



Legal Department

May 31, 2017

Chairman Asim Z. Haque
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215-3793

Re: **In the Matter of the Application of**)
Speedway Superamerica #9265)
and Ohio Power Company) **Case No. 17-0906-EL-EEC**
for Approval of a Special Arrangement)
Agreement with a Mercantile Customer)

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Fellow
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Dear Chairman Haque,

Attached please find the Joint Application of Ohio Power Company (AEP Ohio) and the above-referenced mercantile customer for approval of a Special Arrangement of the commitment of energy efficiency/peak demand reduction (EE/PDR) resources toward compliance with the statutory benchmarks for 2017 (hereinafter "Joint Application").

Amended Substitute Senate Bill 221, codified at R.C. 4928.66, sets forth EE/PDR benchmarks that electric distribution utilities are required to meet or exceed. The statute allows utilities to include EE/PDR resources committed by mercantile customers for integration into the utilities' programs to be counted toward compliance with a utility's EE/PDR benchmarks. The statute also enables the Commission to approve special arrangements for mercantile customers that commit EE/PDR resources to be counted toward compliance with EE/PDR benchmarks.

The Commission's Order in Case No. 10-834-EL-EEC established a streamlined process to expedite review of these special arrangements by developing a sample application process for parties to follow for consideration of such programs implemented during the prior three calendar years. The attached Joint Application and affidavit conforms with AEP Ohio's version of the streamlined sample application. As requested by Commission Staff, any confidential information referenced in the Joint Application has been provided confidentially to Commission Staff for filing in Commission Docket 10-1599-EL-EEC and subject to the confidentially protections of R.C. 4901.16 and OAC 4901-1-24(E). AEP Ohio respectfully requests that the Commission treat the two cases as associated dockets and that any confidential information provided to Staff for filing in connection with the Joint Application be subject to the protective order requested in Docket 10-1599-EL-EEC.

Cordially,

/s/ Ryan Aguiar
Ryan Aguiar

Attachments



Public Utilities Commission

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

Case No.: 17-0906-EL-EEC

Mercantile Customer: SPEEDWAY SUPERAMERICA #9265

Electric Utility: Ohio Power

Program Title or Description: AEP Ohio Business Incentives for Energy Efficiency: Self Direct Program

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 to 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: Company Information

Name: SPEEDWAY SUPERAMERICA #9265

Principal address: 500 Speedway Drive, Enon, Oh 45323

Address of facility for which this energy efficiency program applies: 2567 Walcutt Rd, Hilliard, Oh 43026-9631

Name and telephone number for responses to questions:

Walker Lowell, Speedway Superamerica #9265, (937) 863-6070

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

- ☐ The customer uses more than seven hundred thousand kilowatt hours per year at our facility. (Please attach documentation.)

See Confidential and Proprietary Attachment 4 – Calculation of Rider Exemption and UCT which provides the facility consumption for the last three years, benchmark kWh, and the last 12 months usage.

- ☒ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.) When checked, see Attachment 6 – Supporting Documentation for a listing of the customer's name and service addresses of other accounts in the AEP Ohio service territory.

Section 2: Application Information

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

- ☐ Individually, on our own.
- ☒ Jointly with our electric utility.

B) Our electric utility is: Ohio Power Company

The application to participate in the electric utility energy efficiency program is "Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application."

C) The customer is offering to commit (choose which applies):

- ☐ Energy savings from our 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 demand reduction 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 (choose whichever applies):

- ☐ 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)).
- ☐ 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): 7/31/2014
- ☐ Behavioral or operational improvement.

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

- 1) If you checked the box indicating that your 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: kWh

- 2) If you checked the box indicating that you 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 the less efficient new equipment that you rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that your 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:

Unit Quantity (watts) = Existing (watts x units) – Installed (watts x units)

kWh Reduction (Annual Savings) = Unit Quantity x (Deemed kWh/Unit)

Annual savings: 36,661 kWh

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for annual energy savings calculations and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.

The less efficient new equipment is the minimum required by Ohio State code or Federal Standard whichever is more stringent. For those measures where no code applies the baseline equipment is assumed to be the least efficient equipment available in the marketplace or standard practice, whichever results in the most conservative annual savings. Any information available describing the less efficient new equipment option is provided in 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures.

- 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 (choose which applies):

➤ Choose one or more of the following 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?

The coincident peak-demand savings are permanent installations that reduce demand through energy efficiency and were installed on the date specified in Section 3 A above.

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

Unit Quantity (watts) = Existing (watts x units) – Installed (watts x units)

KW Demand Reduction = Unit Quantity (watts) x (Deemed KW/Unit (watts))

2.1 kW

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for peak demand reduction calculation, and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.

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 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 \$ 1,768.45. (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.)

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for incentive calculations for this mercantile program.

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 an ongoing efficiency program that is practiced by our organization. (Attach documentation that establishes your organization's ongoing efficiency program. In order to continue the exemption beyond the initial 24 month period your organization 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: 4.96 (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 utility's 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 \$ 9,867.32

The utility's program costs were \$ 219.97

The utility's incentive costs/rebate costs were \$ 1,768.45.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment.

See Attachment 1 - Self Direct Project Overview and Commitment for a description of the project. See Attachment 6 – Supporting Documentation, for the specifications of the replacement equipment 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed. Due to the length of time since the equipment replacement, the make, model and year of the replaced equipment is not available.

- A copy of the formal declaration or agreement that commits your program to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;

See Attachment 2 – Self Direct Program Project Blank Application including Rules and Requirements. All confidentiality requirements are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.)

- 2) a description of any consequences of noncompliance with the terms of the commitment;

See Attachment 2 – Self Direct Program Project Blank Application including Rules and Requirements. All consequences of noncompliance are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.

- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;

None required because the resources committed are permanent installations that reduce demand through increased efficiency during the Company's peak summer demand period generally defined as May through September and do not require specific coordination and

communication to provide demand reduction capabilities to the Company.

- 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,

See Attachment 2 – Self Direct Program Blank Application including Rules and Requirements granting such permission pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application.

- 5) a commitment by you to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

See Attachment 1 - Self Direct Project Overview and Commitment for the commitment to comply with any information and compliance reporting requirements imposed by rule or as part of the approval of this arrangement by the Public Utilities Commission of Ohio.

- 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.

The Company applies the same methodologies, protocols, and practices to Self Direct Program retrospective projects that are screened and submitted for approval as it does to prospective projects submitted through its Prescriptive and Custom Programs. The Commission has not published a technical reference manual for use by the Company so deviations can not be identified. The project submitted is a prescriptive project and energy savings are determined as described in Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation, and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.



Public Utilities
Commission

Project # 17-20243

Docket # 17-0906

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

Case No.: 17-0906-EL-EEC

State of Ohio :

R-SEKAR IYER, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

DNV GL Energy Services USA Inc. agent of Ohio Power
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.

 ENGINEER
Signature of Affiant & Title

Sworn and subscribed before me this 28th day of April, 2017 Month/Year


Signature of official administering oath

Dawn G. Irving / Notary
Print Name and Title

My commission expires on 9.3.2019



DAWN G IRVING
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
September 03, 2019



Self Direct Project Overview & Commitment

The Public Utility Commission of Ohio (PUCO) will soon review your application for participation in AEP Ohio's Energy Efficiency/Peak Demand Response program. Based on your submitted project, please select by initialing one of the two options below, sign and fax to 877-607-0740.

Customer Name	SPEEDWAY SUPERAMERICA #9265		
Project Number	AEP-17-20243		
Customer Premise Address	2567 WALCUTT RD, HILLIARD, OH 43026-9631		
Customer Mailing Address	500 Speedway Drive, Enon, OH 45323		
Date Received	2/24/2017		
Project Installation Date	7/31/2014		
Annual kWh Reduction	36,661		
Total Project Cost	\$7,478.78		
Unadjusted Energy Efficiency Credit (EEC) Calculation	\$2,357.94		
Simple Payback (yrs)	5.8		
Utility Cost Test (UCT) for EEC	4.96		
Utility Cost Test (UCT) for Exemption	0.18		
<i>Please Choose One Option Below and Initial</i>			
Self Direct EEC: 75%	\$1,768.45	<input checked="" type="checkbox"/>	Initial: <u>WL</u>
EE/PDR Rider Exemption	12 Months (with possible extension up to N/A months after PUCO Approval)	<input type="checkbox"/>	Initial: <u>N/A</u>

Note: This is a one time selection. By selecting EEC, the customer will receive payment in the amount stated above. Selection of EE/PDR rider exemption, will result in the customer not being eligible to participate in any other energy efficiency programs offered by AEP Ohio during the period of exemption. In addition, the term of EE/PDR rider exemption is subject to ongoing review for compliance and could be changed by the PUCO.

If EEC has been selected, will the Energy Efficiency Funds selected help you move forward with other energy efficiency projects?

☒ YES ☐ NO

Note: Exemptions for periods beyond 24 months are subject to look-back or true-up adjustments every year to ensure that the exemption accurately reflects the EEDR savings. Applicants must file for renewal for any exemption beyond 12 months.

Project Overview:

As part of the construction of a new store, energy efficient LED lighting was installed in interior sales and refrigerated spaces (walk-in cooler, storage cooler and freezer), as well as for the fuel canopy and parking area lighting.

The documentation that was included with the application proved that the energy measures applied for were purchased and installed.

By signing this document, the Mercantile customer affirms its intention to commit and integrate the above listed energy efficiency resources into the utility's peak demand reduction, demand response, and energy efficiency programs. By signing, the Mercantile customer also agrees to serve as a joint applicant in any filings necessary to secure approval of this arrangement by the Public Utilities Commission of Ohio, and comply with any information and compliance reporting requirements imposed by rule or as part of that approval.

Ohio Power Company

By: [Signature]
Title: Manager
Date: 4/6/2017

SPEEDWAY SUPERAMERICA #9265

By: Walker Lunde
Title: Material Coordinator
Date: 4/6/2017



APPLICATION GUIDELINES

All 2017 AEP Ohio Business Incentives Program projects must be completed and Final Applications received no later than November 10, 2017, in order to qualify for incentives identified in this application.

Step 1: Verify Eligibility

- ✓ Customer must have a valid AEP Ohio account.
- ✓ Equipment/measure must be installed at facilities served by the AEP Ohio account.
- ✓ Project must produce permanent reduction in electrical energy use (kWh).
- ✓ All installed equipment must meet or exceed the specifications in the application.
- ✓ Please see the [Terms and Conditions](#) for Self-Direct or
- ✓ [Terms and Conditions](#) for all other programs for program eligibility and requirements.

Step 2: Complete Applicant Information

- ✓ All fields in customer and project information sections must be completed.
- ✓ Solution Provider/contractor information must be completed if project is not self-performed.

Step 3: Complete the Incentive Worksheet(s)

- ✓ Find and read specifications related to the project.
- ✓ Ensure new equipment/measure meets or exceeds the specifications.
- ✓ Choose the incentive category on the worksheet based on the installed equipment and specifications.
- ✓ Complete all fields (fixture description, operating hours, etc.) on the related worksheet.

Step 4: Sign Customer Agreement

- ✓ Read the Terms and Conditions before signing and submitting the application.
- ✓ Sign Pre-Approval Agreement and submit the application to reserve funds.
- ✓ Sign Final Application Agreement and submit the application after the project is completed.
- ✓ Complete Third Party Payment Release Authorization ONLY if incentive payment is to be paid to an entity other than AEP Ohio customer listed on the Applicant Information page.

Step 5: Submit Pre-Approval Application¹

(For Self-Direct applications, skip to Step 7)

- ✓ Submitting a Pre-Approval Application to determine

qualification and reserve program funds for a project is strongly recommended.

- ✓ All Process Efficiency measures require pre-approval.
- ✓ Complete all fields for Pre-Approval Agreement section.
- ✓ **Pre-Approval Application must be submitted with:**
 - Proposed scope of work (type and quantity of old and new equipment must be listed)
 - Specification sheets for all proposed equipment
 - W-9 form
- ✓ Submit application via email, fax or mail.
- ✓ During the application review, an inspection may be required; the team will contact applicants requiring an inspection for scheduling.

Step 6: Complete Project

- ✓ New equipment must be installed and operational to submit a Final Application.

Step 7: Submit Final Application

- ✓ Submit a Final Application.
- ✓ Use the same application used during pre-approval (if applicable).
 - Change Application Type to Final Application
- ✓ Complete all fields for Final Application Agreement section.
- ✓ Update the application if there are any changes (customer contact, incentive measure, equipment, etc.).
- ✓ **Final Application must be submitted with:**
 - Dated and itemized material invoice
 - External labor invoice (if applicable)
 - If Pre-Approval Application was not submitted, include the documents listed on Step 5
- ✓ Submit application via email, fax or mail.
- ✓ During the application review, an inspection may be required; the team will contact applicants requiring an inspection for scheduling.

Additional steps are required for Self-Direct applications after application submission. Please see the Self-Direct Terms and Conditions for details.

AEP Ohio Business Incentives Program

445 Hutchinson Avenue, Suite 300
Columbus, Ohio 43235

877-541-3048 | aepohiosolutions@clearesult.com

Visit our website at AEPohio.com/solutions

¹A Pre-Approval Application is not a guarantee of an incentive; the actual incentive will be based on the energy savings and equipment installed as determined in the Final Application. Funds are reserved for 90 days, unless an applicant is granted an extension. The program team reserves the right to contact the customer before the reservation expiration date to ensure that the project is moving forward. If the project is not underway, the reservation may be cancelled. Reserved funds are not transferable to other projects, facilities and/or customers. A waiting list will be established when funds become fully subscribed.



CHECKLIST OF REQUIRED ATTACHMENTS

PRE-APPROVAL

- ☐ Completed Applicant Information Form
- ☐ Estimated Total Project Cost
- ☐ Estimated Completion Date
- ☐ Completed Incentives Requested Section of Application
- ☐ Applicable Incentive Worksheets
- ☐ Completed Third-Party Payment Release Authorization Section with W9 (optional)
- ☐ Signed Customer Agreement Form
- ☐ Equipment Specifications
- ☐ Proposed Scope of Work
- ☐ W-9 (Customer's W-9 or 3rd party W-9, if applicable)

FINAL APPLICATION ONLY (NO PRE APP SUBMITTED)

- ☐ Completed Applicant Information Form
- ☐ Completed Incentives Requested Section of Application
- ☐ Applicable Incentive Worksheets
- ☐ Total Project Cost
- ☐ Completion date
- ☐ Completed and Signed Final Payment Agreement and Customer Agreement Forms
- ☐ Completed Third-Party Payment Release Authorization Section with W9 (optional)
- ☐ Itemized Invoices
- ☐ Equipment Specifications
- ☐ Scope of Work
- ☐ W-9 (Customer's W-9 or 3rd party W-9, if applicable)

FINAL APPLICATION (IF PRE APP HAS BEEN SUBMITTED)

- ☐ Completed Applicant Information Form (optional)
- ☐ Assigned Project Number on Signature Page
- ☐ Total Project Cost
- ☐ Project Completion Date
- ☐ Completed and Signed Final Payment Agreement and Customer Agreement Forms
- ☐ Completed Third-Party Payment Release Authorization Section (optional)
- ☐ Itemized Invoices
- ☐ Updated Scope of Work (if there were changes from pre)
- ☐ Applicable Incentive Worksheets (if there were changes from pre)

AEP Ohio Business Incentives Program

445 Hutchinson Avenue, Suite 300
Columbus, Ohio 43235
877-541-3048 | aepohiosolutions@clearesult.com
Visit our website at AEPohio.com/solutions

Revised Submittal

Please complete below if this is a revised submittal.

Submittal date _____

AEP Project Number (if known) AEP - _ _ - _ _ _ _ _



APPLICANT INFORMATION

AEP Application Number AEP - _ _ - _ _ _ _ _

Application Type (Select One)

Customer Information

Business Name _____

Name as It Appears on Utility Bill _____

AEP Ohio Account Number* at Project Site _____ Multiple AEP Ohio Account Numbers for this Project? (Select One)

Taxpayer ID _____ - _____ W-9 Tax Status (Select One)

Contact Name _____ Contact Title _____

Mailing Address - where check will be sent

Mailing Address _____ City _____ State OH Zip _____

Phone _____ Ext. _____ Contact Email _____

How Did You Hear About the Program? (Select One) _____ AEP OH Energy Advisor _____

Project Information

Project Name (if applicable) _____

☐ Check if mailing address and project site address are the same.

Project Site Address _____ City _____ State OH Zip _____

Building Type (Select One) _____ Shift (Select One) _____

Annual Operating Hours _____ Building Area (sq. ft.) _____

Construction Type (Select One)

Does the facility have a data center? (Select One)

*Please only enter the first eleven digits of the account number.



APPLICANT INFORMATION

Solution Provider/Contractor Information (If project is not self-performed by customer)

Contracting Company Name _____

Contact Name _____ Title of Contact _____

Mailing Address _____ City _____ State OH Zip _____

Phone _____ Ext. _____ Contact Email _____

Who should we contact with questions about the application? ☐ Customer ☐ Contractor

Primary Contact Information

Contact Name _____ Title of Contact _____

Phone _____ Ext. _____ Contact Email _____

INCENTIVE SUMMARY TABLE (THIS TABLE SELF-POPULATES FROM WORKSHEETS)

Incentive Category	Applied for Incentives	Applicable Self- Direct Incentives
Lighting		
HVAC		
Motors		
Motor Rewind		
Drives		
Compressed Air		
Refrigeration/Food Service		
Agriculture		
Miscellaneous		
Process Efficiency		
NC Lighting (SD Only)		
Total		

AEP Application Number AEP - _ _ - _ _ _ _ _



CUSTOMER AGREEMENT

Application Agreement

By signing this document, I agree to program requirements outlined in the measure specifications, Terms and Conditions for the applicable program and Final Application Agreement. As an eligible customer, I verify the information is correct and request consideration for participation under this program. Furthermore, I concur that I meet all eligibility criteria in order to receive payment under this program.

[Link to Efficient Products for Business/Process Efficiency Terms and Conditions, and Final Application Agreement](#)
[Link to Self-Direct Terms and Conditions, and Final Application Agreement](#)

Pre-Application Final-Application

Project Completion Year (Select One) _____

Self-Direct _____

Project Completion Date _____

Total Project Cost _____

Date _____

Total Applied for Incentive _____

Total Requested Incentive¹ _____

Total Self-Direct Requested Incentive² _____

Print Name _____

AEP Ohio Customer Signature _____

Third Party Payment Release Authorization (Optional, NOT APPLICABLE TO Self-Direct)

Complete this section ONLY if incentive payment is to be paid to an entity other than the AEP Ohio customer.

Make checks payable to: Company/Individual _____

Mailing Address _____ City _____ State OH Zip _____

Phone _____ Ext. _____

Taxpayer ID of 3rd Party _____ - _____ W-9 Tax Status _____

By signing this document, I authorize the payment of the incentive to the third party named above and understand that I will not receive the incentive payment from AEP Ohio. I also understand that my release of the payment to a third party does not exempt me from the program requirements outlined in the measure specifications, Terms and Conditions, and Final Application Agreement.

Print Name _____

Date _____

Customer Signature (AEP Ohio Customer) _____

SUBMIT VIA EMAIL

PRINT APPLICATION

¹Incentives have a threshold of 50% of the project cost and total incentives paid to a threshold of \$25,000 and Bid4Efficiency above that.

²Self-Direct incentives are 75% of Total Requested Incentive, after 50% of the project cost threshold and tiering is applied.

T8

SSF Ordering Information for T8

SAMPLE NUMBER: SSF-232-UNV-EB81-U

Tandem
Blank=2', 3' or 4' Length
8T=8' Length

Series
SSF=Commercial
Standard Striplite

Number of Lamps
(Not Included)
1=1 Lamp
2=2 Lamps
3=3 Lamps⁽¹⁾

Wattage
17=17W T8 (24")
25=25W T8 (36")
28T8=28W T8 (48")⁽¹⁾
32=32W T8 (48")
96T8=59W T8 SL (96")
48T8HO=44W (48")
96T8HO=86W (96")

Voltage⁽²⁾
120V=120 Volt
277V=277 Volt
347V=347 Volt
UNV=Universal Voltage 120-277

Options
GL=Single Element Fuse
GM=Double Element Fuse
EL4=Emergency Installed⁽⁴⁾ (5)
EL8=Emergency Installed⁽⁸⁾

Ballast Type⁽²⁾
EB8=T8 Electronic Instant Start.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2
EB8+/PLUS=T8 Electronic Instant Start.
High Ballast Factor >1.13.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2
ER8=T8 Electronic Program Rapid Start.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2
ER8+/PLUS=T8 Electronic Program Start.
High Ballast Factor >1.13.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2

HPT8 Ballast
HB8_L=T8 Electronic Instant Start. Low Ballast Factor .77
HB8=T8 Electronic Instant Start. Ballast Factor .88
HB8_N=T8 Electronic Instant Start. Normal Ballast Factor 1.0
HB8_H=T8 Electronic Instant Start. High Ballast Factor 1.15-1.2
HR8_DIM=T8 Electronic Program Start Step Dimming. Ballast Factor .88
HR8_L=T8 Electronic Program Start. Low Ballast Factor .77 max.
HR8=T8 Electronic Program Start. Ballast Factor .88
HR8_H=T8 Electronic Program Start. High Ballast Factor 1.15-1.2

Options⁽³⁾
RIF1=Radio Interference Suppressor
6-3/18 S-JT-C&P-515P=Cord & Plug (120V) (15 AMP)⁽⁶⁾
6-3/18 S-JT-C&P-L715P=Cord & Plug (277V) (15 AMP)⁽⁶⁾
PI/CP=Plug-In Option⁽⁶⁾
TILW=Tandem In-Line Wiring Option (Consult TILW Option Catalog Page)⁽⁶⁾

Packaging
U=Unit Pack
4B=4 Bulk Packing (48" and 96")

ACCESSORIES (Order Separately)

A1B/Spacer-U=Spacer 1-1/2" to 2-1/2" from ceiling (Use 2 Per Fixture)
GRP-SSF=Gripper Hanger (Use 2 Per Fixture)
AYC=Chain/Set=36" Chain Hanger (Use 1 Set Per Fixture)
SCF=Fixed Stem Set (Specify Length)
SCS=Swivel Stem Set (Specify Length)
SCA=Adjustable 48" Stem Set
CLC-SSF=Long Channel Connector SSF
SSF-ASY3=3" Asymmetric Reflector (Specify 2', 3', or 4')⁽⁹⁾
SSF-REV-3=3" Asymmetric Reverse Reflector SSF (Specify 2', 3', or 4')⁽⁹⁾
SSF-SYM-3=6" Symmetric Reflector Specify (2', 3' or 4')
SSF-SYM12-4=12" Symmetric Reflector
WG/SSF-2FT=2' Wire Guard
WG/SSF-3FT=3' Wire Guard
WG/SSF-4FT=4' Wire Guard
TOGGLE=Single Toggle NO. 2 (Specify Length)
Y-TOGGLE=Y Toggle NO. 2 (Specify Length)

NOTES: ⁽¹⁾Available in 28T8 and 32 watt. ⁽²⁾Products also available in non US voltages and frequencies for international markets. Voltage must be specified when ordered with plugs or emergency ballast. ⁽³⁾For SilverLining reflector add SS in Catalog Number. Example: SSF-ASY-SS 4. ⁽⁴⁾Not available for 2' version. ⁽⁵⁾For other emergency options specify manufacturer part number and consult the factory for availability (example: EL-FBP240H). ⁽⁶⁾Socket brackets left uninstalled. ⁽⁷⁾When utilizing 28W T8 lamps, HPT8 Ballast must be specified. Other ballast restrictions may apply. ⁽⁸⁾Available for 96T8, 48T8HO and 96T8HO. ⁽⁹⁾For T12 or T8 applications only (no T12 Slimline or T12 HO).

Specifications & dimensions subject to change without notice. Consult your Cooper Lighting Representative for availability and ordering information.

T12

SSF Ordering Information for T12

SAMPLE NUMBER: SSF-220-LTS-120V-U

Tandem
Blank=2', 3', 4' or 8' Length

Series
SSF=Commercial
Standard Striplite

Number of Lamps
1=1 Lamp (Not Included)
2=2 Lamps (Not Included)

Wattage
20=20W T12 (24")
30=30W T12 (36")
48=40W T12 SL (48")
48HO=60W T12 HO (48")
96=75W T12 SL (96")
96HO=110W T12 (96")

Ballast Start Type
LTS=Low Trigger Start (20W only) (120V only)
HTS=High Trigger Start (20W only)
LRS=Low Rapid Start (30W only) (120V only)
HRS=High Rapid Start (30W only) (120V only)

Voltage⁽¹⁾
120V=120 Volt
277V=277 Volt
347V=347 Volt

Options⁽¹⁾
GL=Single Element Fuse
GM=Double Element Fuse
EL4=Emergency Installed⁽³⁾ (4)

Ballast Type^{(1), (4)}
Blank=Standard Magnetic Ballast
LE3=T12 Electronic Ballast
EB2=T12 Electronic Rapid Start.
Total Harmonic Distortion < 20%
No. of Ballast
1 or 2

Options⁽²⁾
RIF1=Radio Interference Suppressor
6-3/18 S-JT-C&P-515P=Cord & Plug (120V) (15 AMP)⁽⁵⁾
6-3/18 S-JT-C&P-L715P=Cord & Plug (277V) (15 AMP)⁽⁵⁾
PI/CP=Plug-In Option⁽⁵⁾
TILW=Tandem In-Line Wiring Option (Consult TILW Option Catalog Page)⁽⁵⁾

Packaging
U=Unit Pack
4B=4 Bulk Packing (48" and 96")

ACCESSORIES (Order Separately)

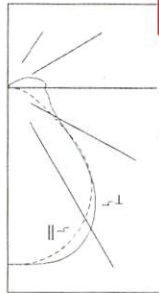
A1B/Spacer-U=Spacer 1-1/2" to 2-1/2" from ceiling (Use 2 Per Fixture)
GRP-SSF=Gripper Hanger (Use 2 Per Fixture)
AYC=Chain/Set=36" Chain Hanger (Use 1 Set Per Fixture)
SCF=Fixed Stem Set (Specify Length)
SCS=Swivel Stem Set (Specify Length)
SCA=Adjustable 48" Stem Set
CLC-SSF=Long Channel Connector SSF
SSF-ASY3=3" Asymmetric Reflector (Specify 2', 3', or 4')⁽⁶⁾
SSF-REV-3=3" Asymmetric Reverse Reflector SSF (Specify 2', 3', or 4')⁽⁶⁾
SSF-SYM-3=6" Symmetric Reflector Specify (2', 3' or 4')
SSF-SYM12-4=12" Symmetric Reflector
WG/SSF-2FT=2' Wire Guard
WG/SSF-3FT=3' Wire Guard
WG/SSF-4FT=4' Wire Guard
TOGGLE=Single Toggle NO. 2 (Specify Length)
Y-TOGGLE=Y Toggle NO. 2 (Specify Length)

NOTES: ⁽¹⁾Products also available in non US voltages and frequencies for international markets. ⁽²⁾For SilverLining reflector add SS in Catalog Number. Example: SSF-ASY-SS 4. ⁽³⁾Not available for 2' version. For other emergency options specify manufacturer part number and consult the factory for availability (example: EL-FBP240H). ⁽⁴⁾Maximum width clearance for ballast in channel is 2-7/32". ⁽⁵⁾Socket brackets left uninstalled. ⁽⁶⁾For T12 or T8 applications only (no T12 Slimline or T12 HO).

Specifications & dimensions subject to change without notice. Consult your Cooper Lighting Representative for availability and ordering information.

PHOTOMETRICS

S

**WN-232-EB81-U**
Energy Saving BallastF32T8/35K lamps
3100 lumensSpacing criterion:
(H) 1.3 x mounting
height, (L) 1.4 x
mounting height

Efficiency = 82.0%

Test Report:
134P132

LER = FW-80

Yearly Cost of 1000
lumens, 3000 hrs at
.08 KWH = \$3.00

Candlepower

Angle	Along H	45°	Across L
0	1583	1583	1583
5	1588	1594	1591
10	1580	1597	1607
15	1554	1591	1618
20	1512	1573	1605
25	1454	1534	1563
30	1380	1473	1488
35	1291	1384	1375
40	1181	1258	1225
45	1043	1077	1030
50	848	851	809
55	602	655	626
60	429	518	512
65	317	413	444
70	240	333	409
75	180	270	390
80	123	223	369
85	62	185	347
90	3	155	332

Coefficients of Utilization

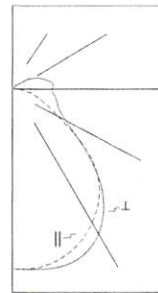
rc	Effective floor cavity reflectance										20%		30%			10%			0%
	80%				70%				50%		30%			10%			0%		
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR	95	95	95	95	92	92	92	92	85	85	85	80	80	80	74	74	74	72	
1	86	82	79	76	83	80	76	73	74	72	69	69	67	65	65	63	61	59	
2	79	72	67	62	76	70	65	61	65	61	58	61	58	55	57	54	52	50	
3	72	64	57	52	69	62	56	51	58	53	49	54	50	47	51	47	45	42	
4	66	57	50	45	64	55	49	44	52	46	42	49	44	40	46	42	39	37	
5	61	51	44	39	59	49	43	38	47	41	37	44	39	35	41	37	34	32	
6	57	46	39	34	54	45	38	33	42	36	32	40	35	31	38	33	30	28	
7	52	42	35	30	50	41	34	29	38	33	29	36	31	28	34	30	27	25	
8	49	38	31	27	47	37	31	26	35	30	26	33	28	25	32	27	24	22	
9	46	35	28	24	44	34	28	24	32	27	23	31	26	22	29	25	22	20	
10	43	32	26	22	41	31	26	22	30	25	21	29	24	20	27	23	20	18	

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1304	21.0	25.6
0-40	2152	34.7	42.3
0-60	3544	57.2	69.7
0-90	4441	71.6	87.3
90-180	645	10.4	12.7
0-180	5086	82.0	100.0

Typical VCP Percentages

Room Size (Ft.)	Height Along		Height Across	
	8.5'	10.0'	8.5'	10.0'
20 x 20	52	58	44	53
30 x 30	43	48	31	39
30 x 60	36	40	15	21
60 x 30	40	46	35	42
60 x 60	32	37	17	22

**WN-228T8-HB81-U**
Energy Saving BallastF28T8 28W lamps
2800 lumensSpacing criterion:
(H) 1.3 x mounting
height, (L) 1.4 x
mounting height

Efficiency = 90.2%

Test Report:
134P133

LER = FW-93

Yearly Cost of 1000
lumens, 3000 hrs at
.08 KWH = \$2.59

Candlepower

Angle	Along H	45°	Across L
0	1562	1562	1562
5	1566	1572	1569
10	1558	1576	1586
15	1532	1570	1597
20	1490	1552	1586
25	1432	1514	1545
30	1358	1453	1472
35	1270	1365	1361
40	1162	1242	1214
45	1025	1063	1022
50	833	841	803
55	590	648	623
60	422	512	510
65	312	408	442
70	236	328	407
75	178	267	389
80	121	221	367
85	61	184	345
90	3	152	332

Coefficients of Utilization

Effective floor cavity reflectance																		
rc	80%				70%				50%			30%			10%			0%
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	105	105	105	105	101	101	101	101	94	94	94	87	87	87	81	81	81	78
1	95	91	87	83	91	87	84	81	81	78	76	74	71	71	69	67	65	61
2	87	79	73	68	83	77	71	66	72	67	63	67	63	60	62	60	57	54
3	79	70	63	57	76	68	61	56	63	58	53	59	55	51	56	52	49	46
4	73	62	55	49	70	60	53	48	57	51	46	53	48	44	50	46	42	40
5	67	56	48	42	64	54	47	42	51	45	40	48	43	39	45	41	37	35
6	62	50	43	37	60	49	42	36	46	40	35	44	38	34	41	36	33	31
7	58	46	38	33	55	45	37	32	42	36	31	40	34	30	38	33	29	27
8	54	42	34	29	52	41	34	29	39	32	28	37	31	27	35	30	26	25
9	50	38	31	26	48	37	31	26	36	30	25	34	28	25	32	27	24	22
10	47	35	29	24	45	35	28	24	33	27	23	31	26	22	30	25	22	20

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1286	23.0	25.5
0-40	2124	37.9	42.0
0-60	3498	62.6	69.2
0-90	4389	78.4	86.9
0-180	5052	90.2	100.0

Typical VCP Percentages

Room Size (Ft.)	Height Along		Height Across	
	8.5'	10.0'	8.5'	10.0'
20 x 20	52	58	44	54
30 x 30	43	49	31	40
30 x 60	36	40	15	21
60 x 30	41	47	35	43
60 x 60	33	37	17	22

ORDERING INFORMATION

SAMPLE NUMBER: WN-232A-UNV-EB81-U

Length Blank=2' or 4' Length 8T=8' (Tandem)	Voltage ⁽³⁾ 120V=120 Volt 277V=277 Volt 347V=347 Volt UNV=Universal Voltage 120-277 ⁽⁴⁾
Series ⁽¹⁾ WN=Commercial Surface Wrap	Options GL=Single Element Fuse GM=Double Element Fuse EL=Emergency Installed ⁽⁵⁾
Number of Lamps ⁽²⁾ 2=2 Lamps (Not Included)	
Wattage 17=17W T8 (24") 28T8=28W T8 (48") ⁽⁶⁾ 32=32W T8 (48")	
Lens A=Acrylic Refractor/Lens	

Ballast Type ⁽²⁾
EB8 = T8 Electronic Instant Start.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2

EB8 /PLUS= T8 Electronic Instant Start.
High Ballast Factor >1.13.
Total Harmonic Distortion < 20%
No. of Ballast
1 or 2

REB1= T8 Electronic Instant Start Residential Ballast.
ER8 = T8 Electronic Program Rapid Start.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2

ER8 /PLUS= T8 Electronic Program Start.
High Ballast Factor >1.13.
Total Harmonic Distortion < 10%
No. of Ballast
1 or 2

HPT8 Ballast
HB8_L=T8 Electronic Instant Start. Low Ballast Factor .77
HB8 =T8 Electronic Instant Start. Ballast Factor .88
HB8_N=T8 Electronic Instant Start. Normal Ballast Factor 1.0
HB8_H=T8 Electronic Instant Start. High Ballast Factor 1.15-1.2
HR8_DIM=T8 Electronic Program Start Step Dimming. Ballast Factor .88
HR8_L=T8 Electronic Program Start. Low Ballast Factor .77
HR8 =T8 Electronic Program Start. Ballast Factor .88
HR8_H=T8 Electronic Program Start. High Ballast Factor 1.15-1.2

Options
DEC=Decorative End Cap
CRA=Continuous Row
Aligner

Packaging
U=Unit Pack

ACCESSORIES

SCF=Fixed Stem Set (Specify Length)
SCS=Swivel Stem Set (Specify Length)
SCA=Adjustable 48" Stem Set
WN-2LT-DEC-ENDS=Decorative End
Caps - 2 Lamps (2 pieces)
WN-CRA=Continuous Row Aligner
(1 only)

NOTES: ⁽¹⁾Steel endplates with 7/8" KO standard for continuous row mounting. ⁽²⁾2 point suspension recommended for 2 and 4 lamp models. 3 point suspension recommended for 8 foot tandems. ⁽³⁾Products also available in non-US voltage and frequencies for international markets. 120V must be specified with a residential ballast. ⁽⁴⁾Not Available when specifying emergencies, voltage must be specified. ⁽⁵⁾A low profile battery pack is required for installation with standard ballast cover (consult Cooper Lighting). ⁽⁶⁾When utilizing 28W T8 lamps, HB Ballast must be specified. Other ballast restrictions may apply. Consult your Cooper Lighting Representative for availability and ordering information.

For complete product data, reference the Fluorescent Specification binder. Specifications & dimensions subject to change without notice. Consult your Cooper Lighting Representative for availability and ordering information.

SHIPPING DATA

Catalog No.	Wt.
WN-217A	6 lbs.
WN-228T8A	8 lbs.
8TWN-228T8A	15 lbs.
WN-232A	8 lbs.
8TWN-232A	15 lbs.

Normal Ballast Factor T8 Instant Start UNV VOLTAGE High Efficiency Systems

<10% THD High Efficiency Electronic T8 Fluorescent Systems (Normal Ballast Factor)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49851	QHE 1X32T8/UNV ISN-SC	120-277	0.25/0.11	F032/XP	3000	1	0.88	2640	28	94
			0.22/0.09	F030/SS	2850	1	0.88	2510	26	97
			0.21/0.09	F028/SS	2725	1	0.88	2400	25	96
			0.19/0.09	F025/SS	2475	1	0.88	2175	22	99
49853	QHE 2X32T8/UNV ISN-SC	120-277	0.47/0.20	F032/XP	3000	2	0.88	5280	55	96
			0.44/0.19	F030/SS	2850	2	0.88	5015	52	96
			0.40/0.18	F028/SS	2725	2	0.88	4800	48	100
			0.36/0.16	F025/SS	2475	2	0.88	4355	43	101
49855	QHE 3X32T8/UNV ISN-SC	120-277	0.69/0.30	F032/XP	3000	3	0.88	7920	83/82	95/97
			0.66/0.28	F030/SS	2850	3	0.88	7525	78/77	96/98
			0.61/0.26	F028/SS	2725	3	0.88	7195	72	100
			0.55/0.23	F025/SS	2475	3	0.88	6530	65/64	101/102
49857	QHE 4X32T8/UNV ISN-SC	120-277	0.91/0.39	F032/XP	3000	4	0.88	10560	108/107	98/99
			0.86/0.37	F030/SS	2850	4	0.88	10030	102/101	98/99
			0.80/0.35	F028/SS	2725	4	0.88	9590	95	101
			0.71/0.30	F025/SS	2475	4	0.88	8710	84/83	104/105

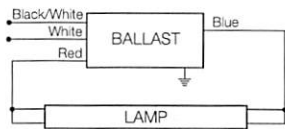
Products listed above are 10 packs.

840 PC Pallet Packs

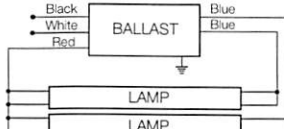
49852 QHE1x32T8/UNV-ISC-PAL 49854 QHE2x32T8/UNV-ISC-PAL
49856 QHE3x32T8/UNV-ISC-PAL 49858 QHE4x32T8/UNV-ISC-PAL

10 PC Banded Packs

49968 QHE1x32T8/UNV-ISC-B 49969 QHE2x32T8/UNV-ISC-B
49970 QHE3x32T8/UNV-ISC-B 49971 QHE4x32T8/UNV-ISC-B

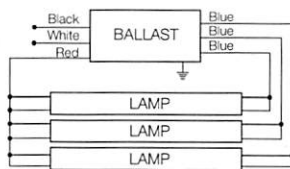


QUICKTRONIC 1x32



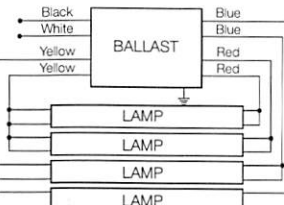
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 3x32



Note: For three lamp application, cap any unused blue lead. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:

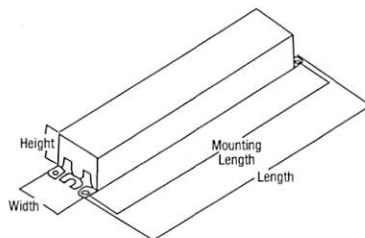
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Packaging:

Quantity: 10 pieces/840 pieces
Weight: 1.6 lbs each (approx)

Wiring:

Leads only (no connectors provided)



Item Number	49855 QHE 3 x 32T8 / UNV ISN-SC	Case Size
QUICKTRONIC High Efficiency		Starting/Ballast Factor
Number of Lamps		Line Voltage (120-277V)
		Primary Lamp Wattage

Specifications¹

Starting Method: Instant Start

Ballast Factor: 0.88

Circuit Type: Parallel

Lamp Frequency: > 40KHz

Lamp CCF: Less than 1.7

Starting Temp:¹

-20°F for OCTRON T8 lamps;

60°F for SUPERSAVER® T8 lamps

0°F for F040T8

Input Frequency: 50/60 Hz

Low THD: < 10%

Power Factor: > 98%

Voltage Range: 108-305V

UL Listed Class P, Type 1 Outdoor

CSA Certified (where applicable)

70°C Max Case Temperature

FCC 47CFR Part 18 Non-Consumer

Class A Sound Rating

ANSI C62.41 Cat. A Transient Protection

Remote Mounting up to 20 feet¹

¹ Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

System Life / Warranty

QUICKTRONIC products are covered by our QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+ warranty bulletin.

Ordering Guide

Specifications subject to change without notice.

S

CR Series with Cree SmartCast® Technology

CR14™ 1' x 4' Architectural LED Troffer

Product Description

The CR14™ architectural LED troffer with Cree SmartCast® Technology, Cree's intelligent light solution, provides extreme energy productivity and code compliance - all with installation that's so intuitive and simple, it just works. Cree SmartCast® Technology products incorporate integrated ambient and occupancy sensing and wireless communication to achieve energy savings and extended product life resulting in lower electricity bills, reduced maintenance, and an improved total cost of ownership over traditional lighting control systems. And now, CR Series troffers with Cree SmartCast® Technology offer field adjustable color temperatures, simplifying project specification, ordering and installation by allowing one troffer to be used in any space regardless of color temperature preference.

Performance Summary

Utilizes Cree TrueWhite® Technology

Room-Side Heat Sink

Efficacy: 100-131 LPW

Initial Delivered Lumens: 4,000 lumens

Input Power: 30.5-40 watts

CRI: 90 CRI

CCT: 3000K, 3500K, 4000K, 5000K, adjustable CCT

Input Voltage: 120-277 VAC

Limited Warranty¹: 5 years

Controls: Cree SmartCast® Technology

Mounting: Recessed*

¹ See <http://lighting.cree.com/warranty> for warranty terms

Accessories

Field-Installed	
Drywall Grid Adapter DGA-24WHIT	Cree SmartCast® Technology Face Plates² CFP-1-WH - Matching Cree face plate, 1-gang, white CFP-2-WH - Matching Cree face plate, 2-gang, white CFP-3-WH - Matching Cree face plate, 3-gang, white
Cree SmartCast® Technology Configuration Tool³ CCT-CWC-1	Cree SmartCast® Technology Wireless Dimmer² CWD-CWC-WH
- One required per project when CMA control is selected	Cree SmartCast® Technology Wireless Switch² CWS-CWC-WH

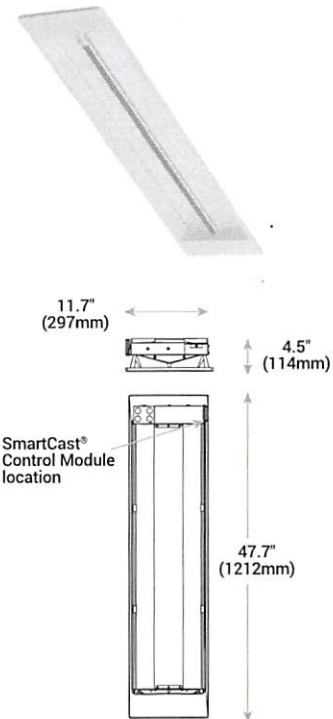
² Refer to the [Configuration Tool spec sheet](#) for more details³ Refer to the [Wireless Dimmer SmartCast Control spec sheet](#) for more details

Ordering Information

Example: CR14-40L-35K-CMA

CR14					
Product	Initial Delivered Lumens	CCT	Voltage	Control	Options
CR14	40L 40W, 4,000 lumens - 100 LPW	30K 3000K	Blank 120-277 Volt	CMA Cree SmartCast® Technology - Integral motion and ambient sensors and wireless communication	EB10W Emergency Battery Backup - 40L-ACK: 1,000 lumens - 40LHE-30K: 1,300 lumens - 40LHE-35K: 1,250 lumens - 40LHE-40K: 1,200 lumens - 40LHE-50K: 1,150 lumens
	40LHE 30.5W, 4,000 lumens - 131 LPW (30K) 32W, 4,000 lumens - 125 LPW (35K) 33W, 4,000 lumens - 121 LPW (40K) 34.5W, 4,000 lumens - 116 LPW (50K)	35K 3500K 40K 4000K 50K 5000K ACK Adjustable CCT: 3000K-5000K - Available only with 40L - Factory set at 4000K - Adjustable in 500K increments			

* Acceptable for use with standard 9/16 T-Bar or larger when installed per installation instructions. Consult factory for non-standard grid applications



Rev. Date: V5 02/04/2016

US: lighting.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada

T (800) 473-1234 F (800) 890-7507

S7

Cree Edge™ Series

LED Parking Structure Luminaire

Product Description

Slim, low profile design. Luminaire is constructed from rugged extruded aluminum, die cast aluminum and stamped metal components. LED driver is mounted in extruded aluminum fixture and sealed for weathertight operation. High performance aluminum heat sinks specifically designed for LED parking structure applications. Corrosion resistant wire guard provides anti-fouling protection from leaf/debris and animal nesting to assure cool LED operation. Direct mounting bracket designed to mount directly over existing single gang and octagonal junction boxes for direct mount. Pendant mount includes 5' (1.5m) cord out of the luminaire and is intended to be mounted by 3/4" (29mm) IP pendant (by others).
Applications: Parking structures and low-medium bay general lighting

Performance Summary

Patented NanoOptic® Product Technology

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard

Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

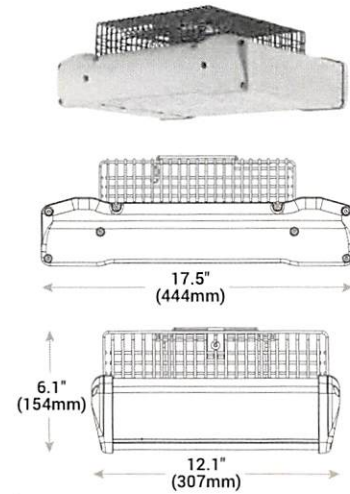
*See www.cree.com/lighting/products/warranty for warranty terms

Accessories

Field-Installed	
Pendant Mount Accessories	Pendant Kit
Bird Spikes	XA-PS12KIT - 12" (305mm)
XA-BRDSPK	XA-PS18KIT - 18" (457mm)
Bird Shroud	XA-PS22KIT - 22" (559mm)
XA-BRDGRD	
Leveler	NOTE: Pendant height to bottom of luminaire; mounting accessories or surface boxes will add to overall height
XA-PNDTLVL**	Hand-Held Remote
- For 0-13' sloped ceilings	XA-SENSREM
Pendant Fitting	- For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required
XA-PSFTG	

**Must specify color

DM Mount



LED Count (x10)	Weight
02	11.0 lbs. (4.9kg)
04	19.0 lbs. (8.6kg)
06	20.5 lbs. (9.2kg)
08	22.0 lbs. (9.9kg)
10	27.0 lbs. (12.2kg)

Ordering Information

Example: PKG-EDG-5M-DM-04-E-UL-SV-350

Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
PKG-EDG	5M Type V Medium 70° Flood	DM Direct PD Pendant	02 04* 06* 08* 10	E	UL Universal 120-277V	SV Silver WH White	350 350mA 525 525mA 700 700mA - Available with 40-100 LEDs - Available with 20-60 LEDs	ML Multi-Level - Refer to ML spec sheet for details - Intended for downlight applications at 0° tilt PML Programmable Multi-Level - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt 40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire

* Consists of multiple 20 LED lightbars, 40, 60, and 80 LED units use blanks as needed in place of populated light bars



US: www.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Rev. Date: V2 07/20/2015

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

Cree Edge™ LED Parking Structure Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire is constructed from rugged extruded aluminum, die cast aluminum, and stamped metal components
- LED driver is mounted in extruded aluminum fixture end and sealed for weathertight operation
- High performance heat sinks specifically designed for LED parking structure applications
- Corrosion resistant wire guard provides anti-fouling protection from leaf/debris and animal nesting to assure cool LED operation
- Direct mounting bracket designed to mount directly over existing single gang and octagonal junction boxes for direct mount
- Pendant mount includes 5' (1.5m) cord out of luminaire and is intended to be mounted by 3/4" (29mm) IP pendant (by others)
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver and white are available
- Weight: See Weight Chart on pages 1 and 4

S

ELECTRICAL SYSTEM

- Input Voltage: 120-277V, 50/60Hz, Class 1 drivers
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified when ordered with SM. Exceptions apply when ordered with 80 or 100 LEDs. Please refer to www.designlights.org/QPL for most current information
- Meets Buy American requirements within ARRA
- Meets FCC Part 15 standards for conducted and radiated emissions

Electrical Data*					
LED Count (x10)	System Watts 120-277V	Total Current			
		120V	208V	240V	277V
350mA					
02	25	0.21	0.13	0.11	0.10
04	46	0.36	0.23	0.21	0.20
06	66	0.52	0.31	0.28	0.26
08	90	0.75	0.44	0.38	0.34
10	110	0.92	0.53	0.47	0.41
525mA					
04	70	0.58	0.34	0.31	0.28
06	101	0.84	0.49	0.43	0.38
08	133	1.13	0.66	0.58	0.51
10	171	1.43	0.83	0.74	0.66
700mA					
02	50	0.41	0.25	0.22	0.20
04	93	0.78	0.46	0.40	0.36
06	134	1.14	0.65	0.57	0.50

* Electrical data at 25°C (77°F)

Recommended Cree Edge™ Series Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
5°C (41°F)	1.04	0.99	0.97	0.95	0.93
10°C (50°F)	1.03	0.98	0.96	0.94	0.92
15°C (59°F)	1.02	0.97	0.95	0.93	0.91
20°C (68°F)	1.01	0.96	0.94	0.92	0.90
25°C (77°F)	1.00	0.95	0.93	0.91	0.89

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing

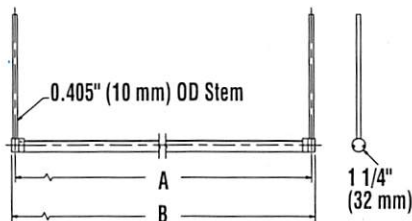
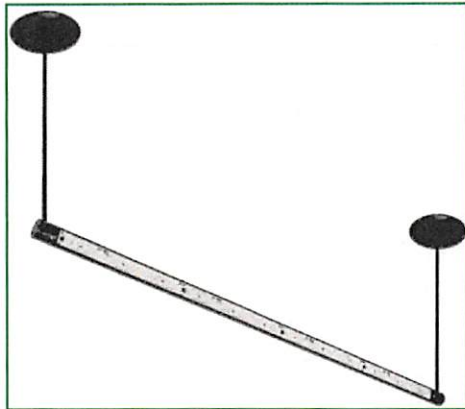
² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

SL3 &

LED LINEAR HIGH OUTPUT LIGHT (LXLW)

Crossover
LED LIGHTING TECHNOLOGY



CATALOG#	A	B
LXLW 24	26.15\" (664 mm)	26.8\" (681 mm)
LXLW 36	38.15\" (969 mm)	38.8\" (985 mm)
LXLW 48	50.15\" (1274 mm)	50.8\" (1290 mm)
LXLW 60	62.15\" (1579 mm)	62.8\" (1595 mm)

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

ARRA
Funding Compliant



APPLICATIONS - Sign Lighting, Wall Washing, Accent Lighting; Interior.

PRODUCT HIGHLIGHTS

- **Long Lasting Sparkle** - LED light beam contains no heat, and no UV, which means no degradation in color or quality of the product under display.
- **Color Consistency** - Exceptional color binning +/- 5%, no visible difference from LED to LED
- **Aimable** - Fixture adjusts from 0° to 350° to put the light where you want it.
- **"Green" Energy-Saving** - Reduces gas emissions, slashes operating costs and eliminates costly lamp disposal involving mercury waste.
- **Dramatically Lower Maintenance Costs** - 60,000 - 100,000-hour LED source extends life 3 to 5 times as compared to conventional fluorescent.
- **Easy Installation, New or Retrofit** - Mounts to either ceiling or wall.
- **Separate Power Supply** - Fixtures are connected easily to a universal voltage power supply (ordered separately).

LEDS - Select high-brightness LEDs. Expected life: minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance. Available in neutral white (NW - 4000°K, CRI > 85) and warm white (WW - 3500°K CRI > 85). (All values nominal).

DRIVER - State-of-the-art driver technology designed specifically for the application is integrated on-board, providing unsurpassed system efficiency. Complies with IEC and FCC standards.

ELECTRICAL - Fixtures operate on intrinsically-safe 24 VDC, which means no risk to customer or associates. Separate power supply operates on 120-277 VAC, 50/60 Hz. See accessory page.

BEAM SPREAD - 120° symmetrical distribution.

LIGHT OUTPUT - 600 lumens per foot (NW) and 565 lumens per foot (WW), with an input power of 7 watts per foot.

LENS - Supplied with protective clear plastic lens.

HOUSING - Available in black, white and metallic silver.

WIRING - Intrinsically-safe 24 VDC system makes it simple to connect the fixtures to the power supply. Fixtures can be spaced apart as needed using appropriately sized 2-conductor to minimize voltage drop on long feeds from power.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

LISTING - Listed to U.S. and International safety standards. Suitable for damp locations.

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **LXLW 36 LED WW 24 MSV 12STC**

Prefix	Length	Light Source	Color Temperature	Input Voltage	Finish	Mandatory Mounting Options
LXLW	24 - 24\"	LED	WW - Warm White	24 - 24 VDC	MSV - Silver	12STC - 12\" Stem & Canopy
	36 - 36\"		NW - Neutral White		BKS - Black	24STC - 24\" Stem & Canopy
	48 - 48\"				WHS - White	48STC - 48\" Stem & Canopy
	60 - 60\"					

Note: Power supply is required, please see LED Linear Accessories page.



Project Name _____ Fixture Type _____
Catalog # _____

04/08/14
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LSI INDUSTRIES INC.

F

PORTFOLIO™

DESCRIPTION

Low brightness 6-inch aperture reflector for use with 26W, 32W, or 42W Triple Twin Tube 4-pin compact fluorescent lamps for below ceiling installation. The precisely formed non-imaging optical reflector ensures 55° cutoff to lamp and lamp image and the one piece design eliminates light leaks at the ceiling. Standard features include low iridescent finish on all reflector colors to eliminate "rainbowing" and one electronic ballast to operate all 26W, 32W and 42W triple lamps. Venting ensures maximum lamp life and lumen output. Optics offer unparalleled performance in glare free lighting with a smooth beam devoid of hot spots. Open downlight, lens, and open wall wash reflectors are interchangeable within the same housing.

SPECIFICATION FEATURES

Reflector

.050 thick aluminum, in a one piece spun parabolic contour. Available in a variety of Alzak® finishes. Also available with white or black baffle. Positive reflector mounting, without tools, pulls trim tight to ceiling.

Trim Ring Options

Self flanged or molded white trim ring. Rimless or metal trim ring accessories available.

Socket Connector

One piece die cast aluminum connection allows venting for maximum thermal performance.

Housing Construction

Galvanized steel plaster ring accommodates up to 1" ceiling thickness.

Conduit Fittings

Die cast screw tight connectors.

Rotary Lock Socket

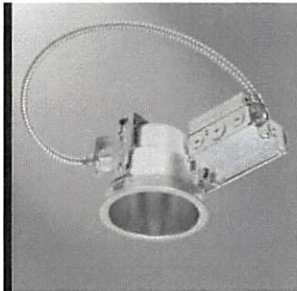
4 pin GX24q3/4 base with fatigue free stainless steel lamp spring ensures positive lamp retention.

Electronic Ballast

Electronic ballast provides full light output and rated lamp life. Provides flicker free and noise free operation and starting. End of lamp life protection is standard.

Labels

cULus listed, C.S.A. certified, standard damp label.

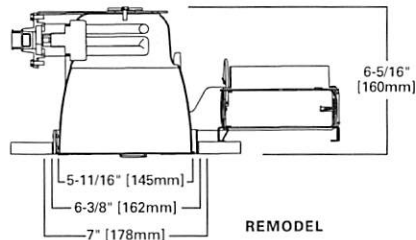


C6RH142
C6IH142
6150/6151

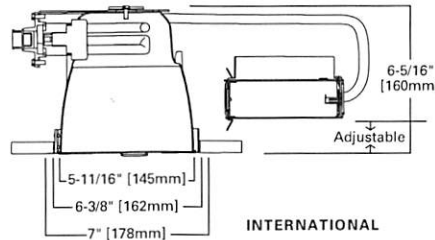
26W, 32W, or 42W
TIT or PLT

Compact Fluorescent

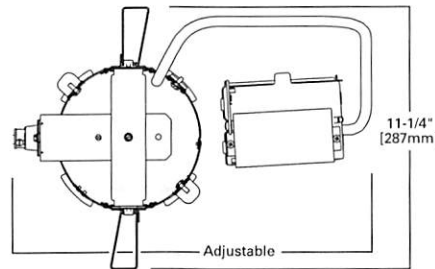
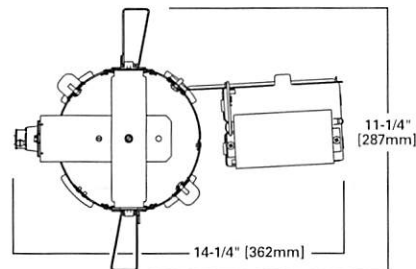
6-Inch Remodel/International
Horizontal Open Downlight



REMODEL



INTERNATIONAL



ENERGY DATA	
26W TIT 4-pin	
Ballast: Electronic	
120V Input Watts: 29	Line Amps: 0.25
277V Input Watts: 26	Line Amps: 0.09
Power Factor: >0.99	THD: <90%
Min. Starting Temperature: -10°C (15°F)	
Sound Rating: Class A Standards	
32W TIT 4-pin	
Ballast: Electronic	
120V Input Watts: 34.5	Line Amps: 0.30
277V Input Watts: 34.5	Line Amps: 0.13
Power Factor: >0.99	THD: <10%
Min. Starting Temperature: -10°C (15°F)	
Sound Rating: Class A Standards	

NOTES: Accessories should be ordered separately. For additional options, please consult your Cooper Lighting Representative. Alzak is a registered trademark of Aluminum Company of America.

C1

CPY Series

CPY250™ LED Canopy/Soffit Luminaire

Product Description

The CPY250™ LED Canopy/Soffit Luminaire has an extremely thin profile constructed of rugged cast aluminum. It can be surface mounted easily from below the canopy deck and also has the ability to be pendant mounted. Direct imaging of the LEDs is eliminated with a highly efficient patterned flat or 0.91" (23mm) drop glass lens.

Applications: Petroleum canopies, CNG fueling stations, low-medium bay general lighting, soffits

Performance Summary

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 4000K (+/- 300K), 5700K (+/- 500K) Standard

Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

IP66 Rated (Direct Mount only)

Class I, Division II Hazardous Location for select models

*See www.cree.com/lighting/products/warranty for warranty terms

Accessories

Field-Installed

Direct Mount Luminaires

Canopy Upgrade Kits

- XA-BXCCMW – for use with Jet-Philips
- XA-BXCCNW – for use with Elco Franciscan
- XA-BXCCPW – for use with LSI Dakota or Masters
- XA-BXCCQW – for use with Whiteway Riviera or Rig-A-Lite
- XA-BXCCRW – for use with Elco Merrit
- XA-BXCCSW – for use with LSI Richmond or Whiteway Civic

Direct Mount Junction Box/Stem Kit

- XA-BXCCJB0X – 6.0" (152mm) H x 3/4" (19mm) NPT Stem
- Watertight
- Rated for feed through 8 (4 in, 4 out) #12 AWC conductors

Direct Mount Beauty Plates

- XA-BXCCBPW – Plate Only
- XA-BXCCBPB12W – Plate w/ 12" (305mm) Backer
- XA-BXCCBPB16W – Plate w/ 16" (406mm) Backer

Pendant Mount Luminaires

Fitting

- XA-PSFTG – Pendant Fitting

Pendant Mount Kits

- XA-PS22KIT* – 22" (559mm)
- XA-PS12KIT* – 12" (305mm)
- XA-PS18KIT* – 18" (457mm)

- Pendant height from ceiling surface to bottom of fixture; mounting accessories or surface boxes will add to overall height

Hand-Held Remote

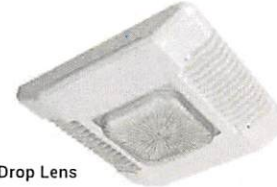
- XA-SENSREM
- For successful implementation of the programmable multi-level option, a minimum of one hand held remote is required

*Must specify color

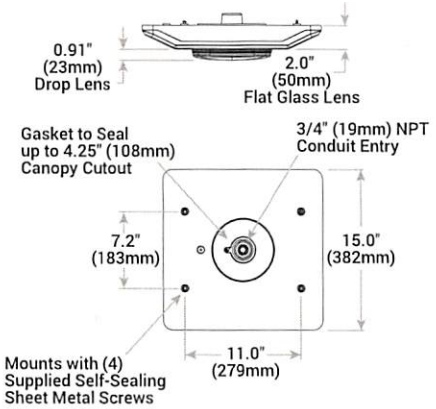
DM Mount



Flat Lens



Drop Lens



Weight

12.5 lbs (5.7kg)

Ordering Information

Example: CPY250-A-DM-D-A-UL-SV

Product	Version	Mounting	Optic	Input Power Designator	Voltage	Color Options	Options
CPY250	A	DM Direct PD Pendant	D 0.91" (23mm) Drop Lens F Flat Lens	A 82W B 120W C 43W D 140W	UL Universal 120-277V UH Universal 347-480V - Available with A, B & D Input Power Designators only	BK Black BZ Bronze SV Silver WH White	DIM 0-10V Dimming - Available with B & D Input Power Designators only - Control by others - Refer to Dimming spec sheet for details - Can't exceed wattage of specified Input Power Designator ML Multi-Level - Available with B & D Input Power Designators only - Refer to ML spec sheet for details - High: 100%, Low: 30% PML Programmable Multi-Level - Available with B & D Input Power Designators only - Refer to PML spec sheet for details 40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire



US: www.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Rev. Date: V5 07/09/2015

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

CPY250™ LED Canopy/Soffit Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Easy mounting and servicing from below the deck
- Luminaire housing is constructed of rugged cast aluminum with integral heat sink specifically designed for LED
- Flat lens is 0.125" tempered Solite® glass
- Drop lens is 0.157" molded borosilicate glass
- Direct mount is suitable for use in single or double skin canopies with a minimum 4.0" (102mm) wide panels and a minimum 22 gauge, 0.030" (0.7mm) canopy thickness
- Direct mount luminaire mounts directly to the canopy deck with the drilling of a single 2" to 4" (51mm to 102mm) round hole, is secured in place with self-sealing screws that provides a weathertight seal and includes 3/4" (19mm) conduit entry for direct wire feed
- Pendant mount includes J-Box for customer wiring and is intended to be mounted by 3/4 IP pendant (by others)
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver and white are available
- **Weight:** 12.5 lbs. (5.7kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V (A, B and D Input Power Designators only), 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 6kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used
- **10V Source Current:** 0.15mA
- **Operating Temperature Range:** A Input Power Designator: -40°C - +40°C (direct mount to plywood), -40°C - +45°C (direct mount to sheet metal/suspended); B Input Power Designator: -40°C - +35°C (plywood), -40°C - +40°C (sheet metal/suspended); C Input Power Designator: -40°C - +45°C (plywood), -40°C - +50°C (sheet metal/suspended); D Input Power Designator: -40°C - +35°C (sheet metal/suspended)
WARNING: Exceeding maximum operating temperature may result in thermal foldback

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations when ordered with DM mount
- Suitable for damp locations when ordered with PD mount
- Enclosure rated IP66 per IEC 60529 when ordered with DM mount
- Consult factory for CE Certified products
- 6kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15 standards for conducted and radiated emissions
- DLC qualified when ordered with A, B & C Input Power Designators. Please refer to www.designlights.org/QPL for most current information
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant when ordered with DM mount. Consult factory for additional details
- Class I, Division II Hazardous Location rated when ordered with the following SKUs: CPY250-A-DM-D-B-UL-WH, CPY250-A-DM-F-B-UL-WH, CPY250-A-DM-D-B-UH-WH and CPY250-A-DM-F-B-UH-WH. Consult factory for additional details

Electrical Data*								
Input Power Designator	System Watts 120-277V	System Watts 347-480V	Total Current					
			120V	208V	240V	277V	347V	480V
A	82	84	0.69	0.40	0.35	0.32	0.24	0.18
B	120	117	1.05	0.61	0.54	0.47	0.36	0.26
C	43	N/A	0.35	0.21	0.19	0.17	N/A	N/A
D	140	145	1.24	0.71	0.62	0.54	0.44	0.29

* Electrical data at 25°C (77°F)

Recommended CPY Series Lumen Maintenance Factors (LMF) ¹						
Ambient	Input Power Designator	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Projected ² LMF	100K hr Projected ² LMF
5°C (41°F)	A & C	1.05	1.00	0.93	0.87	0.81
	B & D		0.98	0.90	0.83	0.76
10°C (50°F)	A & C	1.04	0.99	0.92	0.86	0.80
	B & D		0.98	0.89	0.82	0.75
15°C (59°F)	A & C	1.02	0.97	0.91	0.84	0.79
	B & D		0.96	0.88	0.80	0.74
20°C (68°F)	A & C	1.01	0.96	0.90	0.84	0.78
	B & D		0.95	0.87	0.80	0.73
25°C (77°F)	A & C	1.00	0.95	0.89	0.83	0.77
	B & D		0.94	0.86	0.79	0.72
30°C (86°F)	A & C	0.99	0.94	0.88	0.82	0.76
	B & D		0.93	0.85	0.78	0.72

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing on sheet metal

² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

A1, A2 & A3 Cree Edge™ Series

LED Area/Flood Luminaire

Product Description

The Cree Edge™ Series has a slim, low profile design. Its rugged cast aluminum housing minimizes wind load requirements and features an integral, weathertight LED driver compartment and high performance aluminum heat sinks. Various mounting choices: Adjustable Arm, Direct Arm, Direct Arm Long, or Side Arm (details on page 2). Includes a leaf/debris guard.

Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal roadways

Performance Summary

Patented NanoOptic® Product Technology

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard

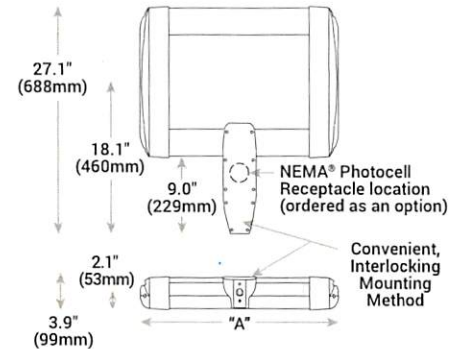
Limited Warranty: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

* See www.cree.com/lighting/products/warranty for warranty terms

Accessories

Field-Installed	
Bird Spikes XA-BRDSBK	Backlight Control Shields XA-20BLS-4 - Four-pack - Unpainted stainless steel
Hand-Held Remote XA-SENSREM	
- For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required	

DA Mount



LED Count (x10)	Dim. "A"	Weight
02	12.1" (306mm)	21 lbs. (10kg)
04	12.1" (306mm)	24 lbs. (11kg)
06	14.1" (357mm)	27 lbs. (12kg)
08	16.1" (408mm)	28 lbs. (13kg)
10	18.1" (459mm)	32 lbs. (15kg)
12	20.1" (510mm)	34 lbs. (15kg)
14	22.1" (560mm)	37 lbs. (17kg)
16	24.1" (611mm)	41 lbs. (19kg)

AA/DL/SA Mount - see page 22 for weight & dimensions

Ordering Information

Example: ARE-EDG-2M-AA-12-E-UL-SV-350

Product	Optic	Mounting*	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
ARE-EDG	2M Type II Medium	AA Adjustable Arm DA Direct Arm DL Direct Long Arm SA Side Arm - Available with 20-60 LEDs	02	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver WH White	350 350mA 525 525mA 700 700mA - Available with 20-60 LEDs	DIM 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current F Fuse - Refer to ML spec sheet for availability with ML options - Available with UL voltage only - When code dictates fusing, use time delay fuse HL Hi/Low (Dual Circuit Input) - Refer to HL spec sheet for details - Sensor not included ML Multi-Level - Refer to ML spec sheet for details - Intended for downlight applications at 0° tilt P Photocell - Refer to ML spec sheet for availability with ML options - Available with UL voltage only
	3MB Type III Medium w/BLS		04					
	2MB Type II Medium w/BLS		06					
	3MP Type III Medium w/BLS		08					
	5M Type V Medium		10					
	2MP Type II Medium w/Partial BLS		12					
	4M Type IV Medium		14					
	3M Type III Medium		16					
	4MB Type IV Medium w/BLS							
FLD-EDG	25 25' Flood	N6 NEMA® 6						PML Programmable Multi-Level, 20-40' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt PML2 Programmable Multi-Level, 10-30' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt R NEMA® Photocell Receptacle - Intended for downlight applications with maximum 45° tilt - Photocell by others - Refer to ML spec sheet for availability with ML options 40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire
	40 40' Flood							
	70 70' Flood Sign							

* Reference EPA and pole configuration suitability data beginning on page 19
NOTE: Price adder may apply depending on configuration



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Rev. Date: V3 10/15/2015

Canada: www.cree.com/canada



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Cree Edge™ LED Area/Flood Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile, minimizing wind load requirements
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment and high performance heat sinks
- DA and DL mount utilizes convenient interlocking mounting method. Mounting is rugged die cast aluminum, mounts to 3-6" (76-152mm) square or round pole and secures to pole with 5/16-18 UNC bolts spaced on 2" (51mm) centers
- AA and SA mounts are rugged die cast aluminum and mount to 2" (51mm) IP, 2.375" (60mm) O.D. tenons
- Includes leaf/debris guard
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available
- **Weight:** See Dimensions and Weight Charts on pages 1 and 22

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- DA and DL mounts designed with integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used
- **Maximum 10V Source Current:** 20 LED (350mA): 10mA; 20 LED (525 & 700mA) and 40-80 LED: 0.15mA; 100-160 LED: 0.30mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without P or R options
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards when ordered with AA, DA and DL mounts
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15 standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified. Exceptions apply when ordered with full backlight control or 3MP optic with 20 LEDs. Please refer to www.designlights.org/QPL for most current information
- Meets Buy American requirements within ARRA

Electrical Data*							
LED Count (x10)	System Watts 120-480V	Total Current					
		120V	208V	240V	277V	347V	480V
350mA							
02	25	0.21	0.13	0.11	0.10	0.08	0.07
04	46	0.36	0.23	0.21	0.20	0.15	0.12
06	66	0.52	0.31	0.28	0.26	0.20	0.15
08	90	0.75	0.44	0.38	0.34	0.26	0.20
10	110	0.92	0.53	0.47	0.41	0.32	0.24
12	130	1.10	0.63	0.55	0.48	0.38	0.28
14	158	1.32	0.77	0.68	0.62	0.47	0.35
16	179	1.49	0.87	0.77	0.68	0.53	0.39
525mA							
02	37	0.30	0.19	0.17	0.16	0.12	0.10
04	70	0.53	0.34	0.31	0.28	0.21	0.16
06	101	0.84	0.49	0.43	0.38	0.30	0.22
08	133	1.13	0.66	0.58	0.51	0.39	0.28
10	171	1.43	0.83	0.74	0.66	0.50	0.38
12	202	1.69	0.98	0.86	0.77	0.59	0.44
14	232	1.94	1.12	0.98	0.87	0.68	0.50
16	263	2.21	1.27	1.11	0.97	0.77	0.56
700mA							
02	50	0.41	0.25	0.22	0.20	0.15	0.12
04	93	0.78	0.46	0.40	0.36	0.27	0.20
06	134	1.14	0.65	0.57	0.50	0.39	0.29

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%.

Recommended Cree Edge™ Series Lumen Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
5°C (41°F)	1.04	0.99	0.97	0.95	0.93
10°C (50°F)	1.03	0.98	0.96	0.94	0.92
15°C (59°F)	1.02	0.97	0.95	0.93	0.91
20°C (68°F)	1.01	0.96	0.94	0.92	0.90
25°C (77°F)	1.00	0.95	0.93	0.91	0.89

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing

² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

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Case No(s). 17-0906-EL-EEC

Summary: Application Speedway Superamerica #9265 and Ohio Power Company for approval of a special arrangement agreement with a mercantile customer electronically filed by Mr. Ryan F.M. Aguiar on behalf of Ohio Power Company