



## Public Utilities Commission

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

Case No.: 11-3043 -EL-EEC

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 implemented during the prior three calendar years.

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the 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 electric utilities' energy efficiency rider option (Option 2) will not qualify for the 60-day automatic approval.

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.

If you consider some of the items requested in the application to be confidential or trade secret information, please file a copy of the application under seal, along with a motion for protective order pertaining to the material you believe to be confidential. Please also file a copy of the application in the public docket, with the information you believe to be confidential redacted.

## Section 1: Company Information

Name:Hiram College

Principal address:11715 Garfield Road, Hiram, OH 44234

Address of facility for which this energy efficiency program applies: 11715 Garfield Road, Hiram, OH 44234

Name and telephone number for responses to questions:Lucas Dixon: 614-580-3352

Electricity use by our company (at least one must apply to your company – check the box or boxes that apply):

- ☒ We use more than seven hundred thousand kilowatt hours per year at our facility. (Please attach documentation.)
- ☐ We are part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

## Section 2: Application Information

A) We are filing this application (choose which applies):

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

B) Our electric utility isFirst Energy Inc.

C) We are offering to commit (choose which applies):

- ☐ Energy savings from our energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Demand reduction from our demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ Both the energy savings and the demand reduction from our energy efficiency program. (Complete all sections of the Application.)

### Section 3: Energy Efficiency Programs

A) Our energy efficiency program involves (choose whichever applies):

- ☐ Early replacement of fully functioning equipment with new equipment. (Provide the date on which you replaced your fully functioning equipment, and the date on which you would have replaced your equipment if you had not replaced it early. Please include a brief explanation for how you determined this future replacement date (or, if not known, please explain why this is not known).
- ☐ Installation of new equipment to replace equipment that needed to be replaced. We installed our new equipment on the following date(s): :
- ☒ Installation of new equipment for new construction or facility expansion. We installed our new equipment on the following date(s): **See Exhibit 2**

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

- a) If you checked the box indicating that your project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: \_\_\_\_kWh

- b) 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.

Hiram College Gelbke Hall Lighting - Project 1

- c) 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: 50,170kWh

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment. **See Exhibit 1**

**Section 4: Demand Reduction/Demand Response Programs**

- A) Our program involves (choose which applies):

- ☒ Coincident peak-demand savings from our energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction).
- ☐ Potential peak-demand reduction (choose which applies):

➤ Choose one or more of the following that applies:

- ☐ Our 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.
- ☐ Our 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) What is the date your peak demand reduction program was initiated? **See Exhibit 2**

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

11.00 kW **See Exhibit 2**

**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 60day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) We are applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

☐ Option 2: An exemption from the cost recovery mechanism implemented by the electric utility.

B) The value of the option that we are seeking is:

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

☒ A cash rebate of \$ \$3,010 (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 \$ \_\_\_\_\_ (Attach documentation and calculations showing how this payment amount was determined).

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for \_\_\_\_\_ months (not to exceed 24 months).

Hiram College Gelbke Hall Lighting - Project 1

(Attach calculations showing how this time period 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: 2.2(Skip to Subsection 2).

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (capacity and energy) by the sum of our program costs and our electric utility's administrative costs to implement the program.

Our avoided supply costs were \_\_\_\_\_.

Our program costs were \_\_\_\_\_.

The utility's administrative costs were \_\_\_\_\_.

Hiram College Gelbke Hall Lighting - Project 1

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 \$15,466.

The utility's administrative costs were \$7,058.

The utility's incentive costs/rebate costs were \$3,010.

**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.
- 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;
  - 2) a description of any consequences of noncompliance with the terms of the commitment;
  - 3) a description of coordination requirements between you and the electric utility with regard to peak demand reduction;
  - 4) permission by you to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
  - 5) a commitment by you to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.



## Public Utilities Commission

Application to Commit  
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Case No.: 11-3043-EL-EEC

State of Ohio :

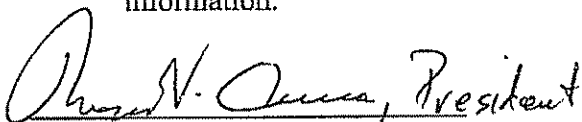
Thomas V. Chema, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Hiram College

[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.
3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

  
Signature of Affiant & Title

Sworn and subscribed before me this 16<sup>th</sup> day of June, 2011 Month/Year

  
Signature of official administering oath

Thomas V. Chema, President  
Print Name and Title

My commission expires My commission has no expiration date  
THERESA A. TARCHINSKI, Attorney-At-Law  
Notary Public - State of Ohio  
Sec. 147.03 R.C.



Customer Legal Entity Name: Hiram College  
 Site Address: Hiram College Gelbke Hall  
 Principal Address: 12000 Winrock Drive

What date would you have replaced your equipment if you had not replaced it early?  
 Also, please explain briefly how you determined this future replacement date.

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

Description of methodologies, protocols and practices used in measuring and verifying project results

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

Project No. Project Name

1	Hiram College Gelbke Hall Lighting	Gelbke Hall is an Art Gallery that was built in 2007. Efficient lights were installed as part of the construction. To capture the energy savings of these efficient lights, a Comcheck analysis was conducted to compare the lights to code (ASHRAE 90.1 2004). See the Comcheck report for a detailed analysis. NOTE: The total building cost was \$962,000. This cost was split (\$481,000) between the two projects in the file.	Converted Comcheck allowed and proposed watts to kW and multiplied by 4389 hours per year to get kWh. Allowed kWh - Proposed kWh to get N/A reduced kWh eligible for incentive.			The lighting installed in the addition consumed 11,431 less watts than the ASHRAE requirement.

**Customer Legal Entity Name:** Hiram College  
**Site Address:** Hiram College Gelbke Hall  
**Principal Address:** 12000 Winrock Drive

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)
2010	3,960,475	3,960,475	4,010,645
2009	4,457,732	4,457,732	4,507,902
<b>Average</b>	<b>4,209,104</b>	<b>4,209,104</b>	<b>4,259,274</b>

[illegible]

## Notes

**Notes**

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) The eligible rebate amount is based upon 75% of the rebates offered by the FirstEnergy Commercial and Industrial Energy Efficiency programs or 75% of \$0.08/kWh for custom programs for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO. 10-834-EL-SEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or \$250,000 per project. The rebate also cannot exceed \$500,000 per customer per year, per utility service territory.

**Exhibit 3 Utility Cost Test**

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	50	308	15,466	3,546	\$3,010		7,058	2.2
<b>Total</b>	<b>50</b>	<b>\$ 308</b>	<b>15,466</b>	<b>3,546</b>	<b>\$3,010</b>	<b>\$502</b>	<b>7,058</b>	<b>2.2</b>

**Notes**

(A) From Exhibit 2, = kWh saved / 1000

(B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

(D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.

(E) This is the amount of the cash rebate paid to the customer for this project.

(F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) = (C) / (G)

Hiram College ~ Hiram College Gelbke Hall  
Docket No. 11-3043

Site: 12000 Winrock Drive



## FEATURES & SPECIFICATIONS

**INTENDED USE** — The Avante 2x4 is a general lighting luminaire for large spaces including open offices, circulation areas, classrooms, libraries, cafeterias, airport ticketing and wait areas, and numerous other commercial applications. Static or air functions available. **Certain airborne contaminants can diminish integrity of acrylic.** [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

**CONSTRUCTION** — Housing is gloss white enamel on cold rolled steel. All edges hemmed or rounded.

All shieldings pivot on light traps and swing down for easy lamp access.

Molded light traps prevent light leaks between shielding and endplates.

All air and screw slot units supplied with screw-on tee bar clips. Ballast access is from below.

**OPTICS** — Twin matte white polyester powder paint finished reflectors provide uniform light distribution. Optional low brightness diffuse aluminum stepped reflectors available.

All diffusers control direct light distribution and glare by shielding lamps from direct view.

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 with center slots (MDC). 52% open metal, .075" diameter holes with 1" wide solid center. Slotted with 1/2"x2" open slots. Diffuser is backed with white acrylic overlay.

**ELECTRICAL** — All ballasts supplied are class P, thermally protected, resetting, HPF, non-PCB, UL Listed, CSA Certified. Ballasts are sound rated A. Standard combinations conform to UL 935.

**INSTALLATION** — Trims available for standard 1" and 9/16" tee bar or screw slot grids. Fixtures can be row mounted end-to-end.

Drywall ceiling adapters available.

**LISTINGS** — UL Listed to US and Canadian safety standards. Chicago Plenum approved and NYC approved (see Options).

**Avante is covered by one or more of the following patents: 5,988,829; 399,586; 411,641; 413,402; 2,212,513; 87,513.**

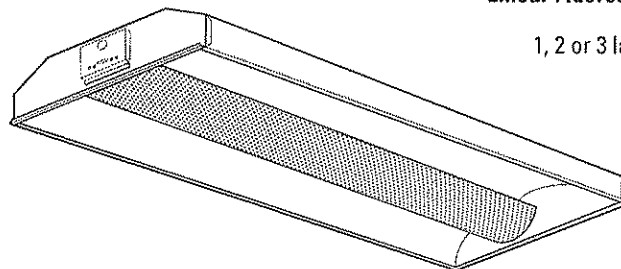
NOTE: Specifications are subject to change without notice.

Catalog Number	
Notes	Type

*Avante*  
Direct/Indirect Lighting

**2AV 2'x4'**

Linear Fluorescent  
**T8**  
1, 2 or 3 lamps



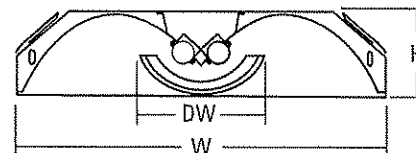
### Specifications

Length: 48" (1219)

Width: 24" (602)

Diffuser Width: 8" (203)

Depth: 5-1/2" (140)



All dimensions are inches (millimeters).

## ORDERING INFORMATION

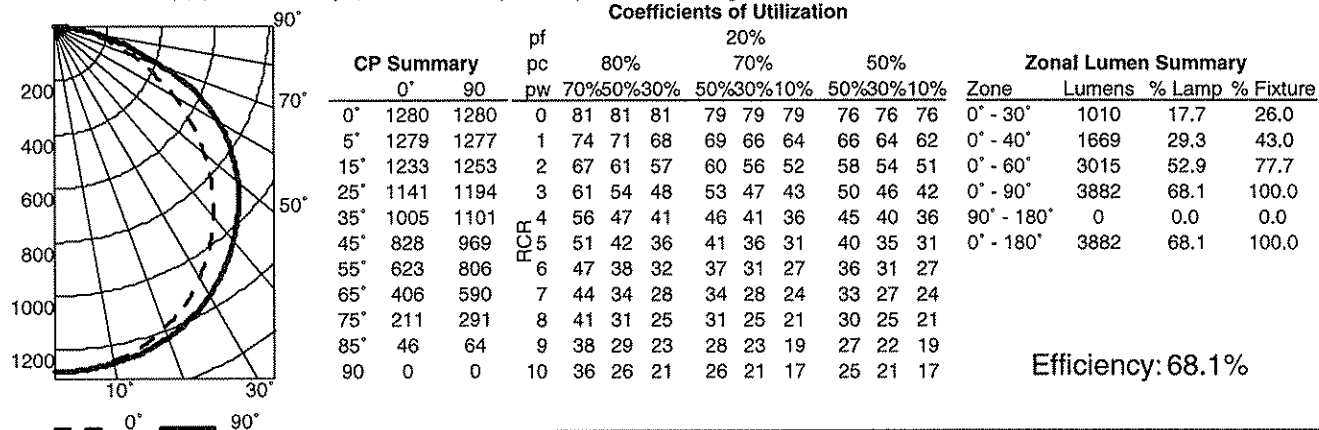
For shortest lead times, configure product using **standard options (shown in bold)**.

Example: 2AV G 2 32 MDR MVOLT GEB10IS

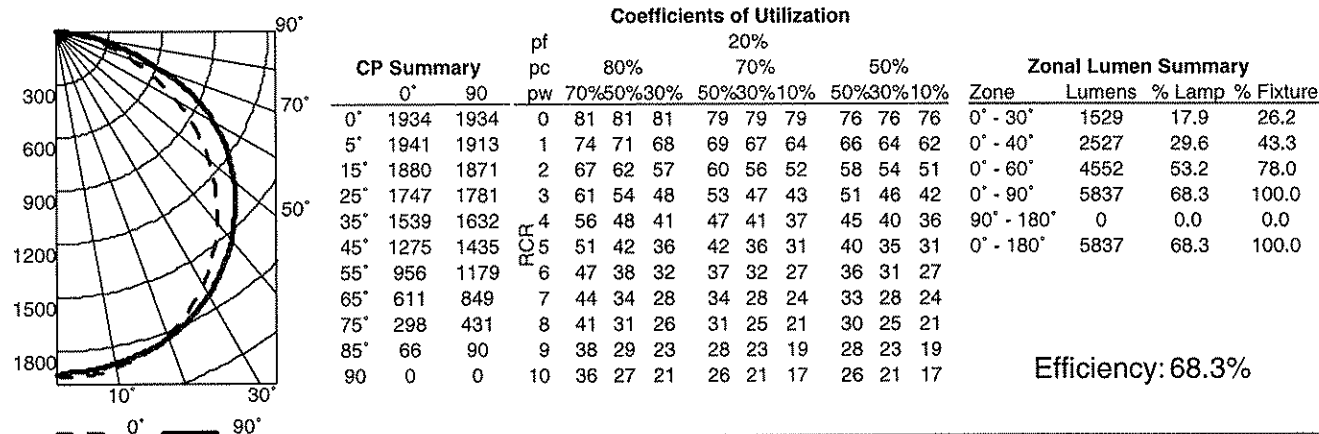
2AV		32				
Series	Number of lamps	Lamp type	Voltage	Options		
2AV 2' wide	1 2 3 Not included.	32 32W T8 (48")	MVOLT <sup>2</sup> 347 Others available.	GEB10IS	Electronic ballast, ≤ 10% THD, instant start	
Trim type	Air function		Diffuser	GEB10RS	Electronic ballast, ≤ 10% THD, rapid start	
G Grid trim ST Screw slot	(blank) Static (no air function) A Air return/supply	S5100		1.0 ballast factor, SIMPLY5™ system <sup>4</sup>		
Accessories						
Order as separate catalog number.						
DGA24 Drywall ceiling adapter, unit installation. Use G trim plus DGA accessory for fixture trim flange and fixture support in plaster or plasterboard ceilings.						
NOTES:						
1 Refer to options and accessories section for more detailed information.						
2 MVOLT (120 - 277 volt).						
3 Must specify voltage, 120 or 277.						
4 SIMPLY5 system includes 13' SSSC RELOC wiring system. Specify voltage unless HW (hardwire) or PWS1836 is ordered.						
				EL14	Emergency battery pack (nominal 1400 lumens, see Life Safety section)	
				GLR	Internal fast-blow fuse <sup>3</sup>	
				HW	Hardwire for SIMPLY5™ system; replaces RELOC® wiring	
				PWS1836	6' prewire, 3/8" dia., 18-gauge, 3 wires	
				NY3	New York City approved	
				CP	Chicago Plenum approved	
				APB	Air pattern control blades <sup>1</sup>	
				Reflector option		
				ASR Aluminum stepped reflector		

## 2AV 2x4 Direct/Indirect Lighting

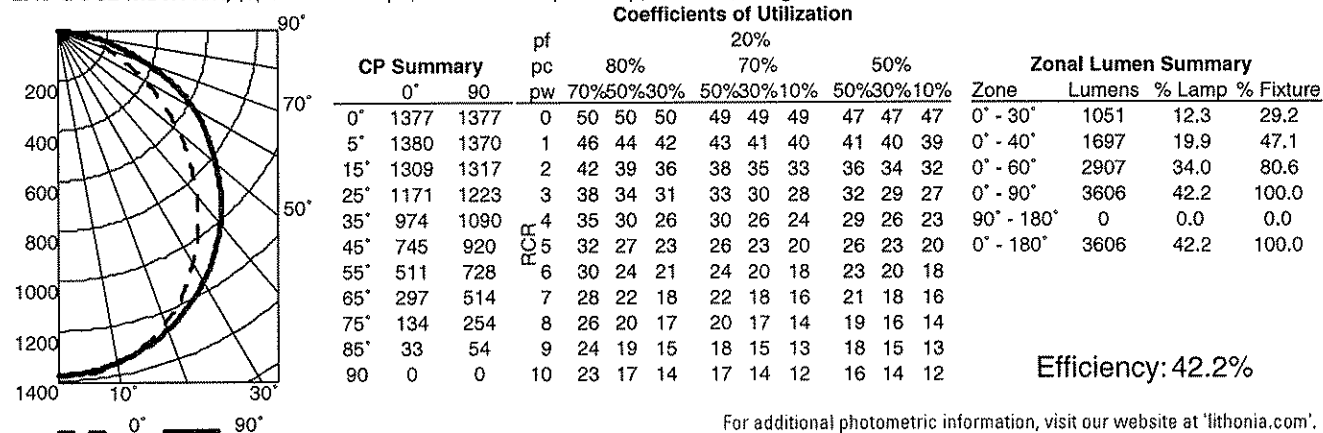
2AV G 2 32 MDR, (2) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10121



2AV G 3 32 MDR, (3) 32W T8 lamps, 2850 lumens per lamp, s/m 1.3 (along) 1.3 (across), test no. LTL 10155



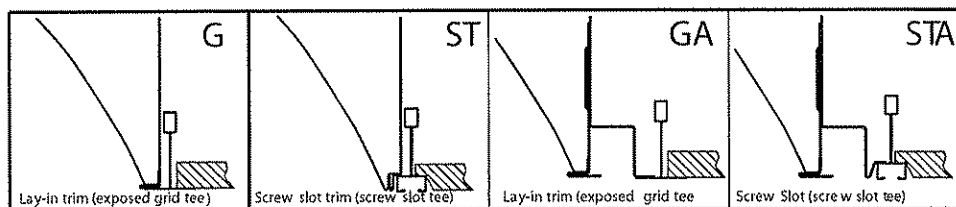
2AV G 3 32 MDR ASR, (3) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10120



For additional photometric information, visit our website at [lithonia.com](http://lithonia.com).

## MOUNTING DATA

Ceiling Type	Appropriate Trim Type
Exposed grid tee (1" and 9/16")	G
Concealed grid tee	G
Screw slot	ST
Plaster or plasterboard	G*



\*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 48-3/4" (Tolerance is +1/8", -0").





## FEATURES & SPECIFICATIONS

### INTENDED USE

Ideal for a wide variety of low- to medium-height ceiling applications including commercial, retail and hospitality spaces where an open, baffle or wet lens fixture is required.

### OPTICAL SYSTEM

Aluminum full reflectors are optically designed to maximize lumen output and to provide superior glare control. The black baffled reflector has a semi-specular upper finish with a white painted flange standard.

Fresnel glass lens provides optimal visual comfort and improved aesthetics.

### MECHANICAL SYSTEM

Galvanized steel mounting frame with mechanical trim retention (yoke) ensures secure and flush reflector mounting to ceiling. Mounting frame has cutout section for remodel applications when installation from below is necessary.

Galvanized bar hangers span up to 24" o.c. and feature built-in T-bar clips and nailers for T-bar or wood joist installation.

Frames equipped with galvanized junction box UL Listed for through wire applications.

Maximum 1-1/2" ceiling thickness.

### ELECTRICAL SYSTEM

Electronic ballast with end of lamp life protection standard. Class P thermally protected ballast protects against improper contact with insulation. Minimum starting temperature is 0°F/-18°C.

Rated for #12 AWG conductor thru-branch wiring. Minimum 90° supply wire. Ground wire provided.

### Lamp Socket Base:

TRT 4-pin lamps – 26W (GX24Q-3); 32W (GX24Q-3); 42W (GX24Q-4)

### LISTING

Fixtures are UL Listed for thru-branch wiring, Non-IC recessed mounting, damp location, and to U.S. and Canadian Safety Standards.

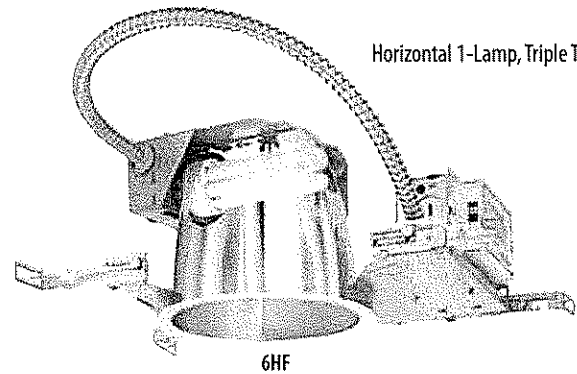
### WARRANTY

Fixtures, including ballasts, are covered by Lithonia Lighting 24-month warranty against mechanical defects in manufacture.

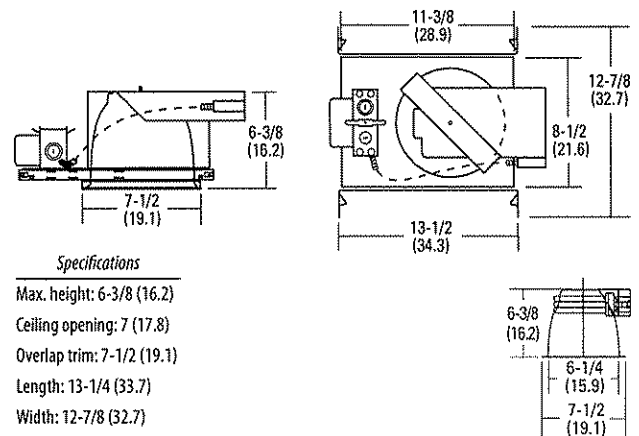
Catalog Number
Notes
Type

### Contractor Select Compact Fluorescent Downlighting

## 6" Commercial



Horizontal 1-Lamp, Triple Tube (TRT)



### Specifications

Max. height: 6-3/8 (16.2)

Ceiling opening: 7 (17.8)

Overlap trim: 7-1/2 (19.1)

Length: 13-1/4 (33.7)

Width: 12-7/8 (32.7)

All dimensions are inches (centimeters).

### ORDERING INFORMATION

Catalog Number	UPC	Description	Lamp Type	Wattage	Voltage	Pallet Qty.	Standard Carton Qty.
<b>Frame-In</b>							
6HF 1/26-42TRT MVOLT ELR	745976714345	6" horizontal with emergency	1 - compact fluorescent	26, 32, 42	120-277	56	1
6HF 2/13DIT MVOLT	745976714390	6" horizontal frame-in	2 - compact fluorescent	13	120-277	63	1
6HF 2/18DIT MVOLT	745976714406	6" horizontal frame-in	2 - compact fluorescent	18	120-277	63	1
6HF 2/26DIT MVOLT	745976714376	6" horizontal frame-in	2 - compact fluorescent	26	120-277	63	1
6HF 2/26DIT MVOLT ELR	745976714307	6" horizontal with Emergency	2 - compact fluorescent	26	120-277	42	1
<b>Reflector</b>							
F601A	745980396346	1-lamp, triple-tube, horizontal, diffuse, 6" reflector	—	—	—	150	1
F68S	745976129910	1-lamp, triple-tube, horizontal, black baffle, 6" reflector	—	—	—	150	1
F6LS4	745975190287	1-lamp, triple-tube, horizontal, fresnel, 6" lens	—	—	—	150	1
F602A	784231083802	2-lamp, double twin-tube, horizontal, diffuse, 6" reflector	—	—	—	180	1
F683	784231080986	2-lamp, double twin-tube, horizontal, black baffle, 6" reflector	—	—	—	150	1
F6L4	784231103470	2-lamp, double twin-tube, horizontal, fresnel, 6" lens	—	—	—	150	1

## 6" 6HF Horizontal 1-Lamp, Triple Tube (TRT), Open

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LIGHT COMMERCIAL \_CFL\_HORIZONTAL



## SPECIFICATIONS

### INTENDED USE

To be powered by 6- or 12-volt battery equipment as part of an emergency lighting system providing light for the path of egress. MR24 fixture matches the appearance of the Quantum® family units.

### CONSTRUCTION

Single or twin heads available. Fully adjustable lamp heads to meet all aiming requirements. Strong, compact and corrosion-resistant with a UL94V-0 flame rating. Constructed of UV-stabilized thermoplastic that resists discoloration by natural or artificial sunlight. Lamp housing snaps off for easy lamp replacement. **US Patent No. D484,272.**

### INSTALLATION

Universal mounting base for use with single- or twin-head applications. Standard mounting: 6.78"W x 4.58"H. Mounts to a single-gang switch box.

### LAMP

Complete range of lamp wattages and voltages available.

### DIMENSIONS

Single and twin: 8"W x 4.58"H.

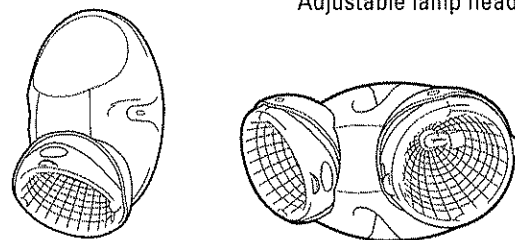
Catalog	
Notes	Type

### Unit Accessories

# ELA MR24

### Remote Fixture

Adjustable lamp head



## ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

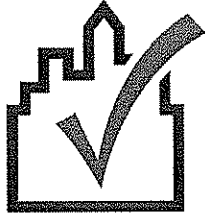
Example: ELA MR24

ELA			MR24		
Family	Housing color	Number of heads	Fixture	Lamp type	
ELA	(blank) <b>White</b> B Black	(blank) <b>Single</b> T Twin	<b>MR24</b> Multi-faceted reflector and adjustable lamp head	<b>K0606</b> 6W/6V krypton lamps K0906 9W/6V krypton lamps <b>K0912</b> 9W/12V krypton lamps H1206 12W/6V halogen lamps H1212 12W/12V halogen lamps H2006 20W/6V halogen lamps H2012 20W/12V halogen lamps	



# ELA MR24 Quantum® Thermoplastic Remote Fixture

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COMcheck Software Version 3.8.1

# Interior Lighting and Power Compliance Certificate

## 90.1 (2004) Standard

### Section 1: Project Information

Project Type: **New Construction**

Project Title :

Construction Site:

Owner/Agent:

Designer/Contractor:

### Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Common Space Types:Workshop	10942	1.9	20790
Common Space Types:Corridor/Transition	500	0.5	250
Common Space Types:Lobby	1625	1.3	2113
Common Space Types:Laboratory	1390	1.4	1946
Common Space Types:Classroom/Lecture/Training	520	1.4	728
Common Space Types:Audience/Seating Area	1045	0.9	941
Common Space Types:Stairs-Active	150	0.6	90
Common Space Types:Active Storage	984	0.8	787
Common Space Types:Office - Enclosed	210	1.1	231
Total Allowed Watts =			27875

### Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Common Space Types:Workshop (10942 sq.ft.)				
Linear Fluorescent 1: G: 48" T8 32W / Electronic	2	155	48	7440
Track lighting 1: D: Wattage based on 20.0 feet of track	0	0	0	600
Common Space Types:Corridor/Transition (500 sq.ft.)				
Linear Fluorescent 1 copy 5: G: 48" T8 32W / Electronic	2	15	48	720
Track lighting 1 copy 1: D: Wattage based on 10.0 feet of track	0	0	0	300
Common Space Types:Lobby (1625 sq.ft.)				
Track lighting 1 copy 3: D: Wattage based on 170.0 feet of track	0	0	0	5100
Compact Fluorescent 1: C2,C,B,E: Twin Tube 18W / Electronic	2	3	36	108
Common Space Types:Laboratory (1390 sq.ft.)				
Linear Fluorescent 1 copy 3: G: 48" T8 32W / Electronic	2	6	48	288
Track lighting 1 copy 2: D: Wattage based on 10.0 feet of track	0	0	0	300
Common Space Types:Classroom/Lecture/Training (520 sq.ft.)				
Linear Fluorescent 1 copy 1: G: 48" T8 32W / Electronic	2	6	48	288
Compact Fluorescent 1 copy 1: C2,C,B,E: Twin Tube 18W / Electronic	2	3	36	108
Common Space Types:Audience/Seating Area (1045 sq.ft.)				
Linear Fluorescent 1 copy 2: G: 48" T8 32W / Electronic	2	10	48	480
Common Space Types:Stairs-Active (150 sq.ft.)				
Linear Fluorescent 1 copy 6: G: 48" T8 32W / Electronic	2	2	48	96
Compact Fluorescent 1 copy 2: C2,C,B,E: Twin Tube 18W / Electronic	2	5	36	180
Halogen 1: F: Halogen 120W	1	1	100	100

Common Space Types:Active Storage (984 sq.ft.)				
Linear Fluorescent 1 copy 4: G: 48" T8 32W / Electronic	2	5	48	240
Common Space Types:Office - Enclosed (210 sq.ft.)				
Linear Fluorescent 1 copy 7: G: 48" T8 32W / Electronic	2	2	48	96
Total Proposed Watts =				16444

## Section 4: Requirements Checklist

### Lighting Wattage:

- ☐ 1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
27875	16444	YES

- ☐ 2. Exit signs 5 Watts or less per sign.

### Controls, Switching, and Wiring:

- ☐ 3. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).  
☐ 4. Occupant sensing control in class rooms, conference/meeting rooms, and employee lunch and break rooms.

#### Exceptions:

- ☐ Spaces with multi-scene control; shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms.  
☐ 5. Automatic shutoff control for lighting in >5000 sq.ft buildings by time-of-day device, occupant sensor, or other automatic control.

#### Exceptions:

- ☐ 24 hour operation lighting; patient care areas; where auto shutoff would endanger safety or security.  
☐ 6. Master switch at entry to hotel/motel guest room.  
☐ 7. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.  
☐ 8. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

#### Exceptions:

- ☐ Electronic high-frequency ballasts.  
☐ Luminaires not on same switch.  
☐ Recessed luminaires 10 ft. apart or surface/pendant not continuous.  
☐ Luminaires on emergency circuits.

### Voltage Drop:

- ☐ 9. Feeder conductors have been designed for a maximum voltage drop of 2 percent.  
☐ 10. Branch circuit conductors have been designed for a maximum voltage drop of 3 percent.

Interior Lighting PASSES: Design 41% better than code

## Section 5: Compliance Statement

**Compliance Statement:** The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.8.1 and to comply with the mandatory requirements in the Requirements Checklist.

\_\_\_\_\_  
Name - Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Section 6: Post Construction Compliance Statement

### Record Drawings and Operating and Maintenance Manuals:

- ☐ 1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.

\_\_\_\_\_  
Lighting Designer or Contractor Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



Ohio Edison • The Illuminating Company • Toledo Edison

## Mercantile Customer Program - Custom Project Rebate Calculator

Project Name and Number:	Hiram College Gelbke Hall
Site Name:	Gelbke Hall
Completed by (Name):	Trace Searles
Date completed:	6/20/2011

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
lighting	50,170	4013.60
Total Project Energy Savings kWh		50,170
Total Custom Prescriptive Rebate Amount \$		\$ 4,013.60

Notes about this rebate calculation:



## FEATURES & SPECIFICATIONS

### INTENDED USE

Accent lighting applications where color, extended lamp life and efficiency are important.

### CONSTRUCTION

Polyester powder painted aluminum ballast housing and socket housing.

Available in white, black or textured silver finish.

YOKE: Metal yoke rotates 330° horizontally and up to 90° from vertical. Two opposed knobs lock vertical position.

ADAPTOR: Injection-molded track mounting adaptor for easy attachment to 1 or 2 circuit Lithonia Track. Available with optional direct J-box mount. Track-mounted fixtures include a secondary locking clip.

### ELECTRICAL

Medium-base porcelain socket with nickel-plated screw shell (adjustable lamp position).

Available for 39, 70 or 100W metal halide PAR lamps.

Lightweight, high power factor, electronic ballast offering superior wattage regulation and Class A noise rating utilized with HEB ballast (PF >95%, THD<15%). High power factor, core and coil ballast utilized with EMB ballast.

CM option provides direct J-box mount and ballast that operates with either 120 or 277 volt.

### LISTING

UL Listed to U.S. and Canadian safety standards.

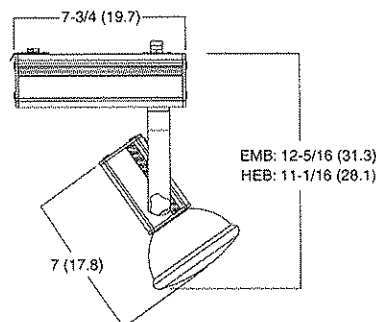
Catalog Number	
Notes	Type

H.I.D.

# LTD LPHR

### LAMPHOLDER

Color-Corrected Metal Halide  
PAR20, 30 or 38 Lamp



Dimensions shown are with PAR38 lamp.  
All dimensions are inches (centimeters).

## ORDERING INFORMATION

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

Example: LTD LPHR 70M 30 HEB WH

LTD	LPHR					
Series	Head Style	Wattage	Lamp type	Ballast	Finish	Options
LTD	LPHR Lampholder	39M 39W PAR20 or PAR30 70M 70W PAR30 or PAR38 100M 100W PAR38	20 PAR20 30 PAR30 38 PAR38	EMB Electromagnetic ballast HEB Electronic ballast	WH White DBL Black DTS Textured Silver	CM For direct mount to 4" octagon J-box (by others) <sup>1</sup> LPSP Spot lamp (shipped separately) LPFL Flood lamp (shipped separately) LPWFL Wide flood lamp (shipped separately) <sup>2</sup>

### Accessories:

Order as separate item.

LTWFH400	Filter holder for PAR20. <sup>3</sup>
LTWFH500	Filter holder for PAR30. <sup>3</sup>
LTWFH700	Filter holder for PAR38. <sup>3</sup>
F400	Lens for use with 400 series filter holder. <sup>3</sup>
F500	Lens for use with 500 series filter holder. <sup>3</sup>
F700	Lens for use with 700 series filter holder. <sup>3</sup>
L400	Louver for use with 400 series filter holder. <sup>3</sup>
L500	Louver for use with 500 series filter holder. <sup>3</sup>
L700	Louver for use with 700 series filter holder. <sup>3</sup>

### NOTES:

1 CM option with EMB ballast uses 120/277 dual tap ballast; HEB ballast uses 120 through 277 multi-volt ballast.

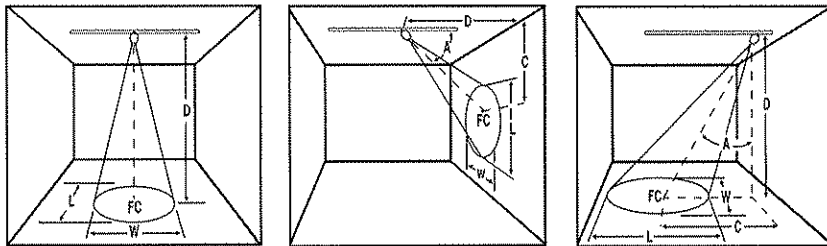
2 PAR38 only.

3 A filter holder is required when ordering lens or louvers. For lens (filter) and louver ordering information, refer to connectors and accessories tab.

# LTD LPHR Lampholder/Color-Corrected Metal Halide

## LAMP PERFORMANCE DATA

The lighting performance data charts shown provide lighting levels (footcandles), beam pattern (in feet), rated lamp life.



LAMP	RATED LIFE	BEAM SPREAD	0° AIMING ANGLE					30° AIMING ANGLE					45° AIMING ANGLE					60° AIMING ANGLE				
			D	FC	W	L	C	D	FC	W	L	C	D	FC	W	L	C	D	FC	W	L	C
MPD39 PAR30 LN/U/830/SP	6000	12°	10	260	2.1	2.1	N/A	10	182	2.4	2.8	5.8	10	99	3.0	4.3	10.0	4	219	1.7	3.5	6.9
			15	124	3.2	3.2	N/A	12	125	2.9	3.4	6.9	12	69	3.6	5.1	12.0	6	97	2.5	5.2	10.4
			20	70	4.2	4.2	N/A	14	93	3.4	3.9	8.1	14	51	4.2	6.0	14.0	8	55	3.4	7.0	13.9
MPD39 PAR30 LN/U/830/FL	6000	35°	8	100	5.0	5.0	N/A	6	115	4.4	5.2	3.5	4	141	3.6	5.6	4.0	2	200	2.5	7.2	3.5
			10	64	6.3	6.3	N/A	8	65	5.8	7.0	4.6	6	63	5.4	8.4	6.0	4	50	5.0	14.4	6.9
			12	44	7.6	6.9	N/A	10	42	7.3	8.7	5.8	8	35	7.1	11.2	8.0	6	22	7.6	21.6	10.4
MPD70 PAR30 LN/U/830/SP	6000	12°	16	182	3.4	3.4	N/A	12	210	2.9	3.4	6.9	10	164	3.0	4.3	10.0	6	161	2.5	5.2	10.4
			18	144	3.8	3.8	N/A	16	118	3.9	4.5	9.2	12	114	3.6	5.1	12.0	8	91	3.4	7.0	13.9
			20	116	4.2	4.2	N/A	20	75	4.9	5.6	11.6	14	84	4.2	6.0	14.0	10	58	4.2	8.7	17.3
MPD70 PAR30 LN/U/830/FL	6000	35°	8	166	5.0	5.0	N/A	6	191	4.4	5.2	3.5	6	104	5.4	8.4	6.0	4	83	5.0	14.4	6.9
			10	106	6.3	6.3	N/A	8	108	5.8	7.0	4.6	8	59	7.1	11.2	8.0	5	53	6.3	18.0	8.7
			12	74	7.6	7.6	N/A	10	69	7.3	8.7	5.8	10	37	8.9	14.0	10.0	6	37	7.6	21.6	10.4
CDM35 PAR30L/M/VFL	9000	30°	6	206	3.2	3.2	N/A	6	134	3.7	4.4	3.5	4	164	3.0	4.6	4.0	2	231	2.1	5.5	3.5
			8	116	4.3	4.3	N/A	8	75	5.0	5.9	4.6	6	73	4.6	6.9	6.0	3	103	3.2	8.2	5.2
			10	74	5.4	5.4	N/A	10	48	6.2	7.3	5.8	8	41	6.1	9.2	8.0	4	58	4.3	10.9	6.9
CDM35 PAR30L/M/VSP	9000	10°	12	306	2.1	2.1	N/A	12	198	2.4	2.8	6.9	10	156	2.5	3.5	10.0	6	153	2.1	4.3	10.4
			16	172	2.8	2.8	N/A	16	112	3.2	3.7	9.2	12	108	3.0	4.2	12.0	8	86	2.8	5.7	13.9
			20	110	3.5	3.5	N/A	20	71	4.0	4.7	11.6	14	79	3.5	5.0	14.0	10	55	3.5	7.2	17.3
CDM70 PAR30L/M/VFL	9000	40°	6	278	4.4	4.4	N/A	6	180	5.0	6.1	3.5	4	221	4.1	6.7	4.0	3	139	4.4	14.5	5.2
			10	100	7.3	7.3	N/A	8	101	6.7	8.1	4.6	6	98	6.2	10.1	6.0	4	78	5.8	19.3	6.9
			14	51	10.2	10.2	N/A	10	65	8.4	10.2	5.8	8	55	8.2	13.4	8.0	5	50	7.3	24.2	8.7
CDM70 PAR30L/M/VSP	9000	10°	16	266	2.8	2.8	N/A	16	173	3.2	3.7	9.2	10	240	2.5	3.5	10.0	6	236	2.1	4.3	10.4
			18	210	3.2	3.2	N/A	18	136	3.6	4.2	10.4	14	123	3.5	4.9	14.0	8	133	2.8	5.7	13.9
			20	170	3.5	3.5	N/A	20	110	4.0	4.7	11.6	18	74	4.5	6.4	18.0	10	85	3.5	7.2	17.3
CMH70/J PAR30L/15	6000	15°	10	230	2.6	2.6	N/A	8	254	2.4	2.8	4.6	8	138	3.0	4.3	8.0	4	195	2.1	4.4	6.9
			14	128	3.7	3.7	N/A	12	113	3.7	4.2	6.9	10	88	3.7	5.4	10.0	6	87	3.2	6.7	10.4
			18	77	4.7	4.7	N/A	16	63	4.9	5.7	9.2	12	61	4.5	6.4	12.0	8	49	4.2	8.9	13.9
CMH70/J PAR30L/40	6000	40°	6	195	4.4	4.4	N/A	4	284	3.4	4.1	2.3	4	155	4.1	6.7	4.0	2	213	2.3	9.7	3.5
			8	109	5.8	5.8	N/A	6	126	5.0	6.1	3.5	5	99	5.2	8.4	5.0	3	97	4.4	14.5	5.2
			10	70	7.3	7.3	N/A	8	71	6.7	8.1	4.6	6	69	6.2	10.1	6.0	4	55	5.8	19.3	6.9



An Acuity Brands Company

Sheet #: LTD-LPHR

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Lithonia Lighting  
 Recessed Downlighting  
 One Lithonia Way, Conyers, GA 30012  
 Phone: 800-315-4935 Fax: 770-918-1209  
 www.lithonia.com

FINISHED

Project: HIRAM COLLEGE GELBKE HALL

Processor:

Date: 6/13/2011

Plan #:

Room #	Room Type	Room Area (ft <sup>2</sup> )	Fixture Type	Fixture Count	Occupancy Sensor (Y/N)	Fixture Wattage	Total
<del>101</del> <del>111</del> <del>119</del>	<del>Lab</del> <del>Lab</del>	<del></del>	<del>A</del> <del>A</del> <del>A</del>	<del>3</del> <del>8</del> <del>10</del>			
112	Workshop	430	B G	10	N		
			D	4			
114	H	35	B	9			
			D	2 <del>8</del> + 18			
107	Lobby	430	D	6 + 6 + 8		32 x 4 = 128 40 x 4 = 160 8 x 4 = 32 288	
			C2	3			
108	Lab	710	D	2			
117	C	520	G	6			
			C	3			
116	Auditorium	1045	G	10			
118	Workshop	2855	G	21			
119	Workshop	830	G	22			
120	Stair	130	E	5			
			F	1			
121	Workshop	2390	G	32			
122	Workshop	300	G	6			
123	Workshop	262	G	2			
124	Lab	680	G	6			
125	Workshop	270	G	6			
126	S	254	G	2			
<del>127</del>	<del>N.A.</del>						
113+104 ≤ 109 102 107 3 115	202 Lobby	1195	G	7+7	N		
	203 S	210	G	2			
	213 H	155	G	5			
	214 H	155	G	5			
	215 Stair	20	G	2			
119+120 +118-10 117 102 3 10	216 Workshop	3605	G	10			
	217 Workshop		G	46			
	218 S	520	G	3			
	205 H	155	G	5			
	219 O	210	G	2			

G = T8 - 32W, 2 lamps L.F.

D = Track lighting, 1 lamp, 75 W per Ft.

B = C.F., 2 lamp, 18W

E = C.F., 2 lamp, 18W

## LIGHTING FIXTURE SCHEDULE

TYPE	WATTAGE		DESCRIPTION	CATALOG NO.
	LAMP	FIXTURE		
A	2-32 T8 — —	63	FLUORESCENT 4'0" STRIP FIXTURE WITH HIGH GLOSS BAKED ENAMEL FINISH, CHANNEL CONNECTORS FOR CONTINUOUS ROW MOUNTING AND WIRE GUARD. —	LITHONIA #2UN-2-32-MVOLT -GEB10IS-WG2UN11 —
B	2-18 CF DTT —	35	12" DIAMETER FLUORESCENT SURFACE MOUNTED CEILING FIXTURE WITH PEWTER APERTURE, SEMI-SECULAR FINISH AND MATTE WHITE, 120V. —	LITHONIA #CFZ-2/18DTT-84P -120-DWHG —
C	2-18 CF DTT —	35	6" DIAMETER DOWNLIGHT WITH HORIZONTALLY MOUNTED LAMPS, SEMI-SPECULAR REFLECTOR AND HI-LUME DIMMING BALLAST, 120V. —	LITHONIA #AF-218DTT-6-PR -120-XXX-DMHL3 —
C2	2-18 CF DTT —	35	SAME AS FIXTURE TYPE "C" ABOVE EXCEPT WITHOUT DIMMING BALLAST, 120V. — —	LITHONIA #AF-218DTT-6-PR -120-XXX —
D	1-150 PAR38 — —	75 WATTS PER FT	2 CIRCUIT TRACK LIGHTING WITH LOW PROFILE, HEAVY GAUGE, EXTRUDE ALUMINUM CHANNEL, PENDANT MOUNTED SIZE AS INDICATED ON DRAWING AND SINGLE LAMP HEAD. —	LITHONIA LAMP-#LPHR-WH TRACK-#L2TXX-WH —
E	2-18 CF DTT —	35	LOW PROFILE WALL MOUNTED VANDAL RESISTANT FIXTURE WITH ONE PIECE DIE CAST ALUMINUM HOUSING, TRANSLUCENT WHITE LENS, 120V. —	LITHONIA #VGR1-2/18DTT-120 -XXX-ADCF-LPI —
F	1-100 MH — —	125	BUILDING MOUNTED EXTERIOR WALL PACK WITH DIE CAST ALUMINUM HOUSING, INJECTION MOLDED UV STABILIZED POLYCARBONATE LENS, 120V. —	LITHONIA #TWAC-100M-120 -QRS —
G	2-32 T8 — —	63	FLUORESCENT FULL BAFFLE STYLE CRESCENT FIXTURE WITH INDIRECT/DIRECT DISTRIBUTION, EXTRUDED ALUMINUM SPINE, ONE PIECE ALUMINUM BAFFLE, ENDCAPS AND DIMMING BALLAST, 120V.	LITHONIA CERRA BAFFLE #10CRM8-232-30/70 -XXFTR8-120-SCT-XXX --XX-XX-CO41
BP	5.6 — — —	5.6	SURFACE MOUNTED EMERGENCY EGRESS BATTERY PACK WITH WHITE THERMOPLASTIC HOUSING, INTEGRAL HEADS, BATTERY CHARGER AND TEST SWITCH. —	LITHONIA #ELM627 — —
RH	2-5.4 — — —	10.8	SURFACE MOUNTED LOW VOLTAGE WEATHERPROOF REMOTE LIGHT HEAD WITH GRAY THERMOPLASTIC HOUSING. — —	LITHONIA #ELA-B-T-MR24 -K0606 —
X	L.E.D. — — —	3.3	L.E.D. EXIT SIGN WITH INTEGRAL REMOTE HEADS, WHITE HOUSING, STENCILED RED LETTERS FACES AND ARROWS AS INDICATED ON DRAWING, AND HIGH OUTPUT LEAD CALCIUM BATTERY. 120/277V.	LITHONIA #LHQM-S-W-X-R -120/277-HO —

### LIGHTING FIXTURE SCHEDULE NOTES:

1. THE E.C. SHALL COORDINATE ALL COLORS, FINISHES, LENGTHS, ETC. OF FIXTURES WITH THE ARCHITECT AND ACTUAL FIELD CONDITIONS PRIOR TO PLACING PURCHASE ORDER.
2. THE E.C. SHALL COORDINATE ALL TRIMS OF LIGHT FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLANS, EXISTING CONDITIONS, ETC. AND INCLUDE APPROPRIATE TRIM (LAY-IN, DRYWALL, ETC.) IN BASE BID. SUBMISSION OF SHOP DRAWINGS WILL BE INTERPRETED THAT THIS COORDINATION WITH THE ARCHITECT HAS BEEN COMPLETED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE LACK OF THIS COORDINATION.
3. THE E.C. SHALL REFER TO ELECTRICAL SPECIFICATION SECTION 16500 FOR ALLOWABLE LAMP AND BALLAST MANUFACTURERS.





## FEATURES & SPECIFICATIONS

### INTENDED USE

For entrances, stairwells, corridors and other pedestrian areas.

### CONSTRUCTION

Rear housing is rugged, corrosion-resistant, die-cast aluminum. Front cover is one-piece UV-resistant injection molded polycarbonate, internally painted. Captive external hardware is specially treated for corrosion resistance and includes slotted hex-head and tamperproof fasteners.

### FINISH

Dark bronze (DDB) corrosion-resistant polyester powder.

### OPTICAL SYSTEM

One-piece die-formed reflector is diffused aluminum. Refractor is clear UV stabilized polycarbonate, providing **IES cutoff** distribution and maximum lateral light output. Front cover is sealed and gasketed to inhibit the entrance of outside contaminants.

### ELECTRICAL SYSTEM

Ballast: Metal halide: high reactance, high power factor. HPS: 35S, 50S, 70S, 120V are reactor, normal power factor. 100S 120V is reactor, high power factor. High reactance, high power factor (XHP). Optional for 50S, 70S and 100S, 120V. 208, 240, 277, 347 and TB are standard XHP. Ballasts are 100% factory tested. UL listed 660W, 600V and 4kV pulse rated.

All components are heat-sinked directly to the cast housing for maximum heat dissipation.

Socket: Porcelain, horizontally oriented medium-base socket with copper alloy, nickel-plated screw shell and center contact.

### INSTALLATION

Mount to any vertical surface or to a 4" round square outlet box. Back access through gasketed slot. Top wiring access through 1/2" threaded conduit entry. (Through-wiring requires use of a conduit tee).

### LISTING

UL listed for wet locations. IP65 rated. UL Listed to US and Canadian safety standards (see Options). NOM Certified.

Note: Specifications subject to change without notice.

Catalog Number

Notes

Type

### Cutoff Mini Wall-Packs

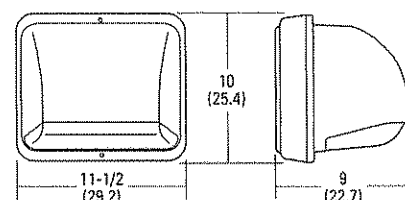
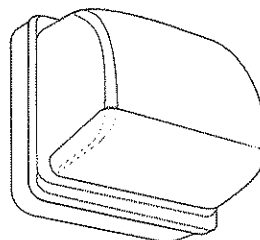
# TWAC

**METAL HALIDE**

50-100W

**HIGH PRESSURE SODIUM**

35-100W



### Specifications

Height: 10" (25.4cm)

Width: 11-1/2" (29.2cm)

Depth: 8-15/16" (22.7cm)

\*Weight: 10 lbs. (4.53kg)

\*Weight as configured example below

## ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

Example: TWAC 50M 120 LPI

### TWAC

TWAC											
Series	Wattage	Voltage	Ballast	Options		Finish		Lamp <sup>11</sup>			
TWAC	<u>Metal halide</u>	<b>120</b>	(blank) <b>Magnetic</b>	<u>Shipped installed in fixture</u>		(blank)	<b>Dark bronze</b>	LPI	Lamp included		
	<b>50M</b>	208 <sup>2</sup>	XHP High reactance, high power factor <sup>5</sup>	SF	Single fuse (120, 277, 347V) <sup>6</sup>	DNA	Natural aluminum	L/LP	Less lamp		
	<b>70M</b>	240 <sup>2</sup>	CWI Constant wattage isolated	DF	Double fuse (208, 240V) <sup>6</sup>	DBL	Black				
	<b>100M</b>	<b>277</b>		EC	Emergency circuit <sup>7</sup>	DMB	Medium bronze				
	<u>High pressure sodium</u>	<b>347</b>		DC12	Emergency circuit 12 volt (35 watt lamp included) <sup>8</sup>	DWH	White				
	35S <sup>1</sup>	<b>TB<sup>3</sup></b>		DC2012	Emergency circuit 12 volt (20 watt lamp included) <sup>8</sup>	DSS	Sandstone				
	50S	23050HZ <sup>4</sup>		2DC12	Emergency circuit 12 volt (2 35 watt lamp included) <sup>9</sup>	CR	Enhanced corrosion-resistance <sup>10</sup>				
	70S			2DC2012	Emergency circuit 12 volt (2 20 watt lamp included) <sup>9</sup>	CRT	Non-stick protective coating <sup>10</sup>				
	<b>100S</b>			QRS	Quartz restrrike system <sup>7</sup>						
			<b>CSA</b>	<b>Listed and labeled to comply with Canadian Standards</b>							
			NOM	NOM Certified <sup>4</sup>							
			PE	Photocell <sup>6</sup>							
			<u>Shipped separately<sup>9</sup></u>								
			WG	Wire guard							

NOTES:

1 120V only.

2 Must specify CWI in Canada.

3 Optional multi-tap ballast (120, 208, 240, 277V). In Canada (120, 277, 347V) ships as 120/347.

4 Consult factory for available wattages.

5 Optional for 120V HPS only (n/a 35S).

6 Not available with TB.

7 Maximum allowable wattage lamp included.

### NOTES:

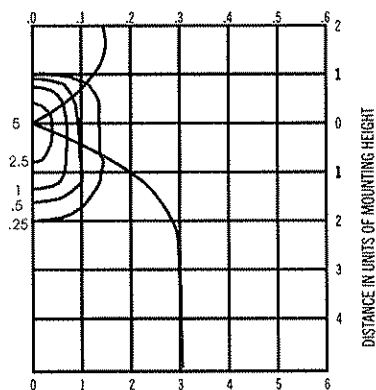
- 120V only.
- Must specify CWI in Canada.
- Optional multi-tap ballast (120, 208, 240, 277V). In Canada (120, 277, 347V) ships as 120/347.
- Consult factory for available wattages.
- Optional for 120V HPS only (n/a 35S).
- Not available with TB.
- Maximum allowable wattage lamp included.
- Not available with QRS, EC or NOM.
- May be ordered as an accessory as TWAWG U.
- Finish applied to housing only.
- Must be specified.

# TWAC Metal Halide, High Pressure Sodium Wall Mounted

## TWAC 50M

Test No. LTL8360

COEFFICIENT OF UTILIZATION

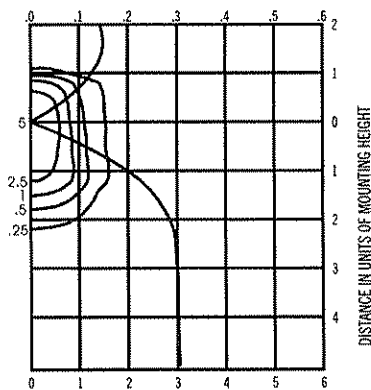


50W Metal Halide lamp, 8500 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

## TWAC 70M

Test No. LTL8338

COEFFICIENT OF UTILIZATION

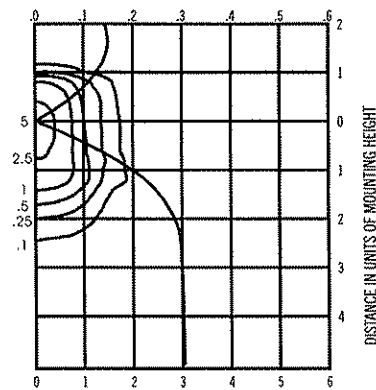


70W Metal Halide lamp, 5200 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

## TWAC 100M

Test No. LTL8359

COEFFICIENT OF UTILIZATION

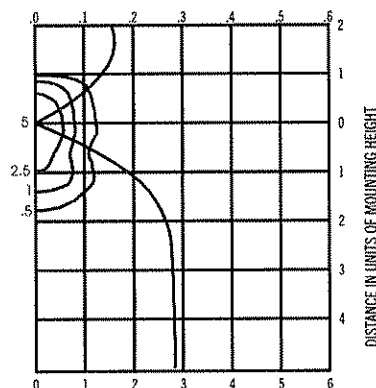


100W Metal Halide lamp, 8500 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

## TWAC 35S

Test No. LTL8358

COEFFICIENT OF UTILIZATION

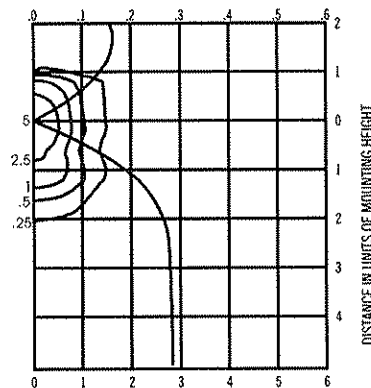


35W High Pressure Sodium lamp, 4000 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

## TWAC 50S

Test No. LTL8357

COEFFICIENT OF UTILIZATION

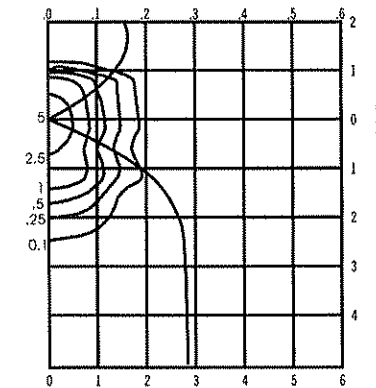


50W High Pressure Sodium lamp, 6300 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

## TWAC 100S

Test No. LTL8337

COEFFICIENT OF UTILIZATION



100W High Pressure Sodium lamp, 9500 rated lumens. Footcandle values based on 20' mounting height, Distribution, cutoff.

### Mounting Height Correction Factor

(Multiply the fc level by the correction factor)

8 ft. = 6.25

10 ft. = 4.00

12 ft. = 2.78

15 ft. = 1.78

$$\left( \frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction Factor}$$



An Acuity Brands Company

Sheet #: TWAC-M-S\_0

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Lithonia Lighting  
Outdoor

One Lithonia Way, Conyers, GA 30012  
Phone: 770-922-9000 Fax: 770-918-1209  
www.lithonia.com



## FEATURES & SPECIFICATIONS

**INTENDED USE** - Architectural low-profile luminaire provides general illumination for rough service (vandal resistant) applications. Ideal for interior or exterior applications where safety and security are a concern. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

**ATTRIBUTES** - Designed to complement building architecture and to endure extreme environmental conditions and physical abuse.

**CONSTRUCTION** - Bezel - One-piece marine grade, die-cast aluminum, low copper alloy (<1% copper), .125 inch thick. Encloses lens and secures to backplate with stainless steel Torx® T-10 sets screws (two included) or optional stainless steel tamper-resistant screws (see Options).

Backplate - Corrosion-resistant, 16-gauge steel. Post-painted in black polyester powder coat, and has a keyhole mounting detail.

Gasket - Polycarbonate: Perimeter lens gasket is one-piece silicone "O" ring, mechanically held in lens channel. Glass: Perimeter lens gasket is closed-cell silicone. Pad mounting gasket is closed-cell neoprene that seals backplate to mounting surface. Gaskets help cushion impact shock.

**FINISH** - Standard finish is textured polyester powder coat in white, black or bronze. Optional architectural colors available (see Options).

**OPTICAL SYSTEM** - Lens - polycarbonate - Translucent white, injection molded, UV stabilized lens is .125 inch thick. Smooth exterior allows for easy cleaning, and interior pattern diffuses light for even surface illumination.

Lens - glass - Tempered borosilicate lens, .250 inch thick, has smooth exterior for easy cleaning and textured interior.

Reflector - Internal reflector is semi-specular aluminum, with high-reflectance white powder coat perimeter for maximum light output. Lamp positioning assures uniform brightness and illumination.

**ELECTRICAL SYSTEM** - Ballast - Class P, Electronic, High Power Factor, multi-volt with starting temperature of -5°F (-20°C). Exception is 13TT, Electromagnetic ballast, Normal Power Factor, 120V only.

Socket - High-temperature thermoplastic with lamp retention clip.

Lamp - 35K lamp(s) included unless specified L/LP.

**INSTALLATION** - Unit may be wall mounted. For maximum vandal resistance, use four hole mounting pattern. For installation on irregular or uneven surfaces, caulk/sealant may be required for a more positive seal.

**LISTING** - UL listed to US and Canadian safety standards (see Options). NOM certified (see options). UL listed for 25°C ambient and wet locations. IP65 rated.

NOTE: Specifications subject to change without notice.

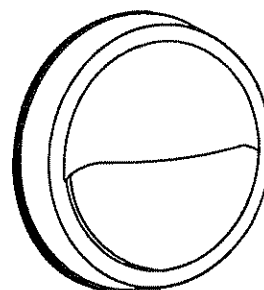
Catalog Number	
Notes	Type

Rough Service Fixture

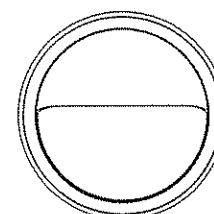
# VGR2

COMPACT FLUORESCENT

Round Eyelid  
Wall Mounted



GATEWAY



13.7" (34.8)

4" (10.2)

All dimensions are inches (centimeters).

## ORDERING INFORMATION

Order accessories as separate catalog numbers.

Example: VGR2 26TRT 120 DWHG GMF LPI

VGR2						
Series	Wattage		Lens	Voltage	Paint Finishes <sup>3</sup>	Lamp <sup>8</sup>
VGR2	13TT	One 13W twin-tube lamp <sup>1</sup>	(blank)	120	Standard Textured Colors:	Shipped installed in fixture
	2/13TT	Two 13W twin-tube lamps <sup>1</sup>	Polycarbonate	277	DWHG White	DS Dual switching
	13DTT	One 13W double twin-tube lamp	GL	347	DBLB Black	GLR Internal fast-blow fusing <sup>4</sup>
	2/13DTT	Two 13W double twin-tube lamps	Borosilicate glass	MVOLT <sup>2</sup>	DDBT Bronze	GLF Internal slow-blow fusing <sup>4</sup>
	18DTT	One 18W double twin-tube lamp			DNAT Natural Aluminum	NLCF Compact fluorescent night-light (9W Max.) <sup>1,5,6</sup>
	2/18DTT	Two 18W double twin-tube lamps			DSST Sandstone	TRF Tamper-resistant screws <sup>7</sup>
	26DTT	One 26W double twin-tube lamp			Optional Textured Colors:	CSA Listed and labeled to comply with Canadian Safety Standards
	2/26DTT	Two 26W double twin-tube lamps			DBNH Bronze	NOM Nom Certified
	26TRT	One 26W triple-tube lamp			DSPD Dark Gray	
	2/26TRT	Two 26W triple-tube lamps			DSPE Green	
	32TRT	One 32W triple-tube lamp			DSPF Rust	
	42TRT	One 42W triple-tube lamp			DSPG Dark Red	
					DSPH Light Red	
					DSPJ Light Gray	

### Accessories

Order as separate catalog numbers.

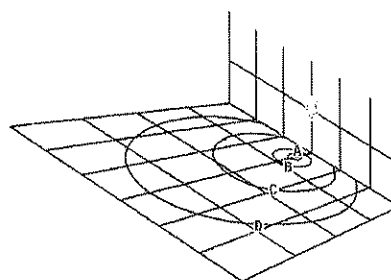
RK1 T10DRV	Torx TX10 screwdriver, for use with Gateway set screws.
RK1 T20BIT	Hex-base driver bit, Torx TX20, for tamper-resistant screws with center reject pin.
RK1 T20DRV	Torx TX20 screwdriver for use with tamper-resistant screws with center reject pin.

### NOTES:

- 120V only.
- Multi-volt electronic ballast (for DTT and TRT lamps) capable of operating on any line voltage between 120 and 277 volt.
- For additional colors, refer to Architectural Paint brochure.
- Must specify voltage. Not available with MVOLT.
- Maximum wattage lamp provided.
- Option available for single lamp units only.
- T-20 screws with center reject pin.
- Lamp(s) included unless L/LP is specified.

# VGR2 Rough Service Wall-Mounted Fixture, Compact Fluorescent

VGR2 42TRT 120



VGR2 42TRT WALL MOUNT (in feet)  
HORIZONTAL PLANE ISOCANDLE  
LINE  
(8 FT. SHOWN)

	7	8	9	10
A	3.1	2.4	1.9	1.5
B	2.3	1.8	1.4	1.1
C	0.6	0.4	0.3	0.3
D	0.1	0.1	0.1	0.1

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 on this sheet are based on the most current available data and are subject to change without notice.

 **LITHONIA LIGHTING®**  
An **Acuity Brands** Company

Sheet #: VGR2F\_0

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**Lithonia Lighting**  
**Rough Service**  
One Lithonia Way, Conyers, GA 30012  
Phone: 770-922-9000 Fax: 770-981-8141  
[www.lithonia.com](http://www.lithonia.com)

**Mercantile Customer Project Commitment Agreement**  
**Cash Rebate Option**

**THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT** ("Agreement") is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the "Company") and Hiram College, Taxpayer ID No. 34-0714670 its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

**WITNESSETH**

**WHEREAS**, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

**WHEREAS**, Customer believes that it is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

**WHEREAS**, R.C. § 4928.66 (the "Statute") requires the Company to meet certain energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

**WHEREAS**, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

**WHEREAS**, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit A (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

**WHEREAS**, the Customer, pursuant to the Public Utilities Commission of Ohio's ("Commission") September 15, 2010 Order in Case No. 10-834-EL-EEC, desires to pursue a cash rebate of some of the costs pertaining to its Customer Energy Project(s) ("Cash Rebate").

**WHEREAS**, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of a Cash Rebate.

**WHEREAS**, in consideration of, and upon receipt of, said cash rebate, Customer will commit the Customer Energy Project(s) to the Company and will comply with all other terms and conditions set forth herein.

**NOW THEREFORE**, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects.** Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, Customer acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.
  - a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions

resulting from said projects for purposes of complying with the Statute. It is expressly agreed that Customer may use any and all energy related and other attributes created from the Customer Energy Project(s) to the extent permitted by state or federal laws or regulations, provided, and to the extent, that such uses by Customer do not conflict with said compliance by the Company.

- b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively, as appropriate, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations.
  - c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
  - d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of the Commission's standard joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
  - e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" ("Joint Application") in which they will seek the Commission's approval of (i) this Agreement; (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's Cash Rebate.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
  - ii. A copy of this Agreement; and
  - iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.
3. **Customer Cash Rebate and Annual Report.** Upon Commission approval of the Joint Application, Customer shall provide Company with a W-9 tax form, which shall at a minimum include Customer's tax identification number. Within the greater of 90 days of the Commission's approval of the Joint Application or the completion of the Customer Energy Project, the Company

will issue to the Customer the Cash Rebate in the amount set forth in the Commission's Finding and Order approving the Joint Application.

- a. Customer acknowledges: i) that the Company will cap the Cash Rebate at the lesser of 50% of Customer Energy Project(s) costs or \$250,000; ii) the maximum rebate that the Customer may receive per year is \$500,000 per Taxpayer Identification Number per utility service territory; and iii) if the Customer Energy Project qualifies for a rebate program approved by the Commission and offered by the Company, Customer may still elect to file such project under the Company's mercantile customer self direct program, however the Case Rebate that will be paid shall be discounted by 25%; and
  - b. Customer acknowledges that breaches of this Agreement, include, but are not limited to:
    - i. Customer's failure to comply with the terms and conditions set forth in the Agreement, or its equivalent, within a reasonable period of time after receipt of written notice of such non-compliance;
    - ii. Customer knowingly falsifying any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application.
  - c. In the event of a breach of this Agreement by the Customer, Customer agrees and acknowledges that it will repay to the Company, within 90 days of receipt of written notice of said breach, the full amount of the Cash Rebate paid under this Agreement. This remedy is in addition to any and all other remedies available to the Company by law or equity.
4. **Termination of Agreement.** This Agreement shall automatically terminate:
- a. If the Commission fails to approve the Joint Agreement;
  - b. Upon order of the Commission; or
  - c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's Cash Rebate, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

5. **Confidentiality.** Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
- a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.

- b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
  - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
  - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
6. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the payment of the Cash Rebate.
7. **Notices.** Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

**If to the Company:**

FirstEnergy Service Company  
76 South Main Street  
Akron, OH 44308  
Attn: Victoria Nofziger  
Telephone: 330-384-4684  
Fax: 330-761-4281  
Email: [vmnofziger@firstenergycorp.com](mailto:vmnofziger@firstenergycorp.com)

**If to the Customer:**

Hiram College \_\_\_\_\_  
P.O. Box 67, Hiram, OH 44234 \_\_\_\_\_  
Attn: Thomas Chema \_\_\_\_\_  
330-569-5128 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

8. **Authority to Act.** The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
9. **Non-Waiver.** The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
10. **Entire Agreement.** This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In



the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.

11. Assignment. Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
12. Severability. If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.
13. Governing Law. This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.
14. Execution and Counterparts. This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

Hiram College  
(Customer)

By: [Signature]

Title: President

Date: 6-16-2011

~~Ohio Edison Co.~~  
(Company) Ohio Edison Co.

By: [Signature]

Title: V.P. Energy Efficiency

Date: 6-24-11

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**6/24/2011 5:04:51 PM**

**in**

**Case No(s). 11-3043-EL-EEC**

Summary: Application of Ohio Edison Company and Hiram College to Commit Energy Efficiency/Peak Demand Reduction electronically filed by Mr. Kevin P. Shannon on behalf of Ohio Edison Company