

Case No.: 14-0089 -EL-EEC

Mercantile Customer: Mantaline Corporation

Electric Utility: Ohio Edison Company

**Program Title or
Description:** Lighting Retrofit

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: Mantaline Corporation

Principal address: 4754 East High Street, Mantua, Ohio 44255

Address of facility for which this energy efficiency program applies: 4754 East High Street, Mantua, Ohio 44255

Name and telephone number for responses to questions: Nancy Van Ginkel, (330) 274-2264

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: Ohio 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): ____.
- ☐ 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: 209,728 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: _____ 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?

10/29/2012

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

38 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 \$7,865. (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.



Public Utilities Commission

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

Case No.: 14-0089 -EL-EEC

State of Ohio :

Nancy Van Ginkel, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Manteline Corporation

[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.

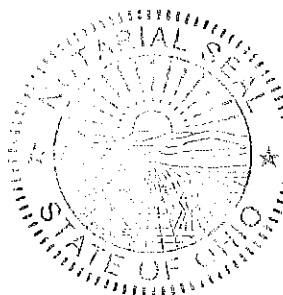
Nancy van Ginkel
Signature of Affiant & Title

Sworn and subscribed before me this 18 day of September, 2013 Month/Year

Cynthia D. Allen
Signature of official administering oath

Cynthia D. Allen
Print Name and Title

My commission expires on 10/13/2013



CYNTHIA D ALLEN
Notary Public, State of Ohio
Portage County
My Commission Expires Oct. 13, 2013

Customer Legal Entity Name: Mantaline Corporation
Site Address: High Street
Principal Address: 4754 East High 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	Lighting Retrofit	Replaced plant lighting -removing old T12 HO fixtures and installing new T5 and T8 fixtures with electronic ballasts. Reduced the total number of fixtures in plant. Retrofit office lighting from T12 to T8 with electronic ballasts. Installed some occupancy sensors in offices and a few in plant area.	Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number of fixtures x watts per fixture x Operating hours). Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = Savings. SeeMantaine_High Street_Lighting Rebate Calculator for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions."	N/A	N/A

Docket No. 14-0089
Site: 4754 East High Street

Exhibit 2

Customer Legal Entity Name: Mantaline Corporation
Site Address: High Street
Principal Address: 4754 East High Street

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C) <i>Note 1</i>
2011	6,471,129	6,471,129	6,471,129
2010	5,838,290	5,838,290	5,838,290
Average	6,154,710	6,154,710	6,154,710

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) \$ <i>Note 2</i>	Commitment Payment \$
1	Lighting Retrofit	10/29/2012	\$51,617	\$25,809	209,728	209,728	38	\$10,486	\$7,865	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
	Total		\$51,617		209,728	209,728	38	\$10,486	\$7,865	\$0

Docket No. 14-0089
Site: 4754 East High 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.

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	210	\$ 308	\$ 64,655	\$ 4,050	\$7,865	\$2,097	\$ 14,012	4.6
Total	210	\$ 308	64,655	4,050	\$7,865	\$2,097	14,012	4.6

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)

Manteline Corporation ~ High Street
Docket No. 14-0089

Site: 4754 East High Street

Lighting Inventory Form

Applicant Name:	Martina
Facility Name:	High Street
Date:	1/21/2012

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

For existing or proposed control, choose OCC for Occupancy Sensor, DAYLTO 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.

Line Item		Building Address	Floor	Area Description	PROJECT BASIC INFORMATION				PRE-INSTALLATION										POST-INSTALLATION										Energy Calculations										Foot Candle Number
					Interior or Exterior Fixture	Predominant Space Type	Area to be Lit	Pre Fixture Qty	Pre Fixture Code	Pre Fixture Fixture (W)	Pre Fixture Space (sqft)	Existing Controls and dim	Existing Sensor Quantity	Pre Fixture Qty	Post Fixture Code	Post Fixture Fixture (W)	Post Fixture Space (sqft)	Proposed Control (CFL or LED)	Proposed Sensor Quantity	Fixture Change in Connected Load (W) including CFL or Exit Signs	Fixture Change in Connected Load (W) including CFL or Exit Signs	Change in Connected Load (W) CFL or LED only	Applicable Coefficient of Use (CU) Estimate	Correction Factor	Installation Factor (demand)	Usage Factor (energy)	Power Factor	Power Factor	Interior Demand (AW) including CFL or Exit Signs	Exterior Demand (AW) including CFL or Exit Signs	Equivalent Full Load Hours (FLL) Estimate	Proposed Full Load Hours	Annual Interior Fixture kWh Saved (including CFL or Exit Signs)	Annual Exterior Fixture kWh Saved (including CFL or Exit Signs)	Annual kWh Saved (CFL or LED only)	Annual kWh Saved (Sensors only)			
0-0	407 North Street	2	Office	Interior	Office - Small	Cooled Space	3	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
1	407 North Street	2	Office	Interior	Office - Small	Uncooled Space	4	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
2	407 North Street	2	Office	Interior	Office - Small	Cooled Space	5	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
3	407 North Street	2	Office	Interior	Office - Small	Cooled Space	6	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
4	407 North Street	2	Office	Interior	Office - Small	Cooled Space	7	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
5	407 North Street	2	Office	Interior	Office - Small	Cooled Space	8	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
6	407 North Street	2	Office	Interior	Office - Small	Cooled Space	9	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
7	407 North Street	2	Office	Interior	Office - Small	Cooled Space	10	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
8	407 North Street	2	Office	Interior	Office - Small	Cooled Space	11	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
9	407 North Street	2	Office	Interior	Office - Small	Cooled Space	12	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
10	407 North Street	2	Office	Interior	Office - Small	Cooled Space	13	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
11	407 North Street	2	Office	Interior	Office - Small	Cooled Space	14	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
12	407 North Street	2	Office	Interior	Office - Small	Cooled Space	15	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
13	407 North Street	2	Office	Interior	Office - Small	Cooled Space	16	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
14	407 North Street	2	Office	Interior	Office - Small	Cooled Space	17	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
15	407 North Street	2	Office	Interior	Office - Small	Cooled Space	18	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
16	407 North Street	2	Office	Interior	Office - Small	Cooled Space	19	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
17	407 North Street	2	Office	Interior	Office - Small	Cooled Space	20	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
18	407 North Street	2	Office	Interior	Office - Small	Cooled Space	21	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
19	407 North Street	2	Office	Interior	Office - Small	Cooled Space	22	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
20	407 North Street	2	Office	Interior	Office - Small	Cooled Space	23	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
21	407 North Street	2	Office	Interior	Office - Small	Cooled Space	24	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
22	407 North Street	2	Office	Interior	Office - Small	Cooled Space	25	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
23	407 North Street	2	Office	Interior	Office - Small	Cooled Space	26	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
24	407 North Street	2	Office	Interior	Office - Small	Cooled Space	27	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
25	407 North Street	2	Office	Interior	Office - Small	Cooled Space	28	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
26	407 North Street	2	Office	Interior	Office - Small	Cooled Space	29	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
27	407 North Street	2	Office	Interior	Office - Small	Cooled Space	30	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
28	407 North Street	2	Office	Interior	Office - Small	Cooled Space	31	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
29	407 North Street	2	Office	Interior	Office - Small	Cooled Space	32	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
30	407 North Street	2	Office	Interior	Office - Small	Cooled Space	33	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
31	407 North Street	2	Office	Interior	Office - Small	Cooled Space	34	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
32	407 North Street	2	Office	Interior	Office - Small	Cooled Space	35	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
33	407 North Street	2	Office	Interior	Office - Small	Cooled Space	36	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
34	407 North Street	2	Office	Interior	Office - Small	Cooled Space	37	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
35	407 North Street	2	Office	Interior	Office - Small	Cooled Space	38	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
36	407 North Street	2	Office	Interior	Office - Small	Cooled Space	39	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
37	407 North Street	2	Office	Interior	Office - Small	Cooled Space	40	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
38	407 North Street	2	Office	Interior	Office - Small	Cooled Space	41	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
39	407 North Street	2	Office	Interior	Office - Small	Cooled Space	42	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
40	407 North Street	2	Office	Interior	Office - Small	Cooled Space	43	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
41	407 North Street	2	Office	Interior	Office - Small	Cooled Space	44	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
42	407 North Street	2	Office	Interior	Office - Small	Cooled Space	45	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19	2.69	3.436			648	194	1		
43	407 North Street	2	Office	Interior	Office - Small	Cooled Space	46	F4461	112	0.34	NONE	0	3	CF7501-BX	66	0.17	CCC	3			0.18	0.17	84%	84%	94%	12%		30%		0.19									

[illegible]

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	209,728
Total Change in Connected Load	38.22

Annual Estimated Cost Savings	\$20,972.80
Annual Operating Hours	4,637

Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$10,486.40
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)	\$0.00

Total Calculated Incentive	\$10,486.40
----------------------------	-------------

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	307
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	0
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)

37.10



HIGH POWER FACTOR SOUND RATED A



For 32W Lamps

No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.
F32T8, FBO31T8, F32T8/U6 (32W)											
2	120	IS	AmbiStar†	REB-2P32-SC	56	0.88	120	0.80	0/-18	B	64
		PS	Centium	RCN-2S32-SC	63	0.88	10	0.53	32/0		21
		277	RS	PowrKut	RK-2S32-TP	66	0.86	15	0.60	50/10	A
	PS		Centium	VCN-2S32-SC	63	0.88	10	0.23	32/0	B	*65
	RS	PowrKut	VK-2S32-TP	66	0.85	15	0.26	50/10	A	21	
	120-277	IS	Centium	ICN-2M32-MC	59	0.88	10	0.50-0.21	0/-18	A2	64
				ICN-2P32-LW-SC	50-49	0.77	10	0.42-0.12			
				ICN-2P32-N	59	0.88	10	0.49-0.22			
				ICN-3P32-LW-SC	57-56	0.86	10	0.48-0.21			*65
				ICN-3P32-SC	65	1.01	10	0.54-0.24			
		IS	Optanium	IOP-2P32-LW-SC	48	0.77	10	0.41-0.17	-20/-29	B	64
				IOPA-2P32-LW-SC							
				IOP-2P32-SC	55-54	0.87	10	0.47-0.20			
				IOPA-2P32-SC							
				IOP-2P32-HL-SC	74-72	1.18	10	0.62-0.26			
				IOPA-2P32-HL-SC							
				IOP-3P32-LW-SC	55-54	0.85	10	0.46-0.20			*65
				IOPA-3P32-LW-SC							
				IOP-3P32-SC	63-62	1.00	10	0.53-0.23			
				IOPA-3P32-SC							
				IOP-3P32-HL-90C-SC	80-79	1.38	10	0.67-0.29			
				IOPA-3P32-HL-SC							
				PS		IOP-2S32-LW-SC	47-46	0.71			10
	IOP-2S32-SC	56-55	0.88			10	0.47-0.20				
	347	IS	Optanium	GOPA-2P32-LW-SC	48	0.78	10	0.14	-20/-29	B	64
				GOPA-2P32-SC	54	0.88		0.16			
				GOPA-3P32-LW-SC	55	0.86		0.16			
GOPA-3P32-SC				63	1.00	0.18		*65			

† The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'



See pages I-3 and I-4 for specific SKU's that meet the NEMA Premium Standard

Refer to page I-41 and I-42 for dimensions
 Refer to page I-59 and I-60 for wiring diagrams
 Refer to pages 9-24 to 9-28 for lead lengths and shipping data

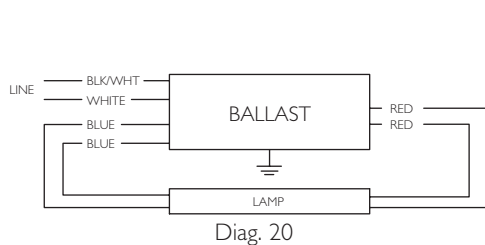


For 30W-48" Lamps

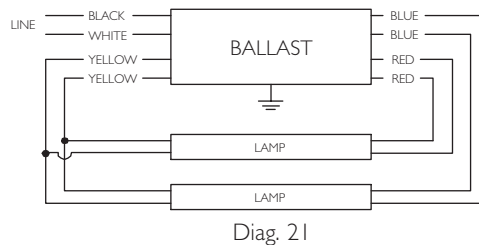
HIGH POWER FACTOR SOUND RATED A



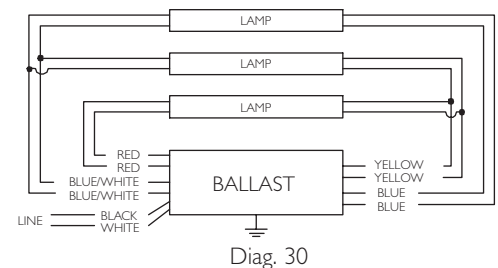
No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.	
F32T8/ES (30W - 48")												
3	120	PS	Centium	RCN-3S32-SC	22	0.88	10	0.72	60/16	B	30	
	277			VCN-3S32-SC	85	0.88	10	0.31				
	120-277	IS	Centium	ICN-3P32-LW-SC	69-68	0.77	10	0.57-0.25	60/16	B	65	
				ICN-3P32-SC	79	0.88	10	0.66-0.29			*66	
				ICN-4P32-LW-SC	75-74	0.80	10	0.62-0.27			65	
				ICN-4P32-SC	87	1.00	10	0.73-0.32				
			Optanium	IOP-3P32-LW-SC	68-67	0.77	10	0.57-0.25				*66
				IOPA-3P32-LW-SC								
				IOP-3P32-SC	77-76	0.87	10	0.65-0.28				
				IOPA-3P32-SC								
				IOP-3P32-HL-90C-SC	106-104	1.20	10	0.88-0.38				
				IOPA-3P32-HL-SC								
				IOP-4P32-LW-SC	75-74	0.84	10	0.63-0.27				
				IOPA-4P32-LW-SC								
				IOP-4P32-SC	84-82	0.97	10	0.70-0.30				
				IOPA-4P32-SC								
				IOP-4P32-HL-90C-G	115-114	1.24	10	0.97-0.42			G	
				IOPA-4P32-HL							A	
		PS	IOP-3PSP32-LW-SC	TBD	0.71	10	TBD	B		TBD		
			IOP-3PSP32-SC	79	0.88	10	0.66-0.29			30		
			IOP-3S32-LW-SC	66-65	0.71	10	0.55-0.24					
			IOP-3S32-SC	77-76	0.88	10	0.64-0.28					
	347	IS	Optanium	GOPA-3P32-LW-SC	67	0.77	10	0.19	60/16	B	65	
				GOPA-3P32-SC	76	0.88		0.22			*66	
				GOPA-4P32-LW-SC	74	0.81		0.22				
				GOPA-4P32-SC	84	0.95		0.25				



Diag. 20



Diag. 21



Diag. 30

Refer to page I-41 and I-42 for dimensions
Refer to page I-56 for additional wiring diagrams
Refer to pages 9-24 to 9-28 for lead lengths and shipping data



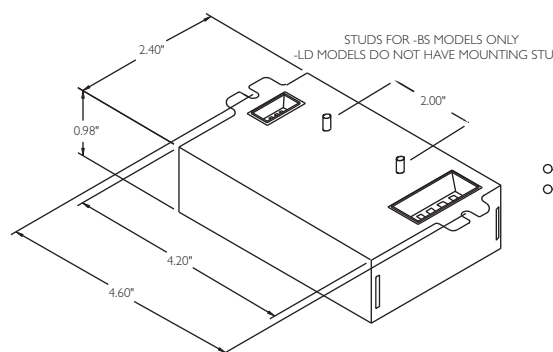
For 24-54W Lamps

HIGH POWER FACTOR SOUND RATED A

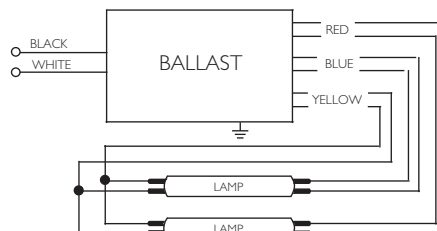


No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.				
F24T5/HO (24W)															
1	120-277	PS	Centium	ICN-2S24+	27	1.02	10	0.23-0.10	0/-18	D	73				
				ICN-2S39	29	1.12	15	0.25-0.12							
2	120-277	PS	Centium	ICN-2S24+	52	1.00	10	0.44-0.19	0/-18	D	74				
				ICN-2S39	55	1.10	10	0.47-0.21							
F39T5/HO (39W)															
1	120-277	PS	Centium	ICN-2S24+	40	0.90	10	0.34-0.15	0/-18	D	73				
				ICN-2S39	43	1.02	10	0.36-0.16							
2	120-277	PS	Centium	ICN-2S39	87-85	1.00	10	0.73-0.31	0/-18	D	74				
F54T5/HO (49W)															
1	120-277	PS	Centium	ICN-2S54+	58	1.02	10	0.49-0.21	-20/-29	D	73				
				ICN-2S54-90C+											
				ICN-2S54-90C-SC											
	347-480		Optanium	IOP-2PSP54-SC	57	1.00	10	0.47-0.21		B	78				
2	120-277	PS	Centium	ICN-2S54+	112-109	1.00	10	0.93-0.40	-20/-29	D	74				
				ICN-2S54-90C+											
				ICN-2S54-90C-SC											
	347-480		Optanium	IOP-2PSP54-SC	109-105	1.00	10	0.91-0.38		B	78				
3	120-277	PS	Centium	HCN-2S54-90C-WL	112-109	1.00	10	0.35-0.25	-20/-29	L	74				
				ICN-4S54-90C-2LS						168-165	1.00	10	1.52-0.66	E	75
				ICN-4S54-90C-2LS-G										G	79
	347-480		Optanium	IOP-4PSP54-2LS-G	162-159	1.00	10	1.35-0.58		G	75				
4	120-277	PS	Centium	HCN-4S54-90C-2LS-G	175-172	1.00	10	0.54-0.39	-20/-29	E	75A				
				ICN-4S54-90C-2LS						222-216	1.00	10	2.00-0.86	G	79
				ICN-4S54-90C-2LS-G											
	347-480		Optanium	IOP-4PSP54-2LS-G	224-208	1.00	10	1.79-0.76		G	75A				
4	347-480	PS	Centium	HCN-4S54-90C-2LS-G	223-221	1.00	10	0.69-0.50							

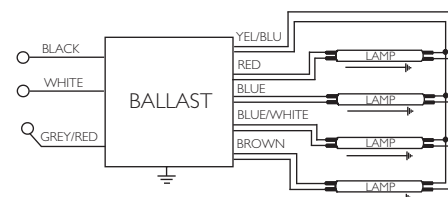
+ Also available with leads (ICN-2S24-WL, ICN-2S54-WL, or ICN-2S54-90C-WL)



Size I Enclosure



Diag. 78



Diag. 79

Refer to pages I-37 and I-38 for wiring diagrams
Refer to page I-40 for dimensions B, D, G, L, and E
Refer to pages 9-24 to 9-28 for lead lengths and shipping data



For 17W Lamps

HIGH POWER FACTOR SOUND RATED A



No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.		
F17T8, FBO16T8 (17W)													
2	120	IS	AmbiStar [‡]	REB-2P32-SC	31	0.91	140	0.45	0/-18	B	64		
		PS	Centium	RCN-2S32-SC	39	1.00	10	0.33	32/0		21		
	VCN-2S32-SC			39	1.00	10	0.15						
	120-277	IS	Centium	ICN-2M32-MC	31	0.88	10	0.26-0.11	0/-18	A2	64		
				ICN-2P32-LW-SC	28	0.79	20	0.23-0.10					
				ICN-2P32-N	33	0.93	15	0.28-0.13					
				ICN-3P32-LW-SC	32	0.88	20	0.27-0.18			*65		
				ICN-3P32-SC	38	1.07	15	0.32-0.14					
			Optanium	IOP-2P32-LW-SC	27	0.80	10	0.23-0.10	-20/-29	B	64		
				IOPA-2P32-LW-SC									
				IOP-2P32-SC	31	0.90	10	0.26-0.11			64		
				IOPA-2P32-SC									
				IOP-2P32-HL-SC	41	1.23	15	0.34-0.15			64		
				IOPA-2P32-HL-SC									
				IOP-3P32-LW-SC	31	0.87	20	0.26-0.12			*65		
				IOPA-3P32-LW-SC									
				IOP-3P32-SC	35	1.01	15	0.30-0.14			*65		
				IOPA-3P32-SC									
				IOP-3P32-HL-90C-SC	47	1.37	10-30	0.39-0.20			21		
				IOPA-3P32-HL-SC									
		PS		IOP-2S32-LW-SC	25	0.73	10	0.21-0.09	0/-18		21		
				IOP-2S32-SC	29	0.90	15	0.24-0.11					
	347	IS	Optanium	GOPA-2P32-LW-SC	27	0.78	10	0.08	-20/-29	B	64		
				GOPA-2P32-SC	30	0.88		0.09					
				GOPA-3P32-LW-SC	30	0.87		0.09			*65		
				GOPA-3P32-SC	34	1.01		0.10					

[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'

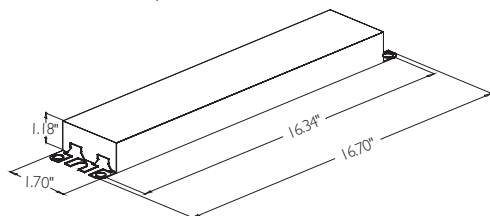


Fig. G

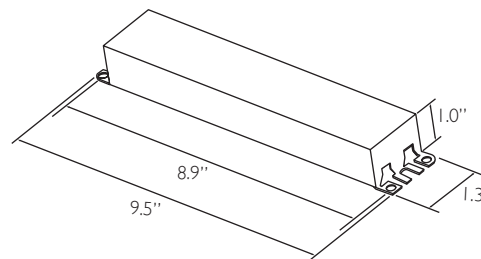


Fig. N

Refer to page I-41 for additional dimensions

Refer to page I-43 and I-44 for wiring diagrams

Refer to pages 9-24 to 9-28 for lead lengths and shipping data

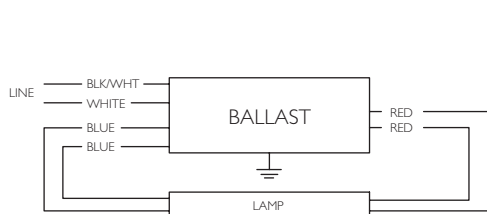


For 17W Lamps

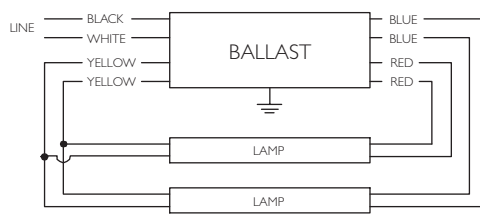
HIGH POWER FACTOR SOUND RATED A



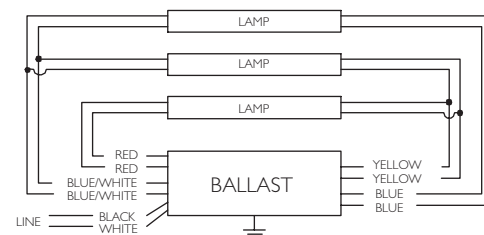
No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.												
F17T8, FBO16T8 (17W)																							
3	120	IS	AmbiStar [†]	REB-4P32-SC	44	0.81	135	0.87	0/-18	B	*66												
		277	PS	Centium	RCN-3S32-SC	61	1.00	10	0.51		32/0	30											
	120-277				IS	Centium	ICN-3P32-LW-SC	42	0.80	15		0.35-0.16	0/-18	B	65								
		ICN-3P32-SC	48	0.92			15	0.39-0.17	*66														
		ICN-4P32-LW-SC	43	0.85			15	0.36-0.16		-20/-29	65												
		ICN-4P32-SC	53	1.04			15	0.45-0.20				*66											
		Optanium	IOP-3P32-LW-SC	40		0.81	10	0.34-0.15	-20/-29				B	65									
			IOPA-3P32-LW-SC																				
			IOP-3P32-SC	45		0.90	10	0.38-0.17							-20/-29	B	65						
			IOPA-3P32-SC																				
			IOP-3P32-HL-90C-SC	59		1.22	10-15	0.49-0.22										-20/-29	B	65			
			IOPA-3P32-HL-SC																				
			IOP-4P32-LW-SC	43		0.85	20	0.36-0.17													-20/-29	B	65
			IOPA-4P32-LW-SC																				
			IOP-4P32-SC	49		1.00	15	0.41-0.18															
			IOPA-4P32-SC																				
		IOP-4P32-HL-90C-G	69	1.28		10-15	0.58-0.26	-20/-29	B	65													
		IOPA-4P32-HL																					
		PS	IOP-3PSP32-LW-SC	TBD		0.71	10				TBD	0/-18	B	TBD									
			IOP-3PSP-SC	47		0.90	10				0.39-0.17												
			IOP-3S32-LW-SC	37		0.72	10				0.31-0.14												
			IOP-3S32-SC	43		0.89	10				0.36-0.16												
			347	IS		Optanium	GOPA-3P32-LW-SC				39				0.81	10	0.12	-20/-29	B	65			
	GOPA-3P32-SC	44			0.92		0.13																
	GOPA-4P32-LW-SC	45			0.82		0.13																
	GOPA-4P32-SC	50			1.00		0.15																

[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'

Diag. 20



Diag. 21



Diag. 30

Refer to page I-41 and I-42 for dimensions
Refer to page I-44 for additional wiring diagrams
Refer to pages 9-24 to 9-28 for lead lengths and shipping data



For 32W Lamps

HIGH POWER FACTOR SOUND RATED A

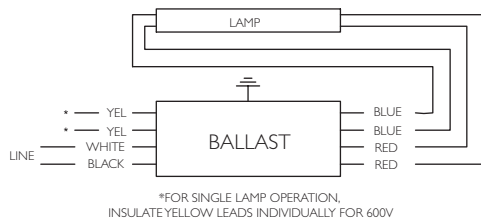


No. of Lamps	Input Volts	Lamp Starting Method	Ballast Family	Catalog Number	Input Power ANSI (Watts)	Ballast Factor	Max. THD %	Line Current (Amps)	Min. Starting Temp. (°F/°C)	Dim.	Wiring Dia.				
F32T8, FBO3IT8, F32T8/U6 (32W)															
④	120	IS	AmbiStar [‡]	REB-4P32-SC	103	0.81	125	1.57	0/-18	B	66				
		PS	Standard	RCN-4S32-SC	121	0.88	10	1.03	32/0		138				
			Centium	VCN-4S32-SC	121	0.88	10	0.45							
	120-277	IS	Centium	ICN-4P32-LW-SC	97-95	0.77	10	0.81-0.34	0/-18	B	66				
				ICN-4P32-SC	112	0.88	10	0.94-0.41							
			Optanium	IOP-4P32-LW-SC	96-94	0.77	10	0.81-0.35	-20/-29						
				IOPA-4P32-LW-SC											
				IOP-4P32-SC	109-106	0.87	10	0.92-0.39							
				IOPA-4P32-SC											
				IOP-4P32-HL-90C-G	146-143	1.18	10	1.23-0.53							
				IOPA-4P32-HL											
				PS	IOP-4PSP-LW-SC	TBD	0.71	10				TBD	0/-18	B	177
					IOP-4S32-LW-SC	93-91	0.71	10				0.77-0.33			138
		IOP-4PSP32-SC	110		0.88	10	0.93-0.40	177							
		IOP-4S32-SC	110		0.88	10	0.92-0.40	138							
		347	IS	Optanium	GOPA-4P32-LW-SC	92	0.78	10	0.27	-20/-29	B	66			
					GOPA-4P32-SC	107	0.88		0.31						

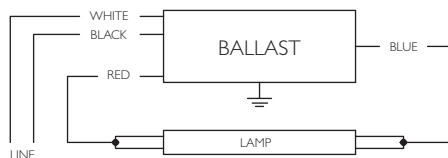
[‡] The above AmbiStar ballasts are normal power factor and labeled 'For Residential Use Only'



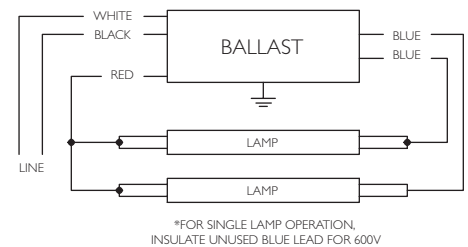
See pages I-3 and I-4 for specific SKU's that meet the NEMA Premium Standard



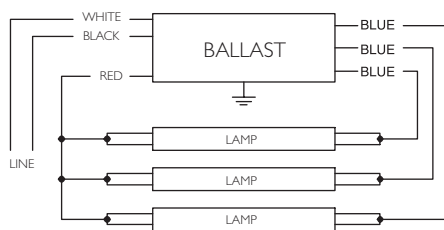
Diag. 39



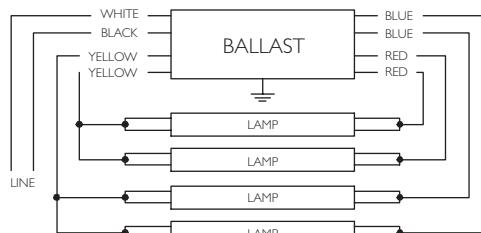
Diag. 63



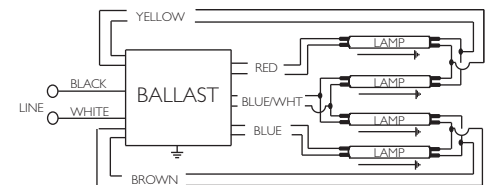
Diag. 64



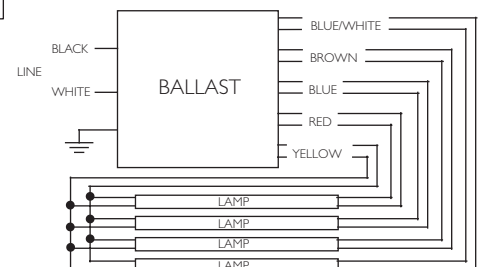
Diag. 65



Diag. 66



Diag. 138



Diag. 177

Refer to page I-62 for dimensions
Refer to page I-59 for additional wiring diagrams
Refer to pages 9-24 to 9-28 for lead lengths and shipping data



Floodlight Specifications

SpringLamp® Compact Fluorescent Flat Pars

NPF – 8,000 Hours

Applications:

A great energy saving solution for hard to reach light fixtures

- + Track Lights
- + Recessed Cans
- + Outdoor Fixtures



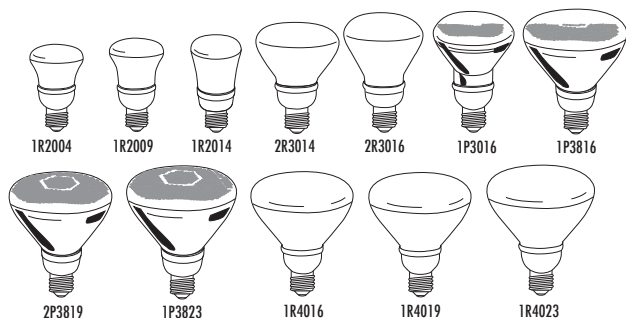
Kelvin Color Temperature Options (Ordering Suffix):

- Available in: 2700°K, 3000°K (30K), 3500°K (35K), 4100°K (41K), 5000°K (50K) and 6500°K (65K)

*Order items in 30K to replace PAR Halogen lamps

Features and Benefits

- Long life CFL, 8,000 hours average rated life
- NEW Amalgam technology- provides cooler operating temperatures for consistent performance in any position
- No lead glass- Better lumen maintenance over life of bulb
- 2700°K color temperature closest to incandescent light
- Medium base
- Replace less often, ideal for hard to reach places
- U.L. Listed for wet locations - use indoors or outdoors
- 12 Month Warranty



Special Application Notes

- UL approved for wet location in Base Up position only. Base Up position is defined as screw base in a 12:00 position. Any other base position must be in a UL approved weatherproof fixture.

Catalog Number

Notes

Type




Specifications

End of Life Protection	Yes
Ballast Type	Electronic
Starting Method	Modified Rapid Start
Input Line Voltage	120VAC
Input Line Frequency	50/60HZ
Lamp Life (rated)	8,000 Hours
Color Rendering Index	82
Minimum Starting Temperature	-20 ° F
Maximum Operating Temperature	160 ° F
U.L. / C.U.L. Listed	Yes
FCC Compliance	Part 18, Subpart C
Lamp Operating Frequency	45 KHZ
Lamp Current Crest Factor	< 1.60
Maximum Open Circuit Voltage	600V
Power Factor	> .50
Total Harmonic Distortion	< 150%

Light Output

1R2009			2R3014			2R3016			1R4019			2P3819		
HT	FC	DIA	HT	FC	DIA	HT	FC	DIA	HT	FC	DIA	HT	FC	DIA
4	4.0	18.5	4	10.0	12.3	4	11.2	11.3	4	14.4	12.4	4	19.6	13.4
6	1.8	24.6	6	4.5	18.5	6	5.0	17.1	6	6.4	18.5	6	8.7	20.0
8	1.0	30.8	8	2.5	24.6	8	2.8	22.9	8	3.6	24.6	8	4.9	26.6
10	0.6	37.0	10	1.6	30.8	10	1.8	28.6	10	2.3	30.8	10	3.1	33.3
12	0.5	43.1	12	1.1	37.0	12	1.3	34.3	12	1.6	37.0	12	2.2	39.9
HT = Mounting			Height in Feet			FC = Foot Candle Value at Center of Beam			DIA = Diameter in Feet					

Warranties and Certifications:	Item #	ENERGY STAR®	Description	Wattage	Incandescent Wattage Comparison	Initial Lumens	Input Line Current	M.O.L. (inches)	Diameter (inches)	Life vs. Incandescent	Power Factor
12 MONTH WARRANTY  TCP reserves the right to void the warranty for any mis-application of these products.	1R2004		4W R20 Flood	4	15	130	.15A	3.8	2.5	4X	NPF
	1R2009	★	9W R20 Flood	9	25	300	.15A	3.8	2.5	4X	NPF
	1R2014	★	14W R20 Flood	14	50	500	.23A	4.3	2.5	4X	NPF
	2R3014	★	14W R30 Flood	14	65	650	.23A	5.3	3.7	4X	NPF
	2R3016	★	16W R30 Flood	16	75	750	.27A	5.7	3.7	4X	NPF
	1R4016		16W R40 Flood	16	75	750	.27A	5.9	4.7	4X	NPF
	1R4019		19W R40 Flood	19	85	950	.32A	5.9	4.7	4X	NPF
	1R4023	★	23W R40 Flood	23	120	1200	.38A	6.5	4.8	3X	NPF
	1P3016		16W PAR30 Flood	16	75	750	.27A	5.7	3.7	4X	NPF
	1P3816		16W PAR38 Flood	16	75	750	.27A	5.9	4.6	4X	NPF
	2P3819		19W PAR38 Flood	19	85	950	.32A	5.9	4.6	4X	NPF
	1P3823		23W PAR38 Flood	23	90	1200	.38A	6.5	4.7	3X	NPF

TCP, Inc.
325 Campus Dr. | Aurora, Ohio 44202 | P: 1-800-324-1496 | tcp.com

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TCP is proud to have been awarded
ENERGY STAR® Partner of the Year 2010.



PARTNER OF THE YEAR

Mercantile Customer Project Commitment Agreement
Cash Rebate Option

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT ("Agreement") is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the "Company") and Mantaline Corporation, Taxpayer ID No. 34-0944810 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 obligations.
 - 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 Customer 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 the 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.
 - 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:

Mantaline Corporation
4754 East High Street
Mantua, Ohio 44255
Attn: Nancy Van Ginkel
Telephone: (330) 274-2264
Fax:
Email: nvanginkel@mantaline.com

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 strict 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: John C. Luzzi

Title: V.P. Of Energy Efficiency

Date: 1-22-14

Manteline Corporation_
(Customer)

By: Nancy van Gentel

Title: VP Finance

Date: 9-18-13

Affidavit of Mantaline Corporation – Exhibit _A_

STATE OF OHIO)
)
COUNTY OF Portage)

SS:

I, Nancy Van Ginkel ,being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Vice President of Finance of Mantaline Corporation (“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 Ohio 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.

Nancy van Ginkel

Sworn to before me and subscribed in my presence this 18 day of Sept, 2013

Cynthia D Allen
Notary

ENTERED



CYNTHIA D ALLEN
Notary Public, State of Ohio
Portage County
My Commission Expires Oct. 13, 2013

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/3/2014 2:35:06 PM

in

Case No(s). 14-0089-EL-EEC

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of Ohio Edison Company and Mantaline Corporation electronically filed by Ms. Jennifer M. Sybyl on behalf of Ohio Edison Company and Mantaline Corporation