



Legal Department

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

February 15, 2012

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 Zane State College  
and Ohio Power Company  
for Approval of A Special  
Arrangement Agreement  
with a Mercantile Customer**

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)

**Case No. 12-0584-EL-EEC**

Yazen Alami, Esq.  
(614) 716-2920 (P)  
(614) 716-3440 (F)  
yalami@aep.com

Dear Chairman Snitchler,

Attached please find the Joint Application of Ohio Power Company (OPCo) and mercantile customer Zane State College 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 2012.

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/PRD 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 filed in Commission Docket 10-1599-EL-EEC, under a request for protective treatment. OPCo respectfully requests that the Commission treat the two cases as associated dockets.

Best regards,

/s/ Yazen Alami  
Yazen Alami, Esq.

Attachments



**Case No.:** 12-0584-EL-EEC

Mercantile Customer: ZANE STATE COLLEGE

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](mailto:ee-pdr@puc.state.oh.us).

## Section 1: Company Information

Name: ZANE STATE COLLEGE

Principal address: 1555 Newark Rd., Zanesville, Oh 43701

Address of facility for which this energy efficiency program applies: 1555 Newark Rd, Zanesville, Oh 43701-2626

Name and telephone number for responses to questions:

Joseph Keating, Zane State College, (740) 588-1396

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, 9/18/2008 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: 27,040 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):

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

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

7.5 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 \$ 4,222.50. (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: 1.7 (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 \$ 7,221.49

The utility's program costs were \$ 162.24

The utility's incentive costs/rebate costs were \$ 4,222.50.

## 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.: 12-0584-EL-EEC

State of Ohio :

Joo CHING YONG, 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.

Yoo Ching Yong CEM, LEED AP BD+C  
Signature of Affiant & Title

Sworn and subscribed before me this 8th day of February, 2012 Month/Year

[Signature]  
Signature of official administering oath

Kimberly Flowers,  
Print Name and Title

Outreach  
Coordinator

My commission expires on June 01, 2016



**KIMBERLY FLOWERS**  
NOTARY PUBLIC

STATE OF OHIO

My Comm. Expires June 1, 2016



### 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.

<b>Customer Name</b>	ZANE STATE COLLEGE	
<b>Project Number</b>	AEP-11-04949	
<b>Customer Premise Address</b>	1555 NEWARK RD, ZANESVILLE, OH 43701-2626	
<b>Customer Mailing Address</b>	1555 Newark Rd., Zanesville, OH 43701	
<b>Date Received</b>	12/2/2011	
<b>Project Installation Date</b>	9/18/2008	
<b>Annual kWh Reduction</b>	27,040	
<b>Total Project Cost</b>	\$13,447.32	
<b>Unadjusted Energy Efficiency Credit (EEC) Calculation</b>	\$5,630.00	
<b>Simple Payback (yrs)</b>	5.5	
<b>Utility Cost Test (UCT)</b>	1.6	
<i>Please Choose One Option Below and Initial</i>		
<b>Option 1 - Self Direct EEC: 75%</b>	<b>\$4,222.50</b>	<input checked="" type="checkbox"/> Initial: <i>AK</i>
<b>Option 2 - EE/PDR Rider Exemption</b>	<b>87 Months (After PUCO Approval)</b>	<input type="checkbox"/> 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.

- Installation of (29) Hardwired CFL fixtures, of 29W or less
- Installation of (76) Hardwired CFL fixtures, of 30W or greater
- Installation of (8) LED 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 J. Will*

Title: Manager

Date: February 01, 2012

ZANE STATE COLLEGE

By: *Sharon K...*

Title: Director of Operations

Date: 2/1/12



## Self-Direct Program Project Application

**Jan 2011 - Dec 2011**

### Step 1: Check Project and Equipment Eligibility

- ✓ Project must be a facility improvement that results in a *permanent* reduction in electrical energy usage (kWh).
- ✓ *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 are installing. You may submit the application via mail, fax or e-mail.

**Submit your application to:**  
**AEP Ohio Business Incentives for Energy Efficiency**  
**2740 Airport Drive Suite 160**  
**Columbus, OH 43219**  
**Call: (877)-607-0739**  
**Fax: (877)-607-0740**  
**Email: [gridsmartohio@kema.com](mailto:gridsmartohio@kema.com)**  
**Visit our web site at [gridsmartohio.com](http://gridsmartohio.com)**

- ✓ Submit a completed application prior to Oct 1st for any projects prior to Jan 1, 2009, and Nov 15th for any projects completed Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2011 and could jeopardize approval of any incentive. Complete the checklist page and attach the documentation listed: customer information page, a signed Agreement and Signature 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 a 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 Rider 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.



## Self-Direct Program Project Application

### APPLICATION CHECKLIST

APPLICATION	
<b>Required Attachments</b>	
<input type="checkbox"/>	<a href="#">Customer/Contractor Information</a>
<input type="checkbox"/>	<a href="#">Completed Energy Efficiency Credits Requested Section of Agreement and Signature Page</a>
<input type="checkbox"/>	Itemized Invoices
<input type="checkbox"/>	Equipment Specifications
<input type="checkbox"/>	Scope of Work
<b>Worksheets</b>	
<input type="checkbox"/>	<a href="#">Lighting</a>
<input type="checkbox"/>	<a href="#">HVAC</a>
<input type="checkbox"/>	<a href="#">Refrigeration</a>
<input type="checkbox"/>	<a href="#">Motors and VFD</a>
<input type="checkbox"/>	<a href="#">Custom</a>
Application Date:	_____
Completion Date:	_____
Project Incremental 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

[gridsmartoio@kema.com](mailto:gridsmartoio@kema.com)

[www.gridsmartoio.com](http://www.gridsmartoio.com)





## Self-Direct Program Project Application

# TERMS AND CONDITIONS

Columbus Southern Power and Ohio Power Company are collectively known as AEP Ohio (AEP Ohio). AEP Ohio is offering Prescriptive and Custom energy efficiency credits under the AEP Ohio Business Incentives Program for Energy Efficiency to credit 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.

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

The AEP Ohio Business Incentives for Energy Efficiency program EEC are offered until approved funds are exhausted or Dec 31 of each program year, whichever comes first. The effective dates of Year 3 of the program and application submittal requirements are as follows:

- Self-direct projects are projects completed since 1/1/2008. 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 2011 AEP Ohio Business Incentives for Energy Efficiency program Applications should be received no later than Oct 1st for any projects completed prior to Jan 1, 2009, and Nov 15th for any projects completed Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2011 and could jeopardize approval of any incentive. AEP Ohio reserves the right to extend or shorten this timeline.
- Subsequent program year plans will be made available toward the end of the existing program year. At the current time, AEP Ohio has a commitment to provide this program through the 2011 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 energy efficiency credits for some of the more common energy efficiency measures and Custom energy efficiency 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 non-residential customers served at AEP Ohio's regulated retail rates, where qualifying projects are installed in a facility in AEP Ohio's electric service territory. These credits are available to all non residential customers who pay into the (EE/PDR) rider and receive their electricity over AEP Ohio wires, regardless of which retail electric supplier the customer has chosen to purchase power from.

Custom projects must involve measures that 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. However, projects that involve an automated control technology such as energy management system programming may be eligible for a credit. All projects must meet AEP Ohio's cost-effectiveness requirements. The project simple payback prior to the credit must pass the utility cost effectiveness test(s) determined by AEP Ohio, to qualify for credit. Normally, most projects with a simple payback prior to the credit greater than one year and less than seven years generally pass the utility cost effectiveness test(s). The peak demand hours are defined as weekdays, non-holidays 3:00 PM to 6:00 PM, June through August.

Projects involving measures covered by the Prescriptive energy efficiency credit portion of the program are not eligible for a Custom energy efficiency credit. However, the applicant has the option to apply for a Custom energy efficiency credit for whole building integrated projects or systems even if they include Prescriptive measures.

The energy efficiency credits are calculated in the following Prescriptive or Custom worksheets.



## Self-Direct Program Project Application

# TERMS AND CONDITIONS

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

- Projects must involve a 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
  - 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.
- Any measures installed at a facility must produce **verifiable** and **persistent** energy reduction. Measures 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 credit funds to AEP Ohio.
- Customer can not 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.
- All equipment must be new. Used or rebuilt equipment is only eligible for energy efficiency credits if the energy efficiency rating of the used equipment is the same energy efficiency level of new equipment.
- All installed equipment must meet state, federal, or local codes and requirements when applicable.
- Costs associated with internal labor are not eligible.
- Projects must be installed on the AEP Ohio electric account listed on the application
- Equipment must be purchased, installed, and operating (or capable of operating in the case of seasonal uses) prior to submitting an application for energy efficiency credits
- The energy efficiency credits are 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/credit.

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 1 year Min / 7 year Max
Maximum payout	75% of 50% of the Incremental project cost (additional caps may also apply)
Energy efficiency credit levels for projects completed since 1/1/2008	Calculated amount on the Prescriptive or Custom worksheets attached and subject to funding limits
Credit Limit	Calculated credits greater than \$160,000 per project are subject to a sliding scale credit tiering calculation.
Credit Calculation Order	Measure credit caps are applied first Project cost credit limits are applied second Credit tiering is applied third 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% of the lesser of: 1) The calculated credit as approved by AEP Ohio, or 2) 50% of the incremental project cost with larger projects subject to the following limits and credit reductions. In calculating the savings and energy efficiency credits for Custom measures, please contact the AEP Ohio Business Incentives for Energy Efficiency Program office to determine appropriate baseline for savings.

### Funding is limited

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

TARIFF	LIMIT PER BUSINESS ENTITY
General Service Tariffs 1, 2, & 3	\$450,000 per year
Any Other Tariff General Service Tariff 4	\$450,000 overall for years 2009-2011

- 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.
- Limits are utility-specific, so there is a separate limit for facilities served by Ohio Power and those served by Columbus Southern Power.
- A sliding scale credit reduction will be incorporated when the calculated energy efficiency credits exceed \$160,000 per project.

### Application

Applications should be submitted by Oct 1st for any projects completed prior to Jan 1, 2009, and Nov 15th for any projects completed Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2011 and could jeopardize approval of any incentive. Project documentation, such as copies of dated invoices for the purchase and installation of the measures 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 prior to any credit payment.

The location or business name on the invoice must be consistent with the application information. Applications and all required supporting documentation should be received by November 15, 2011 to be applicable for the 2011 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 incremental 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 may be disclosed to the Public Utilities Commission of Ohio for further review and approval. Requested 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 could 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 data analysis. The customer must allow access to project documents and the facility where the measures were installed for a period of five years after receipt of energy efficiency credits 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.

### 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 must estimate the annual electricity usage of both the equipment removed (and baseline) and equipment installed 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 source for these assumptions. 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 to be used in calculating the energy efficiency credit amount. AEP Ohio also reserves the right to require specific measurement and verification activities including monitoring the retrofit and 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 operation 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.

### 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 the Payee as a result of the receipt of the energy efficiency credits.

### Disclaimer

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

<b>Business Type (select one)</b>	<b>Tax Status (from W9)</b>	<b>How Did You Hear?</b>
LARGE OFFICE <input type="checkbox"/>	CORPORATION (Inc., PC, Etc.) <input type="checkbox"/>	AEP Account Representative <input type="checkbox"/>
SMALL OFFICE <input type="checkbox"/>	TAX EXEMPT <input type="checkbox"/>	Contractor <input type="checkbox"/>
SCHOOL <input type="checkbox"/>	INDIVIDUAL <input type="checkbox"/>	Website <input type="checkbox"/>
SMALL RETAIL/SERVICE <input type="checkbox"/>	OTHER (may receive 1099) _____	Other _____
LARGE RETAIL/SERVICE <input type="checkbox"/>		
HOTEL/MOTEL <input type="checkbox"/>	<b>Operating Days</b>	
MEDICAL - Hospital <input type="checkbox"/>	Seven days/week <input type="checkbox"/>	
MEDICAL - Nursing Home <input type="checkbox"/>	Five days/week <input type="checkbox"/>	
ASSEMBLY/MEETING PLACE <input type="checkbox"/>		
RESTAURANT <input type="checkbox"/>	<b>Operating Hours</b>	<b>Square Footage</b>
GROCERY <input type="checkbox"/>	One shift (8h /day) <input type="checkbox"/>	Affected Area S.F. _____
CONDITIONED WAREHOUSE <input type="checkbox"/>	Two shifts (16h/day) <input type="checkbox"/>	
UNCONDITIONED WAREHOUSE <input type="checkbox"/>	Three shifts (24h/day) <input type="checkbox"/>	
INDUSTRIAL/MANUFACTURING <input type="checkbox"/>		
COLLEGE/UNIVERSITY <input type="checkbox"/>	<b>Building Operating Hours</b> _____	
GOVERNMENT/MUNICIPAL <input type="checkbox"/>		
OTHER/MISCELLANEOUS <input type="checkbox"/>		

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.

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

### 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
COMPLETION DATE	PROJECT COST

\* AEP Ohio Account Number where measure is installed

\*\* Incentive cannot exceed 50 percent of the total Incremental cost or other caps described in the Terms and Conditions.



## Self-Direct Program Project Application

### SELF-DIRECT APPLICATION AGREEMENT

As an eligible AEP Ohio customer, I certify that the installation of the indicated energy efficiency measures, which will be demonstrated by the supporting documentation required by AEP Ohio. I certify that the work, was completed on this project on or after January 1, 2008. The energy efficiency measures are for use on-site and not for resale. I understand that project documentation, including copies of dated invoices for the purchase and installation of the measures and product specification sheets, is required. Further documentation requirements can be found at the program website [www.gridsmarthio.com](http://www.gridsmarthio.com) or by calling the program hotline.

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 **Oct 1st for any projects completed prior to Jan 1, 2009, and Nov 15th for any projects completed Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2011 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 energy efficiency credits are available to all eligible customers who pay the Energy Efficiency and Peak Demand Reduction (EE/PDR) rider and receive their electricity over AEP Ohio wires regardless of which retail electric supplier the customer has chosen to purchase power from.

I certify that the information on this application is true and correct, and that the Taxpayer ID Number and tax status is the applicant's. I understand that incentives over \$600 will be reported to the IRS unless the applicant is exempt. I understand that energy efficiency credits assume related energy benefits over a period of 5 years or for the life of the product, whichever is less.

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. Keep a copy for your records.

I understand that the Application and all required documentation should be received by the AEP Ohio Business Incentives for Energy Efficiency program prior to **Oct 1st for any projects completed prior to Jan 1, 2009, and Nov 15th for any projects completed Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2011 and could jeopardize approval of any incentive by the PUCO.** All equipment must be fully operational.





## Self-Direct Program Project Application

### SELF-DIRECT APPLICATION AGREEMENT

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. Equipment can not under any circumstances be resold for reuse. 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/osw/hazwaste.htm>.

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 incremental 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 15, 2011 to be eligible for funding under the current program period.

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 measures 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 CUSTOMER)		
PRINT NAME	DATE	ACTUAL COMPLETION DATE

Customer Name	ServiceAddress	ServiceCity	ServiceZip
ZANE STATE COLLEGE	9900 BRICK CHURCH RD	CAMBRIDGE	43725
ZANE STATE COLLEGE	1555 NEWARK RD	ZANESVILLE	43701-2626
ZANE STATE COLLEGE	1555 NEWARK RD	ZANESVILLE	43701-2626
ZANE STATE COLLEGE	1555 NEWARK RD	ZANESVILLE	43701-2626



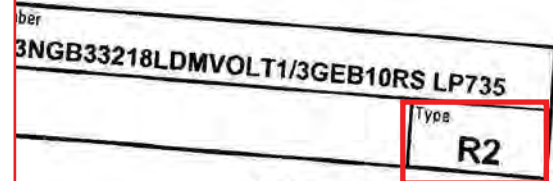
## Bulb:

Sylvania OSTRON/ECO 32Watt  
3500K F032/735/ECO

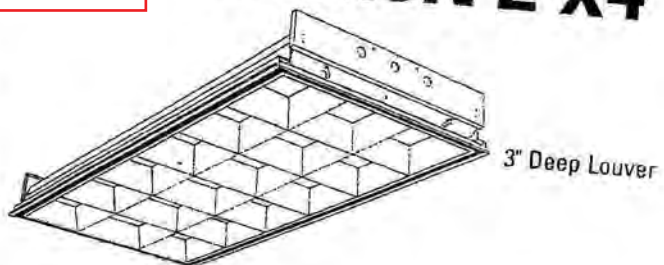
## Ballasts:

2 bulb Advance Optanium IOP-2532-SC 120V  
1 bulb Advance Optanium IOP-1532-SC 120V

Lamps + Ballasts do not meet program specs

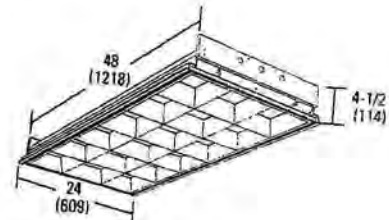


# PARAMAX® Parabolic Troffer 2PM3N 2'x4'



## Specifications

Length: 24 (609)  
Width: 48 (1218)  
Depth: 4-1/2 (114)  
Weight: 32 lbs (14.5 kg)



All dimensions are inches (millimeters) unless otherwise specified.

**CONSTRUCTION**  
Black reveal provides floating louver appearance, conceals optional air-supply slots.  
Square cornered end plates improve strength and durability.  
Integral T-bar safety clips hold fixture to T-bar securely; no fasteners required.  
Heavy gauge hinges die-formed for maximum strength; spring action latches concealed in black reveal.  
Housing formed from cold-rolled steel. Louver formed from anodized aluminum. No asbestos used in this product.  
Overlapping flange and modular ceiling trims available factory installed with swing gate hangers or field convertible with optional trim and hangers.

## FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion. Painted parts finished with high-gloss, baked white enamel.

## ELECTRICAL SYSTEM

Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard.

Electronic ballasts are sound rated A.

Fixture conforms to UL1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

## LISTING

UL Listed (Standard), CSA Certified or NOM Certified (see Options).

## WARRANTY

Guaranteed for one year against mechanical defects in manufacture. Specifications subject to change without notice.

## ORDERING INFORMATION

Example: 2PM3N G B 3 32 18LD MVOLT 1/3 GEB10IS

2PM3N		32	
Series	Airfunction	Lamp type	Voltage
2PM3N Paramax 3" parabolic, 2' wide	A Air supply/return (slots in side trim) H Heat removal (through lamp cavity, dampers available)	32 32W T8 (48")	120, 277, 347, MVOLT <sup>1</sup> Others available.
Trim type	B No air function D Dual function supply/return/removal	Number of lamps	Louver finish
G Grid F Overlapping flange MT Modular fit-in ST Screw slot		2, 3, 4 Not included.	LD Low iridescent anodized diffuse silver LS Low iridescent anodized specular silver
		Number of cells	
		12, 16, 18, 24, 32	

Options <sup>2</sup>	
1/3	One 3-lamp ballast
1/4	One 4-lamp ballast
GEB	Electronic ballast, ≤20% THD
GEB10IS	Electronic ballast, ≤10% THD, Instant Start
GEB10RS	Electronic ballast, ≤10% THD, Rapid Start
EL	Emergency battery pack (nominal 300 lumens; see Fluorescent Battery Packs tab)
LST	Tandem fixture pairs (shared ballasts)
PWS1836	6' prewire, 3/8" dia., 18-gauge, 3 wires
GLR	Internal fast-blow fuse <sup>4</sup>
GMF	Internal slow-blow fuse <sup>4</sup>
LP	Lamped; specify lamp type and color
CRE	Flanged trim for continuous row mounting (end)
CRM	Flanged trim for continuous row mounting (middle)
ACS	Air closure strips (A and D models only)
HRD	Heat-removal dampers
APB	Air-pattern control blades (A and D models only)
PAF	Painted after fabrication (white enamel)
2R	Two reflector channel covers <sup>3</sup>
JP	Palletized and stretch-wrapped (G and MT trim only)
CSA	CSA Certified
NOM	NOM Certified

## NOTES:

- 1 MVOLT standard for 120V and 277V applications. Some options require voltage specified.
- 2 Some options increase fixture depth. Consult factory if plenum space is a concern.
- 3 Available with 3-lamp 18 or 24 cell only.
- 4 Must specify voltage.

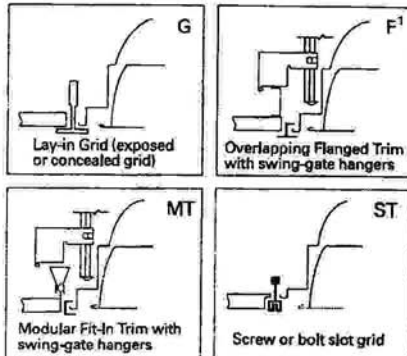
Fluorescent

## 2PM3N 2'x4' 3" Louver Family

### MOUNTING DATA

Continuous row mounting of flanged units requires CRE and CRM trim options (see options).

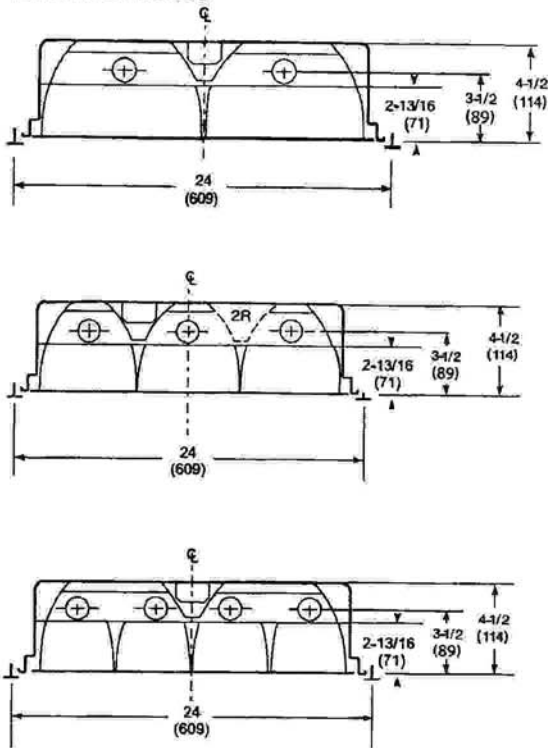
Ceiling Type	Appropriate Trim Type
Exposed grid tee	G
Concealed grid tee	G, ST
Concealed Z-spline	F, MT
Metal pan (consult factory)	MT
Screw slot (consult factory)	ST
Acoustical tile, plaster or plasterboard on rigid support parallel to lamps	F



#### NOTE:

<sup>1</sup> Recommended rough-in dimensions for F trim fixtures 24"x48"  
(Tolerance is +1/4", -0"). Swing-gate range 1-7/16" to 3-7/16", span 23-1/2" to 26-7/16".

### DIMENSIONS



### Energy (Calculated in accordance with NEMA standard LE-5)

LER.FP	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
65 (LD louver)	\$3.69	(2) 32WT8	2850	.88	59
66 (LD louver)	\$3.64	(3) 32WT8	2850	.88	85
59 (LD louver)	\$4.07	(4) 32WT8	2850	.88	112

\* Comparative yearly lighting energy cost per 1000 lumens

### PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedures. Floor reflectances are 20%. Lamp configurations shown are typical. Full photometric data on these and other configurations available upon request.

TEST NO: LTL14496  
2PM3N G B 2 32 12LD GEB  
LUMENS PER LAMP: 2850  
LAMPS PER LUMINAIRE: 2

Coefficients of Utilization												
ROR	pf	80%			70%			50%				
	pc	50%	30%	10%	50%	30%	10%	50%	30%	10%		
	pw	50%	30%	10%	50%	30%	10%	50%	30%	10%		
0	0	91	91	91	89	89	89	85	85	85		
1	1	82	79	76	80	77	75	77	75	73		
2	2	72	67	63	71	66	63	68	64	61		
3	3	64	58	53	62	57	53	60	56	52		
4	4	56	50	45	55	49	45	53	48	44		
5	5	50	44	39	49	43	38	48	42	38		
6	6	45	38	34	44	38	33	43	37	33		
7	7	41	34	29	40	34	29	39	33	29		
8	8	37	31	26	36	30	26	35	30	26		
9	9	34	28	23	33	27	23	32	27	23		
10	10	31	25	21	31	25	21	30	25	21		

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0° - 30°	1177.9	20.7	26.9
0° - 40°	2015.8	35.4	46.1
0° - 60°	3919.0	68.8	89.6
0° - 90°	4372.0	76.7	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	4372.0	76.7	100.0

TEST NO: LTL14671  
2PM3N G B 3 32 18LD 1/3 GEB  
LUMENS PER LAMP: 2850  
LAMPS PER LUMINAIRE: 3

Coefficients of Utilization												
ROR	pf	80%			70%			50%				
	pc	50%	30%	10%	50%	30%	10%	50%	30%	10%		
	pw	50%	30%	10%	50%	30%	10%	50%	30%	10%		
0	0	89	89	89	87	87	87	83	83	83		
1	1	80	78	75	79	76	74	76	74	72		
2	2	71	67	63	70	66	63	67	64	61		
3	3	64	58	54	62	57	53	60	56	53		
4	4	57	51	46	56	50	46	54	49	45		
5	5	51	45	40	50	44	40	49	44	40		
6	6	46	40	35	45	39	35	44	39	35		
7	7	42	36	31	41	35	31	40	35	31		
8	8	38	32	28	38	32	28	37	31	28		
9	9	35	29	25	34	29	25	34	28	25		
10	10	32	26	23	32	26	23	31	26	22		

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0° - 30°	1982.1	23.2	30.9
0° - 40°	3413.2	39.9	53.1
0° - 60°	5865.8	66.6	91.4
0° - 90°	6422.1	75.1	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	6422.1	75.1	100.0

TEST NO: LTL14541  
2PM3N G B 4 32 32LD 1/4 GEB  
LUMENS PER LAMP: 2850  
LAMPS PER LUMINAIRE: 4

Coefficients of Utilization												
ROR	pf	80%			70%			50%				
	pc	50%	30%	10%	50%	30%	10%	50%	30%	10%		
	pw	50%	30%	10%	50%	30%	10%	50%	30%	10%		
0	0	79	79	79	77	77	77	74	74	74		
1	1	71	69	67	70	68	66	67	65	64		
2	2	64	60	57	63	59	56	60	57	55		
3	3	57	53	49	56	52	48	54	51	48		
4	4	51	46	42	50	46	42	49	45	42		
5	5	46	41	37	46	41	37	44	40	37		
6	6	42	37	33	41	36	33	40	36	32		
7	7	38	33	29	38	33	29	37	32	29		
8	8	35	30	26	35	30	26	34	29	26		
9	9	32	27	24	32	27	24	31	27	23		
10	10	30	25	22	29	25	21	29	24	21		

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0° - 30°	2850.0	23.2	35.1
0° - 40°	4348.4	38.1	57.6
0° - 60°	7076.5	62.1	93.7
0° - 90°	7551.8	66.2	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	7551.8	66.2	100.0



#### Lithonia Lighting

Acuity Lighting Group, Inc.

Fluorescent

One Lithonia Way, Conyers, GA 30012

Phone: 800-858-7763 Fax: 770-929-8789

In Canada: 160 avenue Labrosse, Pointe-Claire, P.Q., H9R 1A1

www.lithonia.com



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## FEATURES & SPECIFICATIONS

### INTENDED USE

High performance parabolic luminaires for use in open area applications and electronic offices where optical control, visual comfort and light cut-off are important.

### ATTRIBUTES

Design optimized for use with T8 lamps and low-profile electronic ballasts. Choice of diffuse or specular louvers utilizing the latest developments in louver finishing for minimized louver iridescence.

### CONSTRUCTION

Black reveal provides floating louver appearance, conceals optional air-supply slots.

Square cornered end plates improve strength and durability.

Integral T-bar safety clips hold fixture to T-bar securely; no fasteners required.

Heavy gauge hinges die-formed for maximum strength; spring action latches concealed in black reveal.

Housing formed from cold-rolled steel. Louver formed from anodized aluminum. No asbestos used in this product.

Overlapping flange and modular ceiling trims available factory installed with swing gate hangers or field convertible with optional trim and hangers.

### FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion. Painted parts finished with high-gloss, baked white enamel.

### ELECTRICAL SYSTEM

Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard.

Electronic ballasts are sound rated A.

Fixture conforms to UL1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

### LISTING

UL Listed (Standard), CSA Certified or NOM Certified (see Options).

### WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

*Specifications subject to change without notice.*

Catalog Number

2PM3NGB33218LDMVOLTGEB10RS LP735

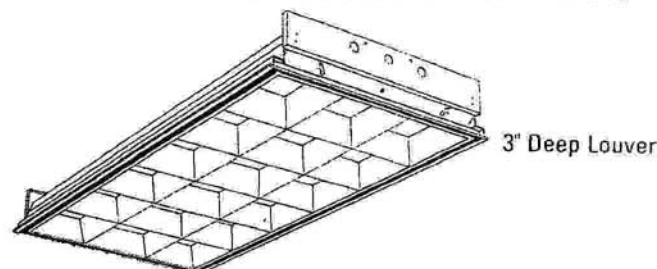
Notes

Type

R3

PARAMAX® Parabolic Troffer

# 2PM3N 2'x4'



3" Deep Louver

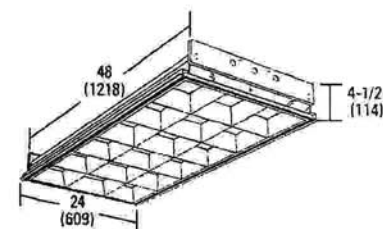
### Specifications

Length: 24 (609)

Width: 48 (1218)

Depth: 4-1/2 (114)

Weight: 32 lbs (14.5 kg)



All dimensions are inches (millimeters) unless otherwise specified.

## ORDERING INFORMATION

Example: 2PM3N G B 3 32 18LD MVOLT 1/3 GEB10IS

2PM3N		32			
Series	Airfunction	Lamp type	Voltage	Options <sup>2</sup>	
2PM3N Paramax 3" parabolic, 2' wide	A Air supply/return (slots in side trim)	32 32W T8 (48")	120, 277, 347, MVOLT <sup>1</sup>	1/3 One 3-lamp ballast	
	H Heat removal (through lamp cavity, dampers available)		Others available.	1/4 One 4-lamp ballast	
	B No air function	Number of lamps		GEB Electronic ballast, ≤20% THD	
	D Dual function supply/return/ removal	2, 3, 4 Not included.		GEB10IS Electronic ballast, ≤10% THD, Instant Start	
Trim type		Number of cells	Louver finish	GEB10RS Electronic ballast, ≤10% THD, Rapid Start	
G Grid		12, 16, 18, 24, 32	LD Low iridescent anodized diffuse silver	EL Emergency battery pack (nominal 300 lumens; see Fluorescent Battery Packs tab)	
F Overlapping flange			LS Low iridescent anodized specular silver	LST Tandem fixture pairs (shared ballasts)	
MT Modular fit-in				PWS1836 6' prewire, 3/8" dia., 18-gauge, 3 wires	
ST Screw slot				GLR Internal fast-blow fuse <sup>4</sup>	
				GMF Internal slow-blow fuse <sup>4</sup>	
				LP Lamped; specify lamp type and color	
				CRE Flanged trim for continuous row mounting (end)	
				CRM Flanged trim for continuous row mounting (middle)	
				ACS Air closure strips (A and D models only)	
				HRD Heat-removal dampers	
				APB Air-pattern control blades (A and D models only)	
				PAF Painted after fabrication (white enamel)	
				2R Two reflector channel covers <sup>3</sup>	
				JP Palletized and stretch-wrapped (G and MT trim only)	
				CSA CSA Certified	
				NOM NOM Certified	

### NOTES:

1 MVOLT standard for 120V and 277V applications. Some options require voltage specified.

2 Some options increase fixture depth. Consult factory if plenum space is a concern.

3 Available with 3-lamp 18 or 24 cell only.

4 Must specify voltage.



## FEATURES & SPECIFICATIONS

### INTENDED USE

High performance parabolic luminaires for use in open area applications and electronic offices where optical control, visual comfort and light cut-off are important.

### ATTRIBUTES

Design optimized for use with T8 lamps and low-profile electronic ballasts. Choice of diffuse or specular louvers utilizing the latest developments in louver finishing for minimized louver iridescence.

### CONSTRUCTION

Black reveal provides floating louver appearance, conceals optional air-supply slots.

Square cornered end plates improve strength and durability.

Integral T-bar safety clips hold fixture to T-bar securely; no fasteners required.

Heavy gauge hinges die-formed for maximum strength; spring action latches concealed in black reveal.

Housing formed from cold-rolled steel. Louver formed from anodized aluminum. No asbestos used in this product.

Overlapping flange and modular ceiling trims available factory installed with swing gate hangers or field convertible with optional trim and hangers.

### FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion. Painted parts finished with high-gloss, baked white enamel.

### ELECTRICAL SYSTEM

Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard.

Electronic ballasts are sound rated A.

Fixture conforms to UL1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

### LISTING

UL Listed (Standard), CSA Certified or NOM Certified (see Options).

### WARRANTY

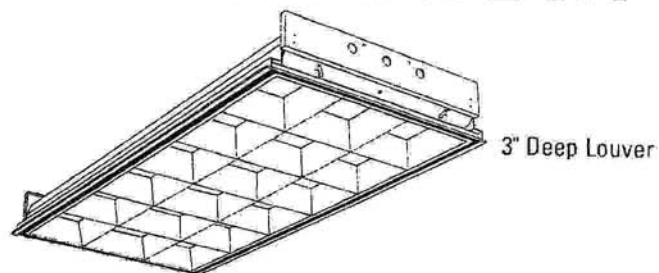
Guaranteed for one year against mechanical defects in manufacture.

*Specifications subject to change without notice.*

Catalog Number	2PM3NGB317 9LD MVOLE 1/3GEB10RS LP735
Notes	Type <b>R4</b>

### PARAMAX® Parabolic Troffer

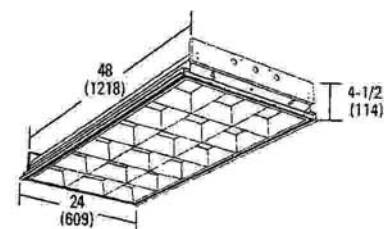
# 2PM3N 2'x4'



3" Deep Louver

### Specifications

Length: 24 (609)  
Width: 48 (1218)  
Depth: 4-1/2 (114)  
Weight: 32 lbs (14.5 kg)



All dimensions are inches (millimeters) unless otherwise specified.

## ORDERING INFORMATION

Example: **2PM3N G B 3 32 18LD MVOLT 1/3 GEB10IS**

2PM3N		32			
Series	Airfunction	Lamp type	Voltage	Options <sup>2</sup>	
2PM3N Paramax 3" parabolic, 2' wide	A Air supply/return (slots in side trim)	32 32W T8 (48")	120, 277, 347, MVOLT <sup>1</sup> Others available.	1/3 One 3-lamp ballast	
	H Heat removal (through lamp cavity, dampers available)			1/4 One 4-lamp ballast	
	B No air function	Number of lamps 2, 3, 4 Not included.		GEB Electronic ballast, ≤20% THD	
	D Dual function supply/return/ removal			GEB10IS Electronic ballast, ≤10% THD, Instant Start	
Trim type		Number of cells 12, 16, 18, 24, 32	Louver finish	GEB10RS Electronic ballast, ≤10% THD, Rapid Start	
G Grid			LD Low iridescent anodized diffuse silver	EL Emergency battery pack (nominal 300 lumens; see Fluorescent Battery Packs tab)	
F Overlapping flange			LS Low iridescent anodized specular silver	LST Tandem fixture pairs (shared ballasts)	
MT Modular fit-in				PWS1836 6' prewire, 3/8" dia., 18-gauge, 3 wires	
ST Screw slot				GLR Internal fast-blow fuse <sup>3</sup>	
				GMF Internal slow-blow fuse <sup>4</sup>	
				LP Lamped; specify lamp type and color	
				CRE Flanged trim for continuous row mounting (end)	
				CRM Flanged trim for continuous row mounting (middle)	
				ACS Air closure strips (A and D models only)	
				HRD Heat-removal dampers	
				APB Air-pattern control blades (A and D models only)	
				PAF Painted after fabrication (white enamel)	
				2R Two reflector channel covers <sup>3</sup>	
				JP Palletized and stretch-wrapped (G and MT trim only)	
				CSA CSA Certified	
				NOM NOM Certified	

### NOTES:

1 MVOLT standard for 120V and 277V applications. Some options require voltage specified.

2 Some options increase fixture depth. Consult factory if plenum space is a concern.

3 Available with 3-lamp 18 or 24 cell only.

4 Must specify voltage.



**FEATURES****OPTICAL SYSTEM**

- Reflector - Self-flanged, specular clear or semi-diffuse reflector. Fluted vertical upper section works in conjunction with Bounding Ray Optical Principle to provide lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional.
- Baffle/cone - Specular clear upper reflector. Microgroove baffle with white painted flange or specular black cone with flange that matches cone finish.
- Hinged lampdoor seals upper trim for optimal fixture efficiency and the reduction of stray light in the plenum.

**MECHANICAL**

- 16-gauge galvanized steel mounting/plaster frame with integral yoke to retain optical system. Maximum 1-1/2" ceiling thickness.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, integral cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 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.

**ELECTRICAL SYSTEM**

- Horizontally-mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally-protected high power factor electronic ballast mounted to the junction box (CP and EL ballast mounted on ballast tray).

**LISTING**

- Fixtures are UL listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

**ENERGY**

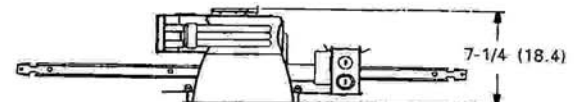
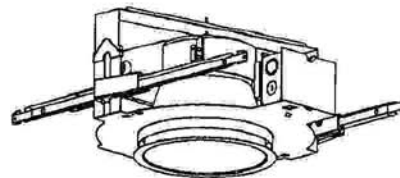
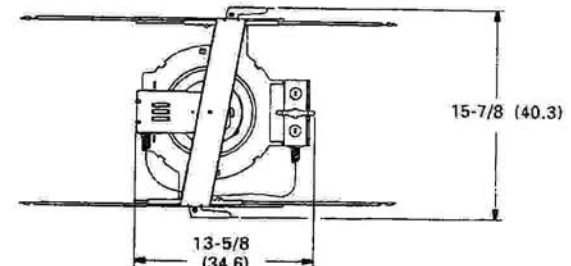
LER.DOL	Annual Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
41	\$5.83	1/26TRT	1800	0.98	27

Calculated in accordance with NEMA standard LE-5.

Type

**R5**

Catalog number

**AF 1/32TRT 6AR MVOLT GEB10WLP****Compact Fluorescent Downlights****6" AF****Open Reflector**Horizontal Lamp  
Triple-TubeAperture: 6-1/4 (15.9)  
Ceiling Opening: 7-1/8 (18.1)  
Overlap Trim: 7-1/2 (19.1)

All dimensions are inches (centimeters).

**ORDERING INFORMATION**

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

Example: AF 1/26TRT 6AR MVOLT

Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast	Options
AF	1/18TRT	6AR Clear	(blank) Specular low iridescent	MVOLT <sup>4</sup>	(blank) GEB10 standard. Electronic ballast.	WLP With 35°K lamp (shipped separately).
	1/26TRT	6PR Pewter		120		
	1/32TRT	6UBR Umber	LD Semi-diffuse	277	DMHL <sup>5</sup> Lutron Hi-Lume electronic dimming ballast	TRW White flange.
	1/42TRT	6WTR Wheat	low iridescent	347	ADEZ <sup>5</sup> Advance Mark X electronic dimming ballast.	EL <sup>8</sup> Emergency battery pack. Integral test switch provided.
		6CR Champagne Gold <sup>1</sup>				ELR Emergency battery pack. Remote test switch provided.
		6GR Gold <sup>1</sup>				GMF Single, slow-blow fuse (not available with MVOLT).
		6MB Black Baffle <sup>2,3</sup>				RIF Radio Interference Filter.
		6BC Black Cone <sup>2</sup>				LRC Provides compatibility with Lithonia Reloc System. Reloc System can be installed less this option with connectors provided by others. Access above ceiling required. For compatible Reloc Systems, see options and accessories tab.

**NOTES:**

- 1 Not recommended for use with compact fluorescent lamp. Consult factory.
- 2 Not available with finishes.
- 3 White flange standard.
- 4 Multi-volt electronic ballast capable of operating on any line voltage between 120-277 volt.
- 5 Consult factory for specific availability.
- 6 Not available with black cone.

**Accessories**

Order as separate catalog number.

SC6FL Sloped ceiling adaptor. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SC6FL 10D

QDS Quick Disconnect for easy ballast replacement. Not available with EL or ELR option.  
CP Chicago Plenum (consult factory).  
CSA CSA Certified.

## 6" AF Open Reflector

Distribution curve    Distribution data    Output data    Coefficient of utilization    Illuminance Data at 30" Above Floor for a Single Luminaire

AF 1/18TRT 6AR, (1) CF18DT/E/IN/835, 1200 lumens per lamp, 1.3 s/mh, test no. LTL9404

Mount height	Initial fc at beam center	50% beam angle 60.9°		10% beam angle 94.1°	
		Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8'	14.0	6.5	7.0	11.8	1.4
10'	7.5	8.8	3.8	16.1	0.8
12'	4.7	11.2	2.3	20.4	0.5
14'	3.2	13.5	1.6	24.7	0.3
16'	2.3	15.9	1.2	29.0	0.2

From 0°	cp.	Lumens	Zone	Lumens	%lamp	p f	80%	20%	50%
						pc	50%	70%	50%
						pw	50%	30%	30%
0°	423		0°-30°	351.8	29.3	1	63	62	61
5°	522	41	0°-40°	526.7	43.9	2	58	56	55
15°	579	123	0°-60°	693.5	57.8	3	53	50	49
25°	543	187	0°-90°	695.4	58.0	4	49	45	44
35°	328	175	90°-180°	0.0	0.0	5	45	41	40
45°	263	150				6	42	38	37
55°	12	17				7	38	34	33
65°	1	1				8	36	32	31
75°	1	1				9	33	29	29
85°	0	0				10	31	27	27
90°	0	0							

AF 1/26TRT 6AR, (1) CF26DT/E/IN/835, 1800 lumens per lamp, 1.2 s/mh, test no. LTL9391

Mount height	Initial fc at beam center	50% beam angle 59.9°		10% beam angle 93.8°	
		Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8'	23.6	6.3	11.8	11.8	2.4
10'	12.7	8.6	6.3	16.0	1.3
12'	7.9	11.0	4.0	20.3	0.8
14'	5.4	13.3	2.7	24.6	0.5
16'	3.9	15.6	2.0	28.8	0.4

From 0°	cp.	Lumens	Zone	Lumens	%lamp	p f	80%	20%	50%
						pc	50%	70%	50%
						pw	50%	30%	30%
0°	713		0°-30°	584.2	32.5	1	69	67	66
5°	792	72	0°-40°	866.2	48.1	2	63	60	59
15°	850	206	0°-60°	1125.1	62.5	3	58	54	53
25°	765	307	0°-90°	1127.4	62.6	4	53	49	48
35°	493	282	90°-180°	0.0	0.0	5	49	45	44
45°	383	232				6	45	41	40
55°	15	27				7	42	37	36
65°	1	2				8	39	34	33
75°	0	1				9	36	32	31
85°	0	0				10	34	30	29
90°	0	0							

AF 1/32TRT 6AR, (1) CF32DT/E/IN/835, 2400 lumens per lamp, 1.3 s/mh, test no. LTL9390

Mount height	Initial fc at beam center	50% beam angle 62.0°		10% beam angle 94.1°	
		Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8'	25.9	6.6	13.0	11.8	2.6
10'	13.9	9.0	7.0	16.1	1.4
12'	8.7	11.4	4.3	20.4	0.9
14'	5.9	13.8	3.0	24.7	0.6
16'	4.3	16.2	2.2	29.0	0.4

From 0°	cp.	Lumens	Zone	Lumens	%lamp	p f	80%	20%	50%
						pc	50%	70%	50%
						pw	50%	30%	30%
0°	784		0°-30°	663.0	27.6	1	60	58	57
5°	868	79	0°-40°	995.2	41.5	2	55	52	51
15°	914	230	0°-60°	1299.6	54.2	3	50	47	46
25°	890	354	0°-90°	1304.8	54.4	4	46	43	42
35°	587	332	90°-180°	0.0	0.0	5	42	39	38
45°	473	273				6	39	35	34
55°	22	31				7	36	32	31
65°	2	3				8	33	30	29
75°	1	2				9	31	27	27
85°	1	1				10	29	25	25
90°	0	0							

AF 1/42TRT 6AR, (1) CF42DT/E/IN/835, 3200 lumens per lamp, 1.3 s/mh, test no. LTL9521

Mount height	Initial fc at beam center	50% beam angle 62.5°		10% beam angle 94.2°	
		Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8'	35.0	6.7	17.5	11.8	3.5
10'	18.8	9.1	9.4	16.1	1.9
12'	11.7	11.5	5.9	20.4	1.2
14'	8.0	14.0	4.0	24.7	0.8
16'	5.8	16.4	2.9	29.0	0.6

From 0°	cp.	Lumens	Zone	Lumens	%lamp	p f	80%	20%	50%
						pc	50%	70%	50%
						pw	50%	30%	30%
0°	1058		0°-30°	916.8	28.6	1	62	60	59
5°	1135	107	0°-40°	1390.1	43.4	2	57	54	53
15°	1136	323	0°-60°	1805.1	56.4	3	52	49	48
25°	1043	487	0°-90°	1808.4	56.5	4	48	44	43
35°	774	473	90°-180°	0.0	0.0	5	44	40	39
45°	622	374				6	41	37	36
55°	26	41				7	38	34	33
65°	2	2				8	35	31	30
75°	1	1				9	32	28	28
85°	0	0				10	30	26	26
90°	0	0							

### NOTES:

- For electrical characteristics, refer to electrical data tab.
- Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.
- Consult factory or IES file for microgroove baffle, blackcone and other photometric reports.

DCF-110

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DCF-110.p65

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An Acuity Brands Company

GOTHAM ARCHITECTURAL DOWNLIGHTING  
A DIVISION OF ACUITY LIGHTING GROUP, INC.  
1400 Lester Road Conyers Georgia 30012  
P 800 315 4982 F 770 860 3129  
www.gothamlighting.com



## FEATURES

### OPTICAL SYSTEM

- Reflector - Self-flanged, specular clear or semi-diffuse reflector. Fluted vertical upper section works in conjunction with Bounding Ray Optical Principle to provide lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional.
- Baffle/cone - Specular clear upper reflector. Microgroove baffle with white painted flange or specular black cone with flange that matches cone finish.
- Hinged lampdoor seals upper trim for optimal fixture efficiency and the reduction of stray light in the plenum.

### MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame with integral yoke to retain optical system. Maximum 1-1/2" ceiling thickness.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, integral cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 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.

### ELECTRICAL SYSTEM

- Horizontally-mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally-protected high power factor electronic ballast mounted to the junction box (CP and EL ballast mounted on ballast tray).

### LISTING

- Fixtures are UL listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

## ENERGY

LER.DOL	Annual Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
41	\$5.83	1/26TRT	1800	0.98	27

Calculated in accordance with NEMA standard LF-5.

## ORDERING INFORMATION

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

AF						
Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast	Options
AF	1/18TRT	6AR Clear	(blank) Specular low iridescent	MVOLT <sup>4</sup>	(blank) GEB10 standard. Electronic ballast.	WLP With 35°K lamp (shipped separately).
	1/26TRT	6PR Pewter	LD Semi-diffuse low iridescent	120	DMHL <sup>5</sup> Lutron Hi-Lume electronic dimming ballast	TRW White flange.
	1/32TRT	6UBR Umber		277	ADEZ <sup>5</sup> Advance Mark X electronic dimming ballast.	EL <sup>6</sup> Emergency battery pack. Integral test switch provided.
	1/42TRT	6WTR Wheat		347		ELR Emergency battery pack. Remote test switch provided.
		6CR Champagne Gold <sup>1</sup>				GMF Single, slow-blow fuse (not available with MVOLT).
		6GR Gold <sup>1</sup>				RIF Radio Interference Filter.
		6MB Black Baffle <sup>2,3</sup>				LRC Provides compatibility with Lithonia Reloc System. Reloc System can be installed less this option with connectors provided by others. Access above ceiling required. For compatible Reloc Systems, see options and accessories tab.
		6BC Black Cone <sup>2</sup>				QDS Quick Disconnect for easy ballast replacement. Not available with EL or ELR option.
						CP Chicago Plenum (consult factory).
						CSA CSA Certified.

### NOTES:

- 1 Not recommended for use with compact fluorescent lamp. Consult factory.
- 2 Not available with finishes.
- 3 White flange standard.
- 4 Multi-volt electronic ballast capable of operating on any line voltage between 120-277 volt.
- 5 Consult factory for specific availability.
- 6 Not available with black cone.

Type

R6

Catalog number

AF 1/32TRT 6AR 277 ADEZ WLP

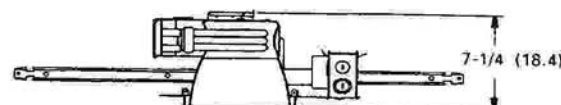
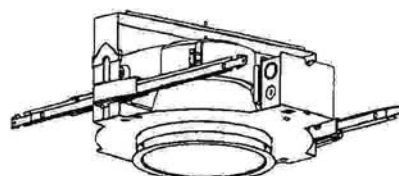
WADV MARK X DIMMING BALLAST

Compact Fluorescent Downlights

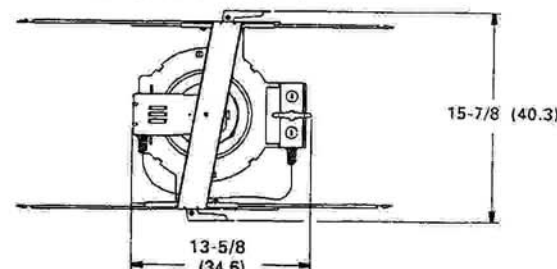
6" AF

Open Reflector

Horizontal Lamp  
Triple-Tube



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).

Example: AF 1/26TRT 6AR MVOLT

## FEATURES

### OPTICAL SYSTEM

- Twin matte white polyester powder paint finished reflectors provide uniform light distribution. Optional diffuse aluminum stepped reflectors available.
- All diffusers control direct light distribution and glare by shielding lamps from direct view.
- All shieldings snap into place by pivoting on light trap for easy lamp access.
- Injection molded light traps prevent light leaks between shielding and endplates.

### SHIELDING OPTIONS

- Metal Diffuser staggered Round holes (MDR) 52% open perforated metal with .075" diameter holes backed with white acrylic diffuser.
- Straight Blade Louver (SBL) sides of perforated metal with staggered round holes and solid blade louvered center. Sides and louver backed with white acrylic diffuser.
- Metal Diffuser aligned Mini slots (MDM) 46% open perforated metal backed with white acrylic diffuser.
- Acrylic Diffuser Prismatic lens (ADP) extruded acrylic lens backed with white acrylic diffuser.
- Metal Diffuser staggered Linear slots (MDL) 45% open perforated metal backed with white acrylic diffuser.

### ELECTRICAL SYSTEM

- Class P, Thermally protected, resetting, HPF, Non-PCB, UL Listed, CSA-certified electromagnetic ballast is standard. Energy saving and electronic ballast are sound rated A. Standard combinations are CBM approved and conform to UL 935.

### HOUSING

- Housing is powder painted cold rolled steel. All edges hemmed or rounded.
- Trims available for standard 1" tee bar, mini-tee bar, screw slot grids.
- Drywall ceiling adapters available.
- Fixtures can be row mounted end to end.

### LISTING

- UL listed and labeled. Listed and labeled to comply with Canadian and Mexican Standards (see options).

Specifications subject to change without notice.

## ORDERING INFORMATION

2AV

Example: 2AV G 2 32 MDR 120 GEB

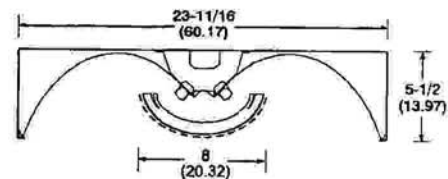
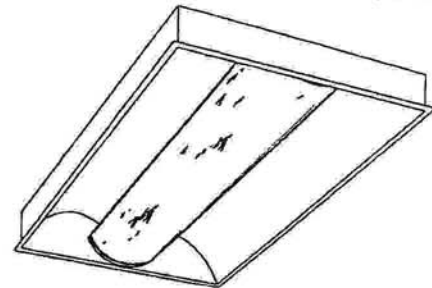
Series	Lamps in Cross Section	Lamp Type	Voltage	Options
2AV 2' wide symmetric distribution	1, 2, 3	32 32W T8 (48") 28T5 28W T5 (46") 54HOT5 54W T5 HO (46") CF40 40W TT5 (24") CF50 50W TT5 (24") CF55 55W TT5 (24")	120, 277, 347 Others available	GEB Electronic ballast, <20% THD. GEB10IS Electronic ballast, ≤10% THD, Instant Start. GEB10RS Electronic ballast, ≤10% THD, Rapid Start. ADEZ Advance Mark X two-wire dimming ballast. (T8 only) EL Emergency battery pack (nominal 300 lumens, see Life Safety section). GLR Internal fast-blow fuse. GMF Internal slow-blow fuse. LP Lamped. Specify lamp type and color. PWS1836 6' prewire, 3/8" dia., 18-gauge, 3 wires. RIF Radio interference filter. HTC T-bar safety clips (snap-on). LATC T-bar safety clips (screw-on). CSA Listed and labeled to comply with Canadian Standards. NOM Listed and labeled to comply with Mexican Standards.
T2AV 2' wide CF lamps in tandem (T).				
<b>Trim Type</b>			<b>Diffuser</b>	<b>Reflector Option</b>
G Grid trim			MDR Metal diffuser, round holes.	ASR Aluminum stepped reflector.
ST Screw slot			SBL Straight blade louver, round holes.	
			MDM Metal diffuser, mini slots.	
			ADP Acrylic diffuser, linear prismatic lens.	
			MDL Metal diffuser, staggered linear slots.	
<b>Accessories</b>				
Order as separate catalog number.				
DGA24 <sup>1</sup> Flanged grid to drywall adapter, unit installation.				
Notes:				
1 1 lamp in cross section, 2 lamps end to end in fixture.				
2 Use G trim plus DGA accessory for fixture trim flange and fixture support in plaster or plasterboard ceilings.				

Catalog Number	Type
2AVG232 MDR 277 ADEZ LP735 MARK X	R7
MARK X DIMMING BALLAST	

### Direct/Indirect General Lighting System

# AV 2'x4'

T8, T5 or T5HO  
1 or 2 lamp  
Compact Fluorescent  
1 lamp in cross section



*Avante*  
Recessed Direct/Indirect Lighting



AFV 42TRT 8AR mvoit wlp

RS

Open Reflector

# AFV

Vertical Lamp

Double Twin-Tube (DTT)  
Triple-Tube (TRT)

## Intended Use

For general downlight applications that demand high efficiency and low aperture brightness.

## Optical System

Self-flanged, semi-specular or matte-diffuse reflector. Patented Vertisys® - Bounding Ray™ Optical Principle design (U.S. Patent No. 5,800,050) provides lamp before lamp image, lamp image that reflects smoothly from the top of the reflector to the aperture,

providing optimal fixture performance and efficiency.

## Electrical System

Rugged aluminum lampholder housing. Vertically-mounted, positive-latch, thermoplastic socket. Class P, thermally-protected, high power factor ballast mounted to the

junction box.

## Mounting

16-gauge galvanized steel mounting/plaster frame with thru-wire junction box. Expandable, self-locking mounting bars provide horizontal and vertical adjustment.

## Listings

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

## Ordering Information

Example: AFV 26TRT 6AR MVOLT

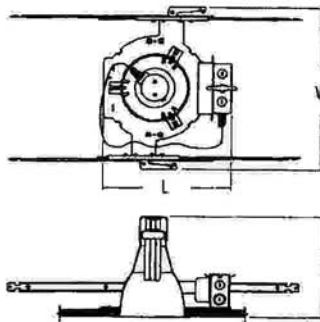
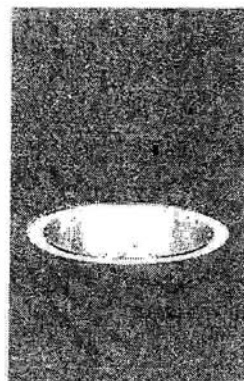
Series	Wattage/lamp	Aperture	Trim color	Finish	Lens type	Voltage	Options/accessories
AFV	130TT 180TT 260TT 18TRT 26TRT 32TRT 42TRT	4" 5" 6" 8"	AR Clear PR Pewter UBR Umber WTR Wheat WR White painted <sup>2</sup> MB Black baffle <sup>2</sup> WB White baffle <sup>2</sup>	(blank) Semi-specular LD Matte-diffuse	(blank) No lens CGL Clear glass lens CAL Clear acrylic lens PCL Clear polycarbonate lens T73 Tempered prismatic lens A12 Prismatic acrylic lens PPC Prismatic polycarbonate lens	120 277 347 MVOLT <sup>3</sup>	See pages 266-271.

Catalog No.	Lamp	Height (H)	Length (L)	Width (W)	Aperture	Cutting opening	Overlap (O)
AFV 4	DTT, TRT	9 (22.9)	13-5/8 (34.6)	15-7/8 (40.3)	4-5/16 (11.0)	5-1/8 (13.0)	5-7/16 (13.8)
AFV 5	DTT, TRT	9-3/8 (23.8)	13-5/8 (34.6)	15-7/8 (40.3)	5 (12.7)	5-7/8 (14.9)	6-1/4 (15.9)
AFV 6	DTT, 42TRT	10-1/4 (26.0)	13-5/8 (34.6)	15-7/8 (40.3)	6-1/4 (15.9)	7-1/8 (18.1)	7-1/2 (19.1)
AFV 6	130TT, TRT	9-3/8 (23.8)	13-5/8 (34.6)	15-7/8 (40.3)	6-1/4 (15.9)	7-1/8 (18.1)	7-1/2 (19.1)
AFV 8	DTT, 42TRT	11 (27.9)	13-3/4 (34.9)	15-7/8 (40.3)	7-7/8 (20.1)	8-7/8 (22.5)	9-1/4 (23.5)
AFV 8	130TT, TRT	10-1/8 (25.7)	13-3/4 (34.9)	15-7/8 (40.3)	7-7/8 (20.1)	8-7/8 (22.5)	9-1/4 (23.5)

Drawings are for dimensional detail only and may not represent actual mechanical configuration. Dimensions are shown in inches (centimeters) unless otherwise noted.

## NOTES:

- Available in 130TT, 18TRT, 26TRT and 32TRT lamp only.
- Not available with LD finish.
- Multi-volt electronic ballasts capable of operating on any line voltage from 120V through 277V, 50 or 60 Hz.



www.gothamlighting.com, keyword: AFV

gotham

PSG9

COMPACT FLUORESCENT DOWNLIGHTING

GOTHAM

208



## FEATURES & SPECIFICATIONS

### INTENDED USE

High performance parabolic luminaires for use in open area applications and electronic offices where optical control, visual comfort and light cut-off are important.

### ATTRIBUTES

Design optimized for use with T8 lamps and low-profile electronic ballasts. Choice of diffuse or specular louvers utilizing the latest developments in louver finishing for minimized louver iridescence.

### CONSTRUCTION

Black reveal provides floating louver appearance, conceals optional air-supply slots.

Square cornered end plates improve strength and durability.

Integral T-bar safety clips hold fixture to T-bar securely; no fasteners required.

Heavy gauge hinges die-formed for maximum strength; spring action latches concealed in black reveal.

Housing formed from cold-rolled steel. Louver formed from anodized aluminum. No asbestos used in this product.

Overlapping flange and modular ceiling trims available factory installed with swing gate hangers or field convertible with optional trim and hangers.

### FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion. Painted parts finished with high-gloss, baked white enamel.

### ELECTRICAL SYSTEM

Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard.

Electronic ballasts are sound rated A.

Fixture conforms to UL1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

### LISTING

UL Listed (Standard), CSA Certified or NOM Certified (see Options).

### WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

*Specifications subject to change without notice.*

Catalog Number

**2PM3NGB317 9LD MVOLT GEB10RS LP735**

Notes

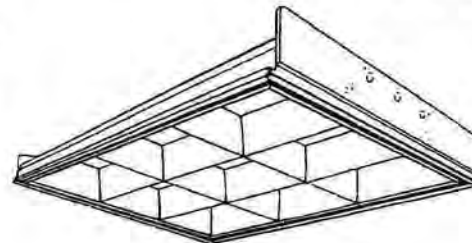
2 BALLAST

Type

**R9**

PARAMAX® Parabolic Troffer

# 2PM3N 2'x2'



3" Deep Louver  
Straight Lamps

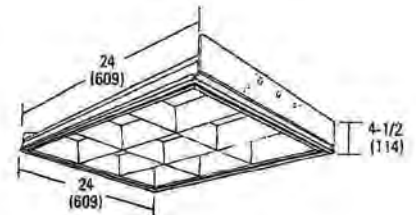
### Specifications

Length: 24 (609)

Width: 24 (609)

Depth: 4-1/2 (114)

Weight: 16 lbs (7.3 kg)



All dimensions are inches (millimeters) unless otherwise specified.

## ORDERING INFORMATION

Example: 2PM3N G B 4 17 16LD MVOLT 1/4 GEB10IS

2PM3N				Options <sup>2</sup>	
Series	Number of lamps	Lamp type	Voltage		
2PM3N Paramax 3" parabolic, 2' wide	2, 3, 4 Not included.	17 17W T8 (24')	120, 277, 347, MVOLT <sup>1</sup> Others available.	1/3 One 3-lamp ballast	
Trim type	Airfunction	Number of cells	Louver finish	1/4 One 4-lamp ballast	
G Grid	A Air supply/return (slots in side trim)	6, 9, 12, 16	LD Low iridescent anodized diffuse silver	GEB Electronic ballast, ≤20% THD	
F Overlapping flange	H Heat removal (through lamp cavity, dampers available)		LS Low iridescent anodized specular silver <sup>2</sup>	GEB10IS Electronic ballast, ≤10% THD, Instant Start	
MT Modular fit-in	B No air function			GEB10RS Electronic ballast, ≤10% THD, Rapid Start	
ST Screw slot	D Dual function supply/ return/removal			EL Emergency battery pack (nominal 300 lumens; see Fluorescent Battery Packs tab) <sup>2</sup>	
				GLR Internal fast-blow fuse <sup>4</sup>	
				GMF Internal slow-blow fuse <sup>4</sup>	
				LST Tandem fixture pairs (shared ballasts)	
				PWS1836 6' prewire, 3/8" dia., 18-gauge, 3 wires	
				LP Lamped, specify lamp type and color	
				ACS Air closure strips (A and D models only)	
				HRD Heat-removal dampers	
				APB Air-pattern control blades (A and D models only)	
				CRE Flanged trim for continuous row mounting (end)	
				CRM Flanged trim for continuous row mounting (middle)	
				PAF Painted after fabrication (white enamel)	
				ZR Two reflector channel covers <sup>3</sup>	
				JP Palletized and stretch-wrapped (G and MT trim only)	
				CSA CSA Certified	
				NOM NOM Certified	

### NOTES:

<sup>1</sup> MVOLT standard for 120V and 277V applications. Some options require voltage specified.

<sup>2</sup> Some options increase fixture depth. Consult factory if plenum space is a concern.

<sup>3</sup> Three-lamp models only.

<sup>4</sup> Must specify voltage.



## FEATURES

### OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse compound contour finishing trim in combination with keyed, proprietary Gotham spread lens delivers a uniform distribution of light to the wall.
- Retained by self-aligning support spring.
- Optical assembly rotates +/- 90°.

### MECHANICAL SYSTEM

- Formed housing with matte black finish.
- 16-gauge galvanized steel mounting/plaster frame will accommodate up to 1-1/2" thick ceiling.
- 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.
- Secondary housing adjustment system for precise, final ceiling to flange alignment.
- Galvanized steel junction box with hinged access covers and spring latch. Two combination 1/2"-3/4" knockouts and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors rated for 90°C.

### ELECTRICAL SYSTEM

- Horizontally-mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally-protected, high power factor electronic ballast mounted to the junction box.

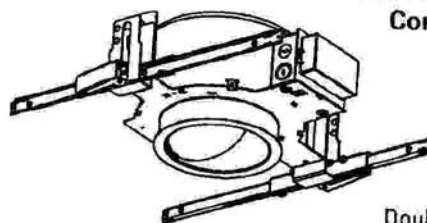
### LISTING

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

Type  
**R10**

Catalog number

DLWF 1/26 TRT 6AR  
mvolt WLP

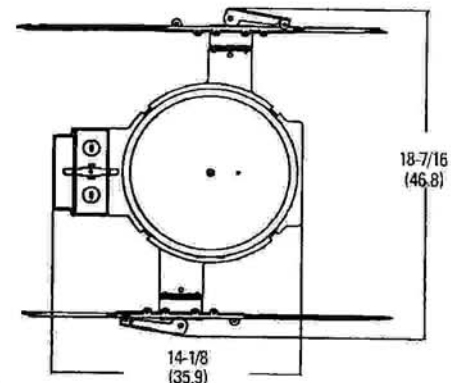


Compact Fluorescent Downlights

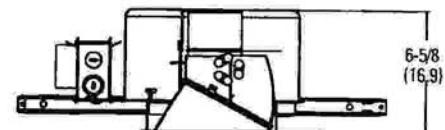
# 6" DLWF

## Lensed Wallwash

Double Twin-Tube or Triple-Tube Lamp



Aperture: 6-1/4 (15.9)  
Ceiling opening: 7-1/8 (18.1)  
Overlap trim: 7-5/8 (19.4)



All dimensions  
are inches  
(centimeters)

## ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line.

Example: DLWF 1/32TRT 6AR MVOLT

### DLWF

Series	Wattage/Lamp	Aperture/Trim color	Finish	Voltage	Ballast	Options	
DLWF	1/26DTT <sup>1</sup>	6AR Clear	(blank)	Semi-specular	MVOLT <sup>2</sup>	(blank)	QDS <sup>8</sup> Quick disconnect system for easy fluorescent ballast replacement
	1/18TRT	6BR <sup>2</sup> Black		120	ADALI <sup>4</sup>	Advance ROVR™ utilizing DALI protocol	ELR <sup>9</sup> Emergency battery pack with remote test switch
	1/26TRT	6PR Pewter	LD	277	ADEZ <sup>5</sup>	Advance Mark 10® electronic dimming ballast	ELRSD <sup>3</sup> Emergency battery pack with remote test switch and self-diagnostics module
	1/32TRT	6UBR Umber		347	ADZT <sup>4</sup>	Advance Mark 7® electronic dimming ballast	GMF <sup>10</sup> Single slow-blow fuse
	1/42TRT	6WTR Wheat			DMHL <sup>5</sup>	Lutron Compact SE™ electronic dimming ballast	GLR <sup>10</sup> Single, fast-blow fuse
					DMHL3 <sup>5,4</sup>	Lutron Hi-Lume® 1% electronic dimming ballast	TRW White painted flange
					ZWS <sup>4,7</sup>	Lutron Tu-Wire® electronic dimming ballast	TRBL Black painted flange
					TUBDD <sup>4</sup>	Universal Lighting Technologies electronic AddressPRO® digital dimming ballast	GSKT Foam gasketing
							WLP Lamp (shipped separately)
							LRC <sup>11</sup> Provides compatibility with Lithonia Reloc® System. Lithonia Reloc System can be installed less this option with connectors provided by others. Access above ceiling required
							RIF Radio interference filter
							CP Chicago Plenum

Notes:

1 Requires 4-pin lamp. Ships as TRT fixture.

2 Not available with finishes.

3 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 HZ.

4 Not available with 347V.

5 120V or 277V only.

6 Available in 26W and 32W only.

7 120V only.

8 Not available with ELR or ELRSD option.

9 For dimensional changes, refer to Technical Bulletins tab.

10 Not available with MVOLT. Must specify voltage.

11 For compatible Reloc systems, refer to Technical Bulletins tab.

#### Notes:

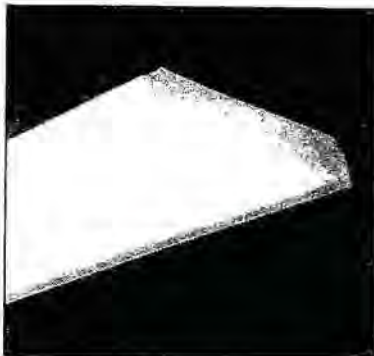
- 1 Requires 4-pin lamp. Ships as TRT fixture.
- 2 Not available with finishes.
- 3 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 HZ.
- 4 Not available with 347V.
- 5 120V or 277V only.
- 6 Available in 26W and 32W only.
- 7 120V only.
- 8 Not available with ELR or ELRSD option.
- 9 For dimensional changes, refer to Technical Bulletins tab.
- 10 Not available with MVOLT. Must specify voltage.
- 11 For compatible Reloc systems, refer to Technical Bulletins tab.

LB 232 MVOLT GEB10RS

CL1

## Low-Profile Wraparounds

# LB



### Intended Use

For applications requiring a clean, decorative appearance. Provides high vertical illumination and brightness control.

### Features

Acrylic prismatic diffuser with sonic-welded, injection-molded, luminous ends. Matches CB Series in appearance.

White enamel end plates – optional appliques available for field installation.

Linear side prisms control brightness; pyramidal bottom prisms minimize lamp image.

Continuous, interlocking-diffuser support prevents accidental opening, simplifies cleaning and service.

For surface or stem mounting, unit or row installation. Snap-in aligners permit row mounting without tools.

Minimum two hangers required. For row installation, one hanger per fixture plus one per row required. Four single-stem hangers required for 3-lamp versions.

### Listings

UL Listed (standard) and CSA Certified (standard; except for 347V – see Options). NOM Certified (see Options).

## Ordering Information

Series	Number of lamps
LB Standard width	2
ZLB 2 lamps in wide housing	3
	4

For tandem double-length unit, add prefix T. Example: TLB

Number of lamps	Not included
2	
3	
4	

Lamp wattage	Not included
17 17W T8 (24")	
20 20W T12 (24")	
32 32W T8 (48")	

Voltage	Not included
MVOLT	
120	
277	
347	

Options	Not included
1/3 One 3-lamp ballast	
1/4 One 4-lamp ballast	
GEB10LS T8 electronic ballast, ≤10% THD, instant start	
GEB10RS T8 electronic ballast, ≤10% THD, rapid start	
CSA CSA Certified (347V only)	
NOM NOM Certified	

See page 112 for others

Example: LB 2 32 MVOLT GEB10IS

### Accessories (Order separately)

Order one pair per fixture or row

- LB2W\* Walnut end plate appliques for narrow body, one pair
- LB4W\* Walnut end plate appliques for wide body, one pair

\* For teak appliques, substitute T for W in catalog number. Example: LB2T.

**lightquick<sup>®</sup> XD**  
Express delivery products.

See page 11 for details about LightQuick XD.

### Description

LB 4 32 MVOLT 1/4 GEB10IS  
LB 2 32 MVOLT GEB10IS

### Availability and Dimensions

Series	Lamps per cross section	Lamps per fixture	Lamp length in.	Width in. (cm)	Depth in. (cm)	Length in. (cm)
LB	2	2	24	10 (25.4)	3 (7.6)	24 (61.0)
	4	4	24	15 1/2 (39.1)	3 (7.6)	24 (61.0)
	2	2	48	10 (25.4)	3 (7.6)	48 (121.9)
ZLB	3	3	48	15 1/2 (39.1)	3 (7.6)	48 (121.9)
	4	4	48	15 1/2 (39.1)	3 (7.6)	48 (121.9)
	2	2	48	15 1/2 (39.1)	3 (7.6)	48 (121.9)
TLB	2	4	48	10 (25.4)	3 (7.6)	96 (243.8)
	3	6	48	15 1/2 (39.1)	3 (7.6)	96 (243.8)
	4	8	48	15 1/2 (39.1)	3 (7.6)	96 (243.8)
T2LB	2	4	48	15 1/2 (39.1)	3 (7.6)	96 (243.8)

**LITHONIA LIGHTING**

www.lithonia.com, keyword: LB

PSG9

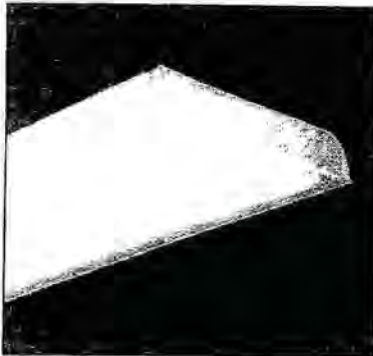


LB 332 mvolt 1/3 GEB10RS

CL2

## Low-Profile Wraparounds

# LB



### Intended Use

For applications requiring a clean, decorative appearance. Provides high vertical illumination and brightness control.

### Features

Acrylic prismatic diffuser with sonic-welded, injection-molded, luminous ends. Matches CB Series in appearance.

White enamel end plates – optional appliques available for field installation.

Linear side prisms control brightness; pyramidal bottom prisms minimize lamp image.

Continuous, interlocking-diffuser support prevents accidental opening, simplifies cleaning and service.

For surface or stem mounting, unit or row installation. Snap-in aligners permit row mounting without tools.

Minimum two hangers required. For row installation, one hanger per fixture plus one per row required. Four single-stem hangers required for 3-lamp versions.

### Listings

UL Listed (standard) and CSA Certified (standard, except for 347V – see Options). NOM Certified (see Options).

## Ordering Information

Series	Number of Lamps
LB Standard width	2
ZLB 2 lamps in wide housing	3
	4

For tandem double-length unit, add prefix T. Example: TLB

Number of Lamps	Not Included
2	
3	
4	

Lamp Type	Not Included
17 17W T8 (24")	
20 20W T12 (24")	
32 32W T8 (48")	

Not Included	Not Included
120	
277	
347	

Options	Options
1/3 One 3-lamp ballast	
1/4 One 4-lamp ballast	
GEB10IS T8 electronic ballast, ≤10% THD, instant start	
GEB10RS T8 electronic ballast, ≤10% THD, rapid start	
CSA CSA Certified (347V only)	
NOM NOM Certified	

See page 112 for others.

Example: LB 2 32 MVOLT GEB10IS

### Accessories (Order separately)

Order one pair per fixture or row

- LB2W\* Walnut end plate appliques for narrow body, one pair.
- LB4W\* Walnut end plate appliques for wide body, one pair.

\* For teak appliques, substitute T for W in catalog number. Example: LB2T.

**lightquick<sup>®</sup> XD**  
Express delivery products.

See page 11 for details about LightQuick XD.

### Description

LB 4 32 MVOLT 1/4 GEB10IS  
LB 2 32 MVOLT GEB10IS

### Availability and Dimensions

Series	Lamps per cross section	Lamps per fixture	Lamp length in.	Width in. (cm)	Depth in. (cm)	Length in. (cm)
LB	2	2	24	10 (25.4)	3 (7.6)	24 (61.0)
	4	4	24	15 1/4 (39.1)	3 (7.6)	24 (61.0)
	2	2	48	10 (25.4)	3 (7.6)	48 (121.9)
ZLB	3	3	48	15 1/4 (39.1)	3 (7.6)	48 (121.9)
	4	4	48	15 1/4 (39.1)	3 (7.6)	48 (121.9)
	2	2	48	15 1/4 (39.1)	3 (7.6)	48 (121.9)
TLB	2	4	48	10 (25.4)	3 (7.6)	96 (243.8)
	3	6	48	15 1/4 (39.1)	3 (7.6)	96 (243.8)
	4	8	48	15 1/4 (39.1)	3 (7.6)	96 (243.8)
TZLB	2	4	48	15 1/4 (39.1)	3 (7.6)	96 (243.8)



## FEATURES & SPECIFICATIONS

### INTENDED USE

Ideal where high brightness and good illumination levels are required such as retail, light industrial and warehouses.

### ATTRIBUTES

Fixture can be assembled with snap together components and requires no tools. Available in one lamp or two lamp configuration.

### CONSTRUCTION

Heavy-duty channel, die-formed from code-gauge steel. Optional aluminum construction available.

Sturdy channel cover secured by captive quarter-turn latch for easy access to wireway.

Combination endplate/channel connector furnished with each fixture.

### FINISH

Five-stage iron phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

### ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, non-PCB, UL Listed and CSA Certified ballast is standard. Sound rating depends on lamp/ballast combination.

AWM, TFN, THHN wire throughout, rated for required temperatures.

### INSTALLATION

For unit or row installations, surface or suspended mounting.

### LISTING

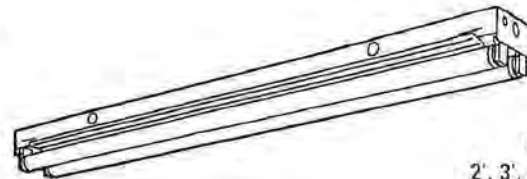
120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options). Suitable for damp locations.

### WARRANTY

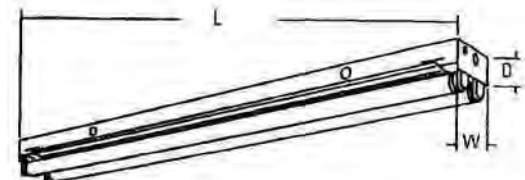
Guaranteed for one year against mechanical defects in manufacture.

Catalog Number	C232 MVOLT GEB10RS
Notes	Type <b>CV1</b>

General-Purpose Strip



**RAPID START**  
2', 3', 4' or 8' length  
1 or 2 lamps



### Specifications

Length: 18" (457)  
24" (610)  
36" (914)  
48" (1219)  
72" (1829)  
96" (2438)

Width: 4-3/8" (111)

Fixture Depth: 2-1/16" (52)

All dimensions are inches (millimeters).  
Specifications subject to change without notice.

## ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Example: **C 2 32 120 GEB**

Series	Number of lamps	Lamp type	Voltage	Options
<b>C</b> General-purpose strip For tandem double-length unit, add prefix T. Example: TC	<b>1, 2</b> Not included	<b>15</b> 15W TS T12 (18") <sup>1</sup> <b>15PH</b> 15WPH T12 (18") <sup>1</sup> <b>17</b> 17W T8 (24") <b>20PH</b> 20W PH T12 (24") <sup>1</sup> <b>20</b> 20W TS T12 (24") <sup>2</sup> <b>25</b> 25W T8 (36") <b>30PH</b> 30W PH T12 (36") <sup>1</sup> <b>30</b> 30W RS HPF T12 (36") <b>32</b> 32W T8 (48") <b>40</b> 40W T12 (48") <sup>4</sup>	<b>120, 277, 347, MVOLT<sup>3</sup></b> Others available	<b>ES</b> Energy-saving ballasts (30W or 40W lamps only) <b>GEB</b> Electronic ballasts, ≤20% THD <b>GEB10IS</b> Electronic ballasts, ≤10% THD instant-start <b>HPF</b> High power factor ballasts (15W and 20W only) <b>LPF</b> Low power factor ballasts (15W, 20W and 30W only) <b>EL</b> Emergency battery pack (nominal 300 lumens) <b>GLR</b> Internal fast-blow fuse (add X for external) <b>GMF</b> Internal slow-blow fuse (add X for external) <b>CS1</b> 6' cordset, NEMA 5-15P SJT, U-ground plug, 120V <b>CS3</b> 6' cordset, NEMA L5-15P SJT, twist-lock plug, 120V <b>PLF</b> Plug-in wiring; specify 1, 2 or 3 branch circuits and hotwires (A = Black, B = Red, C = Blue, AB or AC) <b>AL</b> Aluminum housing, white enamel finish <b>CSA</b> CSA Certified (only required for 347V) <b>NOM</b> NOM Certified

### Accessories

Order as separate catalog numbers.

**SQ** Swivel-stem hanger (specify length in 2" increments).

**1B** Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).

**CONLCG** 12" screw-on channel connector.

**WGCUN** Wireguard, 4' white.<sup>3</sup>

**HC36** Chain hangers (1 pair, 36" long).

**HRC** Hooker® T-bar hanger (flush to ceiling).

**HRC1** Hooker® T-bar hanger (1-1/2" from ceiling).

**WGC5MR** Wireguard, 4' white for symmetric reflector.<sup>3</sup>

**WGCASR** Wireguard, 4' white for asymmetric reflector.<sup>3</sup>

**CSMR48WH** Symmetric reflector, 4' white, 7" aperture.<sup>3</sup>

**CASR48WH** Asymmetric reflector, 4' white, 5-3/4" wide.<sup>3</sup>

### NOTES:

1 PH ballasts available in low power factor 120V only.

2 Specify HPF or LPF in options section for 120V. HPF standard on 277V.

3 Order 2 for 8' fixtures.

4 LPF is available for residential buildings only.

5 MVOLT available with GEB10IS only.

Order as separate catalog numbers.		<b>AL</b> Aluminum housing, white enamel finish.
<b>SQ</b>	Swivel-stem hanger (specify length in 2" increments).	<b>CSA</b> CSA Certified (only required for 347V)
<b>1B</b>	Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).	<b>NOM</b> NOM Certified
<b>CONLGC</b>	12" screw-on channel connector.	
<b>WGCUN</b>	Wireguard, 4' white. <sup>3</sup>	
<b>HC36</b>	Chain hangers (1 pair, 36" long).	
<b>HRC</b>	Hooker® T-bar hanger (flush to ceiling).	NOTES:
<b>HRC1</b>	Hooker® T-bar hanger (1-1/2" from ceiling).	1 PH ballasts available in low power factor 120V only.
<b>WGCSMR</b>	Wireguard, 4' white for symmetric reflector. <sup>3</sup>	2 Specify <b>HPF</b> or <b>LPF</b> in options section for 120V, <b>HPF</b> standard on 277V.
<b>WGCASR</b>	Wireguard, 4' white for asymmetric reflector. <sup>3</sup>	3 Order 2 for 8' fixtures.
<b>CSMR48WH</b>	Symmetric reflector, 4' white, 7" aperture. <sup>3</sup>	4 LPF is available for residential buildings only.
<b>CASR48WH</b>	Asymmetric reflector, 4' white, 5-3/4" wide. <sup>3</sup>	5 MVOLT available with GEB10IS only.

Fluorescent

Sheet #: C-RS

STRP-100





## FEATURES & SPECIFICATIONS

### INTENDED USE

Intended for mounting heights up to 16' requiring low to medium light levels. Ideal for light duty task lighting, utility, storage rooms or retail.

### CONSTRUCTION

Channel constructed of die-formed cold rolled steel. Sturdy combination reflector and channel cover constructed of die-formed cold rolled steel and secured by quarter-turn latch for easy access to wire-way. Screw on endplates. Available in 2', 4', or 8' tandem wired lengths. Accepts plug-in option for 1, 2 or 3 primary circuits.

### FINISH

Five-stage iron phosphate pretreatment ensures superior paint adhesion and corrosion-resistance. Reflector and channel finished with a high-gloss baked white enamel. Reflector is painted after fabrication.

### OPTICAL SYSTEM

Solid top or apertured 8% uplight available. Both reflectors are die-embossed and painted after fabrication.

### ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, non-PCB, UL Listed and CSA Certified ballast is standard. Sound rating depends on lamp/ballast combination.

AWM, TFN, THHN wire throughout, rated for required temperatures.

### INSTALLATION

For unit or row installations, surface or suspended mounting.

### LISTINGS

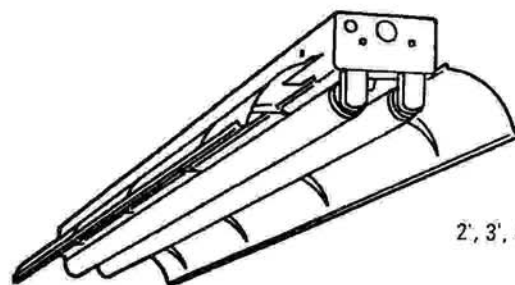
120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options). Suitable for damp locations.

### WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

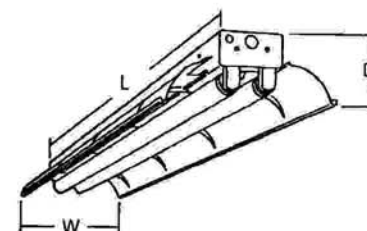
Catalog Number	LA232 MVOLT GEB10RS	
Notes		Type <b>S1</b>

### Standard Industrial



### Rapid Start

2', 3', 4' or 8' length  
1 or 2 lamps



### Specifications

Length:	24" (610)
	36" (913)
	48" (1219)
	72" (1829)
	96" (2438)
Width:	12" (305)
Fixture Depth:	4" (102)

All dimensions are inches (millimeters).  
Specifications subject to change without notice.

## ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Example: **L 2 32 120 GEB**

Series	Number of lamps	Lamp type	Voltage	Options
<b>L</b> Standard Industrial, solid top	<b>1, 2</b>	<b>17</b> 17W T8 (24")	<b>120, 277, 347, MVOLT<sup>1</sup></b>	<b>ES</b> Energy-saving ballasts (30W or 40W lamps only)
<b>LA</b> Standard Industrial, apertured reflector	Not included	<b>20</b> 20W TS HPF T12 (24")	Others available	<b>GEB</b> Electronic ballasts, ≤20% THD
For tandem double-length unit, add prefix T. Example: <b>TL</b>		<b>25</b> 25W T8 (36")		<b>GEB10IS</b> Electronic ballasts, ≤10% THD, Instant Start <sup>2</sup>
		<b>30</b> 30W RS HPF T12 (36")		<b>GEB10RS</b> Electronic ballasts, ≤10% THD, Rapid Start <sup>2</sup>
		<b>32</b> 32W T8 (48")		<b>LPF</b> Low power factor ballasts (20W or 30W only)
		<b>40</b> 40W T12 (48")		<b>EL</b> Emergency battery pack. (Nominal 300 lumens) See Life Safety Section)
				<b>GLR</b> Internal fast-blow fuse (add X for external)
				<b>GMF</b> Internal slow-blow fuse (add X for external)
				<b>CS1</b> 6' cordset, NEMA 5-15P SJT, U-ground plug, 120V
				<b>CS3</b> 6' cordset, NEMA 5-15P SJT, twist-lock plug, 120V
				<b>PLF</b> Plug-in wiring. Specify 1, 2 or 3 branch circuits and hot wires (A=Black, B=Red, C=Blue, AB or AC)
				<b>SSR</b> Specular silver reflector finish (95% reflective)
				<b>TILW</b> Tandem in-line wiring
				<b>CSA</b> CSA Certified (Only required for 347V).
				<b>NOM</b> NOM Certified.

Accessories
Order as separate catalog numbers.
<b>SQ</b> Swivel-stem hanger (specify length in 2" increments).
<b>1B</b> Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).
<b>WGL</b> Wireguard, 4' white. Order 2 for 8' fixtures.
<b>HC36</b> Chain hangers (1 pair, 36" long).
<b>CONLGC</b> 12" screw-on channel connector.

NOTES:
1 MVOLT available with GEB10IS only.
2 Available only with 32 watt lamp type.
3 Available only with 32 watt and 40 watt lamp types.





## FEATURES

### INTENDED USE

Ideal for applications requiring attractive, quick installation exit signs and low energy consumption.

### CONSTRUCTION

Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating (UL94-5VA with CSA option). UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet pry out easily for lamp compartment access.

Universal directional chevron inserts are easily removed and reinserted. Uniform graphics illumination without shadows or hot spots. Reinforced, impact-resistant color panels. Letters 6" high with 3/4" stroke.

U.S. Patent No. 5,526,251; 5,611,163; 5,954,423; 5,988,825; 6,152,581; 6,502,044 D383,501 and D495,751. Other patents pending.

### LAMPS

LEDs mounted on printed circuit boards. Expected LED life over 25 years. Low energy consumption – less than one watt.

### INSTALLATION

Universal (top, end or back) mounting. Easily removed mounting knockouts. J-box pattern on back panel. Housing snaps to canopy with four positive-locking tabs. Cam-locking pin tightly secures housing to canopy.

### LISTING

UL listed (standard). CSA Certified, C-860 and C22.2 No.9 or NOM Certified (see Options). Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards, and State of Minnesota energy-efficient legislation requiring less than 20W consumption.

### WARRANTY

Five-year total customer satisfaction warranty, including the LED lamps.

Catalog Number	LQMSW3R 120/277
Notes	Type <b>L1/W1</b>



Thermoplastic Exits

# LQM

LED LAMPS



## ORDERING INFORMATION

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

Example: **LQM S W 3 R 120/277**

LQM						
Family	Face type	Housing color	Number of faces	Letter color	Input voltage <sup>5</sup>	Options <sup>2</sup>
LQM LED	<b>S</b> Stencil <b>A</b> Aluminum appearance stencil <sup>1,2</sup> <b>P</b> Panel <sup>1,2,3</sup>	(blank) <b>Black</b> <sup>1</sup> <b>W</b> White	<b>1</b> Single face <sup>4</sup> <b>3</b> Single face with extra faceplate and color panel	<b>R</b> Red <b>G</b> Green <sup>1</sup>	<b>120/277</b> Dual voltage <sup>1</sup> <b>120/347</b> Dual voltage <sup>2,5</sup>	(blank) None <b>F1</b> Fire alarm flashing interface <sup>1,2</sup> <b>X2</b> Primary and secondary AC inputs provided <sup>1,2,5</sup> <b>DC6</b> 6V DC lamps and sockets <sup>1,2,7</sup> <b>DC12</b> 12V DC lamps and sockets <sup>1,2,7</sup> <b>DC24</b> 24V DC lamps and sockets <sup>1,2,7</sup> <b>DC48</b> 48V DC lamps and sockets <sup>1,2,7</sup> <b>LDC6</b> 6V DC input for LED lamps <sup>2,6</sup> <b>LDC12/48</b> 12V – 48V DC input for LED lamps <sup>2,5</sup> <b>CSA</b> CSA Certified <sup>2</sup> <b>NOM</b> NOM Certified for Mexico <sup>1,2</sup> <b>DL</b> UL listed for damp locations

### NOTES:

- 1 Not available with CSA option.
- 2 See back of spec sheet for special housing dimensions. Consult factory for compatible accessories.
- 3 Special wording available in red or green. Consult factory.
- 4 Only available with options.
- 5 Some special voltages available. Consult factory.
- 6 Only available with CSA option.
- 7 UL listed as emergency lighting equipment.
- 8 Not available with F1 option.
- 9 For other voltages, replace DC6 with DC12 or DC24.

### Accessories

Order as separate item.

<b>ELA WGEX</b>	Back-mount wireguard
<b>ELA WGEXT</b>	Top-mount wireguard
<b>ELA WGEXE</b>	End-mount wireguard
<b>ELA LDC6 120/347</b>	6V DC input for LED lamps, dual voltage AC input <sup>9</sup>
<b>ELA LDC12/48 120/347</b>	12V-48V DC input for LED lamps, dual voltage AC input <sup>9</sup>
<b>ELA QMDC6 CSA</b>	6V DC emergency lamps <sup>6,8</sup>
<b>ELA LQMSORTIE</b>	SORTIE stencil face & sign panel <sup>6</sup>



## FEATURES & SPECIFICATIONS

### INTENDED USE

Ideal where high brightness and good illumination levels are required such as retail, light industrial and warehouses.

### ATTRIBUTES

Fixture can be assembled with snap together components and requires no tools. Available in one lamp or two lamp configuration.

### CONSTRUCTION

Heavy-duty channel, die-formed from code-gauge steel. Optional aluminum construction available.

Sturdy channel cover secured by captive quarter-turn latch for easy access to wireway.

Combination endplate/channel connector furnished with each fixture.

### FINISH

Five-stage iron phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

### ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, non-PCB, UL Listed and CSA Certified ballast is standard. Sound rating depends on lamp/ballast combination.

AWM, TFN, THHN wire throughout, rated for required temperatures.

### INSTALLATION

For unit or row installations, surface or suspended mounting.

### LISTING

120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options). Suitable for damp locations.

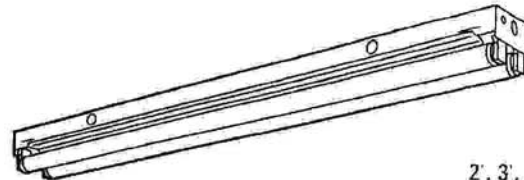
### WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Catalog Number	C232 MVOLT GEB10RS	
Notes		Type <b>CH1</b>

General-Purpose Strip

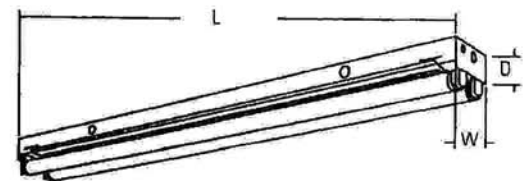
**C**



**RAPID START**

2', 3', 4' or 8' length

1 or 2 lamps



### Specifications

Length: 18" (457)

24" (610)

36" (914)

48" (1219)

72" (1829)

96" (2438)

Width: 4-3/8" (111)

Fixture Depth: 2-1/16" (52)

All dimensions are inches (millimeters).  
Specifications subject to change without notice.

## ORDERING INFORMATION

Example: **C 2 32 120 GEB**

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number.

<b>C</b>					
Series	Number of lamps	Lamp type	Voltage	Options	
<b>C</b> General-purpose strip	<b>1, 2</b>	<b>15</b> 15W TS T12 (18") <sup>2</sup>	<b>120, 277, 347, MVOLT<sup>3</sup></b>	<b>ES</b> Energy-saving ballasts (30W or 40W lamps only)	
For tandem double-length unit, add prefix T. Example: TC	Not included	<b>15PH</b> 15WPH T12 (18") <sup>1</sup>	Others available	<b>GEB</b> Electronic ballasts, <20% THD	
		<b>17</b> 17W T8 (24")		<b>GEB10IS</b> Electronic ballasts, <10% THD instant-start	
		<b>20PH</b> 20W PH T12 (24") <sup>1</sup>		<b>HPF</b> High power factor ballasts (15W and 20W only)	
		<b>20</b> 20W TS T12 (24") <sup>2</sup>		<b>LPF</b> Low power factor ballasts (15W, 20W and 30W only)	
		<b>25</b> 25W T8 (36")		<b>EL</b> Emergency battery pack (nominal 300 lumens)	
		<b>30PH</b> 30W PH T12 (36") <sup>1</sup>		<b>GLR</b> Internal fast-blow fuse (add X for external)	
		<b>30</b> 30W RS HPF T12 (36")		<b>GMF</b> Internal slow-blow fuse (add X for external)	
		<b>32</b> 32W T8 (48")		<b>CS1</b> 6' cordset, NEMA 5-15P SJT, U-ground plug, 120V	
		<b>40</b> 40W T12 (48") <sup>4</sup>		<b>CS3</b> 6' cordset, NEMA L5-15P SJT, twist-lock plug, 120V	
				<b>PLF</b> Plug-in wiring; specify 1, 2 or 3 branch circuits and hot wires (A = Black, B = Red, C = Blue, AB or AC)	
				<b>AL</b> Aluminum housing, white enamel finish	
				<b>CSA</b> CSA Certified (only required for 347V)	
				<b>NOM</b> NOM Certified	

### Accessories

Order as separate catalog numbers.

**SQ** Swivel-stem hanger (specify length in 2" increments).

**1B** Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).

**CONLGC** 12" screw-on channel connector.

**WGCUN** Wireguard, 4' white.<sup>3</sup>

**HC36** Chain hangers (1 pair, 36" long).

**HRC** Hooker® T-bar hanger (flush to ceiling).

**HRC1** Hooker® T-bar hanger (1-1/2" from ceiling).

**WGCSMR** Wireguard, 4' white for symmetric reflector.<sup>3</sup>

**WGCASR** Wireguard, 4' white for asymmetric reflector.<sup>3</sup>

**CSMR48WH** Symmetric reflector, 4' white, 7" aperture.<sup>3</sup>

**CASR48WH** Asymmetric reflector, 4' white, 5-3/4" wide.<sup>3</sup>

### NOTES:

1 PH ballasts available in low power factor 120V only.

2 Specify **HPF** or **LPF** in options section for 120V, **HPF** standard on 277V.

3 Order 2 for 8' fixtures.

4 LPF is available for residential buildings only.

5 MVOLT available with GEB10IS only.



# Decora Wall Switch Occupancy Sensor

**ODS15-ID**

## Features Self-Adjusting Technology with Automatic "Walk-Through" Sensing

### APPLICATION

Leviton's Cat. No. ODS15-ID Decora Wall Switch Passive Infrared (PIR) Occupancy Sensor is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications, including:

- Small offices
- Conference rooms
- Storage areas
- Restrooms
- Class rooms
- Lounges

The ODS15-ID can be used for automatic switching of incandescent lamps and low-voltage lighting with electronic and magnetic ballasts. The unit also features a manual override switch that can be used to keep lights OFF while an area is occupied, which may be desired in conference rooms and other areas during slide or film presentations. The unit installs in place of a single-pole wall switch and fits in a standard wall box. The unit requires a ground connection.

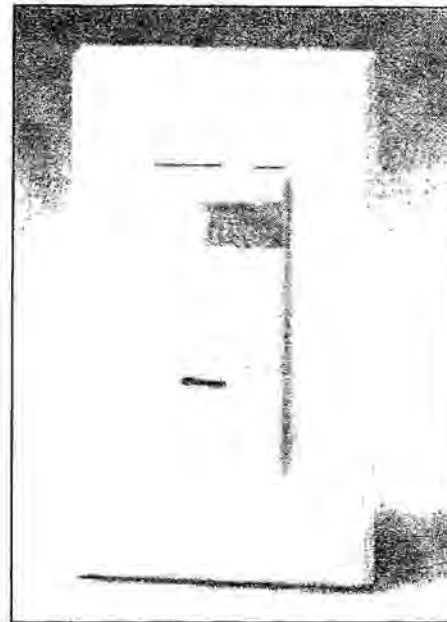
### OPERATION

The ODS15-ID uses passive infrared (PIR) detection technology to monitor a room for occupancy through a segmented Fresnel lens. This specialized lens divides the field of view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches the lights ON. The lights will remain ON as long as there is an occupant moving through the sensor zones.

A delayed-OFF time adjustment prevents the lights from switching OFF when the space is occupied. In order to keep the lights ON, a person must pass through a sensor zone at least once during the selected delayed-OFF time interval. An LED indicator blinks each time the unit detects activity in the sensor zones. When the space being monitored by the sensor is unoccupied for the length of time chosen as the delayed-OFF interval, the unit will beep 3 times. Ten seconds after the last warning beep, the unit will switch the lights OFF.

To ensure longer service life and compatibility with electronic ballasts, the device carefully times its switching contact opening and closing with the zero crossing point of the AC power curve. This minimizes contact wear caused by in-rush currents from electronic ballasts.

An exclusive Walk-Through feature addresses the common situation where personnel may only enter a room momentarily. The Walk-Through feature provides increased energy savings by not leaving the lights ON for an extended period after only momentary occupancy. The unit will switch lights ON when it detects a person entering the area it is monitoring. However, if the ODS15-ID does not continue to detect activity during the 2-1/2 minutes immediately following the initial entry, it will automatically go to a short 2-1/2 minute delayed-OFF mode. After this 2-1/2 minute time interval expires, the unit will beep 3 times and then wait 10 seconds before switching the lights OFF.



Cat. No. ODS15-ID

### Push-button Manual Override Control

For manual control, the ODS15-ID features a convenient push-button switch. If the lights are OFF, pressing the button will turn lights ON and keep them ON for as long as the room is occupied. The lights will be turned OFF once the room is vacant, after the delayed-OFF time expires. If the lights are ON, pressing the button will turn lights OFF and keep them OFF even if the room is occupied. This feature is particularly useful for slide or film presentations. The lights can be turned back ON by simply pressing the button. The unit will then return to normal operation. If the button is not pressed to turn the lights back ON and the unit does not detect any motion during the delayed-OFF time interval, the lights will remain OFF. The unit will then return to normal operation where the lights will remain OFF until it detects occupancy and automatically switches lights ON.

### Manual-ON/Auto-OFF Mode

In this mode, the unit will not turn lights ON automatically when motion is detected. Lights can only be turned ON manually by pressing the push-button. The lights will remain ON as long as the unit detects activity in the sensor zones. It will shut lights OFF automatically after the space becomes unoccupied and the delayed-OFF time expires. Lights can also be turned OFF manually at any time by pressing the push-button. This mode is ideal for areas where manual ON switching is required but automatic OFF switching is desired for energy savings.

ODS15-ID

### LEVITON SPECIFICATIONS SUBMITTAL

JOB NAME: <i>ZANE State College</i>	CATALOG NUMBERS: <i>ODS15-IDW</i>
JOB NUMBER: <i>MSA</i>	



# Dual-Relay Decora Wall Switch Occupancy Sensor

## ODSOD-ID

### The ODSOD-ID Occupancy Sensor—

- Controls two separate lighting loads from a single unit
- Features new self-adjusting occupancy sensor technology with automatic "walk-through" sensing
- Choice of "Conference Room" or "Class Room" modes for maximum performance in a variety of installations

### APPLICATION

Leviton's Cat. No. ODSOD-ID Dual-Relay Decora Wall Switch Passive Infrared (PIR) Occupancy Sensor is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications, including:

- Class rooms
- Conference rooms
- Offices
- Multimedia rooms
- Day care centers
- Lounges

The ODSOD-ID provides automatic switching of two separate lighting loads from a single unit. It is compatible with incandescent, fluorescent and low-voltage lighting. The unit features dual manual-override switches that can be used to toggle the ON/OFF status of each lighting load while an area is occupied. The ODSOD-ID can be installed in place of two single-pole wall switches and fits in a standard single-gang wall box. The unit requires a ground connection for proper operation.

### BASIC OPERATION

The ODSOD-ID uses passive infrared (PIR) detection technology to monitor a room for occupancy through a segmented Fresnel lens. This specialized lens divides the field of view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches two separate lighting loads ON. The lights will remain ON as long as there is an occupant moving through the sensor zones.

A delayed-OFF time adjustment prevents the lights from switching OFF when the space is occupied. In order to keep the lights ON, a person must pass through a sensor zone at least once during the selected delayed-OFF time interval. A **self-adjusting delayed-OFF time feature** compensates for real-time occupancy patterns to prevent unnecessary ON/OFF switching. An LED indicator blinks each time the unit detects activity in the sensor zones. When the space being monitored by the sensor is unoccupied for the length of the delayed-OFF time interval, the unit will beep 3 times. Ten seconds after the last warning beep, the unit will switch the lights OFF.

To ensure longer service life and compatibility with electronic ballasts, the device carefully times the primary relay switching contact opening and closing with the zero crossing point of the AC power curve. This minimizes contact wear caused by in-rush currents from electronic ballasts.



Cat. No. ODSOD-ID

An exclusive walk-through feature addresses the typical situation where personnel may only enter a room momentarily. The walk-through feature provides increased energy savings by preventing the lights from remaining ON for an extended period after only momentary occupancy.

The **walk-through feature** operates as follows: The ODSOD-ID will switch lights ON when it detects a person entering the area it monitors. However, if there is no occupant activity detected during the 2-1/2 minutes immediately following the initial entry, the unit recognizes that a person was just "walking through" the area. It will then automatically time out. After the initial 2-1/2 minute time interval expires, the unit will beep 3 times and then wait 10 seconds before switching the lights OFF.

*NOTE: The Self-Adjusting Delayed-OFF Time and the Walk-Through features are factory-preset features in the ODSOD-ID. These features can be disabled if required—See "Non-Adaptive Mode."*

ODSOD-ID

### LEVITON SPECIFICATION SUBMITTAL

JOB NAME: <b>ZANE State College</b>	CATALOG NUMBERS: <b>ODSOD-IDW</b>
JOB NUMBER: <b>MSB</b>	



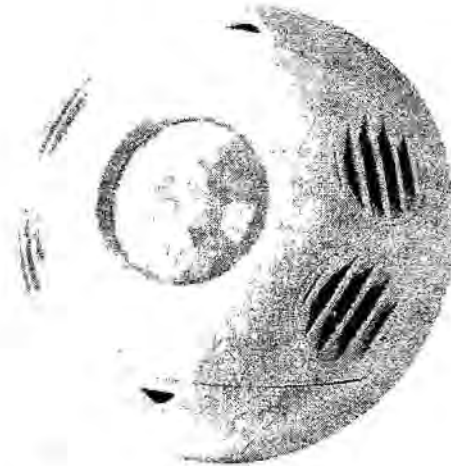
# Occupancy Sensor Multi-Technology Ceiling Sensor

**OSC20-MOW  
OSC10-MOW  
OSC05-MOW**

The most advanced sensor available. Combines multi-technology with all-digital architecture. Eliminates false triggering. The result is a trouble-free, "install and forget" solution for lighting control.

## THE OSCxx-MOW SERIES OCCUPANCY SENSOR

- MULTI-TECHNOLOGY FOR HIGHEST RELIABILITY  
INFRARED & ULTRASONIC
- SIMPLE, FAST INSTALLATION
- SELF-ADJUSTING
- ALL-DIGITAL, COMPLETE RELIABILITY
- PHOTOCELL BUILT-IN
- CEILING MOUNT



## GENERAL OPERATION

Occupancy sensors have two tasks: keeping the lights on while the room is occupied and, conversely keeping the lights off when unoccupied. Ultrasonic (doppler shift) motion detection gives maximum sensitivity yet can be vulnerable to false triggering from air conditioning currents, corridor activity and movement of inanimate objects. Infrared motion sensing gives immunity to false triggering, but lacks sensitivity at greater distances. Leviton multi-technology sensors combine the benefits of both infrared and ultrasonic technologies for unrivaled performance and reliability.



Upon room entry, the infrared detects motion and turns lights on.

Ultrasonic keeps lights on even with very minor motion.



When unoccupied, lights stay off while air conditioning system cycles on and off, and cleaning crews occupy corridors.

## ADAPTIVE FUNCTIONS

The OSCxx-MOW constantly analyzes and adapts to changing conditions:

## HOW THE ODCXX-M AUTOMATICALLY ADAPTS

Condition	Example	Adaptive Reaction
Timer Left In Test Mode - The sensor remains in an 6 sec. test mode.	An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go off or on every 6 sec.	The sensor automatically resets the timer to 10 min. after 15 min. of test mode.
False-On - The sensor incorrectly turns the lights on.	The sensor detects movement in the corridor or hallway and the room lights turn on.	After an initial movement is sensed, if another movement is not sensed within the timer setting then the delayed off time setting is automatically reduced.
False-Off - The sensor incorrectly turns the lights off.	The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn off.	If motion is sensed within a short period after the lights go off, then the current delayed off-time setting is increased.

OSCxx-MOW

## LEVITON SPECIFICATION SUBMITTAL

JOB NAME: <i>ZANE State College</i>	CATALOG NUMBERS: <i>OSC20-mow</i>
JOB NUMBER: <i>MSC</i>	

# Power Pack Series

## OSP Power Pack OSA Add-A-Relay

The internal relay can control up to **20 amps at either 120, 230, or 277 VAC ballast load, 15 amp for 347 VAC ballast load.**

### OSP SERIES FEATURES

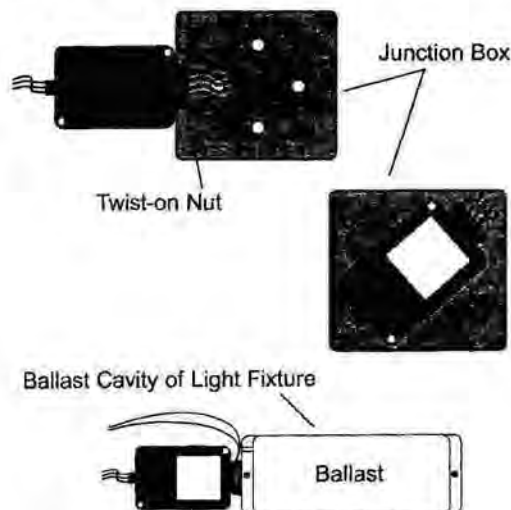
- Self-contained Transformer & Relay
- Regulated 24 VDC current, 150 mA output
- Mounts Inside or Outside Junction Box, or Inside Fluorescent Ballast Cavity
- Fast Installation
- Single or Multiple Luminaire Control
- Companion ADD-A-Relay provides additional capacity
- HVAC Relay Option
- Zero crossing circuitry provides increased durability

### GENERAL OPERATION

Containing both a 24 VDC supply and a 20 amp line voltage relay for most models, this compact power pack will provide the low voltage power and the line voltage control for Leviton occupancy sensors. The OSP Power Pack Series is also used to supply power to the OSA, the add-a-relay model.

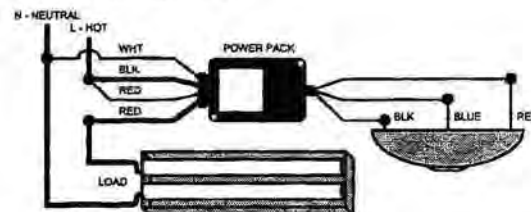
### COMPACT SIZE, EASY MOUNTING

The Power Pack mounts in the knock-out hole of a junction box. The unit can be placed outside or inside the box with a simple twist-on nut.

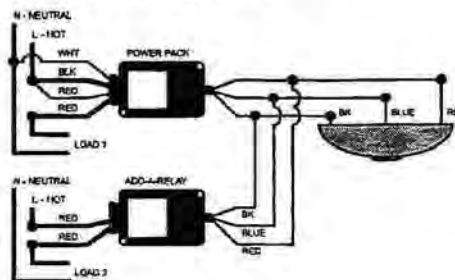


### SENSOR WIRING

Single Load, Single Sensor



Multiple Loads, Single Sensor



### LEVITON SPECIFICATION SUBMITTAL

JOB NAME:	ZANE State College		CATALOG NUMBERS:	OSP-20 ODD
JOB NUMBER:	PP			

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**in**

**Case No(s). 12-0584-EL-EEC**

Summary: Application of Zane State College 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