AEP
AMERICAN ELECTRIC POWER

Legal Department

March 2, 2016

Chairman Andre T. Porter
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215-3793

Re: **In the Matter of the Application of**	**)**	
Diebold Inc.	**)**	
and Ohio Power Company	**)**	**Case No. 16-0270-EL-EEC**
for Approval of a Special Arrangement	**)**	
Agreement with a Mercantile Customer	**)**	

Erin C. Miller
Counsel
Regulatory Services
(614) 716-2942 (T)
(614) 716-2950 (F)
ecmiller1@aep.com

Dear Chairman Porter,

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 2016 (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/ Erin C. Miller
Erin C. Miller

Attachments

Ohio | Public Utilities Commission

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

Case No.: 16-0270-**EL-EEC**

Mercantile Customer: DIEBOLD INC

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 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: DIEBOLD INC

Principal address: 5995 Mayfair Road, North Canton, Oh 44720

Address of facility for which this energy efficiency program applies: 5995 Mayfair Rd, North Canton, Oh 44720-1550

Name and telephone number for responses to questions:

Tom Serra, Diebold Inc, (330) 490-6869

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, 12/16/2014 and the date on which the customer would have replaced your equipment if you had not replaced it 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)).

The remaining life of the equipment varies and is not known with certainty. The future replacement date is unknown and has historically been at the end of equipment life. Replacement was completed early to achieve energy savings and to reduce future maintenance costs.

☐ 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 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:

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

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

Annual savings: 177,746 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.

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:

Annual savings: kWh

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

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):

- 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))

47.9 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 are seeking is:

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

☐ A cash rebate of $_____. (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.)

OR

☒ A cash rebate valued at no more than 50% of the total project cost, which is equal to $ 14,257.64. (Attach documentation 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: 4.22 (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 $ 64,616.96

The utility's program costs were $ 1,066.48

The utility's incentive costs/rebate costs were $ 14,257.64.

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 confidentially 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.

Ohio | Public Utilities Commission

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

Case No.: 16-0270-EL-EEC

State of Ohio :

R. SEKAR, 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.

Energy Engineer
Signature of Affiant & Title

Sworn and subscribed before me this 9th day of February, 2016 Month/Year

Signature of official administering oath

Kristin Phillips, Consultant
Print Name and Title

My commission expires on July 19, 2019

NOTARIAL SEAL STATE OF OHIO

KRISTIN PHILLIPS
NOTARY PUBLIC - OHIO
MY COMMISSION EXPIRES
JULY 19, 2019

AEP OHIO
A unit of American Electric Power

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	DIEBOLD INC
Project Number	AEP-15-16496
Customer Premise Address	5995 MAYFAIR RD, NORTH CANTON, OH 44720-1550
Customer Mailing Address	5995 Mayfair Road, North Canton, OH 44720
Date Received	9/11/2015
Project Installation Date	12/16/2014
Annual kWh Reduction	177,746
Total Project Cost	$153,253.21
Unadjusted Energy Efficiency Credit (EEC) Calculation	$19,010.18
Simple Payback (yrs)	13.0
Utility Cost Test (UCT) for EEC	4.22
Utility Cost Test (UCT) for Exemption	0.07

Please Choose One Option Below and Initial

Self Direct EEC: 75%	**$14,257.64**	[X]	**Initial:** T.J.S.
EE/PDR Rider Exemption	**12 Months (with possible extension up to 71 months after PUCO Approval)**	[ ]	**Initial:**

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?

X 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 th EEDR savings. Applicants must file for renewal for any exemption beyond 12 months.

Project Overview:

The Self Direct (Prescriptive and Custom) project that the above has completed and applied is as follows.

Replaced (206) 4-lamp, 4-foot T12 with (206) 2FSL2 20L LP840 LED
Replaced (194) 4-lamp, 4-foot T12 with (194) 2FSL2 33L LP840 LED
Replaced (29) 2 Lamp 32WCFL with (29) RV8 35/30 LED
Replaced (47) 2 Lamp 32WCFL with (47) RV8 35/25 LED
Replaced (51) 2 Lamp 32WCFL with (51) RV8 35/20 LED
Installed occupancy sensors to control (46) 2FSL2 20L LP840 LED fixtures
Installed occupancy sensors to control (14) 2FSL2 33L LP830 LED fixtures
Installed (99) LED Interior Exit Signs

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: Jon F. Will

Title: Manager

Date: 11/5/2015

DIEBOLD INC

By: Thomas J. Senica Thomas J. Senica

Title: Sr. Manager of Facilities

Date: 11/4/15

Prescriptive, Custom & Self-Direct
Program Application

APPLICATION GUIDELINES

All 2015 AEP Ohio Business Incentives Program projects must be completed and Final Applications received no later than November 13, 2015, 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 Application[1]
(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 custom 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
2740 Airport Drive, Suite 160. Columbus, OH 43219
Phone: (877) 607-0739 | Fax: (877) 607-0740
aepohioincentives@dnvgl.com
Visit our website at AEPohio.com/solutions

[1]A 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.

Prescriptive, Custom & Self-Direct
Program Application

CHECKLIST

PRE-APPROVAL APPLICATION

Required Attachments

- ☐ Completed Applicant Information form
- ☐ Completed Incentives Requested section of Application form
- ☐ Signed Customer Agreement form
- ☐ Equipment specifications
- ☐ Proposed scope of work (required on Custom projects and recommended for all projects)
- ☐ W-9 (required for LLC, individual, partnership, property management companies)

Applicable Incentive Worksheets

Please complete worksheets for checked boxes.

- ☐ Lighting
- ☐ HVAC
- ☐ Motors & Drives
- ☐ Compressed Air
- ☐ Refrigeration/Food Service
- ☐ Agriculture & Miscellaneous
- ☐ Transformer
- ☐ UPS
- ☐ Custom

Application date_____
Estimated incremental project cost_____
Expected completion date_____

Incomplete applications will delay processing and reservation of funds.

FINAL APPLICATION

Required Attachments

- ☐ Completed Applicant Information form
- ☐ Completed and signed Final Payment Agreement and Customer Agreement forms
- ☐ Completed Third-Party Payment Release
- ☐ Authorization section (optional)
- ☐ Itemized invoices
- ☐ Equipment specifications[1]
- ☐ Updated scope of work[1]
- ☐ W-9[1] (required for LLC, individual, partnership, property management companies)

Incentive Worksheets

Please complete worksheets for checked boxes.

- ☐ Lighting
- ☐ HVAC
- ☐ Motors & Drives
- ☐ Compressed Air
- ☐ Refrigeration/Food Service
- ☐ Agriculture & Miscellaneous
- ☐ Transformer
- ☐ UPS
- ☐ Custom

Application date_____
Final incremental project cost_____
Final completion date_____

Incomplete applications will delay processing and incentive payment.
[1]If submitted with a pre-application, required only if project changed.

Revised Submittal

Please complete below if this is a revised submittal.

Submittal date_____

AEP Project Number (if known) AEP - 1 __ - __ __ __ __ __

AEP Ohio Business Incentives Program
2740 Airport Drive, Suite 160. Columbus, OH 43219
Phone: (877) 607-0739 | Fax: (877) 607-0740
aepohioincentives@dnvgl.com
Visit our website at AEPohio.com/solutions

Prescriptive, Custom & Self-Direct
Program Application

AEP OHIO®

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? (Selec

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

Contact Name _____ Contact Title _____

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 ten 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

Incentive Category	Applied for Incentives	Applicable Self- Direct Incentives
Lighting		
HVAC		
Motors		
Drives		
Compressed Air		
Refrigeration/Food Service		
Agriculture		
Miscellaneous		
Appliance Recycling		
Custom		
NC Lighting (SD Only)		
Total		

CUSTOMER AGREEMENT

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

Pre-Approval Agreement

By signing this document, I agree to program requirements outlined in the measure specifications, Terms and Conditions, 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 Prescriptive/Custom Terms and Conditions, and Final Application Agreement.

Estimated Completion Date

_____

Estimated Project Cost

_____

Total Incentive Requested[1]

_____

Date

_____

AEP Ohio Customer Signature

_____

Print Name

_____

[1]Incentives are capped at 50% of the project cost and total incentives are capped at $25,000.

Prescriptive, Custom & Self-Direct
Program Application

CUSTOMER AGREEMENT

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

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)** _____

Final 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 Prescriptive/Custom Terms and Conditions, and Final Application Agreement
Link to Self-Direct Terms and Conditions, and Final Application Agreement

Project Completion Year (Select One) _____ Is this a Self-Direct application? (Select One) _____

Project Completion Date _____ **Total Project Cost** _____

Date _____ **Total Applied for Incentive** _____

Total Requested Incentive[1] $ 0.00 **Total Self-Direct Requested Incentive**[2] _____

Print Name _____ **AEP Ohio Customer Signature** _____

SUBMIT VIA EMAIL **PRINT APPLICATION**

[1]Incentives are capped at 50% of the project cost and total incentives are capped at $25,000.
[2]Self-Direct incentives are 75% of Total Requested Incentive, after 50% of the project cost cap and tiering is applied.

DLC Qualified

APPROVED

LITHONIA LIGHTING

Catalog Number

Notes

Type

FEATURES & SPECIFICATIONS

INTENDED USE — The FS Series recessed LED luminaire combines modern aesthetics and performance in a general lighting product that enables the transformation from fluorescent to LED. The high efficacy light engine delivers long life and excellent color to ensure a quality lighting installation. Integrated controls options provide for design flexibility and optimum energy savings. Multiple lumen packages and driver options provide solutions for all your lighting applications. **Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.**

CONSTRUCTION — Rugged, one-piece cold-rolled steel coated polyester, painted after fabrication. The satin white lens provides excellent shielding and wide distribution. End plates include integral T-bar clips. Fixture may be mounted and wired in continuous rows. Total fixture height is only 4-3/8".

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior illumination for extended service life. 90% LED lumen maintenance at 60,000 hours (L90/60,000).

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight® controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices and the FSL luminaires using standard CAT-5 cabling. Unique plug-and-play convenience allows devices and luminaires to automatically discover each other and self-commission.

Lumen Management: Unique lumen management system (option N80) provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Driver disconnect provided where required to comply with US and Canadian codes.

INSTALLATION — Unique grid interfacing arrangement provides mounting into standard 1" and 9/16" tee bar or screw slot grids. 9/16" allows fixture trim to hang level with architectural ceiling tiles. Drywall ceiling adaptors available. Suitable for damp location.

LISTINGS — CSA certified to meet US and Canadian standards. IC rated. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

FS Series

2FSL2

2' x 2' LED

eldoLED nLIGHT

Stock Configurations
2FSL2 33L EZ1 LP835
2FSL2 33L EZ1 LP840

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2FSL2 20L EZ1 LP835 N100

2FSL2								
Series	**Air function**	**Lumens**	**Lens**	**Voltage**	**Driver**	**Color temperature**	**Controls[5]**	**Options**
2FSL2 2X2 FSL	(blank) Static H Heat removal	20L 2000[1] 33L 3300[1] 40L 4000[1]	(blank) Satin white	(blank) MVOLT 347 347[2]	EZ1 eldoLED dims to 1%, 0-10V EZB eldoLED dims to black, 0-10V EDB eldoLED DALI[3] EXB eldoLED DMX/RDM[3] SLD Step-level dimming[3,4] EXA1 Dims to 1%, XPoint wireless enabled EXAB Dims to dark, XPoint wireless enabled	LP830 3000 K LP835 3500 K LP840 4000 K LP850 5000 K	(blank) No controls N80 nlight® with 80% lumen management N80EMG nlight® with 80% lumen management. For use with generator supply EM power. N100 nlight® without lumen management N100EMG nlight® without lumen management. For use with generator supply EM power.	EL7L 700 lumen battery pack EL14L 1400 lumen battery pack CP Chicago plenum PWS1836 6' prewire, 3/8" diameter, 18-gauge, 1-circuit PWS1846 6' prewire, 3/8" diameter, 18-gauge, 2-circuit RRL_ RELOC®-ready luminaire[6] NPLT Narrow pallet

Accessories: *Order as separate catalog number.*	
2FS2 F916	Trim to adjust fixture mounting flush with 9/16" T-bar; for 2x2 fixture
DGA22	Drywall ceiling adaptor , unit installation[7]

Notes

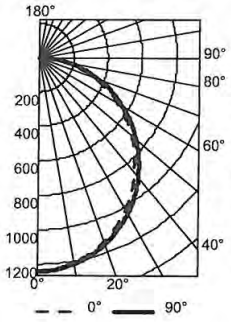
1. Approximate lumen output.
2. Consult factory for availability. Not available with SLD, EL7L, or EL14L.
3. Not available with N80, N80EMG, N100 or N100EMG.
4. When using prewire option, use PWS1846.
5. nIO access limitations with 20L or EZB.
6. For ordering logic consult: RRL_2013.
7. When DGA kits are used, order 2FS2 F916 accessory.

2FSL2 LED Recessed Lighting 2'x2'

Performance Data			
Lumen package	Input watts[1]	Lumens	LPW
20L LP830	20.4	2048	100
20L LP835	20.4	2134	105
20L LP840	20.5	2196	107
20L LP850	20.5	2333	114
33L LP830	34.4	3318	96
33L LP835	34.6	3544	103
33L LP840	34.7	3626	105
33L LP850	34.9	3839	110
40L LP830	41.7	3857	93
40L LP835	41.9	4127	99
40L LP840	42.1	4209	100
40L LP850	41.2	4502	109

PHOTOMETRICS

2FSL2 33L LP835, test no. LTL24691P5, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1240	1240
5°	1228	1237
15°	1178	1190
25°	1080	1100
35°	948	979
45°	792	827
55°	619	650
65°	434	465
75°	246	268
85°	74	87
90	3	3

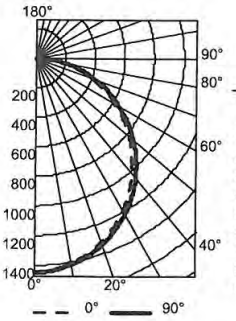
Coefficients of Utilization

RCR	pf pc pw	80% 70%	80% 50%	80% 30%	20% 70%	20% 50%	20% 30%	20% 10%	50% 50%	50% 30%	50% 10%
0		119	119	119	116	116	116		111	111	111
1		108	103	99	101	97	93		97	93	90
2		98	90	83	88	81	76		84	79	74
3		90	79	70	77	69	63		74	68	62
4		82	70	61	68	60	54		66	59	53
5		75	62	53	61	53	46		59	51	46
6		69	56	47	55	46	40		53	46	40
7		64	51	42	50	42	36		48	41	35
8		60	46	38	46	37	32		44	37	31
9		56	42	34	42	34	29		41	33	28
10		53	39	31	39	31	26		38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	953	26.9	26.9
0° - 40°	1556	43.9	43.9
0° - 60°	2746	77.5	77.5
0° - 90°	3545	100.0	100.0
90° - 180°	0	0.0	0.0
0° - 180°	3545	100.0	100.0

2FSL2 40L LP835, test no. LTL24691P9, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1445	1445
5°	1431	1441
15°	1372	1386
25°	1257	1282
35°	1104	1140
45°	923	963
55°	721	758
65°	506	542
75°	286	312
85°	87	101
90	4	4

Coefficients of Utilization

RCR	pf pc pw	80% 70%	80% 50%	80% 30%	20% 70%	20% 50%	20% 30%	20% 10%	50% 50%	50% 30%	50% 10%
0		119	119	119	116	116	116		111	111	111
1		108	103	99	101	97	93		97	93	90
2		98	90	83	88	81	76		84	79	74
3		90	79	70	77	69	63		74	68	62
4		82	70	61	68	60	54		66	59	53
5		75	62	53	61	53	46		59	51	46
6		69	56	47	55	46	40		53	46	40
7		64	51	42	50	42	36		48	41	35
8		60	46	38	46	37	32		44	37	31
9		56	42	34	42	34	29		41	33	28
10		53	39	31	39	31	26		38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1110	26.9	26.9
0° - 40°	1812	43.9	43.9
0° - 60°	3198	77.5	77.5
0° - 90°	4129	100.0	100.0
90° - 180°	0	0.0	0.0
0° - 180°	4129	100.0	100.0

Energy Star Certified

APPROVED

LITHONIA LIGHTING

Catalog Number	
Notes	
Type	

RV8 LED

8" OPEN LED
Non-IC
Retrofit Downlight

WET LOCATION™ DIMMABLE LED

ENERGY STAR

FEATURES & SPECIFICATIONS

INTENDED USE — LED downlight for retrofit of installed 8" nominal commercial "pan-style" housings with incandescent, compact fluorescent (CFL), or high intensity discharge (HID) sources. Compatible aperture range is 7-3/4" to 8-7/8". All installation can be performed from the room side without removing the existing fixture. Multiple lumen packages to replace the installed base of CFL or HID sources with energy savings up to 50%. See Lumen Equivalency Chart.

CONSTRUCTION — Innovative housing design that simultaneously retains and centers the fixture in the existing mounting pan.

OPTICS — LED light source with diffuse lens recessed in a reflector with a 55-degree cutoff. Aluminum full reflectors are optically designed to maximize lumen output and to provide superior glare control.

Anodized trim colors for open reflectors are clear diffuse, pewter or wheat. White polyester powder coat also available.

Minimum CRI of 80.

ELECTRICAL — Proprietary electrical design allows for excellent line voltage dimming down to 10% light output on 120V product. The zero in rush design enables maximum loading of incandescent dimmers. This enables customers to add dimming at a low cost without pulling additional wires. For compatible dimmers and dimming range, refer to Dimmer Compatibility Chart.

The system maintains 70% lumen output at more than 60,000 hours.

LISTINGS — CSA certified to US and Canadian safety standards. Wet location listed. ENERGY STAR® certified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

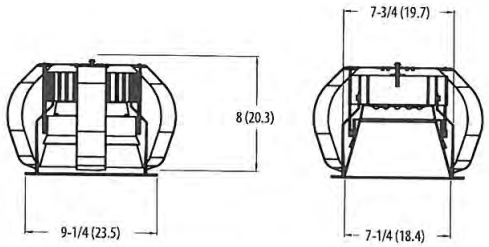
Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

LUMEN EQUIVALENCY CHART

	Delivered lumen values		
	2000	2500	3000
Approximate LED wattage	26W	34W	42W
Comparable fluorescent	1/42W CFL 2/26W CFL	2/32W CFL	> 2/32W CFL
Comparable HID	N/A	50W ED17	70W ED17
Comparable incandescent	200W A21	N/A	300W BR40
Comparable halogen PAR	100W	N/A	N/A



Specifications

Aperture:	7-1/4 (18.4)	Max. frame aperture:	8-7/8 (22.5)
Overlap trim:	9-1/4 (23.5)	Min. frame aperture:	7-3/4 (19.7)
Height:	8 (20.3)	Max. ceiling thickness:	2 (5.1)
Length:	9 (22.9)		

All dimensions are inches (centimeters) unless otherwise indicated.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: RV8 35/30 R08AR 120

RV8													
Series	**Color temperature**		**Lumens**		**Reflector**		**Trim color**		**Finish**		**Voltage**	**Options**	
RV8	27/	2700 K	20	2000 lumens [1]	R08	Downlight	AR	Clear	(blank)	Semi-specular	120	TRW	White painted flange
	30/	3000 K	25	2500 lumens [1]	RW8	Wallwash	PR	Pewter	LD	Matte-diffuse	277	TRBL	Black painted flange
	35/	3500 K	30	3000 lumens [1]			WTR	Wheat	LS	Specular			
	40/	4000 K					WR	White [2]					

Accessories: *Order as separate catalog number.*

EAC ISSM 375	Compact interruptible emergency AC power system
EAC ISSM 125	Compact interruptible emergency AC power system
RK2 SDT 347277120 395VA AD JZ	347V step down transformer mounted in box installed by others
GRA810 JZ	Oversized trim ring with 10" outside diameter. Refer to TECH-GOOF RINGS for more options.
RV8RGIN	8" rough-in frame. Refer to RV ROUGH-IN FRAMES.
RV8RGIN IFB	8" install from below, rough-in frame. Refer to RV ROUGH-IN FRAMES.

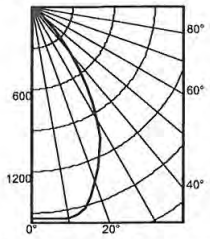
Notes
1 Approximate lumen output.
2 Not available with finishes.

RV8 LED

PHOTOMETRICS

Distribution Curve | **Distribution Data** | **Output Data** | **Coefficient of Utilization** | **Illuminance Data at 30" Above Floor for a Single Luminaire**

RV8 35/20 120 RO8AR, input watts: 26 , delivered lumens: 1768, LM/W = 68, test no. LTL23512.



Ave	Lumens
0	1541
5	1548
15	1513
25	1174
35	701
45	236
55	34
65	3
75	0
85	0
90	1

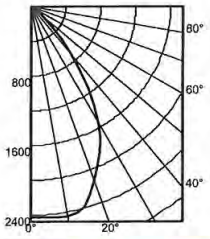
Zone	Lumens	% Lamp
0° - 30°	1102.9	62.4
0° - 40°	1536.8	86.9
0° - 60°	1764.0	99.8
0° - 90°	1768.0	100.0
90° - 180°	0.0	0.0
0° - 180°	1768.0	*100.0

*Efficiency

pf / pc / pw	80% 50%	80% 30%	80% 10%	20% 70% 50%	20% 70% 30%	20% 70% 10%	20% 50% 50%	20% 50% 30%	20% 50% 10%
0	119	119	119	116	116	116	111	111	111
1	110	108	105	108	106	104	104	102	100
2	102	98	94	100	96	93	97	94	91
3	94	89	85	93	88	84	90	86	83
4	88	82	77	86	81	77	84	80	76
5	81	75	71	81	75	70	79	74	70
6	76	70	65	75	69	65	74	68	64
7	71	64	60	70	64	60	69	63	59
8	66	60	56	66	60	55	65	59	55
9	62	56	52	62	56	52	61	55	51
10	59	52	48	58	52	48	57	52	48

Mounting Height	Inital FC Center Beam	50% beam - 54.2° Diameter	50% beam - 54.2° FC	10% beam - 83.3° Diameter	10% beam - 83.3° FC
8.0	50.9	5.6	25.5	9.8	5.1
10.0	27.4	7.7	13.7	13.3	2.7
12.0	17.1	9.7	8.5	16.9	1.7
14.0	11.7	11.8	5.8	20.5	1.2
16.0	8.5	13.8	4.2	24.0	0.8

RV8 35/30 120 RO8AR, input watts: 42 , delivered lumens: 2803, LM/W = 68, test no. LTL23505.



Ave	Lumens
0	2428
5	2432
15	2381
25	1868
35	1133
45	373
55	42
65	5
75	1
85	0
90	0

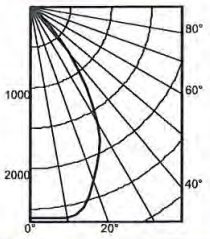
Zone	Lumens	% Lamp
0° - 30°	1745.0	62.3
0° - 40°	2446.2	87.3
0° - 60°	2796.1	99.8
0° - 90°	2802.8	100.0
90° - 180°	0.0	0.0
0° - 180°	2802.8	*100.0

*Efficiency

pf / pc / pw	80% 50%	80% 30%	80% 10%	20% 70% 50%	20% 70% 30%	20% 70% 10%	20% 50% 50%	20% 50% 30%	20% 50% 10%
0	119	119	119	116	116	116	111	111	111
1	110	108	105	108	106	104	104	102	100
2	102	98	94	100	96	93	97	94	91
3	95	89	85	93	88	84	90	86	83
4	88	82	77	87	81	77	84	80	76
5	82	75	71	81	75	70	79	74	70
6	76	70	65	75	69	65	74	68	64
7	71	64	60	70	64	60	69	63	60
8	66	60	56	66	60	55	65	59	55
9	62	56	52	62	56	52	61	55	51
10	58	52	48	58	52	48	57	52	48

Mounting Height	Inital FC Center Beam	50% beam - 54.8° Diameter	50% beam - 54.8° FC	10% beam - 83.6° Diameter	10% beam - 83.6° FC
8.0	80.3	5.7	40.1	9.8	8.0
10.0	43.2	7.8	21.6	13.4	4.3
12.0	26.9	9.8	13.5	17.0	2.7
14.0	18.4	11.9	9.2	20.6	1.8
16.0	13.3	14.0	6.7	24.1	1.3

RV8 35/30 277 RO8AR, input watts: 44 , delivered lumens: 2980, LM/W = 68, test no. LTL24235.



Ave	Lumens
0	2605
5	2617
15	2560
25	2006
35	1204
45	376
55	40
65	5
75	2
85	0
90	0

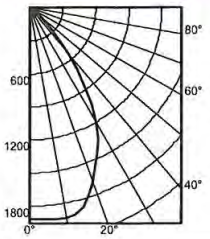
Zone	Lumens	% Lamp
0° - 30°	1875.5	62.9
0° - 40°	2620.2	87.9
0° - 60°	2973.9	99.8
0° - 90°	2980.6	100.0
90° - 180°	0.0	0.0
0° - 180°	2980.6	*100.0

*Efficiency

pf / pc / pw	80% 50%	80% 30%	80% 10%	20% 70% 50%	20% 70% 30%	20% 70% 10%	20% 50% 50%	20% 50% 30%	20% 50% 10%
0	119	119	119	116	116	116	111	111	111
1	110	108	105	108	106	104	104	102	101
2	102	98	94	100	97	93	97	94	91
3	95	89	85	93	88	85	91	87	83
4	88	82	78	87	81	77	85	80	76
5	82	76	71	81	75	71	79	74	70
6	76	70	65	75	69	65	74	69	65
7	71	65	60	70	64	60	69	64	60
8	67	60	56	66	60	56	65	59	56
9	62	56	52	62	56	52	61	56	52
10	59	53	49	58	52	48	57	52	48

Mounting Height	Inital FC Center Beam	50% beam - 54.8° Diameter	50% beam - 54.8° FC	10% beam - 83.2° Diameter	10% beam - 83.2° FC
8.0	86.1	5.7	43.1	9.8	8.6
10.0	46.3	7.8	23.2	13.3	4.6
12.0	28.9	9.9	14.4	16.9	2.9
14.0	19.7	11.9	9.8	20.4	2.0
16.0	14.3	14.0	7.1	24.0	1.4

RV8 35/20 277 RO8AR, input watts: 29 , delivered lumens: 2192, LM/W = 75, test no. LTL24233.



Ave	Lumens
0	1916
5	1925
15	1872
25	1453
35	876
45	284
55	43
65	3
75	1
85	0
90	0

Zone	Lumens	% Lamp
0° - 30°	1367.5	62.4
0° - 40°	1908.5	87.1
0° - 60°	2186.7	99.8
0° - 90°	2191.5	100.0
90° - 120°	0.5	0.0
90° - 130°	0.5	0.0
90° - 150°	0.5	0.0
90° - 180°	0.7	0.0
0° - 180°	2192.2	*100.0

*Efficiency

pf / pc / pw	80% 50%	80% 30%	80% 10%	20% 70% 50%	20% 70% 30%	20% 70% 10%	20% 50% 50%	20% 50% 30%	20% 50% 10%
0	119	119	119	116	116	116	111	111	111
1	110	108	105	108	106	104	104	102	100
2	102	98	94	100	96	93	97	94	91
3	94	89	85	93	88	84	90	86	83
4	88	82	77	86	81	77	84	80	76
5	81	75	71	81	75	70	79	74	70
6	76	70	65	75	69	65	74	68	64
7	71	64	60	70	64	60	69	63	59
8	66	60	56	66	60	55	65	59	55
9	62	56	52	62	56	52	61	55	51
10	59	52	48	58	52	48	57	52	48

Mounting Height	Inital FC Center Beam	50% beam - 54.2° Diameter	50% beam - 54.2° FC	10% beam - 83.1° Diameter	10% beam - 83.1° FC
8.0	63.3	5.6	31.7	9.8	6.3
10.0	34.1	7.7	17.0	13.3	3.4
12.0	21.2	9.7	10.6	16.8	2.1
14.0	14.5	11.8	7.2	20.4	1.4
16.0	10.5	13.8	5.3	23.9	1.1

Notes

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 84 typical.

ENERGY STAR Certified Light Fixtures

Product Details: Lithonia Lighting - RV8 35/25 277 RO8 AR

Want more information? Access the full product list in Excel , API, and other formats.
Switch to Advanced View. »

Specifications | Additional Model Information

ENERGY STAR Partner:	Lithonia Lighting
Indoor/Outdoor:	Indoor
Fixture Type:	Downlight Recessed
Commercial Versus Residential:	Commercial
Technology:	LED
Total Light Output (lumens):	1999
Appearance/Correlated Color Temperature (K):	3500K
Total Input Power (Watts):	34.9
Color Quality (CRI):	86
Energy Efficiency - Measured Outside the Fixture (lumens/Watt):	57.3
Power Factor:	0.99
Light Source Life (hrs):	60000
Special Features:	Continuous Dimming, Type Non-IC
Date Available On Market:	07/15/2013
Date Certified:	08/15/2014
Markets:	United States, Canada

LQC Quantum® Die-cast Aluminum LED

APPROVED

SPECIFICATIONS

ELECTRICAL				
Primary Circuit				
Type	**Typical LED life[1]**	**Supply voltage**	**Input watts**	**Max. amps**
Red LED AC only	10 years	120	.6	.05
		277	.7	.06
Green LED AC only	10 years	120	1.0	.05
		277	1.2	.06
Red LED emergency	10 years	120	.6	.06
		277	.7	.05
Green LED emergency	10 years	120	1.0	.05
		277	1.2	.06

BATTERY (with EL N option)			
Sealed Nickel-Cadmium			
Shelf life[2]	Typical life[2]	Maintenance[3]	Optimum temperature[4]
3 years	7 - 9 years	none	50°–104°F (10°–40°C)

Notes

1 Based on continuous operation. The typical life of the LED lamp is 10 years.

2 At 77°F (25°C).

3 All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

4 Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

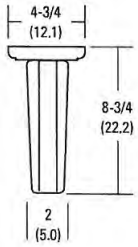
MOUNTING

All dimensions are inches (centimeters) unless otherwise specified.

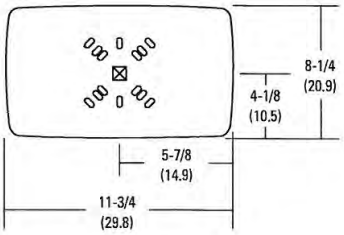
Shipping weight: 4.5 lbs. (2.0 kgs.)

End Mounting

Top Mounting



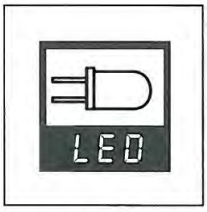
Back Mounting



KEY FEATURES

Faceplate accessory kit with red and green sign panels for 1-face to 2-face field conversion.

Quick-Mount installation less than 5 minutes.



The typical life of the LED lamp is 10 years.

LHQM LED QUANTUM® Exit/Unit Combo

SPECIFICATIONS

Electrical Primary Circuit				
	Typical LED life[3]	Supply voltage	Max amps	Max watts
Red and green LED	10 years	120	.05	4.3
		277	.03	4.3

BATTERY

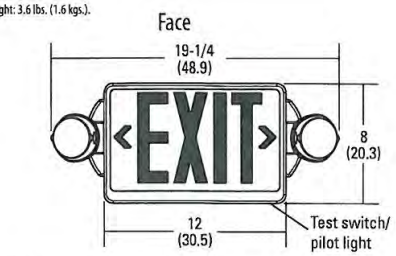
Ni-Cad				
Voltage	Shelf life[2]	Typical life[2]	Maintenance[3]	Optimum temperature[4]
9.6	3 years	7-9 years	none	50-104°F (10-40°C)

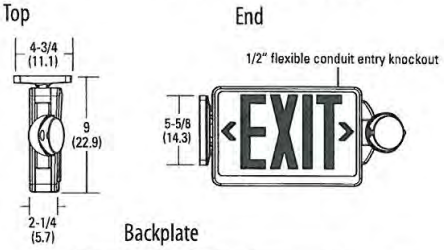
1 Based on continuous operation.
2 At 77°F (25°C).
3 All life safety equipment, including emergency lighting path of egress, must be maintained, serviced and tested in accordance with all National Fire Protection Association and local codes. Failure to perform the required maintenance, service or testing could jeopardize the safety of occupants and will void all warranties.
4 Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

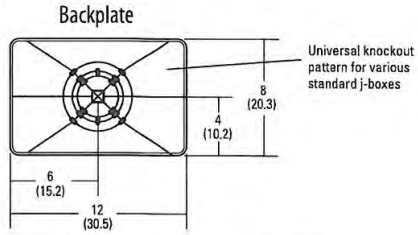
Remote Output Capacity			
Standard unit	Combo	Combo/high-output battery(HO)	Combo/high-output (HO) and no heads (RO)
NA	NA	3W	6W

MOUNTING

All dimensions are inches (centimeters).
Shipping weight: 3.6 lbs. (1.6 kgs.).

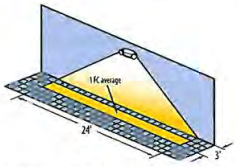




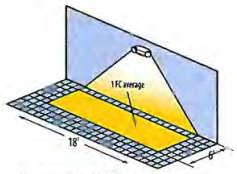


LAMP PHOTOMETRICS

QUANTUM LED SERIES – SINGLE COVERAGE
3W Total White LEDs
Using a single unit at a typical 7.5' mounting height delivers an average illuminance of 1.0 FC over a distance of 24' on a 3' path of egress and 18' on a 6' path of egress.

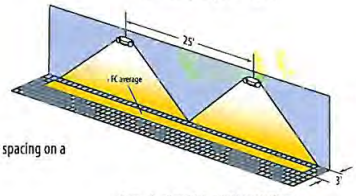


Example of single LHQM LED WRS exit illuminating a 3' path of egress

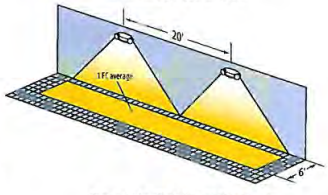


Example of single LHQM LED WRS exit illuminating a 6' path of egress

QUANTUM LED SERIES – MULTIPLE COVERAGE
3W Total White LEDs
Using multiple units at a typical 7.5' mounting height delivers 25' center-to-center spacing on a 3' path of egress and 20' center-to-center spacing on a 6' path of egress.



Example of multiple LHQM LED WRS exits illuminating a 3' path of egress



Example of multiple LHQM LED WRS exits illuminating a 6' path of egress

EXTENDED RUN-TIME FOR HIGH-OUTPUT EXITS

Product	Run time
LHQM LED HO WRS (no remotes)	3.8 hours
LHQM LED HO (no remotes)	3.8 hours
LHQM LED HO RO (no remotes)	7.5 hours

APPROVED

sensorswitch®

CM PDT 9

STANDARD RANGE 360° SENSOR
CEILING MOUNT • LOW VOLTAGE • DUAL TECHNOLOGY (PDT)

SPECIFICATIONS

FEATURES
- 100% Digital PIR Detection, Excellent RF Immunity
- 360° Coverage Pattern
- Patented Dual Technology with PIR / Microphonics Detection
- Push-Button Programmable
- Adjustable Time Delays
- Convenient Test Mode
- No Field Calibration or Sensitivity Adjustments Required
- 100 hr Lamp Burn-in Timer
- Green LED Indicator
- Non-Volatile Memory

LAMPMAXIMIZER® TECHNOLOGY
- Protects Lamp Life while Maximizing Energy Savings
- Minimum On Timer (15 min default)
- Occ. Time Delay (10 min default)
- LampMaximizer+ Mode - Optimizes Lamp Life & Energy Savings (disabled by default)
- Switch Counter (in 1000's)
- Total Lamp On Time (in khrs)

PHYSICAL SPECS
- SIZE: 4.55" Dia. (11.56 cm) 1.55" Deep (3.94 cm)
- WEIGHT: 6 oz
- MOUNTING: Ceiling Tile Surface, 3.5" Octagon Box, Single Gang Handy Box
- COLOR: White

ELECTRICAL SPECS
- OPERATING VOLTAGE: 12-24 VAC/VDC
- CURRENT DRAW: Standard, 4 mA; w/ **R** option, 16 mA
- DIMMING LOAD: Sinks < 20mA; ~40 Ballasts @ .5mA each
- RECOMMENDED POWER PACK: PP20

ENVIRONMENTAL SPECS
- OPERATING TEMP: 14° to 160° F (-10° to 71° C)
- RELATIVE HUMIDITY: 20 to 90% non-condensing
- SILICONE FREE
- ROHS COMPLIANT

OVERVIEW

Open area office lighting control is made cost-effective with the use of the **CM PDT 9** Series Standard Range 360° occupancy sensor. This sensor provides line-of-sight PIR detection of small motion in a circular pattern, and combines overlapping Microphonics™ coverage for detection of occupants working in their cubical space. By installing multiple **CM PDT 9**s on 30 ft (9.14 m) centers, large control zones are created (typically one per circuit of lighting). The lighting is then controlled in blocks similar to manual switching. Restrooms with stalls, large storage areas with shelving, and libraries with study carrels are also easily and cost-effectively controlled by the **CM PDT 9**.

SENSOR OPERATION

Sensors with Passive Dual Technology (PDT) first see motion using 100% digital Passive Infrared (PIR) detection and then engage Microphonics™ to hear sounds that indicate continued occupancy. This patented technology uses Automatic Gain Control (AGC) to dynamically self adapt a sensor to its environment by filtering out constant background noise and registering only noises typical of human activity. When occupancy is detected, a DC output goes high and can drive up to 200 mA of connected load. If needed, a 10 second grace period also allows the lights to be voice reactivated after shutting off. The sensor is powered with 12-24 VAC/VDC and typically operates with a **PP20** or **MP20** power pack, enabling 20 Amp circuits to be controlled.

LAMPMAXIMIZER®

This sensor also contains patented LampMaximizer technology that allows users to aggressively target energy savings while still protecting lamp life. A minimum on timer, factory set at 15 minutes, helps preserve lamp life by eliminating all lamp cycles shorter than lamp manufacturers' recommendations. A standard occupancy time delay is also present that ensures lights turn off (assuming minimum on timer has elapsed) if no occupancy is detected. This timer is factory set at 10 minutes to promote energy savings, but is adjustable between 30 seconds and 20 minutes. These adjustments can be done manually, through the unit's push-button, or automatically every two weeks through an advanced mode, called LampMaximizer+, that determines the optimum time delay in order to maximize both lamp life and energy savings. Additionally, this sensor maintains statistics on total lamp on time and number of cycles.

OPTIONS

LOW VOLTAGE RELAY (R)
- Enables sensors to interface with other systems (e.g., BMS, lighting panels)
- Provides dry contact closure via a SPDT, 1 Amp, 40 Volt relay
- Only one relay needed per zone
- Changes state when all connected sensors register unoccupied
- Relay requires sensor power to function

OCCUPANCY CONTROLLED DIMMING (D)
- Provides dimming output to control 0-10 VDC dimmable ballasts
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off
- Adjustable max/min dim setting
- Only one sensor per zone needs to have dimming output

PHOTOCELL (P)
- Auto set-point calibration
- Two selectable modes of operation
- On/Off mode: Photocell has full control during periods of occupancy
- Inhibit mode: Photocell can prevent lights from turning on if adequate daylight is available, but cannot turn lights off

PHOTOCELL W/ DIMMING (ADC)
- Photocell within sensor maintains total room light level by controlling levels of 0-10 VDC dimmable ballasts
- Photocell also has full on/off control during periods of occupancy
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off

Note: LampMaximizer+ features not available with ADC option

LOW TEMP/HIGH HUMIDITY (LT)
- Sensor electronics are coated for corrosion resistance
- Operates down to -4° F (-20° C)
- Required for bathroom & cooler/ freezer applications

c UL us LISTED

TITLE 24
ASSEMBLED in U.S.A.
5 YEAR WARRANTY

ORDERING INFO

CM PDT 9 [RELAY] [DIMMING/PHOTOCELL] [TEMP/HUMIDITY]

RELAY
- Blank = None
- R = Low Voltage Relay

DIMMING / PHOTOCELL *CHOOSE ONE ONLY*
- Blank = None
- D = Occupancy Controlled Dimming
- P = Photocell
- ADC = Photocell w/ Dimming

TEMP/HUMIDITY
- Blank = Standard
- LT = Low Temp

sensorswitch®

CMR PDT 10

EXTENDED RANGE 360° SENSOR
CEILING MOUNT • LINE VOLTAGE • DUAL TECHNOLOGY (PDT)

SPECIFICATIONS

FEATURES

100% Digital PIR Detection, Excellent RF Immunity
360° Coverage Pattern
Patented Dual Technology with PIR / Microphonics Detection
Self-Contained Relay, No Power Pack Needed
No Minimum Load Requirements
Interchangeable Hot & Load Wires, Impossible to Wire Backwards
Push-Button Programmable Adjustable Time Delays
No Field Calibration or Sensitivity Adjustments Required
Convenient Test Mode
100 hr Lamp Burn-in Timer
Green LED Indicator

- Protects Lamp Life while Maximizing Energy Savings
- Minimum On Timer (15 min default)
- Occ. Time Delay (10 min defatult)
- LampMaximizer+ Mode - Optimizes Lamp Life & Energy Savings (disabled by default)
- Switch Counter (in 1000's)
- Total Lamp On Time (in khrs)

PHYSICAL / MATERIAL SPECS

4.55" Dia. (11.56 cm)
1.55" Deep (3.94 cm)
6 oz
3.5" Octagon Box
Single Gang Handy Box
White

14° to 160° F (-10° to 71° C)

-14° to 160° F (-26° to 71° C)

20 to 90% non-condensing

ELECTRICAL SPECS

800 W @ 120 VAC
1200 W @ 277 VAC
1500 W @ 347 VAC
None
1/4 HP
50/60 Hz
Sinks < 20mA;
~40 Ballasts @ .5mA each

OVERVIEW

Classrooms and larger spaces are conveniently controlled by the **CMR PDT 10** Series Extended Range occupancy sensor. Even when classrooms are filled with shelving, hanging projects, or lab benches; the **CMR PDT 10** provides total coverage. When mounted at 9 ft (2.74 m) this sensor provides line of sight PIR detection up to 28 ft (8.53 m) in all directions and combines overlapping Microphonics™ for detection around obstructions. These attractive ceiling mount sensors are perfect for large restrooms and are an ideal solution for retrofitting classrooms with concrete ceilings. Additionally, the **CMR PDT 10** Series is line powered, therefore it requires no external power packs.

SENSOR OPERATION

Sensors with Passive Dual Technology (PDT) first see motion using 100% digital Passive Infrared (PIR) detection and then engage Microphonics™ to hear sounds that indicate continued occupancy. This patented technology uses Automatic Gain Control (AGC) to dynamically self adapt a sensor to its environment by filtering out constant background noise and registering only noises typical of human activity. When occupancy is detected, a self-contained relay switches the lighting on. If needed, a 10 second grace period also allows the lights to be voice reactivated after shutting off. This sensor is line powered, switches line voltage, and requires no field calibration or sensitivity adjustments.

LAMPMAXIMIZER®

This sensor also contains patent pending LampMaximizer technology that allows users to aggressively target energy savings while still protecting lamp life. A minimum on timer, factory set at 15 minutes, helps preserve lamp life by eliminating all lamp cycles shorter than lamp warranties specify.

A standard occupancy time delay is also present that ensures lights turn off (assuming minimum on timer has elapsed) if no occupancy is detected. This timer is factory set at 10 minutes to promote energy savings, but is adjustable between 30 seconds and 20 minutes. These adjustments can be done manually, through the unit's push-button, or automatically every two weeks through an advanced mode, called LampMaximizer+, that determines the optimum time delay in order to maximize both lamp life and energy savings. Additionally, this sensor maintains statistics on total lamp on time and number of cycles.

OPTIONS

OCCUPANCY CONTROLLED DIMMING (D)

- Provides dimming output to control 0-10 VDC dimmable ballasts
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off
- Adjustable max/min dim setting

PHOTOCELL (P)

- Auto set-point calibration
- Two selectable modes of operation
- On/Off mode: Photocell has full control during periods of occupancy
- Inhibit mode: Photocell can prevent lights from turning on if adequate daylight is available, but can not turn lights off

PHOTOCELL W/ DIMMING (ADC)

- Photocell within sensor maintains total room light level by controlling levels of 0-10 VDC dimmable ballasts
- Photocell also has full on/off control during periods of occupancy
- Provides a second occupancy time-out period that enables the lights to go to a dim setting before turning off

Note: LampMaximizer+ features not available with ADC option

347 VAC (347)

- Allows sensor to be powered from and switch 347 VAC

LOW TEMP/HIGH HUMIDITY (LT)

- Sensor is corrosion resistant to moisture
- Operates down to -4° F (-20°C)

c UL US LISTED
TITLE 24
MADE in U.S.A.
5 YEAR WARRANTY

ORDERING INFO

CMR PDT 10 [DIMMING/PHOTOCELL] [VOLTAGE] [TEMP/HUMIDITY]

DIMMING / PHOTOCELL *CHOOSE ONE ONLY*

Blank = None
D = Occupancy Controlled Dimming
P = Photocell
ADC = Photocell w/ Dimming

VOLTAGE

Blank = 120/277 VAC
347 = 347 VAC

TEMP/HUMIDITY

Blank = Standard
LT = Low Temp

Summary: Application Diebold Inc.and Ohio Power Company for approval of a special arrangement agreement with a mercantile customer electronically filed by Mrs. Erin C Miller on behalf of Ohio Power Company