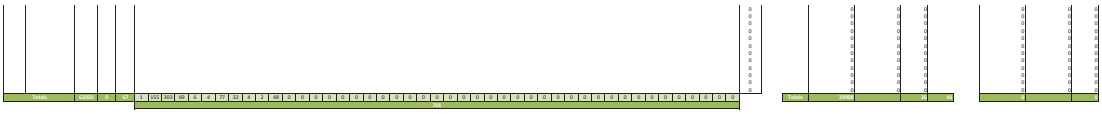


	Fixture Wattage																																												
	58	58	88	88	114	29	55	55	138	150	458	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fixture Type																																												
	F1C	F2	F3	F3C	F4	FD1	FR2	FV1	FW4	K1	M1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Audience	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Classroom	0	4	227	10	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conference Room	0	2	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dining	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dorm Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exam/Treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exercise Area	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food Prep	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gym	0	0	0	0	0	0	0	32	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hall	1	23	65	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laboratory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laundry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lobby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Locker	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lounge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mail Sorting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mech/Elec	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	14	5	20	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking Garage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patient Room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reading	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Restroom	0	22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales Area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stacks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stairs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Storage	0	10	4	0	0	1	22	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workshop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

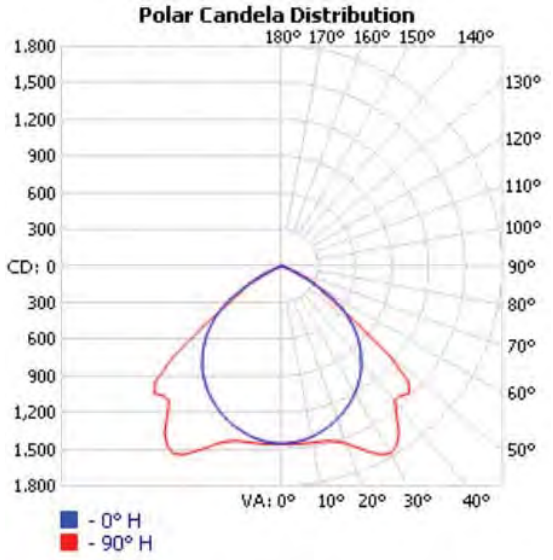
Total Fixtures	701

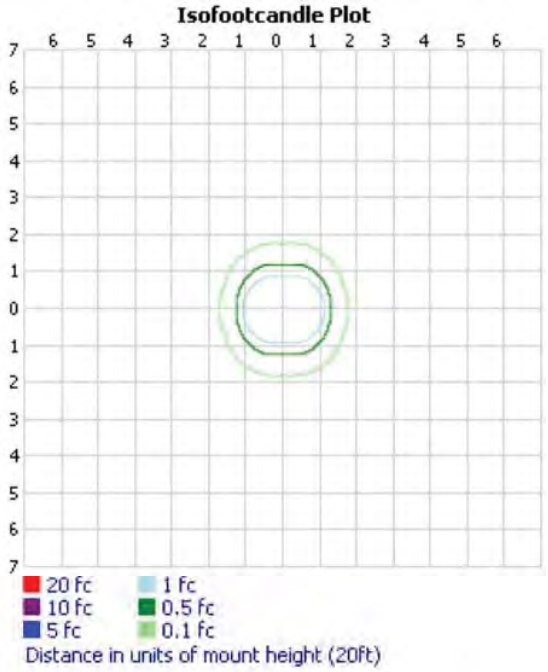
F1C

INDOOR PHOTOMETRIC REPORT

CATALOG: PM3 2 32 8LD ADDE

TEST #:	LTL6584
ISSUE DATE:	1/31/2008
CATALOG #:	PM3 2 32 8LD ADDE
LUMINAIRE:	PARAMAX PARABOLIC TROFFER 1'X4' 3" LVR 2 LP T8 8 CELL SEMI SPEC LVR ELEC
LAMP CAT #:	F32T8/SPX35
LAMP:	TWO 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2900
BALLAST:	REL-2P32-RH-TP BF=0.86
INPUT WATTAGE:	58
LUMINOUS OPENING:	RECTANGLE (L: 45.24", W: 9.24")
TER VALUE:	62 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,774.0 AT HORIZONTAL: 90°, VERTICAL: 30°
SPACING CRITERION:	@ 0 = 1.23
	@ 90 = 1.58
EFFICIENCY:	**66.9%**





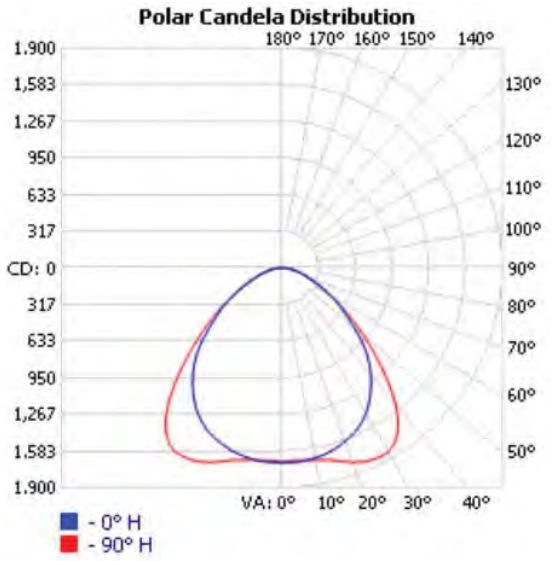
VISUAL PHOTOMETRIC TOOL 1.2.43 COPYRIGHT 2013, ACUITY BRANDS LIGHTING
REPORTED DATA CALCULATED FROM MANUFACTURER'S DATA FILE, BASED ON IESNA RECOMMENDED METHODS.

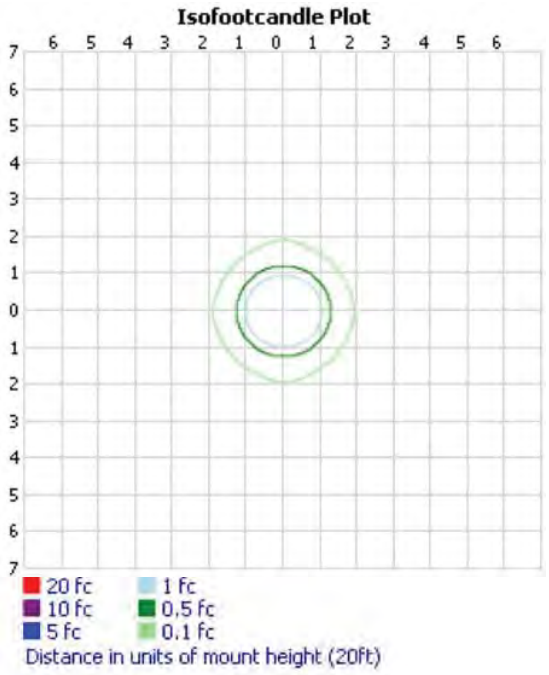
F2

INDOOR PHOTOMETRIC REPORT

CATALOG: 2SP8 G 2 32 A12125 MVOLT SSR

TEST #:	LTL16214
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 G 2 32 A12125 MVOLT SSR
LUMINAIRE:	
LAMP CAT #:	F032/735/ECO
LAMP:	TWO 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	QTP2X32T8/UNV ISN-SC MFR PUBL BF = 0.88
INPUT WATTAGE:	58.4
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 21.36")
TER VALUE:	68 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	1,841.0 AT HORIZONTAL: 90°, VERTICAL: 27.5°
SPACING CRITERION:	@ 0 = 1.27
	@ 90 = 1.52
EFFICIENCY:	**77.3%**





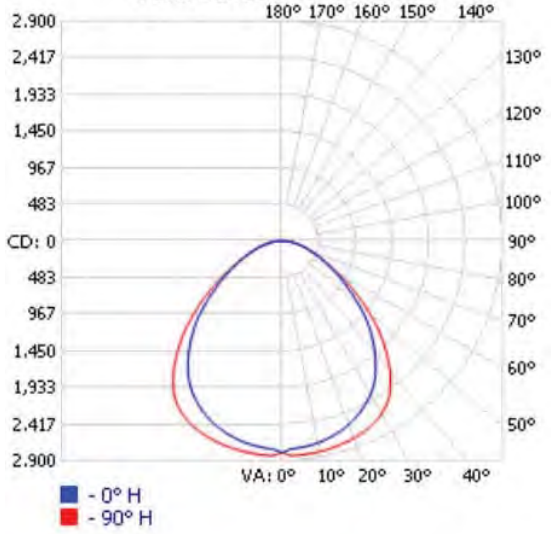
F3

INDOOR PHOTOMETRIC REPORT

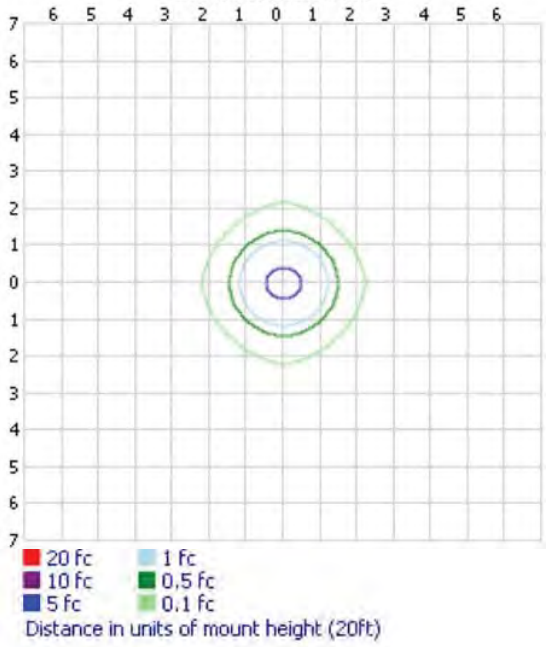
CATALOG: 2SP8 3 32 A12125 1/3 ADDE

TEST #:	LTL7427
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 3 32 A12125 1/3 ADDE
LUMINAIRE:	SP8 SPECIFICATION PREMIUM T8 TROFFER 2'X4' 3 LP T8 #A12 .125" LENS 1/3 ELEC
LAMP:	THREE 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	REL-3P32-SC
INPUT WATTAGE:	88
LUMINOUS OPENING:	RECTANGLE (L: 45.12", W: 21.24")
TER VALUE:	71 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	2,838.0 AT HORIZONTAL: 90°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.24 @ 90 = 1.37
EFFICIENCY:	**81.1%**

Polar Candela Distribution



Isofootcandle Plot



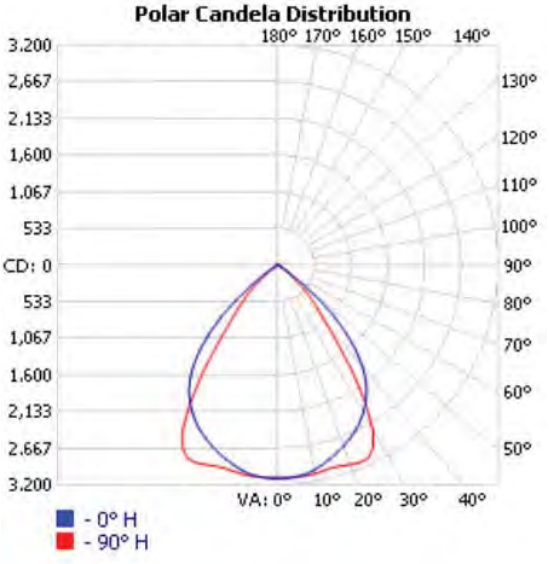
F3C

INDOOR PHOTOMETRIC REPORT

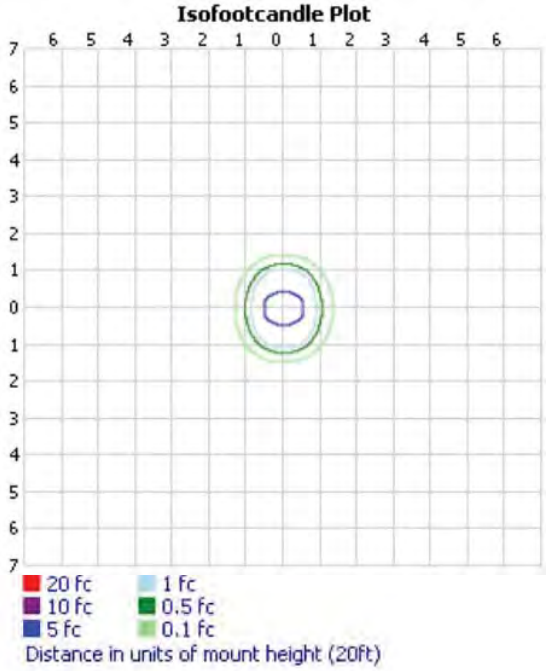
CATALOG: 2PMO G B 3 32 27LD MVOLT GEB10IS

TEST #:	LTL15287
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	10/8/2011
CATALOG #:	2PMO G B 3 32 27LD MVOLT GEB10IS
LUMINAIRE:	PARAMAX LIGHT CONTROL SYSTEM, 2' X 4', 3-LAMP T8, 27-CELL LO IRR SEMISPECULAR 'OPTIMAX' LOUVER, ELECT BALLASTS, PAINT REFL = .919.
LAMP CAT #:	FO32/735/ECO
LAMP:	THREE 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	3 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	QTP1X32T8 & QTP2X32T8/UNV-ISN-SC AVG PUBL BF = .88
INPUT WATTAGE:	87.6
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 20.76")
TER VALUE:	54 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	3,116.0 AT HORIZONTAL: 90°, VERTICAL: 22.5°
SPACING CRITERION:	@ 0 = 1.19 @ 90 = 1.23
EFFICIENCY:	**57.5%**

Polar Candela Distribution



Isofootcandle Plot



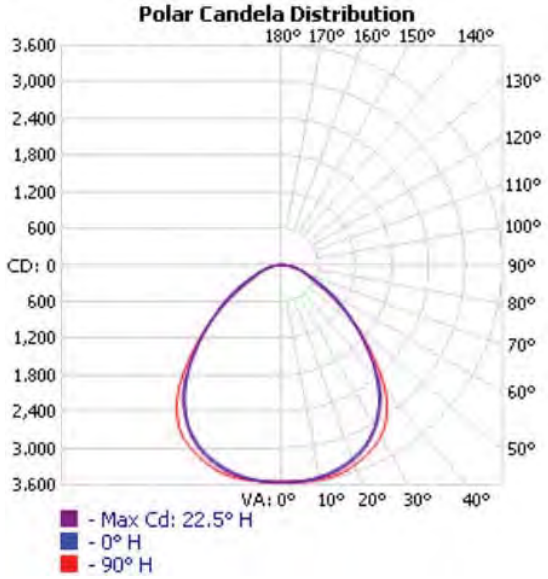
F4

INDOOR PHOTOMETRIC REPORT

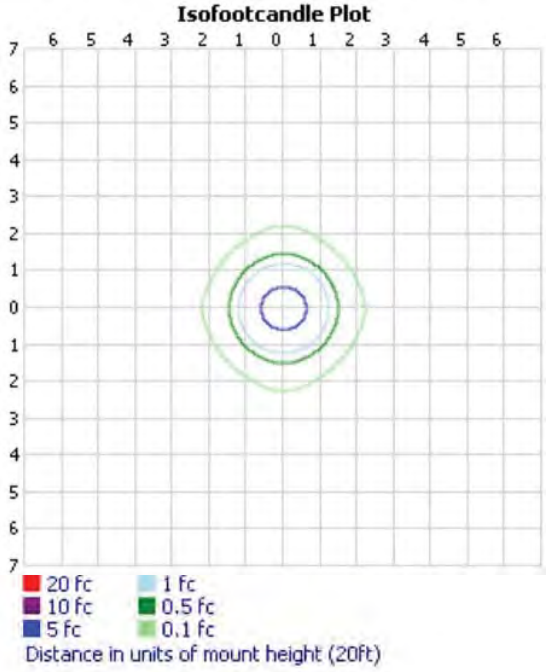
CATALOG: 2SP8 G 4 32 A12125 MVOLT SSR

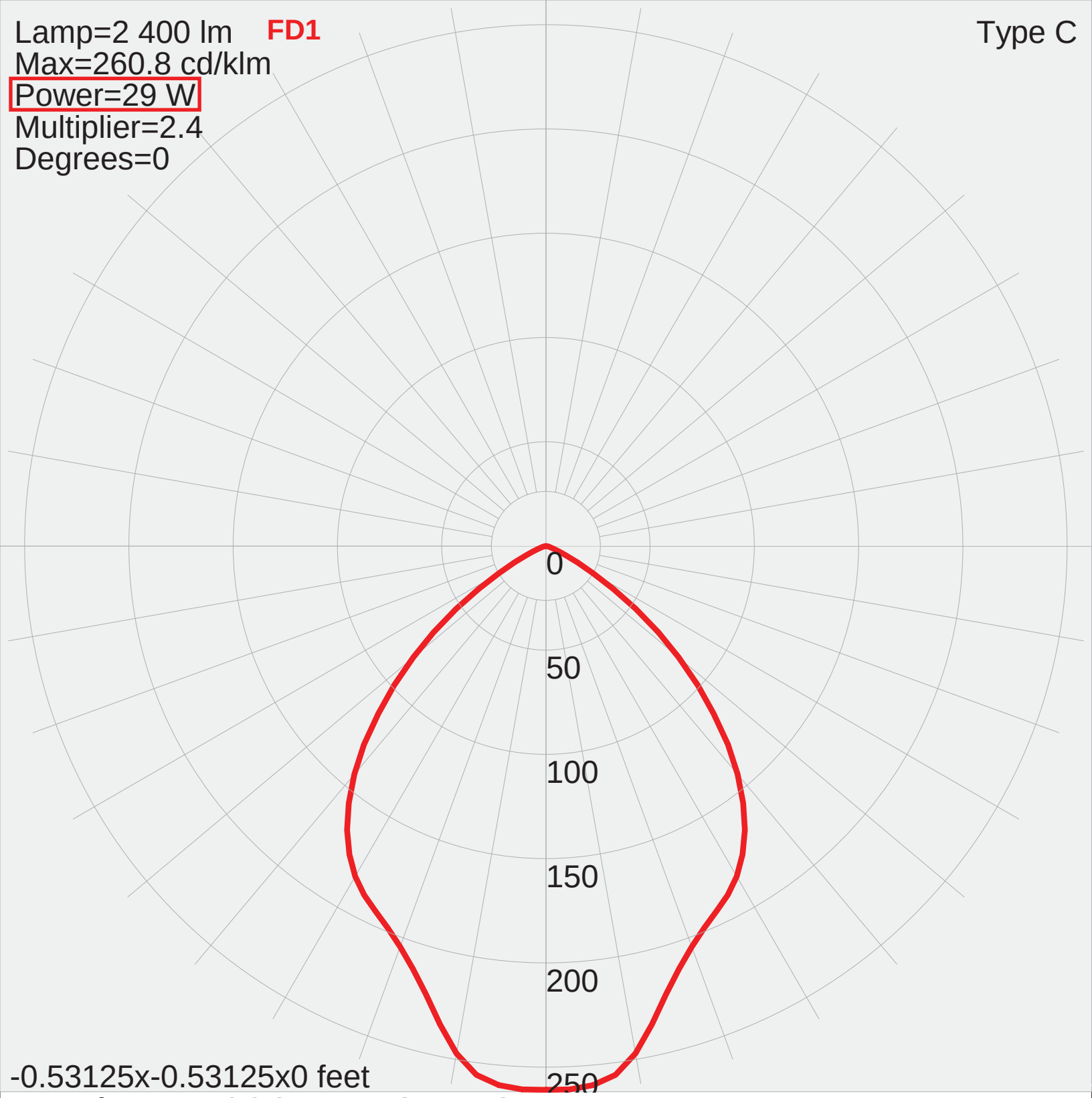
TEST #:	LTL16212
ISSUE DATE:	1/31/2008
CATALOG #:	2SP8 G 4 32 A12125 MVOLT SSR
LUMINAIRE:	SPECIFICATION PREMIUM TROFFER 2' X 4', FOUR (4) LAMPS T8, ACRYLIC PRISMATIC LENS .125" THICK IN STEEL DOOR FRAME, SPECULAR SILVER REFLECTIVE INSERTS, ELECTRONIC BALLASTS
LAMP CAT #:	SYL FO32/735/ECO
LAMP:	FOUR 32-WATT T8 LINEAR FLUORESCENT
LAMP OUTPUT:	4 LAMPS, RATED LUMENS/LAMP: 2850
BALLAST:	(2) QTP2X32T8/UNV ISN-SC MFR PUBL.BF=.88
INPUT WATTAGE:	113.6
LUMINOUS OPENING:	RECTANGLE (L: 45", W: 21.36")
TER VALUE:	66 (BF = 1)
TER CATEGORY:	RECESSED, LINEAR
CIE CLASS:	DIRECT
MAX CD:	3,570.0 AT HORIZONTAL: 22.5°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.26
	@ 90 = 1.33
EFFICIENCY:	**72.8%**

Polar Candela Distribution



Isofootcandle Plot





Manufacturer: COOPER LIGHTING
Luminaire catalog: CD6042E-6CLV142M1H1
Luminaire: PORTFOLIO 6 INCH CFL MEDIUM VERTICAL RECESSED DOV
Lamp catalog: F32TBX/827/A/4P
Lamp: (1) FOUR PIN GX24Q-4 BASE TTT 2700K COMPACT FLUORESCEN

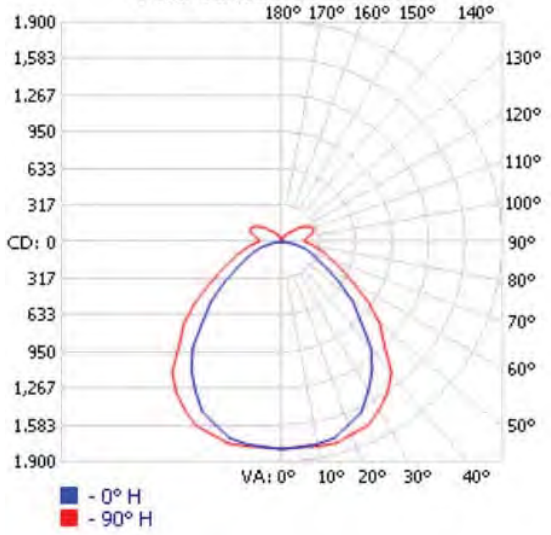
FR2

INDOOR PHOTOMETRIC REPORT

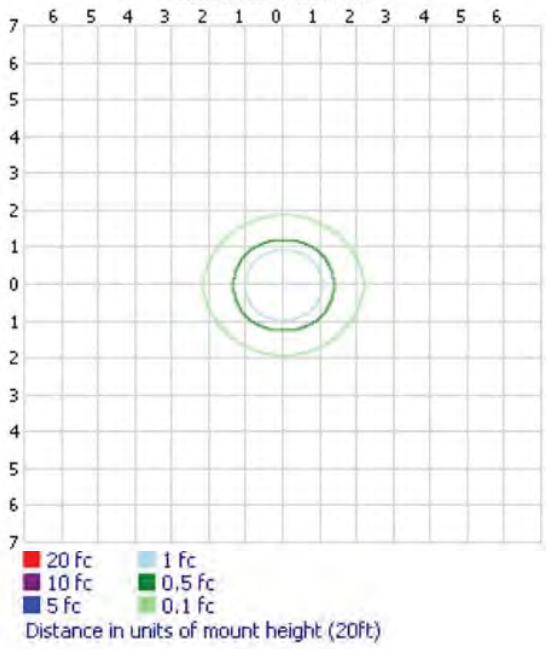
CATALOG: SB 2 32 MV

TEST #:	BALLABS TEST NO. 16519.0
TEST LAB:	BALLABS
ISSUE DATE:	2/29/2012
CATALOG #:	SB 2 32 MV
LUMINAIRE:	2/32W T8 LAMPS 4'SURFACE MOUNT SQ BASKET WRAP LUMINAIRE WHITE REFL W/CLEAR ACRYLIC PRISMATIC DIFFUSER SYLVANIA BALLAST #QTP2X32T8/UNV ISN-SC WATTS=55.1 REFL=88
LAMP CAT #:	F32T8/835/RS
LAMP:	32T8
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2950
INPUT WATTAGE:	55
LUMINOUS OPENING:	RECTANGLE W/LUMINOUS SIDES (L: 48", W: 8.76", H: 1.8")
CIE CLASS:	SEMI-DIRECT
MAX CD:	1,802.0 AT HORIZONTAL: 90°, VERTICAL: 15°
SPACING CRITERION:	@ 0 = 1.23 @ 90 = 1.38
EFFICIENCY:	**92.1%**

Polar Candela Distribution



Isofootcandle Plot

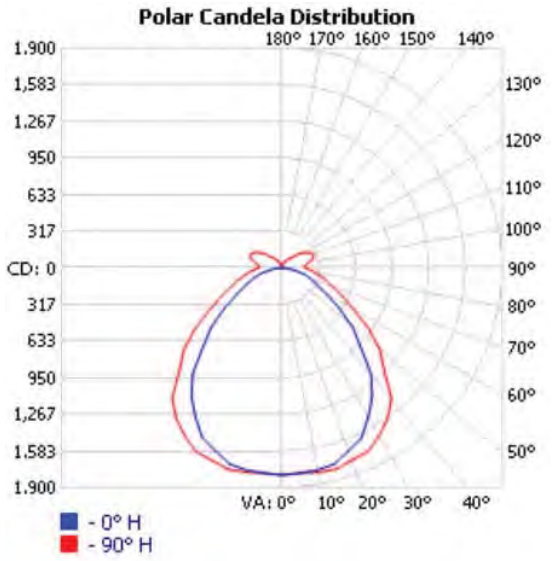


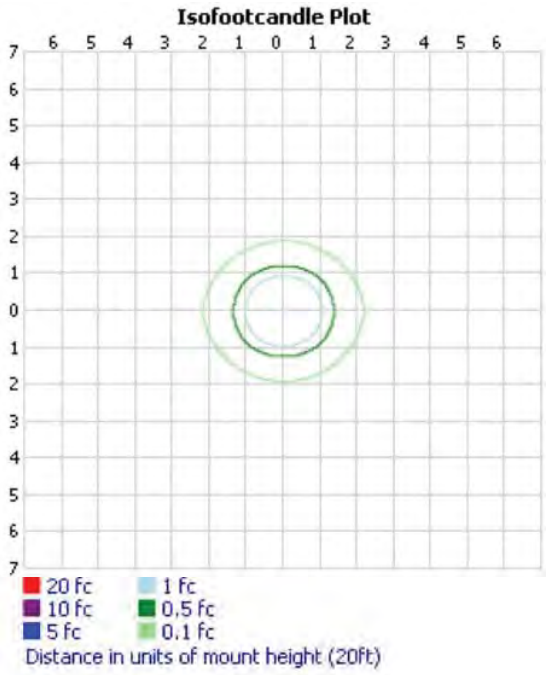
FV1

INDOOR PHOTOMETRIC REPORT

CATALOG: SB 2 32 MVOLT GEB10IS

TEST #:	BALLABS TEST NO. 16519.0
TEST LAB:	BUILDING ACOUSTICS AND LIGHTING LABORATORIES, INC.
ISSUE DATE:	2/29/2012
CATALOG #:	SB 2 32 MVOLT GEB10IS
LUMINAIRE:	2/32W T8 LAMPS 4'SURFACE MOUNT SQ BASKET WRAP LUMINAIRE WHITE REFL W/CLEAR ACRYLIC PRISMATIC DIFFUSER SYLVANIA BALLAST #QTP2X32T8/UNV ISN-SC WATTS=55.1 REFL=88
LAMP CAT #:	F32T8/835/RS
LAMP:	32T8
LAMP OUTPUT:	2 LAMPS, RATED LUMENS/LAMP: 2950
INPUT WATTAGE:	55
LUMINOUS OPENING:	RECTANGLE W/LUMINOUS SIDES (L: 48", W: 8.76", H: 1.8")
CIE CLASS:	SEMI-DIRECT
MAX CD:	1,802.0 AT HORIZONTAL: 90°, VERTICAL: 15°
SPACING CRITERION:	@ 0 = 1.23 @ 90 = 1.38
EFFICIENCY:	**92.1%**



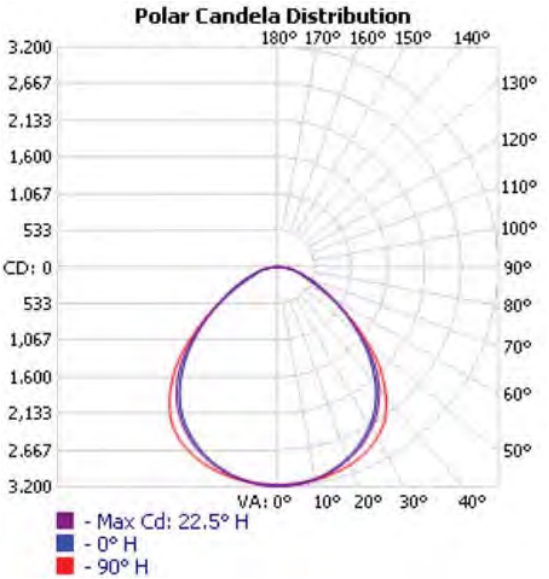


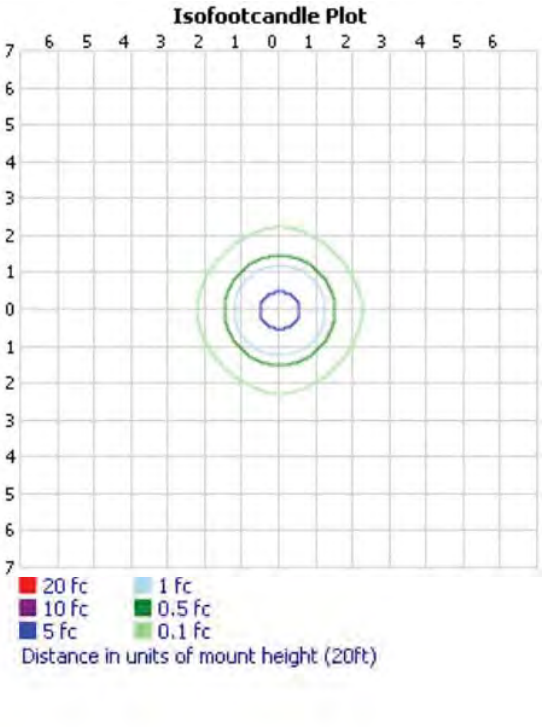
FW4

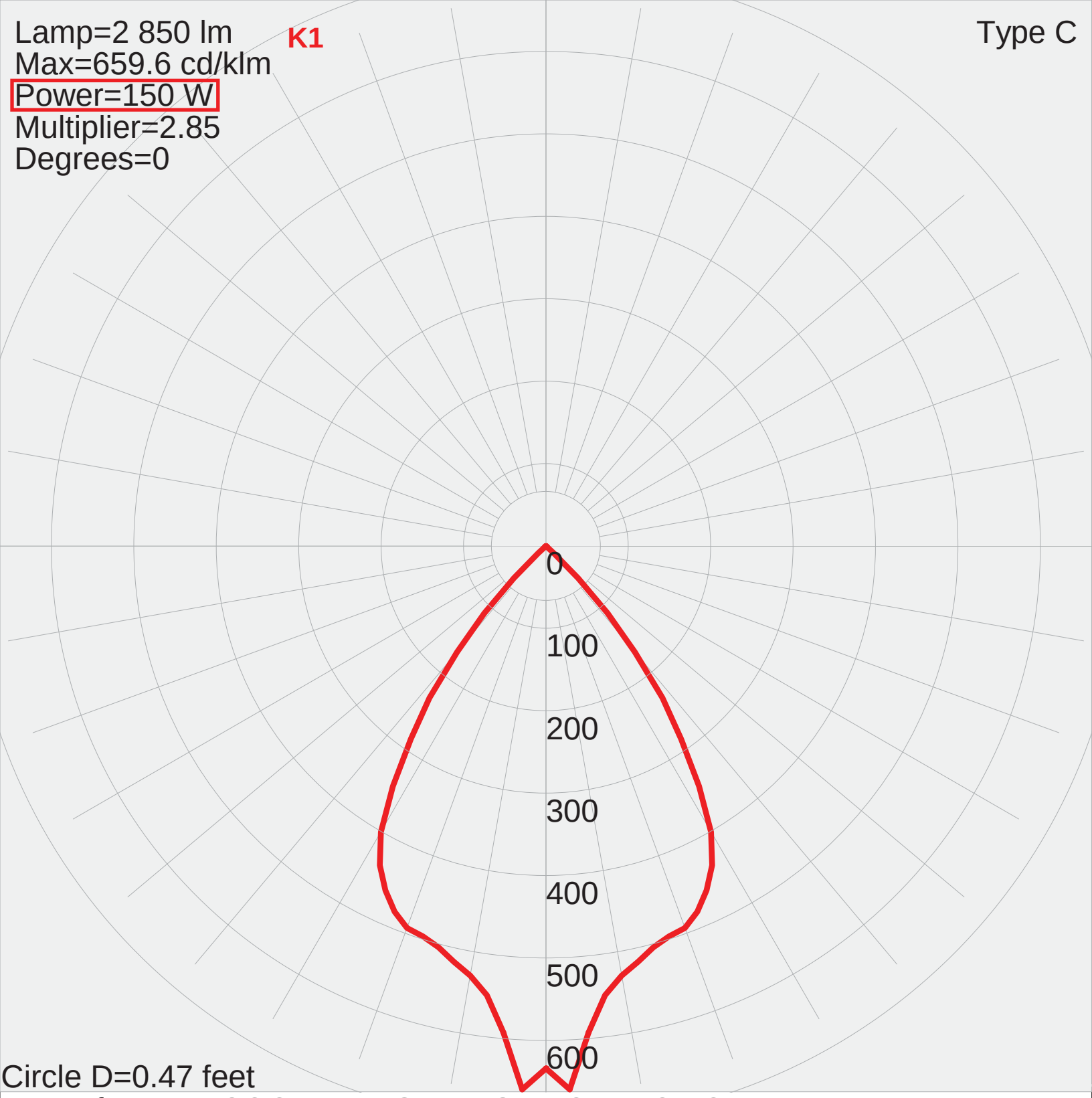
INDOOR PHOTOMETRIC REPORT

CATALOG: 2WRT G 4 32 A12125

TEST #:	LTL9804
TEST LAB:	ACUITY BRANDS LIGHTING CONYERS LAB
ISSUE DATE:	3/11/2009
CATALOG #:	2WRT G 4 32 A12125
LUMINAIRE:	WET LOCATION TROFFER, 2'X4' 4LP T8 #A12125 LENS
LAMP:	FOUR 32-WATT T8 LINEAR FLUORESCENT.
LAMP OUTPUT:	4 LAMPS, RATED LUMENS/LAMP: 2900
INPUT WATTAGE:	138
LUMINOUS OPENING:	RECTANGLE (L: 45.36", W: 21.48")
CIE CLASS:	DIRECT
MAX CD:	3,189.0 AT HORIZONTAL: 22.5°, VERTICAL: 2.5°
SPACING CRITERION:	@ 0 = 1.25
	@ 90 = 1.33
EFFICIENCY:	**67.9%**







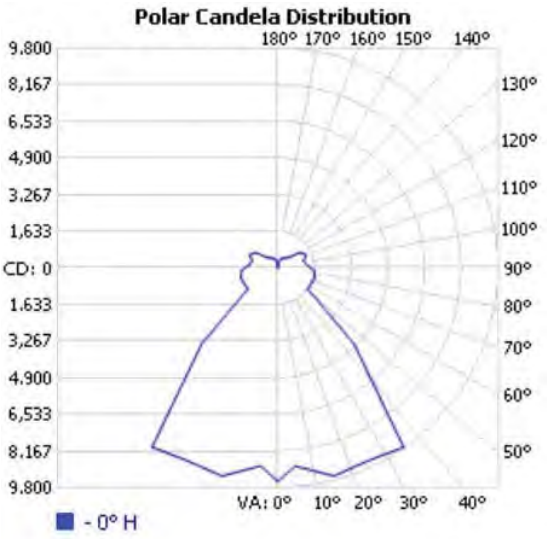
Manufacturer: COOPER LIGHTING - PORTFOLIO
Luminaire catalog: HD6-6700C
Luminaire: HALO 6" DIA RECESSED DOWNLIGHT
Lamp: 150A21/IF 150 WATTS 2850 LUMENS

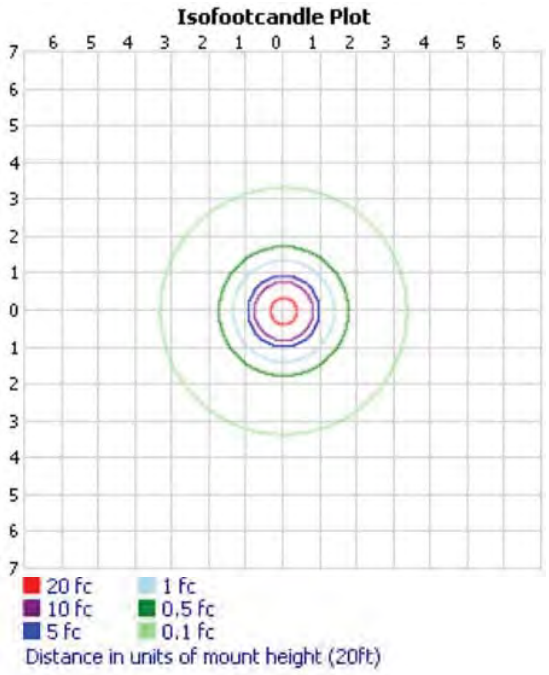
M1

INDOOR PHOTOMETRIC REPORT

CATALOG: TPGE 400M PG16GLE M (SC=1.3)

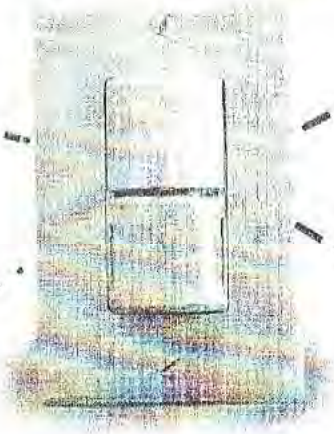
TEST #:	1196092927
ISSUE DATE:	1/31/2008
CATALOG #:	TPGE 400M PG16GLE M (SC=1.3)
LUMINAIRE:	ENCLOSED GLASS OPTICAL, 400 MH W/ MEDIUM DISTRIBUTION
LAMP CAT #:	M400/U
LAMP:	ONE 400-WATT CLEAR BT-37 METAL HALIDE, VERTICAL BASE-UP POSITION.
LAMP OUTPUT:	1 LAMP, RATED LUMENS/LAMP: 36000
INPUT WATTAGE:	458
LUMINOUS OPENING:	VERTICAL CYLINDER (DIA : 15.96", H: 11.04")
TER VALUE:	31 (BF = 1)
TER CATEGORY:	HIGHBAY, NONLINEAR
CIE CLASS:	SEMI-DIRECT
MAX CD:	9,757.0 AT HORIZONTAL: 0°, VERTICAL: 35°
SPACING CRITERION:	@ 0 = 1.33
	@ 90 = 1.33
EFFICIENCY:	**85.6%**





TYPE: WS
PROJECT: WAUSEON 3-8 SCHOOL
CAT#: WS 200

WS-200 Passive Infrared Wall Switch Sensor



Product Overview

Description

The WS-200 automatic wall switch sensors replace existing wall switches and fit behind standard decorator wall plates. They turn lighting on and off based on occupancy and ambient light levels.

Operation

The WS-200 utilizes advanced passive infrared technology to detect occupancy. Detection occurs when the WS senses the difference between infrared energy from a human body in motion and the background space. Lighting automatically turns on when occupancy is detected. After a user-specified length of time when no occupancy is detected, lighting automatically switches off. The sensors can also be used with multiple switches for multi-level lighting.

Light Level Sensor

The WS-200 features a built-in light level sensor. This feature holds lighting systems off when natural light levels are above the pre-set level. Once lights are switched on, the sensor will not switch them off even if daylight levels increase. Using the light level feature is optional and the setting is adjustable by the user.

Applications

The WS-200 has the flexibility to work in a variety of applications including offices, conference rooms, break rooms, and utility rooms. Energy savings for these areas can be as high as 60% since lighting will no longer remain on once the room is vacant. With a competitive price, low installation cost, and high energy savings, paybacks are usually well under two years.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Detection Signature Analysis eliminates false triggers; provides immunity to RFI and EMI
- Zero crossing circuitry reduces stress on the relay and results in increased sensor life
- Digital time delay adjustment from 30 seconds up to 30 minutes
- Adjustable unit sensitivity from 20% to 100%
- Integrated light level sensor holds lights off when natural light levels are above the pre-set level
- Custom, 2-level Fresnel lens enhances detection at the desktop level
- Screw terminal wiring system eliminates the need for wire nuts, making installation quicker
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded
- LED indicates occupancy detection

WattStopper | Legrand
www.wattstopper.com
800.879.8585

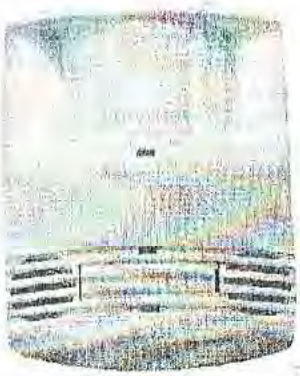
TYPE: OC1
PROJECT: WAUSEON 3-8 SCHOOL
CAT#: DT-200

DT-200 Series Dual Technology Ceiling Sensors

Combines Passive Infrared (PIR) and ultrasonic technologies

SmartSet™ automatically selects optimal settings for each space

Walk-through Mode increases savings potential



Built-in light level sensor

Accepts low-voltage switch input for manual-on operation

Automatic or manual-on operation when used with a BZ-150 Power Pack

PROJECT

LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's DT-200 Series Dual Technology Ceiling Sensors combine PIR and ultrasonic technologies into one unit to achieve precise coverage in detecting occupancy.

Operation

Low voltage DT-200 Series Sensors utilize a Watt Stopper power pack to turn lights on when both PIR and ultrasonic technologies detect occupancy. They can also work with a low voltage switch for manual-on operation. PIR technology senses motion via a change in infrared energy within the controlled area, whereas ultrasonic uses the Doppler Principle and 40 kHz high frequency ultrasound. Once on, detection by either technology holds lights on. When no occupancy is detected for the length of the time delay, lights turns off. DT-200 Series Sensors can also be set to trigger lights on when either technology or both detect occupancy or to require both technologies to hold lighting on.

SmartSet™

DT-200 Series Sensors require no adjustment at installation as SmartSet technology continuously monitors the controlled space to identify usage patterns. Based on these patterns, units automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. Sensors assign short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

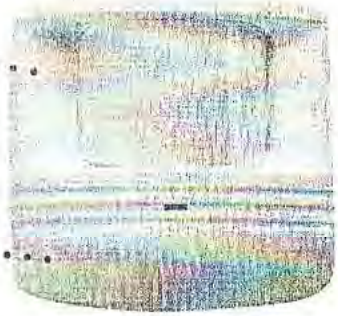
DT-200 Series Sensors have the flexibility to work in a variety of applications. Mounted at ten feet, the sensors can cover up to 2000 square feet of walking motion and 1000 square feet of desktop motion. The sensors are designed to control lighting in difficult applications where one technology alone could encounter false triggers. The DT-200 works well in classrooms, warehouses, large offices, open office spaces and computer rooms.

Features

- Advanced control logic based on RISC microcontroller provides:
  - Detector Signature Processing to eliminate false triggers and provides immunity to RFI and EMI
  - SmartSet automatically adjusts sensitivity and time delay settings to fit occupant patterns
  - Walk-through Mode turns lights off three minutes after the area is initially occupied – ideal for brief visits, such as mail delivery
  - Available with built-in light level sensor featuring simple, one-step setup
- Sensors work with low-voltage momentary switches to provide manual control
- LEDs indicate occupancy detection
- Eight occupancy logic options provide the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- Swivel mounting bracket for convenient corner mounting to wall or ceiling

TYPE: OC2
PROJECT:WAUSEON3&SCHOOL
CAT#CX100 3

CX-100 Series Passive Infrared Ceiling/Wall Sensors



OC: OCCUPANCY SENSOR

Product Overview

Description

Watt Stopper/Legrand's CX-100 Series Passive Infrared (PIR) Ceiling/Wall Sensors detect occupancy to control lighting in a wide variety of applications. These sensors provide superior coverage and performance with great energy savings.

Operation

CX-100 Series Sensors are 24 VDC and control lighting systems through Watt Stopper/Legrand power packs. Utilizing the latest PIR technology, they turn lights on when a difference is detected between infrared energy from a human body in motion and the background space. After the area is vacated and the time delay elapses, lighting automatically turns off.

Coverage Choices

The CX-100 Series Sensors are available with a choice of coverage patterns. The standard lens offers coverage up to 1000 square feet for typical desktop activity. When using the CX-100/105-1 or -3 lens, motion moving toward sensors will begin to be detected at 55 to 60 feet.

Applications

The CX sensors are ideal for large areas and can cover up to 2000 square feet of walking motion. By choosing the proper lens pattern for each application, the sensors can reliably cover large offices, computer rooms, classrooms, aisleways, warehouses and open offices where coverage cut-off is desired. Corner mounting to a wall or ceiling adds versatility and more control to the coverage.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false off without reducing sensitivity
- Detection Signature Analysis eliminates false triggers and provides immunity to RFI and EMI
- Digital time delay adjustable from 15 seconds to 30 minutes
- Adjustable sensitivity enables occupancy detection to match the level of activity for each space
- LED indicates occupancy detection
- The CX-100's integrated light level sensor can create bi-level control for added energy savings
- Multilevel Fresnel lens for superior desktop occupancy detection with four lens patterns
- Isolated relay can interface with HVAC, EMS and monitoring systems, or with an additional lighting load
- Dual-element, temperature compensated pyroelectric sensor
- Swivel mounting bracket for convenient corner mounting to wall or ceiling

Wauseon High School

Attachment C

Motor Savings
P2

Tag	Quantity	Hours Of Operation	Loading	LF	Enclosure	Make	Model	HP	EFF %	RPM	Minimum Code Efficiency	Savings (kWH)
HHWP-D101	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1200	91	1946.316909
HHWP-D102	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	20	93	1200	91	1946.316909
CHWP-B101	1	5520	VFD	0.75	ODP	BALDOR	EM2539T	40	94.1	1200	93	2070.417881
CHWP-B102	1	5520	VFD	0.75	ODP	BALDOR	EM2515T	40	94.1	1800	93	2070.417881
											Totals	8033 kWh

AHU-D101

General Information

- Overview
- Specifications
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- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | Premium Efficient | 10 HP | 1400-1800 RPM | TEFC Encl |

Specifications: EM3774T

SPEC. NUMBER:	07H002Y179G1
CATALOG NUMBER:	EM3774T
FL AMPS:	24.4/12.2
208V AMPS:	26.5
BEARING-DRIVE-END:	6307
BEARING-OPP-DRIVE-END:	6206
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	91.7
ENCLOSURE:	TEFC
FRAME:	215T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
SPEED [rpm]:	1760
OUTPUT [hp]:	10
PHASE:	3
POWER-FACTOR:	83
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

P-B101, P-B102

General Information

- Overview
- Specifications
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- Parts List
- Drawings

More Information

- Where To Buy
- Baldor Sales Offices

Return to List

Specifications: EM2539T

SPEC. NUMBER:	40J002X166G1
CATALOG NUMBER:	EM2539T
FL AMPS:	98/49
208V AMPS:	99
BEARING-DRIVE-END:	6312
BEARING-OPP-DRIVE-END:	6309
CUSTOMER-PART-NUMBER:	--
DESIGN CODE:	A
DOE-CODE:	010A
FL EFFICIENCY:	94.1
ENCLOSURE:	OPSB
FRAME:	324T
GREASE:	POLYREX EM
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
MAX. SPACE HEATER TEMP.:	--
SPEED [rpm]:	1770
OUTPUT [hp]:	40
PHASE:	3
POWER-FACTOR:	82
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
SPACE-HEATER-AMPS:	--
SPACE-HEATER-VOLTS:	--
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

P-D101, P-D102

General Information

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- Parts List
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More Information

- Where To Buy
- Baldor Sales Offices

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AC Motors | Premium Efficient | 20 HP | 1400-1800 RPM |

Specifications: EM2515T

SPEC. NUMBER:	39K057W915
CATALOG NUMBER:	EM2515T
FL AMPS:	47/23.5
208V AMPS:	49.4
BEARING-DRIVE-END:	6309
BEARING-OPP-DRIVE-END:	6208
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	93
ENCLOSURE:	OPSB
FRAME:	256T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	H
SPEED [rpm]:	1765
OUTPUT [hp]:	20
PHASE:	3
POWER-FACTOR:	86
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

RTU-A101

General Information

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AC Motors | Premium Efficient | 7.5 HP | 1400-1800 RPM |

Specifications: ECP3770T

SPEC. NUMBER:	07K374X790G1
CATALOG NUMBER:	ECP3770T
FL AMPS:	19/9.5
208V AMPS:	--
BEARING-DRIVE-END:	6307
BEARING-OPP-DRIVE-END:	6307
DESIGN CODE:	A
DOE-CODE:	010A
FL EFFICIENCY:	91.7
ENCLOSURE:	TEFC
FRAME:	213T
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	J
SPEED [rpm]:	1770
OUTPUT [hp]:	7.5
PHASE:	3
POWER-FACTOR:	81
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
VOLTAGE:	230/460

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Specifications: EM4103T

SPEC. NUMBER:	10C151X209G1
CATALOG NUMBER:	EM4103T
FL AMPS:	60/30
208V AMPS:	63.3
BEARING-DRIVE-END:	6311
BEARING-OPP-DRIVE-END:	6309
CUSTOMER-PART-NUMBER:	--
DESIGN CODE:	B
DOE-CODE:	010A
FL EFFICIENCY:	93.6
ENCLOSURE:	TEFC
FRAME:	284T
GREASE:	POLYREX EM
HERTZ:	60
INSULATION-CLASS:	F
KVA-CODE:	G
MAX. SPACE HEATER TEMP.:	--
SPEED [rpm]:	1770
OUTPUT [hp]:	25
PHASE:	3
POWER-FACTOR:	84
RATING:	40C AMB-CONT
SERIAL-NUMBER:	--
SERVICE FACTOR:	1.15
SPACE-HEATER-AMPS:	--
SPACE-HEATER-VOLTS:	--
VOLTAGE:	230/460

* For certified information, contact your local Baldor office.

Wauseon High School

VFD Savings

P-3

Motor Application	VFD Make	Model	Tag	Location	Enclosure	Runtime	LF	Model	HP	Quantity	EFF	Savings (kWh)	Savings (KW)
Supply Fan			VFD-A101	RTU-A101	TEFC	2790	0.8	ECP3770T	7.5	1	91.7	2587.49	0
Supply Fan			VFD-D103	AHU-D101	TEFC	2790	0.8	EM3774T	10	1	91.7	3449.99	0
Supply Fan			VFD-D104	RTU-D101	TEFC	2790	0.8	EM2515T	20	1	93	6803.52	0
Supply Fan			VFD-E101	RTU-E101	TEFC	2790	0.8	EM4103T	25	1	93.6	8449.88	0
Heating Water Pump			VFD-D101	P-D101	ODP	5520	0.8	EM2515T	20	1	93	13460.73	0
Heating Water Pump			VFD-D102	P-D102	ODP	5520	0.8	EM2515T	20	1	93	13460.73	0
Chilled Water Pump			VFD-E102	P-B101	ODP	5520	0.8	EM2539T	40	1	94.1	26606.75	0
Chilled Water Pump			VFD-E103	P-B102	ODP	5520	0.8	EM2539T	40	1	94.1	26606.75	0
Supply Fan			VFD-F101	RTU-F101	TEFC	2790	0.8	EM2515T	20	1	93	6803.52	0
											Totals	108229.36	0

Mercantile Customer Project Commitment Agreement
Cash Rebate Option

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT ("Agreement") is made and entered into by and between Toledo Edison Company, its successors and assigns (hereinafter called the "Company") and Wauseon Exempted Village School District, Taxpayer ID No. 34-6401557 its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

WITNESSETH

WHEREAS, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

WHEREAS, Customer is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

WHEREAS, R.C. § 4928.66 (the "Statute") requires the Company to meet certain energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

WHEREAS, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

WHEREAS, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit 1 (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

WHEREAS, the Customer, pursuant to the Public Utilities Commission of Ohio's ("Commission") September 15, 2010 Order in Case No. 10-834-EL-EEC, desires to pursue a cash rebate of some of the costs pertaining to its Customer Energy Project(s) ("Cash Rebate") and is committing the Customer Energy Project(s) as a result of such incentive.

WHEREAS, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of a Cash Rebate.

WHEREAS, in consideration of, and upon receipt of, said cash rebate, Customer will commit the Customer Energy Project(s) to the Company and will comply with all other terms and conditions set forth herein.

NOW THEREFORE, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects.** Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1.

Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, and as evidenced by the affidavit attached hereto as Exhibit A, Customer acknowledges that the information provided to the Company about the Customer Energy
Project(s) is true and accurate to the best of its knowledge.

a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements

b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively, as appropriate, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligation.

c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.

d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of the Commission's standard joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.

e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Custo mer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.

2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction

Programs" ("Joint Application") in which they will seek the Commission's approval of (i) this Agreement: (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's Cash Rebate. The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
ii. A copy of this Agreement; and
iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Cash Rebate.** Upon Commission approval of the Joint Application, Customer shall provide Company with a W-9 tax form, which shall at a minimum include Customer's tax identification number. Within the greater of 90 days of the Commission's approval of th e Joint Application or the completion of the Customer Energy Project, the Company will issue to the Customer the Cash Rebate in the amount set forth in the Commission's Finding and Order approving the Joint Application.

a. Customer acknowledges: i) that the Company will cap the Cash Rebate at the lesser of 50% of Customer Energy Project(s) costs or $250,000; ii) the maximum rebate that the Customer may receive per year is $500,000 per Taxpayer Identification Number per utility service territory; and iii) if the Customer Energy Project qualifies for a rebate program approved by the Commission and offered by the Company, Customer may still elect to file such project under the Company's mercantile customer self direct program, however the Cash Rebate that will be paid shall be discounted by 25%; and
b. Customer acknowledges that breaches of this Agreement, include, but are not limited to:
    i. Customer's failure to comply with the terms and conditions set forth in the Agreement, or its equivalent, within a reasonable period of time after receipt of written notice of such non-compliance;
    ii. Customer knowingly falsifying any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application.
c. In the event of a breach of this Agreement by the Customer, Customer agrees and acknowledges that it will repay to the Company, within 90 days of receipt of written notice of said breach, the full amount of the Cash Rebate paid under this Agreement. This remedy is in addition to any and all other remedies available to the Company by law or equity.

4. **Termination of Agreement.** This Agreement shall automatically terminate:

a. If the Commission fails to approve the Joint Agreement;
b. Upon order of the Commission; or
c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's Cash Rebate, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

5. **Confidentiality.** Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.

a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.

b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.

c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order. In the event that the Board of Education receives a public records request pursuant to RC 149.43, the Board of Education will notify Company of such request. It shall be Company's duty and responsibility to file for a protective order if it desires to prohibit the release of the requested records. The Board of Education will cooperate with the Company, but in no way will the Board of Education be responsible for filing a protective order on behalf of Company.

d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.

6. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the payment of the Cash Rebate.

7. **Notices.** Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

If to the Company:

FirstEnergy Service Company
76 South Main Street
Akron, OH 44308
Attn: Victoria Nofziger

Telephone: 330-384-4684
Fax: 330-761-4281
Email: vmnofziger@firstenergycorp.com

If to the Customer:

Wauseon Exempted Village School District
126 South Fulton Street
Wauseon, OH 43567
Attn: Karen Dameron, Treasurer
Telephone: 419-335-6616
Fax:
Email: KDameron@wauseonindians.org

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

8. **Authority to Act.** The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.

9. **Non-Waiver.** The delay or failure of either party to assert or enforce in any instance st rict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.

10. **Entire Agreement.** This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.

11. **Assignment.** Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.

12. Severability. If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.

13. Governing Law. This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.

14. Execution and Counterparts. This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

Ohio Edison Company_
(Company)
By: _____
Title: V.P. Of Energy Efficiency
Date: 6-7-13

Wauseon Exempted Village School District_
(Customer)
By: _____
Title: Superintendent
Date: 6/3/13

Wauseon Exempted Village School District_
(Customer)
By: _____
Title: Treasurer
Date: 5/31/13

Affidavit of Wauseon Exempted Village School District – Exhibit _A_

STATE OF OHIO)
) SS:
COUNTY OF Fulton)

I, Karen Dameron, being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Treasurer of Wauseon Exempted Village School District ("Customer") As part of my duties, I oversee energy related matters for the Customer.

2. The Customer has agreed to commit certain energy efficiency projects to The Toledo Edison Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").

3. In exchange for making such a commitment, the Company has agreed to provide Customer with Cash ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.

4. All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

Karen E Dameron

Sworn to before me and subscribed in my presence this 2nd day of June, 2023.

Notary

Affidavit of Wauseon Exempted Village School District – Exhibit _A_

STATE OF OHIO)
) SS:
COUNTY OF Fulton)

I, Larry Brown, being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Superintendent of Wauseon Exempted Village School District ("Customer") As part of my duties, I oversee energy related matters for the Customer.
2. The Customer has agreed to commit certain energy efficiency projects to The Toledo Edison Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
3. In exchange for making such a commitment, the Company has agreed to provide Customer with Cash ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.
4. All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

Larry C. Brown

Sworn to before me and subscribed in my presence this 3rd day of JUNE, 2013

Notary

Version 9.11.12

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Toledo Edison Company and Wauseon Exempted Village School District electronically filed by Ms. Jennifer M. Sybyl on behalf of The Toledo Edison Company and Wauseon Exempted Village School District