



Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

January 16, 2013

Chairman Todd Snitchler
Ohio Power Siting Board
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215-3793

Re: **In the Matter of Broad-Third Partners LLC)**
and Ohio Power Company for) Case No. 13-0187-EL-EEC
Approval of a Special Arrangement)
Agreement with a Mercantile Customer)

Yazen Alami
Regulatory Services
(614) 716-2920 (P)
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yalami@aep.com

Dear Chairman Snitchler,

Attached please find the Joint Application of Ohio Power Company (OPCo) and mercantile customer Broad-Third Partners LLC 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 2013.

Amended Substitute Senate Bill 221 sets forth in R.C. 4928.66 EE/PDR benchmarks that electric distribution utilities shall be 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. Attached is OPCo's version of that application and accompanying affidavit. Any confidential information referenced in the Joint Application has been provided to the Commission Staff for filing in Commission Docket 10-1799-EL-EEC, under a request for protective treatment. OPCo respectfully requests that the Commission treat the two cases as associated dockets.

Cordially,

/s/ Yazen Alami
Yazen Alami

Attachments



Case No.: 13-0187-EL-EEC

Mercantile Customer: BROAD-THIRD PARTNERS LLC

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: BROAD-THIRD PARTNERS LLC

Principal address: 88 E. Broad Street Suite 1760, Columbus, Oh 43215

Address of facility for which this energy efficiency program applies: 88 E Broad St Unit 1, Columbus, Oh 43215-3539

Name and telephone number for responses to questions:

Mike Cahill, Broad-Third Partners Llc, (614) 402-4522

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, 12/13/2011 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: 245,063 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):

$$\text{Unit Quantity (watts)} = \text{Existing (watts x units)} - \text{Installed (watts x units)}$$

$$\text{KW Demand Reduction} = \frac{\text{Unit Quantity (watts)}}{\text{(watts)}} \times \text{(Deemed KW/Unit)}$$

61.6 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 \$ 17,389.43. (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: 5.2 (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 \$ 97,530.51

The utility's program costs were \$ 1,470.38

The utility's incentive costs/rebate costs were \$ 17,389.43.

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

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

Case No.: 13-0187-EL-EEC

State of OHIO:

JEFFREY ROE, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

KEMA Services, 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.

[Signature]
Signature of Affiant & Title

ENERGY EFFICIENCY ENGINEER

Sworn and subscribed before me this 11th day of January, 2013 Month/Year

[Signature]
Signature of official administering oath

Craig Waugh Barker
Print Name and Title

My commission expires on 06/14/16





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	BROAD-THIRD PARTNERS LLC	
Project Number	AEP-12-08512	
Customer Premise Address	88 E BROAD ST UNIT 1, COLUMBUS, OH 43215-3539	
Customer Mailing Address	88 E. Broad Street Suite 1760, Columbus, OH 43215	
Date Received	11/7/2012	
Project Installation Date	12/13/2011	
Annual kWh Reduction	245,063	
Total Project Cost	\$120,144.12	
Unadjusted Energy Efficiency Credit (EEC) Calculation	\$23,185.90	
Simple Payback (yrs)	5.2	
Utility Cost Test (UCT)	5.2	
<i>Please Choose One Option Below and Initial</i>		
Option 1 - Self Direct EEC: 75%	\$17,389.43	☒ Initial: <i>MC</i>
Option 2 - EE/PDR Rider Exemption	25 Months (After PUCO Approval)	☐ Initial: _____

Note: This is a one time selection. By selecting Option 1, the customer will receive payment in the amount stated above. Selection of Option 2: 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 Option 2: EE/PDR rider exemption is subject to ongoing review for compliance and could be changed by the PUCO.

If Option 1 has been selected, will the Energy Efficiency Funds selected help you move forward with other energy efficiency projects?

☒ YES ☐ NO

Project Overview:

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

Installed new T8 and T5 fixtures to saving 31,667W over the existing fixtures.
Installed 130 new standard CFLs in place of incandescent lighting
Installed 44 specialty CFLs in place of incandescent lighting
Installed Energy Star approved LED fixtures saving 11,532W over existing fixtures
Installed non-Energy Star approved but qualifying interior LED fixtures saving 2696W over existing fixtures
Installed non-Energy Star approved but qualifying exterior LED fixtures saving 4537W over existing fixtures
Installed 48 new LED exit signs in place of existing exit signs
Installed occupancy sensors on 25,165W worth of fixtures
Replaced the neon in 11 channel sign letters
Retrofitted 120 T12 lamps into T8 reduced wattage lamps
Removed 120 T12 lamp in conjunction with the above retrofit
Retrofitted 180 T8 lamps into T8 reduced wattage lamps, eligible for the lamp only incentive
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

BROAD-THIRD PARTNERS LLC

By: *J. F. Will*

By: *Mike Canine*

Title: **Manager**

Title: **Chief Engineer**

Date: **1/9/2013**

Date: **1/9/13**



Self-Direct Program Project Application

RETROFIT AND NEW CONSTRUCTION

Step 1: Check Project, Equipment, and Customer Eligibility

- ✓ Project must be a facility improvement that results in a permanent reduction in electrical energy usage (kWh).
- ✓ Measures applying for credits must have a minimum operating hours of 2,245 hours per year. Projects with annual energy (kWh) savings greater than the facility's annual energy (kWh) consumption will not be eligible.
- ✓ All installed equipment must meet or exceed the specifications given in the application and be installed in facilities served by AEP Ohio: Customer must have a valid AEP Ohio account number on an eligible AEP Ohio non-residential rate (see terms and conditions for list of eligible rates eligibility requirements).

Step 2: Submit Application

- ✓ Fill out the Customer Information form and the Worksheet for the measures that you installed. You may submit the application via mail, fax, or e-mail.

Submit your application to:
Email: gridsmarthio@kema.com

AEP Ohio Business Incentives for Energy Efficiency
2740 Airport Drive Suite 160
Columbus, OH 43219
Call: (877) 607-0739
Fax: (877) 607-0740

Visit our web site at aridsmarthio.com

- ✓ Submit a completed application prior to November 16, 2012 for any projects completed on or after January 1, 2009. Any applications received after the deadline may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any credit. Complete the checklist page and attach the documentation listed: customer information page, a signed Final Payment Agreement page, measure worksheet, scope of work (type, quantity, and wattage of old and new equipment), dated and itemized invoices for the purchase and installation of all equipment installed and specification sheets for all equipment installed showing that it meets the program specifications.

Step 3: Project Review

- ✓ The program team will review your Application. For some projects, an inspection will be part of the review, and you will be contacted to schedule it.
- ✓ After approval by AEP Ohio, the customer will be sent an Overview and Commitment form to sign for all self-direct projects. After the Overview and Commitment form is returned the project will be submitted to the Public Utilities Commission of Ohio (PUCO) for consideration. The PUCO will assign case number and review the project details that were prepared by AEP Ohio. The PUCO may request additional information, approve or reject the energy efficiency credits.

Step 4: Receive Energy Efficiency Credits

- ✓ The program team will issue the energy efficiency credits, within four to six weeks after PUCO project approval.
- ✓ In lieu of a one-time energy efficiency credit, you may elect to seek an exemption from the Energy Efficiency/Peak Demand Reduction (EE/PDR) Rider for the associated electric account(s) for a defined period of time as stated on this Application. For this exemption the Energy Efficiency Credit amount (Option 1) is compared to the estimated value of the estimated EE/PDR obligation (Option 2), as calculated by AEP Ohio. The value of Option 2 will be approximately equal to the value of Option 1. If exemption is elected, the affected account is not eligible for other programs offered by AEP Ohio during the exemption period. Unless additional resources are committed, you will, after the specified number of months exempted, be again subject to the EE/PDR Rider. New Construction projects are not eligible to elect Option 2. Major Renovation projects that do not have a representative billing history for three years prior to the project installation are also not eligible to elect Option 2.
- ✓ If the energy efficiency credit is elected, you remain in the EE/PDR rider for the period of time that an exemption would have been in effect and may also participate in the AEP Ohio programs. However, during that period of time, you will not be allowed to elect the Option 2 exemption for any additional self-direct projects for the same account number.
- ✓ You are allowed and encouraged to consider using all or a portion of the energy credits, as received from AEP Ohio under this program, to help fund other energy efficiency and demand reduction projects you choose to initiate in the future. Future projects can also qualify for credits under the Prescriptive or Custom programs.

If you are viewing this document in Microsoft Excel, please note that each section of the application is accessible through the tabs at the bottom of the Excel window. Highlighted cells are for inputting information.



Self-Direct Program Project Application

APPLICATION CHECKLIST

APPLICATION	
Required Attachments	
☐	Customer/Contractor Information (Completed and Signed)
☐	Completed Forms for Energy Efficiency Credits Requested AND Signed Final Payment Agreement Page
☐	Itemized Invoices
☐	Equipment Specifications
☐	Scope of Work
☐	W-9 (LLC, Individual, Partnership, Property Management Companies)
Worksheets	
☐	Lighting
☐	HVAC
☐	Refrigeration
☐	Motors and VFD
☐	Custom
Application Date: _____	
Completion Date: _____	
Project Cost: _____	
<i>*Incomplete applications will delay processing and energy efficiency credits. Please complete and submit forms for above checked boxes.</i>	

Please fill out if this is a revised submittal

ORIGINAL SUBMITTAL DATE: _____
APPLICATION NUMBER (IF KNOWN): _____

AEP Ohio Business Incentives Program for Energy Efficiency
2740 Airport Drive Suite 160
Columbus, OH 43219

Phone: (877) 607-0739
Fax: (877) 607-0740
gridsmartohio@kema.com
www.gridsmartohio.com



Self-Direct Program Project Application

TERMS AND CONDITIONS

AEP Ohio is offering prescriptive and custom incentives under the AEP Ohio Business Incentives for Energy Efficiency program to offer the implementation of past cost-effective energy efficiency improvements for non-residential (commercial and industrial) customers. AEP Ohio provides energy efficiency credits (EEC) for the purchase and installation of qualifying cost effective equipment in the customer's facility under the Terms and Conditions provided in this application and subject to regulatory approvals. Energy Efficiency credits will only be provided in the form of a check or an Energy Efficiency/Peak Demand Reduction (EE/PDR) Rider exemption under this program.

Please note that funds are limited and subject to availability.

All applications are subject to review and approval by AEP Ohio, its contractor(s)/agent(s), and the Public Utility Commission of Ohio (PUCO) prior to any EEC payments or exemptions from the EE/PDR rider in this program. Funds are limited and subject to availability.

Program Effective Dates

AEP Ohio Business Incentives for Energy Efficiency program EEC are offered until approved funds are exhausted or November 16th of each program year, whichever comes first. The effective dates of the current program year and application submittal requirements are as follows:

- Self-direct projects are projects completed since 1/1/2009. Self direct projects are eligible to apply for EEC with this application. Future projects that are not yet completed should apply on the Prescriptive/Custom application.
- All 2012 AEP Ohio Business Incentives for Energy Efficiency program Applications should be received no later than November 16, 2012. Any applications received after the deadlines may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any incentive. AEP Ohio reserves the right to extend or shorten this timeline.
- Subsequent program year budgets and plans will be made available towards the end of the existing program year. AEP Ohio currently has filed with the PUCO to offer this program through the 2014 program year.

Program and Project Eligibility

The Self-Direct Program applies to customer facilities served by AEP Ohio's retail electric rates who meet the minimum energy usage requirements of 700,000 kWh per year or who are part of a national account involving multiple facilities in one or more states.

The AEP Ohio Business Incentives for Energy Efficiency program offers both prescriptive credits for some of the more common energy efficiency measures and custom credits for those eligible improvements not included on the list of prescriptive measures. Program credits are available under the AEP Ohio Business Incentives for Energy Efficiency program to include non-residential accounts served on AEP Ohio's regulated retail rates. Qualifying projects must be installed in a facility in AEP Ohio's electric service territory in Ohio. These credits are available to all non-residential customers who pay into the Energy Efficiency and Peak Demand Response (EE/PDR) rider and receive their electricity over AEP Ohio wires, regardless which retail electric supplier the customer has chosen to purchase power. A customer may neither apply for nor receive incentives for the same product, equipment or service from more than one utility.

Custom projects must involve measures, which result in a reduction in electric energy usage due to an improvement in system efficiency. Projects that result in reduced energy consumption without an improvement in system efficiency are not eligible for a custom credit. The project simple payback prior to the incentive payment generally should fall between 1 to 7 years, or pass cost effectiveness test(s) determined by AEP Ohio to qualify for an incentive. Incentives are calculated based on first-year energy savings and peak demand reduction. Peak demand reduction is defined as the reduction in average load over the Performance Hours by the replacement of existing electrical equipment with more efficient electrical equipment. Peak Performance Hours is defined as the time between June 1st and August 31st on weekday, non-holidays, between the hours 3:00 PM and 6:00 PM Eastern Time.

Projects involving measures covered by the prescriptive credit portion of the program are not eligible for a custom credit. However, the applicant has the option to apply for a custom incentive for whole building integrated projects or systems, even if they include prescriptive measures. The prescriptive elements may be capped at the deemed savings and/or incentive level.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Project requirements under the AEP Ohio Business Incentives for Energy Efficiency program include the following:

- Projects must involve a new facility improvement that results in a permanent reduction in electrical energy usage (kWh).
- Projects that are NOT eligible for a credit include the following:
 - Fuel switching (e.g. electric to gas or gas to electric)
 - Changes in operational and/or maintenance practices or simple control modifications not involving capital costs
 - Removal or termination of existing processes, facilities, and/or operations.
 - On-site electricity generation
 - Projects involving gas-driven equipment in place of or to replace electric equipment (such as a chiller)
 - Projects focused primarily on power factor improvement
 - Projects that involve peak-shifting (and not kWh savings)
 - Renewables (Please visit www.gridsmartohio.com for Renewables Program)
 - Are required by state or federal law, building or other codes, or are standard industry practice
 - Are easily reverted/removed or are installed entirely for reasons other than improving energy efficiency
 - Include other conditions to be determined by AEP Ohio
 - Renewables (Please visit www.gridsmartohio.com for Renewables Program)
- Any measures installed at a facility must produce verifiable and persistent energy reduction and must be sustainable and provide 100% of the energy benefits as stated in the Application for a period of at least five (5) years or for the life of the product, whichever is less. If the Customer ceases to be a delivery service customer of AEP Ohio or removes the equipment or systems at any time during the 5-year period or the life of the product, the Customer may be required to return a prorated amount of incentive funds to AEP Ohio.
- Customer cannot apply for incentives for future projects and elect after the fact to apply for credits under this program.
- Confidential information contained in any documents associated with this application will be protected from public filings. However, this information may be disclosed to the Public Utilities Commission of Ohio for further review and approval.
- Used or rebuilt equipment is generally NOT eligible for an incentive.
- All installed equipment must meet state, federal, and local codes and requirements.
- Costs associated with internal labor are not eligible.
- Projects must be installed on the AEP Ohio electric account in Ohio served by an eligible electric rate type listed on the application.
- Equipment must be purchased, installed, and operating (or capable of operating in the case of seasonal uses) prior to submitting a final application for an incentive.
- AEP Ohio will issue incentive payments in the form of checks, not utility bill credits.
- The incentive is paid as a one-time, one-program offer and cannot be combined with incentive payments from other AEP Ohio programs. The customer may be eligible to participate in other programs offered by AEP Ohio, as long as no project receives more than one incentive.

PROGRAM ENERGY EFFICIENCY CREDITS	
Energy efficiency credit levels for one-year energy savings	See tables for prescriptive credits. Custom credits \$0.08/kWh X 75%
Minimum/Maximum simple payback before energy efficiency credit applied	Must pass cost effectiveness test(s) (determined by AEP Ohio). Generally between 1-7 years.
Maximum payout	75% of 50% of the total cost (additional measure caps may apply)
Energy efficiency credit levels for projects completed since 1/1/2009	calculated amount on the Prescriptive or Custom worksheets attached and subject to funding limits
Credit Limit	See Incentive Limits and Tiering section
Credit Calculation Order	Measure credit caps are applied first. Project cost credit limits are applied second. Credit tiering is applied third. And 75% factor applied to credit last.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Energy Efficiency Credit Limits

For both the Prescriptive and Custom measures in this application, the total energy efficiency credits shall be 75% the lesser of: 1) The calculated credit as approved by AEP Ohio, or 2) 50% of Total Project Cost (not including internal labor cost). In calculating the savings and energy efficiency credits for Custom measures, please contact AEP Ohio Business Incentives for Energy Efficiency Program office to determine appropriate baseline for savings.

Incentive Limits and Tiering

- The limit for each self-direct project is \$225,000.
- The limit for each business entity (corporation, LLC, partnership, etc) is based on their tariff, indicated below.

TARIFF	LIMIT PER BUSINESS ENTITY
General Service Tariffs 1, 2, 3 & 4	\$900,000 per year

- A business entity with facilities in both categories can qualify for both limits. All facilities served in one category for a business entity are combined to determine the limit.
- The total credit paid for any self direct application cannot exceed 50% of the total project cost (not including internal labor). In addition to the above project cost limit, credit payment rates vary when a customer's calculated credit exceeds the tiers listed below:
 - **Tier 1** \$0 - \$100,000 = 100% of eligible calculated credit value
 - **Tier 2** \$100,001 - \$300,000 = 50% of eligible calculated credit value
 - **Tier 3** \$300,001 - \$500,000 = 25% of eligible calculated credit value
 - **Tier 4** \$500,001 - Beyond = 10% of eligible calculated credit value

Application

Application should be submitted by November 16, 2012 for any projects completed or or after Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by November 16, 2012 and could jeopardize approval of any incentive. Project documentation, such as copies of dated invoices for the purchase and installation of the measure and/or product specification sheets, is required. AEP Ohio reserves the right to request additional backup information, supporting detail, calculations, manufacturer specification sheets or any other information to any credit payment.

The location or business name on the invoice must be consistent with the application information. Applications shall all required documentation should be received by November 16, 2012 to be applicable for the 2012 program year.

A signed application with documentation verifying installation of the project including, but not limited to, equipment, invoices, approvals, and other related information must be submitted to AEP Ohio prior to application approval.

The project invoice should provide sufficient detail to separate the project cost from the cost of other services such as repairs and building code compliance. AEP Ohio reserves the right to request additional supporting documentation as deemed necessary to ensure measure eligibility and verify that the expected energy savings will occur. Confidential information contained in any documents associated with this application will be protected from public filings. However, this information could include: equipment purchase dates, installation dates, proof that the equipment is operational, manufacturer specifications, warranty information, and proof of customer co-payment.

The customer understands and agrees that all other terms and conditions, as specified in the application, including all attachments and exhibits attached to this application, serves as a contract for the customer's commitment of energy resources to AEP Ohio, shall apply.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Application Review Process

AEP Ohio will review Applications for eligibility and completeness. Completed applications will be reviewed in the order received. Funds are reserved for the project when AEP Ohio receives a complete application and determines that the project meets the program eligibility requirements. Applicants who submit incomplete applications will be notified of deficiencies upon review of the application, and may lose their place in line in the review process until all requested information is received. Applications must be completed and all information received by the deadlines defined above to begin processing. Applicants are encouraged to call the program hotline if they have any questions about documentation requirements.

Inspections

AEP Ohio reserves the right to inspect all projects to verify compliance with the program rules and verify the accuracy of project documentation. This may include installation inspections, verification of detailed lighting layout descriptions, metering, data collection, interviews, and utility bill or monitoring data analyses. The customers are required to allow access to project documents and the facility where the measures were installed for a period of five years after receipt of incentive payment by AEP Ohio. Customer understands and agrees that Program installations may also be subject to inspections by the PUCO or their designee, and photographs of installation may be required.

Tax Liability

Credits are taxable and, if more than \$600, will be reported to the IRS unless the customer is exempt. AEP Ohio is not responsible for any taxes that may be imposed on your business as a result of your receipt of payment. W-9 (for LLC, Individual, Partnership, Property Management Companies) must be provided along with all applications.

Requirements for Custom Project Electricity Savings Calculation

The annual electricity savings must be calculated for custom projects using industry-accepted engineering algorithms or simulation models. The applicant may estimate the annual electricity usage of both the existing and proposed equipment based on the current operation of the facility. A listing of the pre-existing information requirements is provided at the end of the custom application section. If the previous equipment was at the end of its useful life, the applicant must use, as the baseline, the equipment that would meet the applicable federal and local energy codes unless an "as found" baseline is being used by the applicant. If the applicant is using an "as found" baseline, additional specific information on the pre-existing information must be provided.

The applicant must be able to clearly describe the method used to calculate the savings. The applicant must provide all assumptions used in the calculations and document the sources for these assumptions. If no savings analysis is provided by the customer/contractors, AEP Ohio reserves the right to utilize their approved methodology and analysis to determine energy savings.

The method and assumptions used by the applicant to calculate the annual savings will be reviewed by AEP Ohio. AEP Ohio is solely responsible for the final determination of the annual energy savings and peak demand reduction to be used in calculating the credit amount. AEP Ohio also reserves the right to require specific measurement and verification activities including monitoring the retrofit to determining the credit. Verification of the preexisting consumption may also be required.

AEP Ohio may need to conduct inspections of projects to verify equipment and operating conditions. For custom and "as found" projects, the applicant is required to provide information in order to allow AEP Ohio to verify the baseline usage of the pre-existing equipment. Customers are encouraged to submit projects that warrant special treatment (i.e., non-typical projects) to be considered on a case-by-case basis by AEP Ohio.

Disclaimer

AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measures eligible for credits under this program. AEP Ohio has no obligations regarding and does not endorse or guarantee any claims, promises, work, or equipment made, performed, or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures. AEP Ohio is not responsible for the proper disposal/recycling of any waste generated as a result of this project. AEP Ohio is not liable for any damage caused by the operation or malfunction of the installed equipment.



Self-Direct Program Project Application

Important: Please read the terms and conditions before signing and submitting this application.
You must complete all information and provide required additional documentation to avoid processing delays.

CUSTOMER INFORMATION

Business Type (*select one*)

LARGE OFFICE	☐
SMALL OFFICE	☐
SCHOOL	☐
SMALL RETAIL/SERVICE	☐
LARGE RETAIL/SERVICE	☐
HOTEL/MOTEL	☐
MEDICAL - Hospital	☐
MEDICAL - Nursing Home	☐
ASSEMBLY/MEETING PLACE	☐
RESTAURANT	☐
GROCERY	☐
CONDITIONED WAREHOUSE	☐
UNCONDITIONED WAREHOUSE	☐
INDUSTRIAL/MANUFACTURING	☐
COLLEGE/UNIVERSITY	☐
GOVERNMENT/MUNICIPAL	☐
OTHER/MISCELLANEOUS	☐

Tax Status (*from W9*)

CORPORATION (Inc., PC, Etc.)	☐
Government Agency	☐
Individual	☐
Partnership	☐
Exempt	☐
OTHER (may receive 1099)	_____

How Did You Hear?

AEP Account Representative	☐	_____
Contractor	☐	_____
Distributor	☐	_____
Website	☐	_____
Other	☐	_____

Operating Days

Seven days/week	☐	_____
Five days/week	☐	_____

Operating Hours

Low Hours (<8h /day)	☐
One shift (8h /day)	☐
Two shifts (16h/day)	☐
Three shifts (24h/day)	☐

Square Footage

Affected Area S.F.	_____
--------------------	-------

Building Operating Hours	_____
Equipment Operating Hours	_____

NAME OF APPLICANT'S BUSINESS		PROJECT NAME (IF APPLICABLE)	
NAME AS IT APPEARS ON UTILITY BILL	AEP OHIO ACCT #*	APPLICANT TAXPAYER ID # (SSN/FEDERAL ID)	
MAILING ADDRESS	CITY	STATE	ZIP
INSTALLATION ADDRESS	CITY	STATE	ZIP

CUSTOMER CONTACT

Please provide all contacts we may need to process for this project. The business contact should be the project decision maker, the technical contact, etc

NAME OF CONTACT PERSON - Preferred Contact for Documentation			TITLE OF CONTACT
CONTACT PHONE #	EXT.	CONTACT FAX #	CONTACT EMAIL ADDRESS

SOLUTION PROVIDER/CONTRACTOR INFORMATION **

NAME OF CONTRACTING COMPANY			
NAME OF CONTACT PERSON		TITLE OF CONTACT PERSON	
CONTACT PHONE #	EXT.	CONTACT FAX #	CONTACT EMAIL ADDRESS
MAILING ADDRESS	CITY	STATE	ZIP

If there are questions about the application who should we contact?

Customer

☐

Contractor

☐

As an eligible customer, I verify the information is correct and request consideration for participation under this program.

CUSTOMER SIGNATURE (AEP OHIO CUSTOMER)	PRINT NAME
TOTAL INCENTIVE REQUESTED***	DATE
ESTIMATED COMPLETION DATE	ESTIMATED PROJECT COST

* AEP Ohio Account Number where measure is installed

** Solution Provider/Contractor - Party involved in the application submittal (i.e. specs, scope of work, etc.)

*** Credit cannot exceed 50 percent of the total project cost or other caps described in the Terms and Conditions.



Self-Direct Program Project Application

SELF-DIRECT APPLICATION AGREEMENT

I understand that the location or business name on the invoice must be consistent with the application information. Final Applications and all required supporting documentation should be received by **November 16, 2012 for projects completed on or after January 1, 2009. Any applications received after the deadlines may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any incentive by the PUCO.**

I agree to verification by the utility or their representatives of both sales transactions and equipment installation.

I understand that these credits are available to all non-residential customers who pay into the Energy Efficiency and Demand Response (EE/PDR) rider and receive their electricity over AEP Ohio wires regardless from which retail electric supplier the customer has chosen to purchase power.

I certify that the information on this application is true and correct, and that the Taxpayer ID Number, tax status, and W-9 are the applicant's.

I agree that if: I remove the related product(s) identified in my application before a period of 5 years or the end of the product life, whichever is less, I shall refund a prorated amount of energy efficiency credits to AEP Ohio based on the actual period of time in which the related product(s) were installed and operating. This is necessary to assure that the project's related energy benefits will be achieved.

I understand that the program may be modified or terminated without prior notice.

AEP Ohio reserves the right to refuse payment and participation if the customer or contractor violates Program rules and requirements. AEP Ohio is not liable for energy efficiency credits promised to customers as a result of misrepresentation of the Program.

Customer and customer's contractor shall be responsible to comply with any applicable codes or ordinances.

All submissions become the property of AEP Ohio. It is recommended for you to keep to a copy for your records.

I understand that this project must involve a facility improvement that results in improved energy efficiency. I also understand that all materials removed, including lamps and PCB ballasts, must be permanently taken out of service and disposed of in accordance with local codes and ordinances. I understand it is my responsibility to be aware of any applicable codes or ordinances. Information about hazardous waste disposal can be found at:
<http://www.epa.gov/epawaste/hazard/index.htm>

I understand that the Application and all required documentation should be received by the AEP Ohio Business Incentives for Energy Efficiency program by November 16, 2012 for any projects completed on or after January 1, 2009. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2012 and could jeopardize approval of any credit by the PUCO. All equipment must be fully operational.

AEP Ohio will pay 75% of the lesser of: 1) The calculated credit as approved by AEP Ohio subject to funding limits or 2) 50% of the project cost (subject to application caps). I understand that AEP Ohio or their representatives have the right to ask for additional information at any time AEP Ohio's Business Incentives Program for Energy Efficiency will make the final determination of energy efficiency credit levels for this project.

The program has a limited budget. Applications will be processed within the budget limits. Applications and all supporting documentation required should be received by November 16, 2012 to be eligible for funding under the current program period.



Self-Direct Program Project Application

SELF-DIRECT APPLICATION AGREEMENT

Customer understands and agrees that all other terms and conditions, as specified in the application, including all attachments and exhibits attached to this application which will serve as a contract for the Customer's Commitment of energy and demand resources to AEP Ohio shall apply.

I understand that AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measure eligible for energy efficiency credits under this program, and, further, that AEP Ohio has no obligations regarding any claims, promises, work, or equipment made, performed, or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures and does not endorse or guarantee same.

Energy efficiency credits will be based upon the final application and program terms and conditions, as well as the availability of funds.

Any and all energy savings generated by the project described in this application are hereby committed to AEP Ohio in order to count against its respective companies' benchmark requirements in S.B.221.

ENERGY EFFICIENCY CREDITS REQUESTED

I have read and understand the program requirements and measure specifications, and Terms and Conditions set forth in this application and agree to abide by those requirements. Furthermore, I concur that I must meet all eligibility criteria in order to be paid under this program.

ALL EQUIPMENT MUST BE INSTALLED AND OPERATIONAL. A CUSTOMER SIGNATURE IS REQUIRED FOR PAYMENT. SIGNED APPLICATIONS RECEIVED BY FAX OR EMAIL WILL BE TREATED THE SAME AS ORIGINAL APPLICATIONS RECEIVED BY MAIL. All submissions become the property of AEP Ohio. Keep a copy for your records.

TOTAL PROJECT COST		TOTAL ENERGY EFFICIENCY CREDITS REQUESTED*
CUSTOMER SIGNATURE (AEP OHIO CUSTOMER)		
PRINT NAME	DATE	ACTUAL COMPLETION DATE

**AEP Ohio will pay the lesser of 1) The calculated credit as approved by AEP Ohio 2) 50% of the total project cost of the project.*

FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse lower reflector in combination with highly reflective/diffuse upper reflector provides unparalleled performance and efficiency. Patented Bounding Ray™ Optical Principle design (U.S. Patent No. 5,800,050) provides source before source image and smooth transition from top of the reflector to bottom.

MECHANICAL SYSTEM

- Housing accommodates a maximum 1-1/2" ceiling thickness.
- Light engine and driver are accessible from above or below ceiling and can be upgraded to accommodate future technology improvements.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with hinged access covers and spring latch. Three combination 1/2"-3/4" and one 1/2" knockout for straight-through conduit runs. Capacity: 8 (4in, 4out) No. 12 AWG conductors rated for 90°C.
- Secondary housing adjustment system for precise, final ceiling to flange alignment.

ELECTRICAL SYSTEM

- Solid state LED light engine available in 3500 K or 4100 K color temperatures.
- Class P, thermally protected 0-10V solid-state dimming driver.
- Rated system life of 50,000 hours at 70% output.
- Thermally activated insulation detector.
- Emergency battery pack and SIMPLY5™ energy management system available.
- Luminaire should be installed in applications where ambient temperatures do not exceed 50°C. Ambient temperatures that exceed 50°C will result in reduced lamp life and will void warranty.

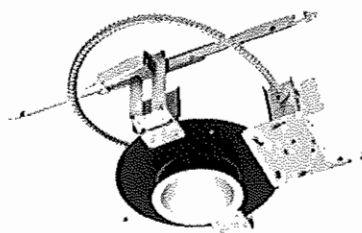
LISTING

- Fixtures are UL Listed for thru-branch wiring, Non-IC recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards.

WARRANTY

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

Type Catalog number

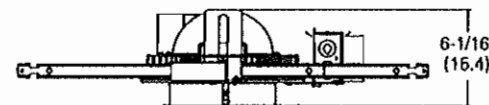


LED Downlights

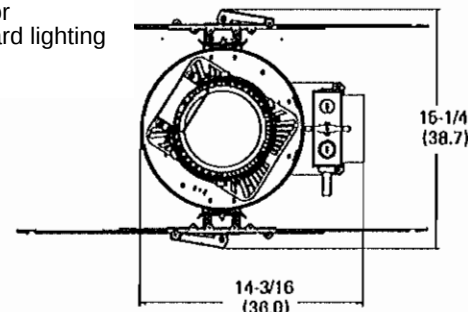
6" ECSR

Ecos™

Open Reflector



Qualifies for
non-standard lighting



Aperture: 6-1/4 (15.9)
Ceiling Opening: 7-1/8 (18.1)
Overlap Trim: 7-1/2 (19.1)

All dimensions are
inches (centimeters).

Minimum of 9" required above fixture
for non-accessible ceilings.

ORDERING INFORMATION

Example: ECSR 35/146AR LD 120

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line.
Order accessories as separate catalog numbers (shipped separately).

ECSR							Options
Series	Color temperature	Nominal lumen output	Aperture	Trim color	Finish	Voltage	
ECSR	35/ 3500 K 41/ 4100 K	14 1400 lms	6	AR Clear PR Powder WTR Wheat GR Gold MB ¹ Black baffle WR ¹ White painted WB ¹ White baffle	(blank) Semi-specular LD Matto-diffuse	120 277 347 ²	SF Single fuso EL ³ Emergency battery pack with integral test switch ELR ³ Emergency battery pack with remote test switch ELRHL ³ High-lumen emergency battery pack with remote test switch TRW White painted flango TRBL Black painted flango
						Driver	
						(blank) 0-10V dimming ballast	

NOTES

- Not available with finishes. TRW standard.
- Height of fixture increases 3".
- For dimensional changes, refer to Technical Bulletins.
- For compatible Roloc systems, refer to Technical Bulletins.
- One 5A relay with one 0-10 VDC dimming output, shipped installed. Refer to nSP5-0.

6" ECSR Ecos™ Open Reflector

Distribution Curve

Distribution Data

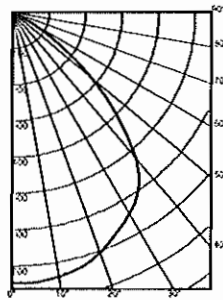
Output Data

Coefficient of Utilization

Illuminance Data at 30"
Above Floor for a Single Luminaire

ECSR6 35/14 BAR, 38W LED, 1427 delivered lumens, 1.3 s/mh, Input watts: 37.8, Test no. LTL16941

37 lm/W



From:

0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

1

0

0

70%		50%		30%		10%		Mounting		Initial FC		50% beam - 65.1"		10% beam - 100.2"	
30%	10%	50%	30%	10%	30%	10%	30%	Height	Center Beam	Diameter	FC	Diameter	FC	Diameter	FC
116	116	111	111	111	116	116	111	6.0	24.7	7.0	12.3	13.1	2.6	13.1	2.6
104	101	102	100	98	92	88	84	80	86	10.0	13.3	9.6	6.6	17.9	1.3
82	78	85	80	76	68	61	71	65	60	12.0	8.3	12.1	4.1	22.7	0.8
60	55	65	59	54	49	44	55	49	44	14.0	5.6	14.7	2.8	27.5	0.6
45	40	61	45	40	42	37	47	41	37	18.0	4.1	17.2	2.0	32.3	0.4

Photometric performance is measured in accordance with IESNA LM-79.

For expanded options and updated photometric information, please visit www.gothamlighting.com or contact the factory directly.

NOTES:

1. For electrical characteristics, refer to Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Actual performance may differ as a result of end-user environment and application. Dimensions and specifications are based on the most current available data and are subject to change without notice.
3. Consult factory or IES file for microgroove baffles, black cone and other photometric reports.

DLED-210

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All Rights Reserved. Rev. 02/23/12
Specifications subject to change without notice.

gotham
An Acuity Brands Company

GOTHAM ARCHITECTURAL DOWNLIGHTING
1400 Lester Road Conyers Georgia 30012
P 800 315 4982 F 770 860 3129
www.gothamlighting.com

G1.5.15



Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

Energy star
listed

6" IC 600 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

IC22LEDG3 RECESSED HOUSING

OPEN TRIMS



PRODUCT DESCRIPTION

Dedicated LED, Air-Loc® sealed new construction housing with integral light engine • Shallow housing allows for fit in 2 x 6 construction • Can be completely covered with insulation • Fully sealed housing stops infiltration and exfiltration of air, reducing heating and air cooling costs without the use of additional gaskets • LED housing is designed to provide 50,000 hours of life and is compatible with many standard Juno trims • 5 year limited warranty on LED components.

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury
- Comparable light output to 65W BR30 incandescent while consuming less than 11W*



PRODUCT SPECIFICATIONS

LED Light Engine LED array integrated to one piece high purity aluminum, thermally conductive housing provides uninterrupted heat transfer to ensure long life of the LED • Replaceable light engine mounts directly to housing and incorporates the latest generation, high lumen output LED array • LEDs are binned to standards that exceed ENERGY STAR® requirements yielding superior fixture to fixture color uniformity • 2700K, 3000K, 3500K or 4100K color temperature available • 83 CRI typical.

Optical System Computer-optimized reflector design with high reflectance white finish coupled with a high transmission diffusing lens conceals the LEDs and produces uniform aperture luminance • Deep regression of lens produces a low glare, efficient system that can produce over 600 lumens with select trims (see page 2 for details) using less than 11W* • Wide flood distribution shipped as standard with optional optic accessories available and sold separately.

Aesthetic Trim Selections Compatible with wide selection of existing Juno trims • Shadow free, knife edge design blends seamlessly into ceiling.

LED Driver Choice of dedicated 120 volt driver or universal voltage driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 at 120V input • 120 volt only dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall dimmers • For a list of compatible dimmers, see [JUNOLEDG3-DIM](#) • Mounted between the j-box and housing for easy access and cool operation.

Life Rated for 50,000 hours at 70% lumen maintenance.

Labels ENERGY STAR® Qualified to luminaires V1.1 requirements when used with select baffle and cone trims • Certified to the high efficiency requirements of California T24-2008 with select trims • UL listed for U.S. and Canada through-branch wiring, damp locations • Union made • UL and cUL.

Testing All reports are based on published industry procedures; field performance may differ from laboratory performance.

Product specifications subject to change without notice.

HOUSING FEATURES

Housing Designed for use in IC (insulated ceiling) or non-IC construction • Aluminum housing sealed for Air-Loc® compliance • Housing is vertically adjustable to accommodate up to a 2" ceiling thickness.

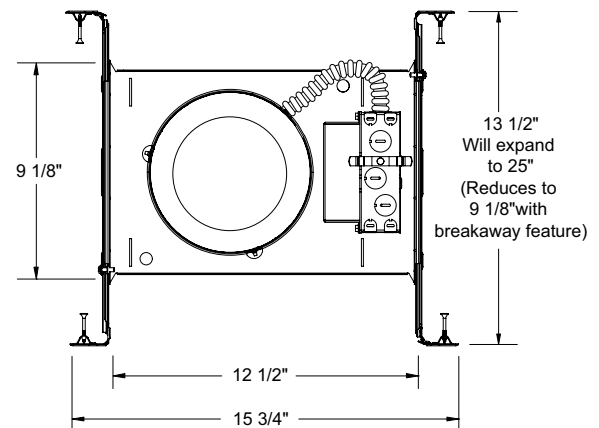
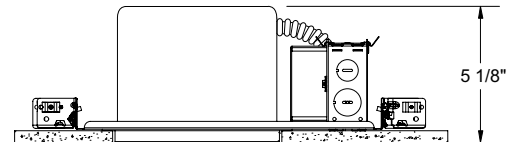
Junction Box Pre-wired junction box provided with (5) 1/2" and (1) 3/4" knockouts, (4) knockouts for 12/2 or 14/2 NM cable and ground wire • UL listed and cUL listed for through-branch wiring, maximum 8 #12 branch circuit conductors • Junction box provided with removable access plates • Knockouts equipped with pryout slots • Quick connect electrical connectors supplied as standard for fast, secure installation.

Mounting Frame 22-gauge die-formed galvanized steel mounting frame • Rough-in section (junction box, mounting frame, housing and bar hangers) fully assembled for ease of installation.

Real Nail 3 Bar Hangers Telescoping Real Nail 3® system permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings • Includes removable nail for repositioning of fixture in wood joist construction • Integral T-bar notch and clip for suspended ceilings • Design covered under Patents US5,505,419 and D552,969.

* Nominal input wattage @ 120-volt operation with dedicated 120-volt driver under stable operating conditions.

DIMENSIONS



6 7/8" CEILING CUTOUT

ELECTRICAL DATA

Dedicated 120V Only Driver Option

120V	
Input Power	10.5W (+/-5%)
Input Current - Max	0.10A
Frequency	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class B (residential)
Minimum starting temp	-20°C

ELECTRICAL DATA

Universal Voltage

	120V	277V
Input Power	12W (+/-5%)	12.3W (+/-5%)
Input Current - Max	0.11A	0.055A
Frequency	50/60Hz	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class A (commercial)	FCC Title 47 CFR, Part 15, Class A (commercial)
Minimum starting temp	-40°C	-40°C



JUNO LIGHTING GROUP
by Schneider Electric

G1.5.15

6" IC 600 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

IC22LEDG3 RECESSED HOUSING OPEN TRIMS

ORDERING INFORMATION: Housing, trim and accessories each ordered separately.Example: **IC22LEDG3-3K-1**

Housing	Color Temperature	Input Voltage
IC22LEDG3	27K 2700K 3K 3000K 35K 3500K 41K 4100K	1 Dedicated 120V Only (Forward Phase + ELV dimmable) U Universal Voltage, 120-277V (0-10V dimmable)

ACCESSORIES

Catalog No.	Description
LEDOPTICG3-M	Medium Flood Optic (50°)
LEDOPTICG3-N	Narrow Flood Optic (37°)
LEDOPTICG3-S	Spot Optic (10°)

To order, specify catalog number.

Example: **24W-WH**

Trim/Description	
 24W-WH 24B-WH ^{1,2} 24B-SC ^{1,2} 24B-ABZ ^{1,2} 24B-BL ^{1,2}	Conical White Baffle Conical Black Baffle Conical Black Baffle Conical Black Baffle Conical Black Baffle
 27C-WH 27G-WH 27B-WH ^{1,2} 27PT-SC 27W-WH 27HZ-WH 27WHZ-WH 27WHZ-ABZ	Conical Cone in Clear Alzak® Conical Cone in Gold Alzak® Conical Cone in Black Alzak® Conical Cone in Pewter Alzak® Conical Cone in Gloss White Conical Cone in Haze Conical Cone in Wheat Haze Conical Cone in Wheat Haze
 9024W-WH	White Octagonal w/ White Baffle
 9324-SC	Luminous Disc (Frosted)
 9524-SC	Chrome Band
 9702	Luminous Collar (Frosted)

Trim Size: 24, 27, 9324, 9524 - 7 $\frac{5}{8}$ " O.D.; 9702 - 7 $\frac{3}{4}$ " O.D.; 9024 - 8" O.D.

Trim Finish: ABZ - Classic Aged Bronze, BL - Black, SC - Satin Chrome, WH - White.

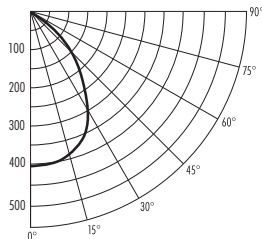
Alzak is a registered trademark of Alcoa Corp.

Note: In Canada when insulation is present, Type IC fixtures must be used.

¹ Not ENERGY STAR rated² Universal Voltage:

T24 @ 35K, 41K only

PHOTOMETRIC REPORT

Test Report #: LTL25974R
Catalog No: IC22LEDG3-35K
with 24W-WH Trim
and standard wide flood opticLuminaire Spacing Criterion: 1.16
Luminaire LPW: 64

CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	404
5	401
15	379
25	337
35	261
45	139
55	61
65	28
75	16
85	4
90	0

Multiplier: 27K - 0.90
3K - 0.97
41K - 1.04

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)

Ceiling 80% Wall 50% Floor 20%

Spacing	RCR1	RCR3	RCR5
4.0'	46	39	33
5.0'	30	25	21
6.0'	21	17	15
7.0'	17	14	12
8.0'	13	11	9
9.0'	10	8	7
10.0'	7	6	5

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	300	N/A	44.4
0-40°	461	N/A	68.2
0-60°	625	N/A	92.5
0-90°	675	N/A	100.0

INITIAL FOOTCANDLES

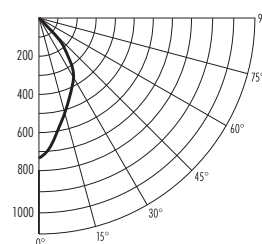
(One Unit, 10.6W, 79.8° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	25.3	6.7'
6	11.2	10.0'
8	6.3	13.4'
10	4.0	16.7'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	11731
55	6304
65	4019
75	3756
85	2961

PHOTOMETRIC REPORT

Test Report #: LTL25975R
Catalog No: IC22LEDG3-35K
with 27C-WH Trim
and standard wide flood opticLuminaire Spacing Criterion: 0.78
Luminaire LPW: 69

CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	718
5	674
15	512
25	401
35	286
45	137
55	43
65	9
75	0
85	0
90	0

Multiplier: 27K - 0.90
3K - 0.97
41K - 1.04

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)

Ceiling 80% Wall 50% Floor 20%

Spacing	RCR1	RCR3	RCR5
4.0'	50	42	36
5.0'	32	27	23
6.0'	22	18	16
7.0'	18	15	13
8.0'	14	12	10
9.0'	11	9	8
10.0'	8	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	390	N/A	53.9
0-40°	566	N/A	78.3
0-60°	713	N/A	98.7
0-90°	723	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 10.6W, 58.1° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	44.9	4.4'
6	19.9	6.7'
8	11.2	8.9'
10	7.2	11.1'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	11550
55	4510
65	1250
75	0
85	0

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.

1300 S. Wolf Road • Des Plaines, IL 60018 • Phone (847) 827-9880 • Fax (847) 827-2925
220 Chrysler Drive • Brampton, Ontario • Canada L6S 6B6 • Phone (905) 792-7335 • Fax (905) 792-0064
Visit us at www.junolightinggroup.com

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Sylvania 78501 - LED13PAR30LN/835/FL30 Flood LED Light Bulb

Be the first to review this product...

 **OUT OF STOCK.**

  -1 0

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Overview

Details

Feedback

Sylvania 78501 - 13 watt 120 volt PAR30 Medium Screw (E26) Base 3,500K 800 Series Long Neck 30 Degree Reflector Flood LED Light Bulb (Sylvania LED13PAR30LN/835/FL30 78501)

500 lumens standered - 38
lumens per watt. Qualifes

Product Details

Page 1 of 1



Product Number: 78639

Order Abbreviation: LED15PAR30LN/DIM/830/FL40

General Description: LED15W PAR30LN, Dimmable, 87 CRI, 3000K, 120V,1300 CBCP, 40 degree flood

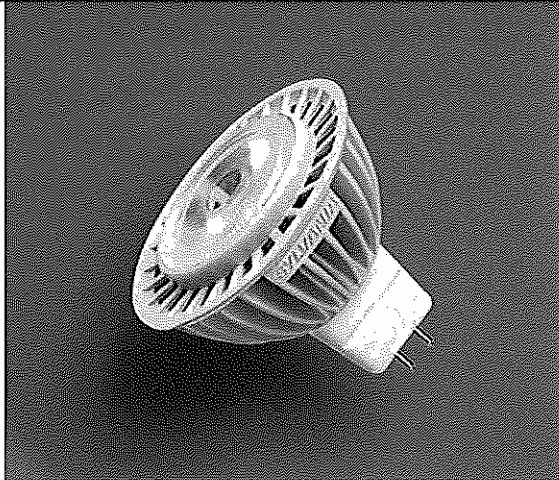
Energy Star

Product Information	
Abbrev. With Packaging Info.	LED15PAR30LNDIM830FL40 6/CS 1/SKU
Average Rated Life (hr)	50000
Base	E26/24
Bulb	PAR30
Color Temperature/CCT (K)	3000
Color Rendering Index (CRI)	87
Nominal Voltage (V)	120.00
Nominal Wattage (W)	15.00
Abbrev. With Packaging Info.	LED15PAR30LNDIM830FL40 6/CS 1/SKU
Language Strategy	ENGLISH/FRENCH/SPANISH
Ordering Abbreviation	LED15PAR30LN/DIM/830/FL40
UPC Code	UPC046135786396
Lamp Finish	White

www.sylvania.com

ULTRA LED Retrofit MR16 Lamps

Dimmable



Key Features & Benefits

- 6W LED lamp designed as high quality replacement of 20W halogen MR16 lamps
- Dimmable 10%–100%*
- 35,000 hours life at 70% lumen maintenance
- Suitable for indoor environments
- 3000K CCT and 87 CRI
- GU5.3 base
- Reduces energy consumption up to 70%
- Lasts 17 times longer than halogen lamps
- No warm-up time, Instant-on with full light output and stable color
- 12V AC Input voltage
- Mercury free and RoHS compliant
- UV and IR free

* Performance may vary depending on dimmer used in application

LED technology reduces energy and maintenance costs when compared to conventional light sources. Lasting 17 times longer, 6W LED Retrofit MR16 lamps are high-quality replacements for 20W halogen MR16 lamps. They are free of UV and IR radiation minimizing discoloration and fading of materials. These lamps are dimmable down to 10%* and are rated at 35,000 hours life with a correlated color temperature (CCT) of 3000K and 87 CRI. They are available with GU5.3 bases and 25° and 36° beam angles.

For purposes of ARRA, this product is made in the US.

Product Offering

Item Number	Ordering Abbreviation	Wattage (W)	Color Temperature	Beam Angle
78634	LED6MR16/DIM/830/NFL25	6	3000K	25°
78635	LED6MR16/DIM/830/FL36	6	3000K	36°

Energy Star listed

Application Information

Market Segments

- Art galleries and museums
- Commercial and office space
- Hotels
- Residential
- Restaurants
- Retail sector

Applications

- Accent/Display lighting
- Recessed downlighting
- Track lighting

Application Notes

1. Operating temperature range between -40°F and +113°F (-40°C and +45°C)
2. Suitable for use in indoor environments
3. Suitable for dimmers or in luminaires controlled by a dimmer
4. 12V AC Magnetic transformers will have reduced power to the LED lamp decreasing total lumen output. Please reference transformer compatibility list (RETRO030) for more detailed information
5. Not intended for use with emergency light fixtures or exit lights
6. Not to be used in enclosed fixtures
7. Not to be used in enclosed insulated ceilings



Ordering Information

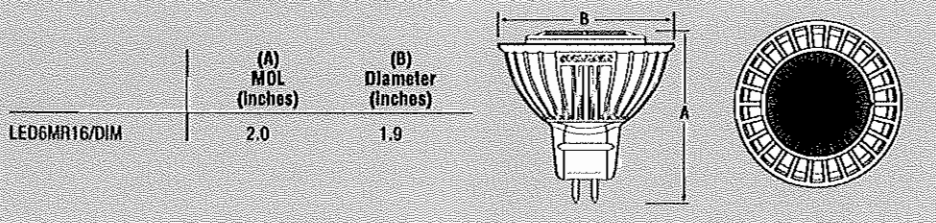
Item Number	Ordering Abbreviation	Wattage (W)	Base Type	Input Voltage (VAC)	Average Rated Life (hrs.) ¹	Typical Lumens (lm) ²	CCT ³	CBCP (cd)	Beam Angle	CRI ⁴
78634	LED6MR16/DIM/830/NFL25	6	GU5.3	12	35,000	300	3000K	860	25°	87
78635	LED6MR16/DIM/830/FL36	6	GU5.3	12	35,000	300	3000K	590	36°	87

- Hours lifetime with 70% lumen maintenance
- Thermally stable typical lumens ($\pm 10\%$)
- Thermally stable typical CCT ($\pm 10\%$)
- CRI - color rendering index

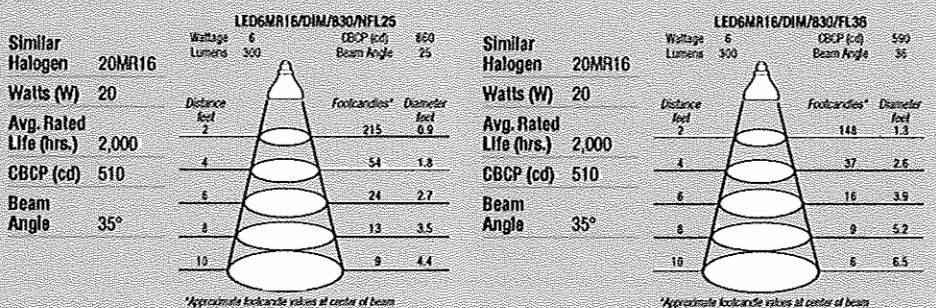
Ordering Guide

LED	6	MR16	/	DIM	/	830	/	NFL	25
LED Lamps and Retrofits	Wattage 6	Lamp Type: MR16		Dimmable		CRI, CCT: 830: 80+ CRI, 3000K CCT		Beam Type: NFL = Narrow Flood	Beam Angle: 25°

Lamp Dimensions



Illuminance Cone Diagrams



Energy Savings

Basic Product Description	LED Life (hrs.)	Similar Halogen	Halogen Life (hrs.)	Watts Saved	Energy Savings*	LED Life vs. Halogen Life
LED6MR16/DIM	35,000	20MR16	2,000	14	\$49	17x

*Energy savings over life of lamp calculated at \$0.10/kWh

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Specifications subject to change without notice.

Specification Data

Fixture Description

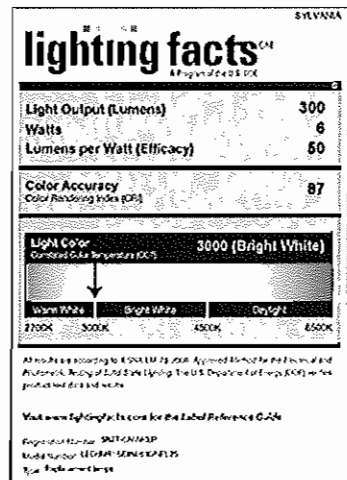
Type

Project/Job

SYLVANIA lamp

SYLVANIA ballast

Notes



United States
OSRAM SYLVANIA
100 Endicott Street
Danvers, MA 01923

Trade
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Fax: 1-800-562-4674

OEM/Special Markets
Phone: 1-800-762-7191
Fax: 1-800-762-7192

Display/Optic
Phone: 1-888-677-2627
Fax: 1-800-762-7192

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Fax: 1-800-667-6772

OEM/Special Markets/Display/Optic
Phone: 1-800-265-2852
Fax: 1-800-667-6772

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OSL8AF830350 (ORDERING CO



Bulbtronics has the largest selection and best prices on all LED-Light-Emitting-Diode products. For more detailed specifications for this OSL8AF830350 , please look below.



Qualifies for non-standard LED lighting. 44 lm/W

Specs	Equipment Using this Product	Substitutions
TECHNICAL DETAILS		
Product Type:	LAMP / BULB	Technology: LED / LIG
ELECTRICAL PROPERTIES		
Watts:	8W	Equivalent: 40W INCA
Volts:	120V	Voltage Group: LINE VOL
PHYSICAL CHARACTERISTICS		
Finish:	FROSTED	Shape: A19
Base:	E26,E27 / MEDIUM SCREW	Overall Length (mm/"): 4.4"
Diameter (mm/"): 2.2"		
LIGHT SOURCE		
Type of Chip:	SMD / SURFACE MOUNT DIODE	

LIGHT OUTPUT MEASUREMENT			
Lumens:	350L		
COLOR CHARACTERISTICS			
Color:	WARM WHITE	CC Temp / Kelvin:	3000K
CRI:	82CRI		
LIFE			
Life:	25000H		
POWER CHARACTERISTICS			
Self Ballasted:	SELF BALLASTED		
RATINGS & RECOGNITION			
Approvals:	UL LISTED (C-US), FCC, ROHS COMPLIANT		
ADDITIONAL INFORMATION			
Keywords:	A-LINE RETROFIT	Additional Info:	INSTANT-IR FREE
PART NUMBERS & ORDERING INFORMATION			
BT Part#:	OSL8AF830350	BT Description:	OS LED8A/F/830/350
BT Ordering Code:	0060561	Mfg:	OSRAM SYLVANIA
Mfg Prod Description:	LED8A/F/830/350	Mfg Ordering Code:	78598

www.sylvania.com/ledr

ULTRA LED Retrofit PAR20 Lamps Dimmable



LED technology offers reduced energy and maintenance costs when compared with conventional light sources. Lasting 20 times longer and using only 8 watts, LED PAR20 lamps are a high-quality replacement for 50W halogen PAR20 lamps. They are free of UV and IR radiation, minimizing discoloration and fading of materials. These lamps are dimmable down to 10%* and are rated at 50,000 hours life with a correlated color temperature (CCT) of 3000K. They are available with 25° and 36° beam angles.

Key Features & Benefits

- 8W LED lamp designed as replacement of 50W halogen PAR20 lamps
- Dimmable 10%–100%*
- 50,000 hours life at 70% lumen maintenance
- Suitable for indoor and outdoor use
- Available in 3000K CCT with 85 CRI (2700K targeted for Fall 2010)
- Medium base for direct replacement
- Power factor 0.95
- Reduces energy consumption up to 84%
- Lasts 20 times longer than halogen lamps
- No warm-up time, instant-on with full light output and stable color
- Mercury free and RoHS compliant
- UV and IR free

* Performance may vary depending on dimmer used in application



Product Offering

Item Number	Ordering Abbreviation	Wattage (W)	Color Temperature	Beam Angle	R9
78636	LED8PAR20/DIM/830/FL25	8	3000K	25°	36
78637	LED8PAR20/DIM/830/FL36	8	3000K	36°	39

Energy star approved

Application Information

Market Segments

- Art galleries and museums
- Hospitality
- Residential
- Retail

Applications

- Accent/display lighting
- Recessed downlighting
- Track lighting

Application Notes

1. Operating temperature range between -40°F and +113°F (-40°C and +45°C)
2. UL 1993 listed
3. Suitable for use in indoor and outdoor environments
4. Suitable for dimmers or in luminaires controlled by a dimmer
5. Not intended for use with emergency light fixtures or exit lights
6. Not to be used in enclosed fixtures
7. Not to be used in enclosed insulated ceilings



Ordering Information

Item Number	Ordering Abbreviation	Wattage (W)	Base Type	Input Voltage (VAC)	Average Rated Life (hrs.) ¹	Typical Lumens (lm) ²	CCT ³	CBCP (cd)	Beam Angle	CRI ⁴	Power Factor
78636	LED8PAR20/DIM/830/NFL25	8	Medium	120	50,000	350	3000K	1260	25°	85	0.95
78637	LED8PAR20/DIM/830/FL36	8	Medium	120	50,000	350	3000K	713	36°	85	0.95

1. Hours lifetime with 70% lumen maintenance 2. Thermally stable typical lumens (±10%) 3. Thermally stable typical CCT (±10%)
4. CRI - Color Rendering Index

Ordering Guide

LED	8	PAR20	/	DIM
LED Lamps and Retrofits	Wattage: 8	Lamp Type: PAR20		Dimmable

/	830	/	NFL	25
	CRI, CCT: 830: 80+ CRI, 3000K CCT		Beam Type: NFL: Narrow Flood	Beam Angle: 25°

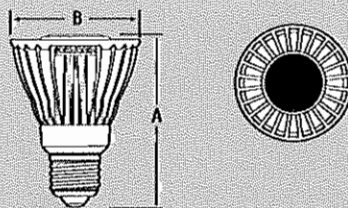
Recommended Dimmer List

Make	Dimmer	Dimmer Max. Wattage	Max. Lamps per Dimmer
Lutron	S-600PR-WH	600	6
Lutron	DV-600PR-WH	600	6
Lutron	TG-600PR-WH	600	6
Lutron	AY600P	600	6
Lutron	Q600P	600	6
Lutron	GL600	600	6
Lutron	CN-600PMW	600	6
Lutron	DV-603PG	600	6
Lutron	S-600	600	6
Lutron	S-600P	600	6

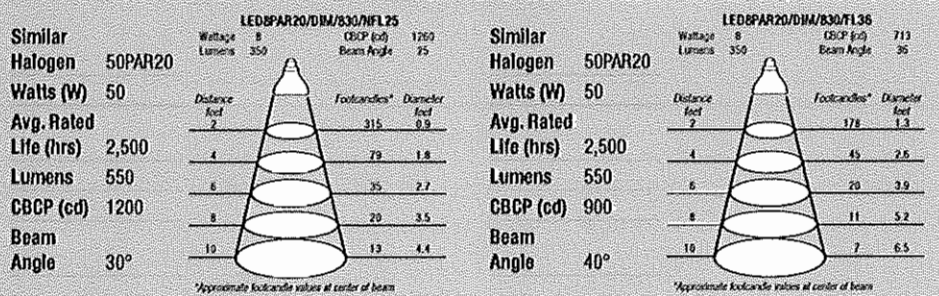
Make	Dimmer	Dimmer Max. Wattage	Max. Lamps per Dimmer
Lutron	LG-600P	600	6
Lutron	D-600PH	600	6
Lutron	TT-300NLIH	600	6
Lutron	TG-603PG	300	3
Leviton	6633-FL	600	6
Leviton	6684	600	6
Leviton	6631	600	6
Leviton	IPYOG-1LX	600	6

Lamp Dimensions

	(A) MDL (Inches)	(B) Diameter (Inches)
LED8PAR20/DIM	3.4	2.6



Illuminance Cone Diagrams



Energy Savings

Basic Product Description	LED Life (hrs.)	Similar Halogen	Halogen Life (hrs.)	Watts Saved	Energy Savings*	LED Life vs. Halogen
LED8PAR20/DIM	50,000	50PAR20	2,500	42	\$231	20x

*Energy savings over life of lamp calculated at \$0.11/kWh

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Specifications subject to change without notice.

Specification Data

Fixture Description

Type

Project/Job

SYLVANIA lamp

SYLVANIA ballast

Notes

lighting facts™
A Program of the U.S. DOE

Light Output (Lumens)	350
Watts	8
Lumens per Watt (Efficacy)	44
Color Accuracy Color Rendering Index (CRI)	85
Light Color Controlled Color Temperature (CCT)	3000 (Bright White)

2700K 3000K 4000K 5000K 6500K

All results are according to IESNA LM-79-2008. Approved Method for the Evaluation and Performance Testing of Solid State Lighting. The U.S. Department of Energy (DOE) certifies product test results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: 1047142514
Model Number: LED8PAR20/DIM/830/NFL25
Type: PAR20 medium base

United States
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FEATURES & SPECIFICATIONS

INTENDED USE — Provides volumetric lighting by filling the entire volume of space with light, delivering the ideal amount of light to walls, cubicles, work surfaces and people. Typical applications include corridors, lobbies, conference rooms and private offices. RTSD LED will fill the space with light without glare or cave effect of traditional downlights. The RTSD LED is 20% more efficient when compared to the mean efficacy of a common two-lamp, 26W DIT compact fluorescent downlight. The system maintains 70% lumen output at more than 50,000 hours.

OPTICAL SYSTEM — Regressed, two-piece refractive system obscures the lamp and smoothly washes the reflector with light.

Impact-modified acrylic prismatic refractor with polymeric light-diffusing film.

CONSTRUCTION — 16-gauge galvanized steel mounting/plaster frame with mechanical trim retention. Integral yoke to retain optical system.

Rugged, one-piece white die-cast reflector system with linear facets soft space (ships separately). Qualifies for non-standard LED lighting. 41 lm/W

Mounting bars are 16-gauge galvanized steel with continuous 2-3/4" vertical wingnuts. Post installation adjustment possible without the use of tools.

Galvanized steel junction box with bottom-hinged access covers and spring latches. The continuous 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors, rated for 90°C.

Fixture height of 4-7/8" allows installation in shallow plenum applications.

Maximum 2" ceiling thickness.

ELECTRICAL SYSTEM — Utilizes high-efficiency LEDs mounted to a metal core circuit board, ensuring cool-running operation, 3500 Kelvin temperature, CRI > 80.

Patent-pending thermal dynamic control ensures cool running LEDs.

Reverse polarity protection and push-in connectors standard.

High-efficiency, thermally protected, electronic LED power supply and driver mounted to the junction box.

Typical lumens per system is 1700 utilizing 41 total system watts.

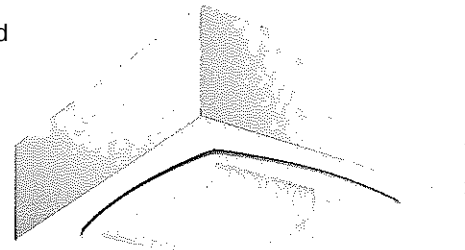
LISTING — CSA Certified to U.S. and Canadian safety standards. Damp location listed.

WARRANTY — Three-year LED board and driver warranty, one-year fixture warranty. Protected by US Patents Nos. D533,781 and D581,376.

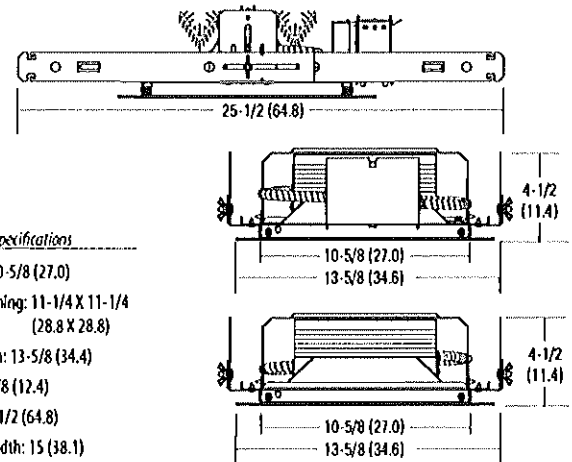
Catalog Number
Notes
Type

RTSD LED

RTSD LED



1' x 1'
LED



Specifications

Aperture: 10-5/8 (27.0)
Ceiling Opening: 11-1/4 X 11-1/4
(28.8 X 28.8)
Overlap Trim: 13-5/8 (34.4)
Height: 4-7/8 (12.4)
Length: 25-1/2 (64.8)
Standard Width: 15 (38.1)

All dimensions are inches (centimeters).

ORDERING INFORMATION

For shortest lead times, configure products using bolded options.

Example: RTSD LED 120

RTSD LED				
Series	Lumen output	Color temperature	Voltage	Options
RTSD LED	(blank) 1700L ¹	(blank) 3500K	120 277 347	LFS LED freezer shroud (shipped separately) ² CP Chicago Plenum DIM 0-10V dimming driver, 10% minimum light output SS SIMPLYS™ energy management system ³ SSHW Energy management system, less RELOC® wiring

Replacements parts: Order as separate catalog number.

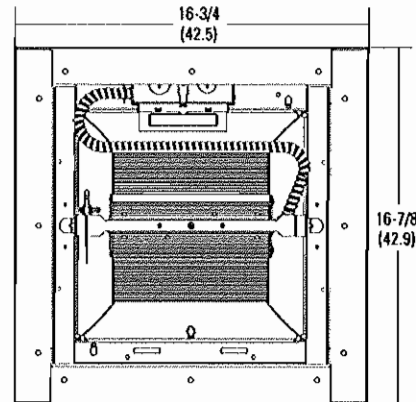
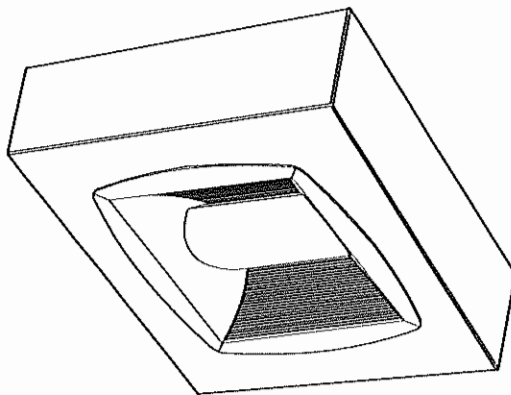
Housing only	RTSD LED 120 HSG U RTSD LED 120 HSG U
Trim only	RTSD LED 1700L 3500K TRIM U

Notes

- Typical system delivered lumens.
- Available for use only with freezer applications.
- SIMPLYS includes 9' SS MLC RELOC wiring system (shipped separately). Available in 120V or 277V only.

RT5D LED Volumetric Recessed Downlight

FREEZER SHROUD (shown with fixture installed)



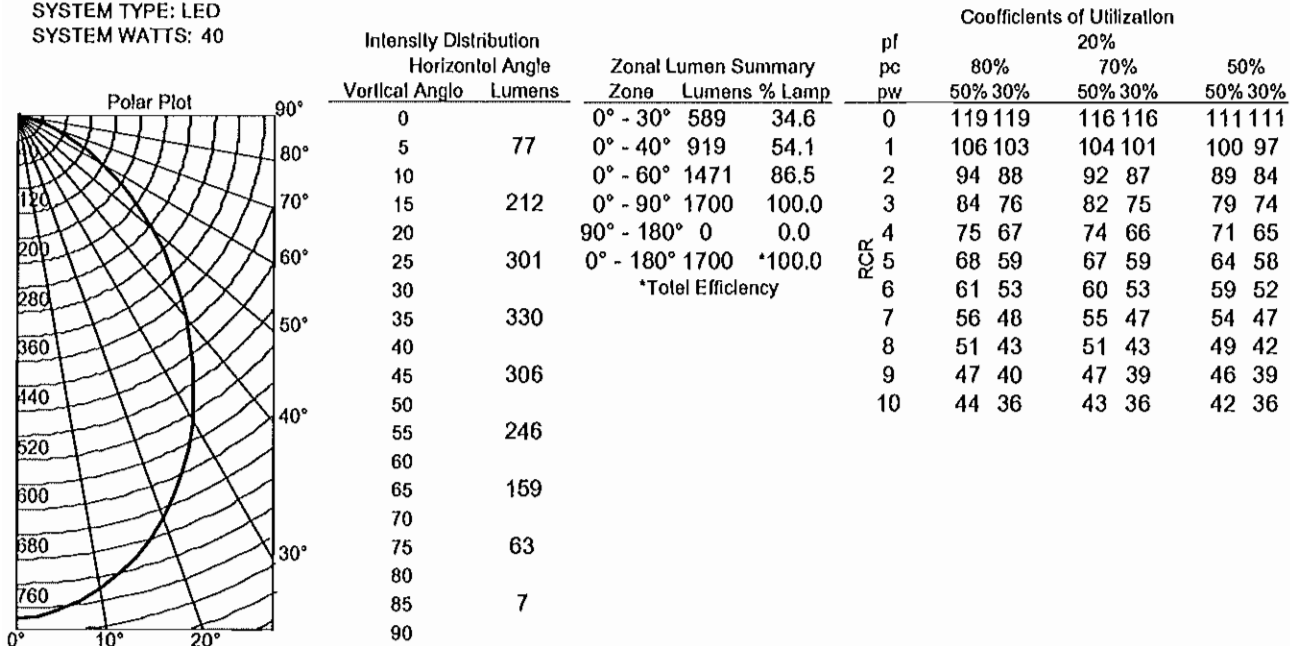
Dimensions

Height: 6 (15.2)
Length: 16-3/4 (42.6)
Width: 16-7/8 (42.9)
All dimensions are inches (centimeters).

PHOTOMETRICS

RT5D LED, 1700 system delivered lumens, test no. LTL16621, tested in accordance to IESNA LM-79-2008

TEST NO: LTL16621
LUMINAIRE CATALOG NO.: RT5D LED
TYPICAL LUMENS PER SYSTEM: 1700 AT 25°C
DISTRIBUTION: DIRECT
FIXTURE TYPE: DOWNLIGHT
SYSTEM TYPE: LED
SYSTEM WATTS: 40



Performance can be affected by ambient temperature and binning processes. Please consult factory for details.



RT5D LED



3 and 4 lamp version used
as well as ICN versions
used - all CEE listed. Used
on retrofits with 25W Philips
4' CEE Approved lamps

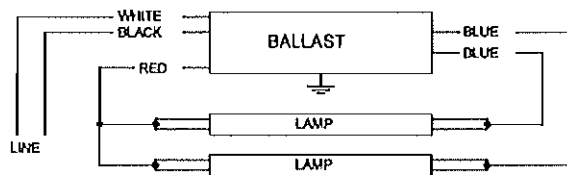
Electrical Specifications

Regular Sylvania 800 series T8 lamps
used on new fixtures

IOP-2P32-SC@277V	
Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

	Lamps	ed Watts	Min. Start Temp (*F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F .
F32T8	1	32	-20/-29	0.13	35	1.05	10	0.98	1.6	3.00
* F32T8	2	32	-20/-29	0.20	54	0.87	10	0.98	1.6	1.61

Wiring Diagram



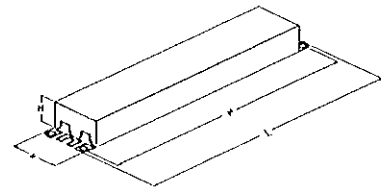
Diag. 64

The wiring diagram that appears above is
for the lamp type denoted by the asterisk (*)

Standard Lead Length (Inches)

	In.	cm.		In.	cm.
Black	25	63.5	Yellow/Blue		0
White	25	63.5	Blue/White		0
Blue	31	78.7	Brown		0
Red	37	94	Orange		0
Yellow		0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 03/03/2010



Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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Summary: Application of Broad-Third Partners and Ohio Power Company for approval of a special arrangement agreement with a mercantile customer electronically filed by Mr. Yazen Alami on behalf of Ohio Power Company