AMERICAN ELECTRIC POWER

Legal Department

American Electric Power
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Columbus, OH 43215-2373
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July 15, 2014

Chairman Thomas W. Johnson
Ohio Power Siting Board
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215-3793

Yazen Alami
Regulatory Services
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Re: **In the Matter of the Application of**	**)**	
Tiffin University	**)**	
and Ohio Power Company	**)**	**Case No. 14-1231-EL-EEC**
for Approval of a Special Arrangement	**)**	
Agreement with a Mercantile Customer	**)**	

Dear Chairman Johnson,

Attached please find the Joint Application of Ohio Power Company (OPCo) and mercantile customer Tiffin University 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 2014.

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

The Commission's Order in Case No. 10-834-EL-EEC, established a streamlined process to expedite review of these special arrangements by developing a sample application process for parties to follow for consideration of such programs implemented during the prior three calendar years. Attached is OPCo's version of that application and accompanying affidavit. Any confidential information referenced in the Joint Application has been provided to the Commission Staff for filing in Commission Docket 10-1799-EL-EEC, under a request for protective treatment. OPCo respectfully requests that the Commission treat the two cases as associated dockets.

Cordially,

/s/ Yazen Alami
Yazen Alami

Attachments

Ohio | Public Utilities Commission

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

Case No.: 14-1231-**EL-EEC**

Mercantile Customer: TIFFIN UNIVERSITY

Electric Utility: Ohio Power

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

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. 10-834-EL-POR

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Company Information

Name: TIFFIN UNIVERSITY

Principal address: 155 Miami Street, Tiffin, Oh 44883

Address of facility for which this energy efficiency program applies: 350 Miami St, Tiffin, Oh 44883-2021

Name and telephone number for responses to questions:

Bud Kinn, Tiffin University, (419) 448-3276

Electricity use by our company (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 response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)

☒ Both the energy savings and the demand reduction from the customer's energy efficiency program. (Complete all sections of the Application.)

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (choose whichever applies):

☐ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).

☐ Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s):

☒ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): 8/24/2012

☐ Behavioral or operational improvement.

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

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

Annual savings: kWh

2) If you checked the box indicating that you installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: kWh

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

3) If you checked the box indicating that your project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher

efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

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

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

Annual savings: 131,817 kWh

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for annual energy savings calculations and Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

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

The less efficient new equipment is the minimum required by Ohio State code or Federal Standard whichever is more stringent. For those measures where no code applies the baseline equipment is assumed to be the least efficient equipment available in the marketplace or standard practice, whichever results in the most conservative annual savings. Any information available describing the less efficient new equipment option is provided in Attachment 6 for the methodologies, protocols, and practices used in this application for custom measures.

4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

☒ Coincident peak-demand savings from the customer's energy efficiency program.

☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)

☐ Potential peak-demand reduction (check the one that applies):

- Choose one or more of the following that applies:

  ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.

  ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

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

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

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

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

53.6 kW

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for peak demand reduction calculation, and Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

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

OR

☐ Commitment payment

B) The value of the option that the customer is seeking is:

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

☒ A cash rebate of $ 18,517.65. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

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

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

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than $_____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of an ongoing efficiency program that is practiced by our organization. (Attach documentation that establishes your organization's ongoing efficiency program. In order to continue the exemption beyond the initial 24 month period your organization will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____ (Continue to Subsection 1, then skip Subsection 2)

☒ Utility Cost Test (UCT) . The calculated UCT value is: 2.9 (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 $ 55,982.56

The utility's program costs were $ 790.90

The utility's incentive costs/rebate costs were $ 18,517.65.

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 work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed. Due to the length of time since the equipment replacement, the make, model and year of the replaced equipment is not available.

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

  1) any confidentiality requirements associated with the agreement;

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

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

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

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

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

4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,

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

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

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

- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

  The Company applies the same methodologies, protocols, and practices to Self Direct Program retrospective projects that are screened and submitted for approval as it does to prospective projects submitted through its Prescriptive and Custom Programs. The Commission has not published a technical reference manual for use by the Company so deviations can not be identified. The project submitted is a custom project and energy savings are determined as described in Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation, Attachment 6 – Supporting Documentation for custom measures work papers that provide all methodologies, protocols, and practices used in this application for custom measures, as needed.

Ohio | Public Utilities Commission

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

Case No.: 14-1231-EL-EEC

State of Ohio :

Brian Larcey, 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.

Energy Efficiency Engineer

Signature of Affiant & Title

Sworn and subscribed before me this 14th day of July, 2014 Month/Year

Brenda Walke

Signature of official administering oath

Brenda Walke, Notary

Print Name and Title

My commission expires on 01-16-2018

NOTARIAL SEAL STATE OF OHIO

Brenda Walke
Notary Public, State of Ohio
My Commission Expires 01-16-2018

AEP OHIO
A unit of American Electric Power

Self Direct Project Overview & Commitment

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

Customer Name	**TIFFIN UNIVERSITY**	
Project Number	**AEP-14-12429**	
Customer Premise Address	**350 MIAMI ST, TIFFIN, OH 44883-2021**	
Customer Mailing Address	**155 Miami Street, Tiffin, OH 44883**	
Date Received	**1/22/2014**	
Project Installation Date	**8/24/2012**	
Annual kWh Reduction	**131,817**	
Total Project Cost	**$93,641.95**	
Unadjusted Energy Efficiency Credit (EEC) Calculation	**$24,690.20**	
Simple Payback (yrs)	**8.9**	
Utility Cost Test (UCT) for EEC	**2.90**	
Utility Cost Test (UCT) for Exemption	**0.08**	
		Please Choose One Option Below and Initial
Self Direct EEC: 75%	**$18,517.65**	☒ **Initial:** BK
EE/PDR Rider Exemption	**12 Months (with possible extension up to N/A months after PUCO Approval)**	☐ **Initial:** N/A

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

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

____YES ____NO

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

Project Overview:

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

Newly constructed exercise facility with 18,193 watts reduced from ASHRAE 90.1-2007 lighting power density baseline
Installed the following energy efficient HVAC equipment
(1) 1.5 ton Mitsubishi MSY-GE18NA
(2) 2 ton Mitsubishi MSY-GE24NA
(2) 7.5 Trane YSC092E
(1) 10 Trane YSC120E
(4) 50 Trane RAUJ-C50

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

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

Ohio Power Company

By: Jon F. Will

Title: Manager

Date: 6/26/2014

TIFFIN UNIVERSITY

By: Bud Kinn

Title: DIRECTOR OF FACILITIES

Date: 6/25/2014

Self-Direct
Program Application

ENERGY IS PRECIOUS. ***LET'S NOT WASTE IT.***

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STEPS FOR SUBMITTING YOUR APPLICATION

Step 1: Verify Project, Equipment and Customer Eligibility

- ✓ Project must be a facility improvement that produces a permanent reduction in electrical energy usage (kWh).
- ✓ Facilities must be AEP electric customers that are considered "mercantile" under the definition of the Public Utilities Commission of Ohio (PUCO).
- ✓ Projects must operate at least 2,245 hours per year to qualify for cash rebates. Projects with annual energy (kWh) savings greater than the facility's annual energy (kWh) consumption are not eligible.
- ✓ All installed equipment must meet or exceed the specifications outlined in the application.
- ✓ Equipment must be installed in facilities served by AEP Ohio.
- ✓ Customer must have a valid AEP Ohio account number on an eligible AEP Ohio non-residential account.
- ✓ The Self-Direct program applies to customer facilities served by AEP Ohio's retail electric distribution rates that are defined as "mercantile" and meet the minimum energy usage requirements of 700,000 kWh per year, or that are part of a national account involving multiple facilities in one or more states.

Step 2: Submit Application

- ✓ Complete the Checklist page.
- ✓ Agree to the Terms and Conditions and Final Payment Agreement.
- ✓ Attach the documentation listed:
  - Completed Applicant Information form
  - Completed and signed Customer Agreement form
  - Measure worksheet(s)
  - Scope of work (type, quantity, and specifications of old and new equipment)
  - Dated and itemized invoices for the purchase and installation of all equipment installed
  - Specifications for all installed equipment installed showing that it meets program specifications
- ✓ Submit the signed Final Application via email, fax or mail prior to November 14, 2014, for any projects completed on or after January 1, 2011. Any applications received after the deadline may not be submitted to the Public Utilities Commission of Ohio (PUCO) by December 31, 2014, which may jeopardize approval.

Step 3: Project Review

- ✓ The program team will review your application. The review of some projects will require an inspection; the team will contact applicants requiring an inspection for scheduling.
- ✓ After approval by AEP Ohio, the customer will receive an Overview and Commitment form to sign and return. The project will then be submitted to the PUCO for consideration. The PUCO will assign a case number and review the project details prepared by AEP Ohio. The PUCO may request additional information, or approve or reject the energy efficiency cash rebates.

Step 4: Receive Energy Efficiency Cash Rebates

- ✓ The program team will issue energy efficiency cash rebates four to six weeks after the PUCO approves a project.
- ✓ In lieu of a one-time energy efficiency cash rebate, 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 will be stated in this filing. For this exemption, the energy efficiency cash rebate amount (Option 1) is compared to the estimated value of the EE/PDR obligation (Option 2), as calculated by AEP Ohio. If exemption is elected, the affected account is not eligible for other programs offered by AEP Ohio during the exemption period. Unless additional energy efficiency projects are undertaken, you will, after the specified number of months exempted, again be 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 also are not eligible to elect Option 2.
- ✓ If the energy efficiency cash rebate 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 AEP Ohio programs. However, during that period of time, you are not 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 cash rebates, 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. Current year and future projects may also qualify for higher cash rebates under the prescriptive or custom programs.

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

Self-Direct
Program Application

ENERGY IS PRECIOUS. ***LET'S NOT WASTE IT.***

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CHECKLIST

FINAL APPLICATION

Required Attachments

- ☐ Completed and signed Applicant Information form
- ☐ Completed Final Payment Agreement form including Energy Efficiency Cash Rebates Requested section
- ☐ Itemized invoices
- ☐ Equipment specifications
- ☐ Scope of work
- ☐ W-9 (required for LLC, individual, partnership, property management companies)

Cash Rebate Worksheets[1]

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

Application date _____

Estimated incremental project cost _____

Expected completion date _____

[1]Incomplete applications will delay processing and receipt of energy efficiency cash rebates.

Revised Submittal

Please complete below if this is a revised submittal.

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

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

TERMS AND CONDITIONS

AEP Ohio offers prescriptive and custom cash rebates under the AEP Ohio Business Incentives Program to recognize the implementation of past cost-effective energy efficiency improvements for non-residential customers. AEP Ohio provides energy efficiency cash rebates (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. EEC will only be provided in the form of a check or an Energy Efficiency/Peak Demand Reduction (EE/PDR) rider exemption under this program.

Please note that funds are limited and subject to availability.

Program Effective Dates

AEP Ohio Business Incentives Program offers cash rebates until approved funds are exhausted or November 14, 2014, whichever comes first. The effective dates of the current AEP Ohio Business Incentives Program and application submittal requirements are as follows:

- Self-direct projects are projects completed since January 1, 2011. Self-direct projects are eligible to apply for EEC with this application. Current or future projects should apply using a prescriptive or custom application.
- All 2014 AEP Ohio Business Incentives Program applications should be received no later than November 14, 2014. Any applications received after the deadline may not be submitted to the Public Utility Commission of Ohio (PUCO) by December 31, 2014, which may jeopardize approval. AEP Ohio reserves the right to extend or shorten this timeline.

Program and Project Eligibility

The AEP Ohio Business Incentives Program offers both prescriptive cash rebates for some of the more-common energy efficiency measures and custom cash rebates for other eligible improvements not included on the list of prescriptive measures. Cash rebates available under the AEP Ohio Business Incentives Program include non-residential accounts served on AEP Ohio's regulated retail rates.

Qualifying projects must be installed in a facility in AEP Ohio's electric service territory in Ohio. Cash rebates are available to all non-residential accounts that pay into the EE/PDR rider and receive their electricity over AEP Ohio wires, regardless from which retail electric supplier the customer has chosen to purchase power. A customer may neither apply for nor receive cash rebates for the same measure, equipment or service from more than one electric distribution utility.

The Self-Direct program applies only to customer facilities served by AEP Ohio's retail electric distribution rates, which are defined as "mercantile" and meet the minimum energy usage requirements of 700,000 kWh per year, or that are part of a national account involving multiple facilities in one or more states.

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

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 cash rebate. The project simple payback for custom projects prior to the cash rebate payment generally should fall between 1 to 7 years, or pass cost-effectiveness test(s) determined by AEP Ohio to qualify for a cash rebate. Incentives are based on energy savings during the first 12 months following installation.

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

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

- Projects must involve a new facility improvement with capital improvements that results in a permanent reduction in electrical energy usage (kWh). Existing/old lighting equipment must be functional and in operation at the time of replacement.
- Any measures installed at a facility must produce verifiable and persistent energy reduction and must be sustainable and provide 100% of the energy benefits as stated in the application for a period of at least five (5) years or for the life of the measure, 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 measure, the customer may be required to return a prorated amount of cash rebate funds to AEP Ohio.
- All equipment must be new. In rare circumstances, AEP Ohio reserves the right to allow used or rebuilt equipment if the customer can prove the existing equipment cannot be replaced with new equipment.
- All installed equipment must exceed state, federal and local codes and requirements.
- Equipment must be purchased, installed and operating (or capable of operating in the case of seasonal uses) prior to

TERMS AND CONDITIONS

submitting an application for a cash rebate.

- AEP Ohio will issue cash rebate payments in the form of checks or an energy efficiency Peak Demand Reduction Rider Exemption.
- The cash rebate is paid as a one-time, one-program offer and cannot be combined with incentive payments from other AEP Ohio programs. The customer may be eligible to participate in other programs offered by AEP Ohio, as long as no single project receives more than one cash rebate or incentive.

Confidential information contained in any documents associated with this application will be protected from public filings. However, this information will be disclosed to the PUCO and AEP's independent evaluators for further review and approval. Customers who require a non-disclosure agreement ("NDA") will be required to permit disclosure of certain information to support the submission of their application to the PUCO to be eligible to participate.

Projects that are NOT eligible for a cash rebate 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 (Please visit aepohio.com/solutions for Retro-Commissioning Program or Continuous Improvement Program)
- 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 only peak-shifting without kWh savings
- Renewables (Please visit aepohio.com/save for Renewables Program)
- Projects required by state or federal law, building or other codes, or projects that are standard industry practice
- Projects easily reverted/removed
- Projects installed entirely for reasons other than improving energy efficiency
- Other conditions as may be determined by AEP Ohio

Energy Efficiency Cash Rebate Limits

For both prescriptive and custom measures in this application, the **total EEC shall be 75% of the lesser of:** 1) The calculated cash rebate as approved by AEP Ohio or 2) 50% of incremental project cost (not including internal labor). In calculating the savings and EEC for custom measures, please contact the AEP Ohio Business Incentives Program office to determine an appropriate baseline for savings. In addition to the above incremental project cost limit, cash rebate payment rates vary when a customer's calculated cash rebate exceeds the tiers listed in the chart.

PROGRAM ENERGY EFFICIENCY CASH REBATES	
Energy efficiency cash rebate levels for one-year energy savings	See tables for prescriptive cash rebates. Custom cash rebates: $0.08/kWh x 75%.
Minimum/maximum simple payback before energy efficiency cash rebate applied	Must pass cost effectiveness test(s) determined by AEP Ohio; generally between one and seven years
Maximum payout	75% of 50% of the incremental project cost, excluding internal labor (additional caps and tiering may also apply)
Energy efficiency cash rebate levels for projects completed since 1/1/2011	Calculated amount on the prescriptive or custom worksheets attached and subject to funding limits
Cash rebate limit	See Cash Rebate Limits and Tiering section
Cash rebate calculation order	Measure cash rebate caps are applied first. Project-cost cash rebate limits are applied second. Cash rebate tiering is applied third. Lastly, 75% factor is applied to cash rebate.

Energy Efficiency Cash Rebate Tiering

The total cash rebate paid for any self-direct application cannot exceed 50% of the incremental project cost (not including internal labor). In addition to the above incremental project cost limit, cash rebate payment rates vary when a customer's calculated cash rebate exceeds the tiers listed below:

- Tier 1 $0 - $100,000 = 100% of eligible calculated cash rebate value
- Tier 2 $100,001 - $300,000 = 50% of eligible calculated cash rebate value
- Tier 3 $300,001 - $500,000 = 25% of eligible calculated cash rebate value
- Tier 4 $500,001 - beyond = 10% of eligible calculated cash rebate value

Application Review Process

Applications are not a guarantee of program acceptance and energy efficiency cash rebates. 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 completed application and determines that the project meets the program eligibility requirements. Upon review of the application, the program will notify applicants who submit incomplete applications of deficiencies; applicants may lose their place in the review process until receipt of all requested information. Applications must be completed and all information received by the deadlines defined above to begin processing. Applicants are encouraged to call the program hotline with any questions about documentation requirements.

TERMS AND CONDITIONS

Application

Projects completed on or after January 1, 2011, must submit an application and all required supporting documentation by November 14, 2014, to be applicable for the 2014 program year. Any applications received after the deadline may not be submitted to the PUCO by December 31, 2014, and could jeopardize approval.

A signed application with supporting project documentation verifying project installation and capital improvements must be submitted to AEP Ohio prior to application approval. Project documentation, such as (but not limited to) copies of dated invoices for the purchase and installation of the measures, equipment specification sheets, energy-savings analysis, complete application and W-9 forms (LLC, individual, partnership, property management companies), is required. The invoice should be itemized sufficiently to separate the project cost from the costs of other services not related to the energy efficiency project and other repairs. The location or business name on the invoice must be consistent with the application information. Requested information such as proof of project completion could include equipment purchase dates, installation dates, proof that the equipment was operational, manufacturer specifications, warranty information, invoices and proof of owner co-payment.

Inspections

The AEP Ohio Business Incentives Program reserves the right to inspect all projects to verify compliance with the program rules and verify the accuracy of project documentation. This may include installation inspections, verification of detailed lighting layout descriptions, metering, data collection, interviews and utility bill or monitoring data analysis. Customers are required to allow access to project documents and the facility where the measures were installed for a period of five years after receipt of cash rebate payment by AEP Ohio. In the event a building(s) is turned over to a new account holder/owner before AEP Ohio officially measures and verifies incentivized equipment, AEP Ohio reserves the right to do so under new ownership. Customer understands and agrees that program installations may also be subject to inspections by the PUCO, its designee or AEP's independent evaluators, 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 may estimate the annual electricity usage of both the existing and proposed equipment based on the current operation of the facility. A listing of the pre-existing information requirements is provided at the end of the custom application section. If equipment is replaced prior to the end of its rated service life in order to achieve energy savings, the existing equipment performance may be used as the baseline in the energy-savings calculations. Documentation of early replacement decision and/or actual equipment energy usage will be required. If equipment is replaced due to failure or for other reasons (such as obsolescence or a need for more capacity), the baseline performance used in the savings calculation must be either the minimum performance that would be required by code in effect for that equipment type at the time of installation and application (where a code applies) or industry standard when a code does not apply.

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 in effect at the time of installation or industry standard, if no code exists.

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

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

For custom projects, the applicant is required to provide information in order to allow AEP Ohio to verify the baseline usage of the pre-existing equipment in order to use the existing equipment as the baseline. AEP Ohio may need to conduct inspections of projects to verify equipment and operating conditions.

Customers are encouraged to contact the hotline to speak with program staff prior to submitting projects that warrant special treatment. These non-typical projects will be considered on a case-by-case basis by AEP Ohio.

Tax Liability

Cash rebates are taxable and, if more than $600, will be reported to the IRS unless the customer is exempt. AEP Ohio is not responsible for any taxes that may be imposed on your business as a result of your receipt of cash rebate. A W-9 for LLC, individual, partnership and property management companies must be provided with all applications.

TERMS AND CONDITIONS

Disclaimer

Any and all energy savings and coincident demand generated by the project described in this application are hereby committed to AEP Ohio. That retained demand can be used to count against AEP Ohio's benchmark requirements in S.B. 221, regardless; any retained demand provided to PJM generation auctions must be done so by AEP Ohio only.

Peak-demand reduction is defined as the reduction in average load over the performance hours as a result of replacing existing electrical equipment with more-efficient electrical equipment. Peak performance hours are defined as the time between June 1 and August 31 on weekdays and non-holidays, between the hours 3:00 p.m. and 6:00 p.m. Eastern Standard Time. PJM Peak Hours are defined as the time between June 1 and August 31 on weekdays and non-holidays, between the hours 2:00 p.m. and 6:00 p.m. Eastern Standard Time.

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

Self-Direct
Program Application

ENERGY IS PRECIOUS. ***LET'S NOT WASTE IT.***

AEP OHIO®

APPLICANT INFORMATION

Important: Please read the Terms and Conditions before signing and submitting this application. Complete all information and provide required documentation to avoid processing delays.

Project Information

Building Type (click here for Building Type definitions)	**W-9 Tax Status**	**How Did You Hear About the Program?**
(Select One)	(Select One)	(Select One)
Shift	**Affected Area Square Footage**	**Dodge Report Number** (if applicable)
(Select One)		
Building Operating Hours	**Equipment Operating Hours**	**Does the Facility Have a Data Center?**
		(Select One)

Name of Applicant's Business _____

Project Name (if applicable)_____ Name as It Appears on Utility Bill_____

AEP Ohio Account Number Where Measure Installed _____ Taxpayer ID (SSN/FEIN) _____

Mailing Address _____ City_____ State OH Zip_____

☐ Check if mailing address and installation address are the same.

Installation Address _____ City_____ State OH Zip_____

Customer Contact

Please provide all contacts we may need to process this project. List the project decision-maker, the technical contact, etc. as the contractor contact.

Name of Contact(s) (preferred contact for documentation)_____

Title of Contact_____ Phone #_____ Ext._____

Contact Fax #_____ Contact Email_____

Solution Provider/Contractor Information[1]

Name of Contracting Company _____

Name of Contact Person_____ Title of Contact_____

Mailing Address _____ City_____ State OH Zip_____

Phone #_____ Ext._____ Contact Fax #_____ Contact Email_____

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

[1]Solution provider/contractor is the party involved in the application submittal (i.e., specs, scope of work, etc.).

FINAL PAYMENT AGREEMENT

Final Payment Agreement

I understand that the application and all required documentation should be received by the AEP Ohio Business Incentives Program by November 14, 2014, for any projects completed on or after January 1, 2011. Any applications received after the deadline may not be submitted to the PUCO by December 31, 2014, and could jeopardize approval of any cash rebate by the PUCO. All equipment must be purchased, installed and fully operational prior to submitting the application.

I understand that AEP Ohio or its representatives have the right to ask for additional information at any time. AEP Ohio Business Incentives Program will make the final determination of cash rebate levels for this project.

I understand that this project must involve a facility improvement that results in improved energy efficiency.

As an eligible AEP Ohio account holder, I certify that decisions to acquire and install the indicated energy efficiency measures, which will be demonstrated with supporting documentation required by AEP Ohio, were made after January 1, 2011, and that work was completed on this project on or after January 1, 2011. The energy efficiency measures are for use in my business facility and not for resale.

I understand that the location and business name on the project documentation must be consistent with the application information. Project documentation, measure specification sheets and details of measure installation are included. Documentation indicating contract dates prior to January 1, 2011, may render this application ineligible. I understand that all submissions become the property of AEP Ohio. It is recommended to keep a copy of the application for your records.

I agree that if: (1) I did not install the related measure(s) identified in my application or (2) I remove the related measure(s) identified in my application before a period of five (5) years or the end of the measure life, whichever is less, I shall refund a prorated amount of energy efficiency cash rebates to AEP Ohio based on the actual period of time the related measure(s) were installed and operating. This is necessary to assure that the project's related energy benefits will be achieved. (3) AEP Ohio will pay 75% of the lesser of: 1) The calculated cash rebate 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 its representatives have the right to ask for additional information at any time. AEP Ohio Business Incentives Program will make the final determination of energy efficiency cash rebate levels for this project.

I agree to be responsible to comply with any applicable codes or ordinances. I also understand that all materials removed, including lamps and PCB ballasts, must be permanently taken out of service and disposed of in accordance with local codes and ordinances. I understand it is my responsibility to be aware of any applicable codes or ordinances. Information about hazardous waste disposal can be found at epa.gov/epawaste/hazard/index.htm.

I agree to verification by the utility or its representatives of both sales transactions and equipment installation. I understand that these cash rebates are available to all non-residential accounts that pay into the Energy Efficiency and Demand Response (EE/PDR) rider and receive their electricity over AEP Ohio wires, regardless from which retail electric distribution supplier the customer has chosen to purchase power.

I understand that 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 cash rebates promised to customers as a result of misrepresentation of the program.

I understand that AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measure eligible for energy efficiency cash rebates under this program. Furthermore, 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 cash rebates will be based upon the Final Application and program terms and conditions, as well as the availability of funds.

I understand that the program has a limited budget. Applications will be processed until allocated funds are reserved or spent. Final Applications should be received by November 14, 2014, to be eligible for funding under the current program period.

I certify that the information on this application is true and correct, and that the taxpayer ID number, tax status and W-9 are the applicant's. I understand that cash rebates exceeding $600 will be reported to the IRS, unless the payee is exempt. I understand that cash rebates assume related energy benefits over a period of five (5) years or for the life of the measure, whichever is less.

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

FINAL PAYMENT AGREEMENT

I understand and agree that all other terms and conditions as specified in the application, including all attachments and exhibits attached to this application, will serve as a contract for the customer's commitment of energy and demand resources to AEP Ohio and shall apply.

I understand that any and all energy savings and coincident demand generated by the project described in this application are hereby committed to AEP Ohio. That retained demand can be used to count against AEP Ohio's benchmark requirements in S.B. 221, regardless; any retained demand provided to PJM generation auctions must be done so by AEP Ohio only.

CUSTOMER AGREEMENT

☐ I have read and understand the program requirements, measure specifications, and Terms and Conditions and Final Application Agreement and agree to abide by those requirements. Furthermore, I concur that I meet all eligibility criteria in order to receive payment under this program. For final applications, sign and submit only after all equipment is installed and operational. A customer signature is required for payment. Signed applications received by email or fax will be treated the same as original applications received by mail.

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

Digital Signature Instructions

1. Click in the signature box.
2. Follow the digital signature directions displayed in the "Add Digital ID" pop-up box.
3. Establish a digital ID and password.
4. In the "Sign Document" pop-up box, you can select to change the signature appearance from typed font to an imported graphic.
5. Follow directions to save signed application; signature and verification information will appear in the signature box.

Total Incremental Project Cost

_____

Total Cash Rebates Requested

_____

Customer Signature (AEP Ohio Customer)

_____

Print Name

_____

Date

15 July 2014

Project Completion Date

_____

SUBMIT VIA EMAIL

PRINT APPLICATION

LITHONIA LIGHTING

TYPE: BH
JOB NAME: TIFFIN REC CENTER
CAT#: SP G B 2 32 RW A12125 MVOLT GEB10IS

FEATURES & SPECIFICATIONS

INTENDED USE — Specification premium air-handling luminaires offer general illumination for recessed applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION — Black reveal provides floating door appearance, conceals optional air-supply slots. Optional air flow controls available.

Standard door is fully gasketed flush steel with mitered appearance – completely frames shielding. Corners screwed together for rigidity, easy lens replacement. Rotary-action cam latches standard. Urethane foam gasket eliminates light leaks between door frame and housing.

Overlapping flange and modular ceiling trims factory-installed with standard swing-gate hangers.

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

Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

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

ELECTRICAL — Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

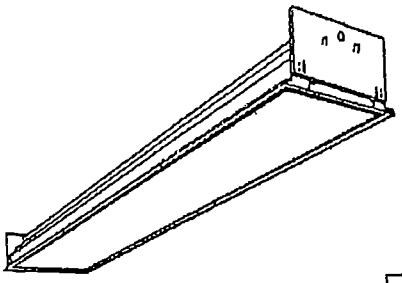
LISTINGS — UL Listed (standard). Optional: Canada CSA or C-UL Mexico NOM.

WARRANTY — Guaranteed for one year against mechanical defects in manufacture.

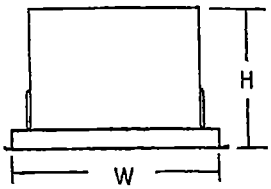
NOTE: Specifications subject to change without notice.

Specification Premium Air-Handling Troffer

SP AIR 1'X4'



1, 2 or 3 Lamps



Specifications

Length: 48 (121.9)
Width: 12 (30.5)
Depth: 7-1/4 (18.4)
Weight: 17 lbs (7.7 kg)

All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.
Example: SP G B 2 32 RW A12125 MVOLT GEB10IS

SP

Series
- **SP 1' wide**

Trim type
- **G Grid**
- **F Overlapping flanged**
- MT Modular fit-in

Air function
- A Air supply/return (slots in side trim)
- H Heat removal (through lamp cavity, dampers available)
- D Combination A and H
- **B Static (no air function, matching appearance)**

Number of lamps
- 1
- **2**
- 3

Not included.

Lamp type
- **32 32W T8 (48")**
- 28T5 28W T5 (46")
- 54T5HO 54W T5 (46")

Door frame
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- **FW Flush aluminum, white**
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- **RW Regressed aluminum, white**

Diffuser type
- A12 #12 pattern acrylic
- **A12125 #12 pattern acrylic, 0.125" thick**
- A19 #19 pattern acrylic, 0.156" thick
- A15 #15 pattern acrylic, 0.2" thick
- PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver w/flange
- PC2S 1-1/2" x 1-1/2" x 1" plastic cube louver, silver w/flange
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver w/flange

Voltage
- 120
- 277
- 347
- **MVOLT**

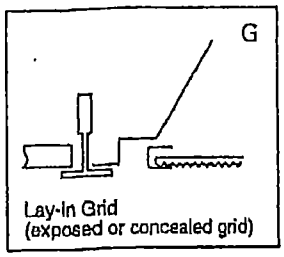
Others available.

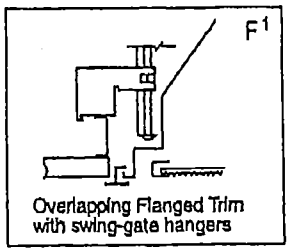
Options
- 1/3 **One 3-lamp ballast**
- **GEB10IS Electronic ballast, ≤10% THD, Instant Start**
- **GEB10RS Electronic ballast, ≤10% THD, Rapid Start**
- GEB10PS Electronic ballast, ≤10% THD, program start (T5 only)
- **EL Emergency battery pack (nominal 300 lumens)**
- **EL14 Emergency battery pack (nominal 1400 lumes)**
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- PWS1836 6' prewire, 3/8" dia., 18-gauge, 1 circuit
- LP735 Lamped; 700-series, 3500K
- LP741 Lamped; 700-series, 4100K
- LP__ Lamped, specify lamp type and color
- APB Air-pattern control blades (A and D models only)
- PAF Painted after fabrication (white enamel)
- SSR Specular silver interior finish (95% reflective)
- CSA Listed and labeled to comply with Canadian Standards
- NOM Listed and labeled to comply with Mexican Standards
- JP Palletized and stretch-wrapped (G and MT trim only)

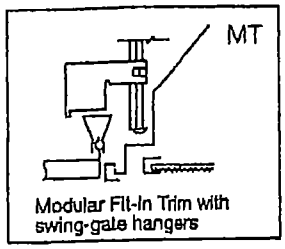
SP Air 1'x4' Air-Handling

MOUNTING DATA

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





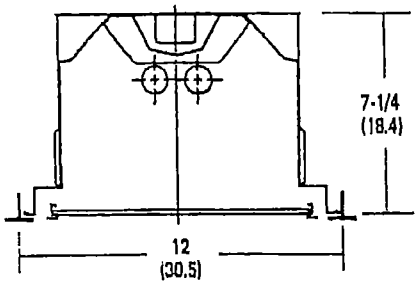


NOTES:

1 Recommended rough in dimensions for F trim fixtures 12" x 48" (Tolerance is +1/4", -0"). Swing-gate range 1-1/16" to 3-11/16", span 10-3/4" to 14-3/4".

DIMENSIONS

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



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Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763
www.lithonia.com

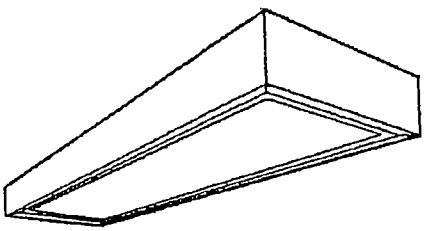
LITHONIA LIGHTING

TYPE: BK
JOB NAME: TIFFIN REC CENTER
CAT#: M 2 32 RW A12125 MVOLT GEB10IS SQ

FEATURES & SPECIFICATIONS

Modular Commercial

M 1X4



STRAIGHT LAMPS
1, 2 or 3 lamps

INTENDED USE

Surface or stem-mounted lensed fixture for general illumination in commercial offices and retail applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION

Housing formed from cold-rolled steel. Plasma seam welded corners provide a clean finish and eliminate light leaks. Standard steel door frame has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows easy lens replacement without frame disassembly. Power-painted steel latches provide easy, secure door closure. Superior mechanical light seal requires no foam gasketing.

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

OPTICS

Standard pattern #12 lens is 100% virgin acrylic. Other lenses and diffusers available.

ELECTRICAL

Standard ballast is electronic, thermally protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA Certified ballast. Universal voltage. Sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTING

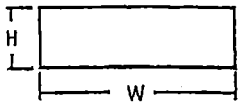
Standard: UL and CSA Certified.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications

Length: 48 (1219)
Height: 4-3/4 (121)
Width: 12-1/4 (311)
Weight: 19 lbs. (8.6 kg.)



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

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: M 2 32 A19 MVOLT GEB10IS

M

Series
- **M**

Lamps
- **1**
- **2**
- **3**

Not included.

Lamp type
- **32** 32W T8 (48")
- 28T5 28W T5 (46")
- 54T5HO 54W T5 high output (46")

Frame type
- (blank) **Flush steel, white**
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- FW Flush aluminum, white
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- **RW Regressed aluminum, white**

Diffuser
- A12 **#12 pattern acrylic**
- **A12125 #12 pattern acrylic, .125" thick**
- A19 **#19 pattern acrylic, .156" thick**
- PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver
- PC2S 1-1/2" x 1-1/2" x 1-1/2" plastic cube louver, silver w/ flange[1]
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

Voltage
- 347
- **MVOLT**

Others available.

Options

Shipped installed in fixture
- 1/3 **One 3-lamp ballast**
- **GEB10IS Electronic ballast, ≤10% THD, instant start (T8 only)**
- GEB10RS Electronic ballast, ≤10% THD, rapid start (T8 only)
- GEB10PS Electronic ballast, ≤10% THD, program start (T5/T5HO only)
- EL14 Emergency battery pack (nominal 1400 lumens)
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- LP735 Lamped; 700-series; 3500K
- LP741 Lamped; 700-series; 4100K
- LP835 Lamped; 800-series; 3500K
- LP841 Lamped; 800-series; 4100K
- FTC Top of fixture fully enclosed
- CRE Continuous row, end (KO in shroud end)
- CRM Continuous row, middle (KO in both ends)
- NOM NOM Certified

Accessories:

Order as separate catalog number.

- SQ_ Swivel stem hanger (specify length in 2" increments).[1]
- IB Ceiling spacer (1-1/2" to 2-1/2" from ceiling).

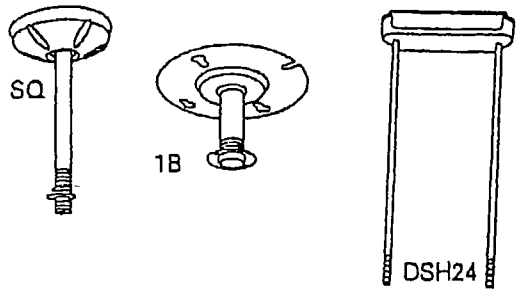
M 1x4 Straight Lamps, Modular Commercial

MOUNTING DATA

For unit or row installation. Surface or stem mounting.

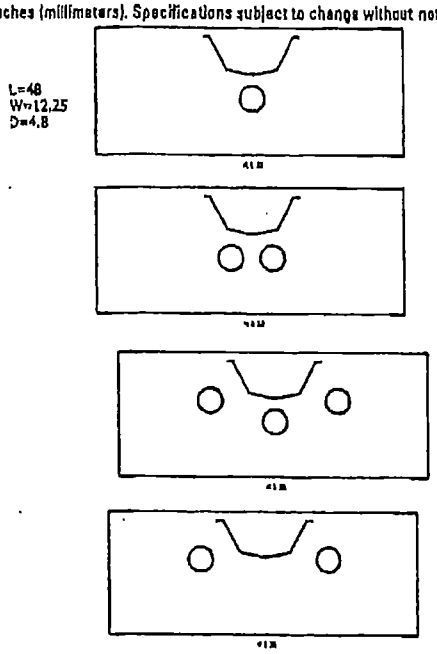
UNIT INSTALLATION — Minimum of two hangers required.

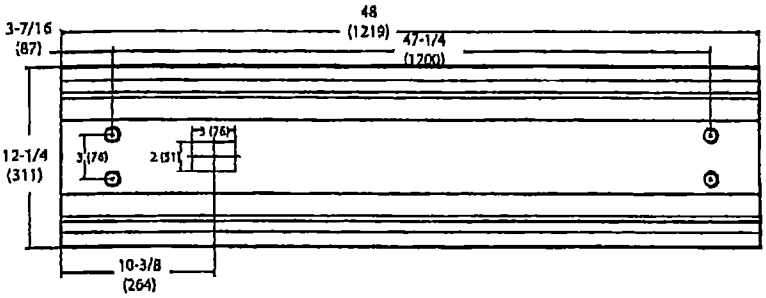
ROW INSTALLATION — One hanger per fixture plus one per row required.



DIMENSIONS

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





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

LER,FW	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
55	$4.36	(2) 32W T8	2850	.88	58

*Calculated in accordance with NEMA Standards LE-5.

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

TEST NO: LTL18551
LUMINAIRE CATALOG NO.: M 2 32 A12 MVOLT GEB10IS
LUMENS PER LAMP: 2800

Coefficients of Utilization

RCR	pf 20% pc 80% pw 50%	30%	10%	pf 20% pc 70% pw 50%	30%	10%	pf 20% pc 50% pw 50%	30%	10%
0	78	75	73	74	74	74	70	70	70
1	67	64	62	65	63	61	63	61	59
2	59	55	52	58	54	51	56	53	50
3	53	48	44	52	47	44	50	48	43
4	47	42	38	48	41	38	45	41	37
5	42	37	33	42	37	33	40	36	33
6	39	33	29	38	33	29	37	32	29
7	35	30	26	35	30	26	34	29	26
8	32	27	24	32	27	24	31	27	23
9	30	25	21	29	25	21	29	24	21
10	28	23	20	27	23	20	27	22	19

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1203.3	21.5	34.0
0° - 40°	1910.3	34.1	53.9
0° - 60°	3028.5	54.0	85.4
0° - 90°	3543.4	63.3	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	3543.4	63.3	100.0

LITHONIA LIGHTING®
An AcuityBrands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7783
www.lithonia.com

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LITHONIA LIGHTING

TYPE: BL
JOB NAME: TIFFIN REC CENTER
CAT#: 2M 3 32 RW A12125 MVOLT 1/3 GEB10IS SQ

FEATURES & SPECIFICATIONS

INTENDED USE

Surface or stem-mounted lensed fixture for general illumination in commercial offices and retail applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION

Housing formed from cold-rolled steel. Plasma seam-welded corners provide a clean finish and eliminate light leaks. Standard steel door frame has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows easy lens replacement without frame disassembly. Power-painted steel latches provide easy, secure door closure. Superior mechanical light seal requires no foam gasketing.

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

OPTICS

Standard pattern #12 lens is 100% virgin acrylic. Other lenses and diffusers available.

ELECTRICAL

Standard ballast is electronic, thermally protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA Certified ballast. Universal voltage. Sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTINGS

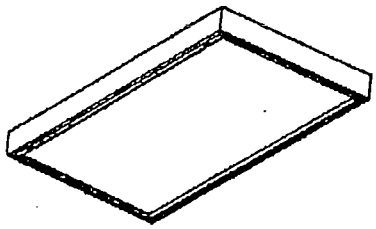
Standard: UL and CSA Certified.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Modular Commercial

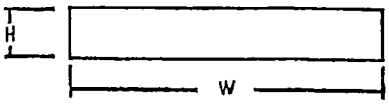
M 2X4



2, 3 or 4 lamps

Specifications

Length: 48 (1220)
Width: 24-1/4 (616)
Height: 3-1/2 (82)
Weight: 24 lbs. (10.9 kg.)



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

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: 2M 2 32 A12125 MVOLT GEB10IS

2M

Series

- ✓ 2M

Lamps

- 2
- 3 ✓
- 4
- Not included.

Lamp type

- ✓ 32 32W T8 (48")
- 28T5 28W T5 (46")
- 54T5HO 54W T5 high output (46")

Frame type

- (blank) Flush steel, white
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- FW Flush aluminum, white
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- RW Regressed aluminum, white ✓

Diffuser

- A12 #12 pattern acrylic
- A12125 #12 pattern acrylic, .125" thick ✓
- A19 #19 pattern acrylic, .156" thick
- PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver
- PC2S 1-1/2" x 1-1/2" x 1-1/2" plastic cube louver, silver w/ flange[1]
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

Voltage

- ✓ 347
- MVOLT
- Others available.

Options

Shipped installed in fixture

- 1/3 One 3-lamp electronic ballast
- 1/4 One 4-lamp electronic ballast
- GEB10IS Electronic ballast, ≤10% THD, instant start (T8 only)
- GEB10RS Electronic ballast, ≤10% THD, rapid start (T8 only)
- GEB10PS Electronic ballast, ≤10% THD, program start (T5/T5HO only)
- EL14 Emergency battery pack
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- LP735 Lamped; 700-series; 3500K
- LP741 Lamped; 700-series; 4100K
- LP835 Lamped; 800-series; 3500K
- LP841 Lamped; 800-series; 4100K
- FTC Top of fixture fully enclosed
- CRE Continuous row, end (KO in shroud end)
- CRM Continuous row, middle (KO in both ends)
- NOM NOM Certified

Accessories:

Order as separate catalog number.

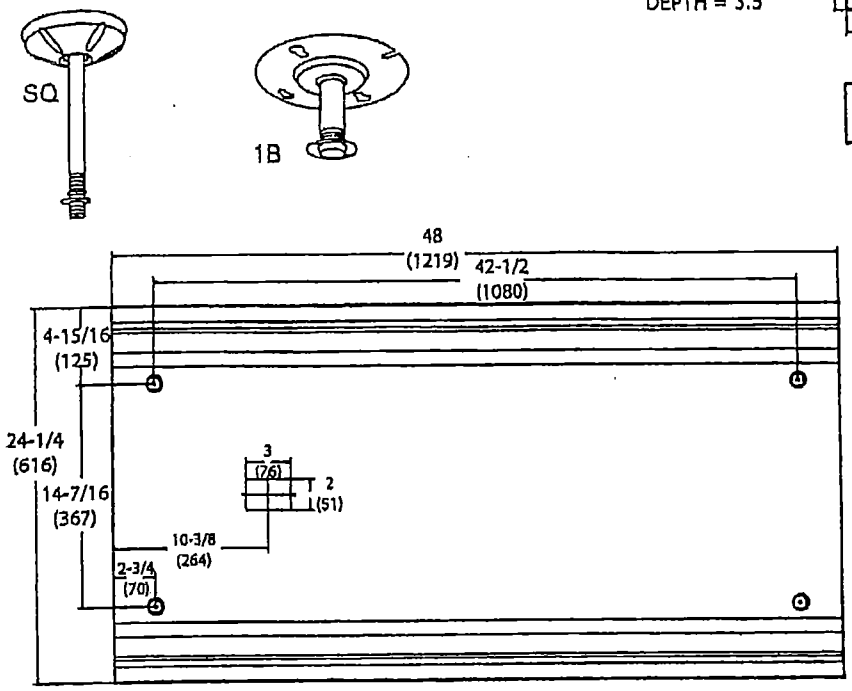
- SQ_ Swivel stem hanger (specify length in 2" increments). ✓
- 1B Ceiling spacer (1-1/2" to 2-1/2" from ceiling).

M 2x4 Modular Commercial

MOUNTING DATA

For unit or row installation. Surface or stem mounting.

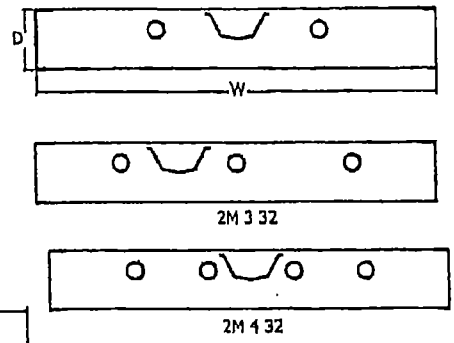
UNIT/ROW INSTALLATION — When stem-mounting, four stems are recommended per fixture.



DIMENSIONS

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

L = 48
WIDTH = 24.25
DEPTH = 3.5



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

LER.FW	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
03	$3.81	(3) 32W T8	2850	.88	86

*Calculated in accordance with NEMA Standards LE-5.

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

TEST NO: LTL18488
LUMINAIRE CATALOG NO.: 2M 4 32 A12 MVOLT 1/4 GEB 10IS
LUMENS PER LAMP: 2800

Coefficients of Utilization

pf 20% / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
RCR 0	85	85	85	83	83	83	79	79	79
1	75	72	70	73	71	69	70	68	66
2	66	62	58	65	61	57	62	59	56
3	59	53	49	58	53	49	56	51	48
4	52	47	42	52	46	42	50	45	41
5	47	41	37	46	41	36	45	40	36
6	43	37	32	42	36	32	41	36	32
7	39	33	29	38	33	28	37	32	28
8	35	30	26	35	29	26	34	29	25
9	33	27	23	32	27	23	31	26	23
10	30	25	21	30	24	21	29	24	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2500.6	22.3	31.3
0° - 40°	4091.7	36.5	51.2
0° - 60°	6800.5	60.7	85.1
0° - 90°	7990.9	71.3	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	7990.9	71.3	100.0

TEST NO: LTL18601
LUMINAIRE CATALOG NO.: 2M 3 32 A12 MVOLT 1/3 GEB10IS
LUMENS PER LAMP: 2800

Coefficients of Utilization

pf 20% / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
RCR 0	86	86	86	84	84	84	80	80	80
1	76	73	71	74	72	69	71	69	67
2	67	62	59	66	61	58	63	60	57
3	59	54	50	58	53	49	56	52	48
4	53	47	43	52	47	42	50	46	42
5	48	42	37	47	41	37	45	40	36
6	43	37	33	42	37	32	41	36	32
7	39	33	29	39	33	29	38	32	29
8	36	30	26	35	30	26	34	29	26
9	33	27	23	33	27	23	32	27	23
10	30	25	21	30	25	21	29	24	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1889.2	22.5	31.1
0° - 40°	3104.3	37.0	51.1
0° - 60°	5162.6	61.5	85.0
0° - 90°	6072.0	72.3	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	6072.0	72.3	100.0

TEST NO: LTL18589
LUMINAIRE CATALOG NO.: 2M 2 32 A12 MVOLT GEB10IS
LUMENS PER LAMP: 2800

Coefficients of Utilization

pf 20% / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
RCR 0	91	91	91	89	89	89	85	85	85
1	80	77	75	79	76	73	76	73	71
2	71	66	62	70	65	61	67	63	60
3	63	57	52	62	56	52	59	55	51
4	56	50	45	55	49	44	53	48	44
5	50	44	39	50	43	39	48	42	38
6	45	39	34	45	39	34	43	38	34
7	41	35	30	41	35	30	40	34	30
8	38	31	27	37	31	27	36	31	27
9	35	28	24	34	28	24	33	28	24
10	32	26	22	32	26	22	31	26	22

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1311.6	23.4	30.8
0° - 40°	2161.7	38.6	50.4
0° - 60°	3637.0	64.9	84.8
0° - 90°	4290.8	76.6	100.0
90° - 180°	0.0	0.0	0.0
0° - 180°	4290.8	76.6	100.0

LITHONIA LIGHTING®
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Sheet #: M-2x4

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LITHONIA LIGHTING

TYPE: BN
JOB NAME: TIFFIN REC CENTER
CAT#: 2SP G B 2 32 RW A12125 MVOLT GEB10IS

FEATURES & SPECIFICATIONS

INTENDED USE — Specification premium air-handling luminaires offer general illumination for recessed applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION — Black reveal provides floating door appearance, conceals optional air-supply slots. Optional air flow controls available.

Standard steel doorframe has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows lens replacement without frame disassembly (for lenses up to .156" thick). Superior mechanical light seal requires no foam gasketing. Latches spring loaded, concealed in reveal.

Overlapping flange and modular ceiling trims factory-installed with standard swing-gate hangers.

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

Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

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

ELECTRICAL — Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTINGS — UL Listed (standard). Optional: Canada CSA or C-UL. Mexico NOM.

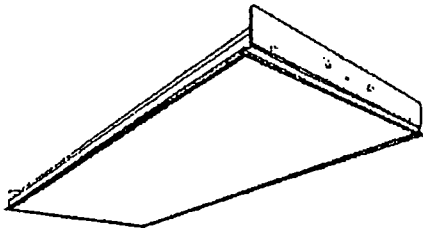
WARRANTY — Guaranteed for one year against mechanical defects in manufacture.

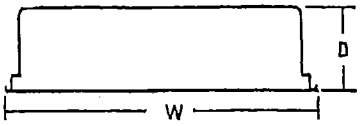
NOTE: Specifications subject to change without notice.

Specification Premium Air-Handling Troffer

SP AIR 2'X4'

2, 3, 4 or 6 Lamps





Specifications

Length: 48 (121.9)
Width: 24 (61.0)
Depth: 4-1/2 (11.4)

All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: 2SP G B 3 32 FW A12125 MVOLT 1/3 GEB10IS

2SP

Series
- **2SP 2' wide**

Trim type
- **G Grid**
- F Overlapping flanged
- MT Modular fit-in

Number of lamps
- **2**
- ~~3~~
- 4
- 6

Not included.

Lamp type
- **32 32W T8 (48")**
- 28T5 28W T5 (46")
- 54T5HO 54W T5 (46")

Door frame
- **(blank) Flush steel, white**
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- **FW Flush aluminum, white**
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- **RW Regressed aluminum, white**

Voltage
- 120
- 277
- 347
- **MVOLT**

Others available.

Options
- **1/4 One 4-lamp ballast**
- **1/3 One 3-lamp ballast**
- **GEB10IS Electronic ballast, ≤10% THD, Instant Start**
- **GEB10RS Electronic ballast, ≤10% THD, Rapid Start**
- GEB10PS Electronic ballast, ≤ 10% THD, program start (T5 only)
- **EL Emergency battery pack (nominal 300 lumens)**
- **EL14 Emergency battery pack (nominal 1400 lumes)**
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- PWS1836 6' prewire, 3/8" dia., 18-gauge, 1 circuit
- LP735 Lamped; 700-series, 3500K
- LP741 Lamped; 700-series, 4100K
- LP__ Lamped, specify lamp type and color
- HRD Heat-removal dampers (H and D models only)
- APB Air-pattern control blades (A and D models only)
- ACS Air closure strips (A and D models only)
- PAF Painted after fabrication (white enamel)
- SSR Specular silver interior finish (95% reflective)
- CSA CSA Certified
- NOM NOM Certified
- JP Palletized and stretch-wrapped (G trim only)

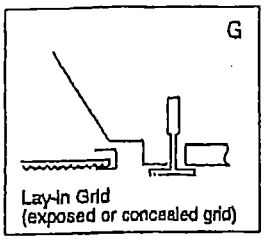
Air function
- A Air supply/return (slots in side trim)
- H Heat removal (through lamp cavity, dampers available)
- D Combination A and H
- B Static (no air function, matching appearance)

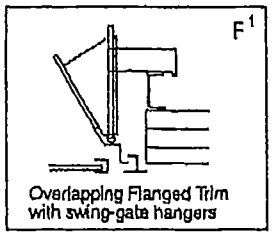
Diffusor type
- A12 #12 pattern acrylic
- **A12125 #12 pattern acrylic, 0.125" thick**
- A19 #19 pattern acrylic, 0.156" thick
- A15 #15 pattern acrylic, 0.2" thick
- PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver
- PC2S 1-1/2" x 1-1/2" x 1" plastic cube louver, silver w/ flange
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

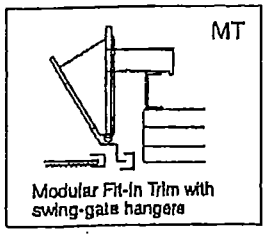
SP AIR 2'x4' Air-Handling, Straight Lamps

MOUNTING DATA

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





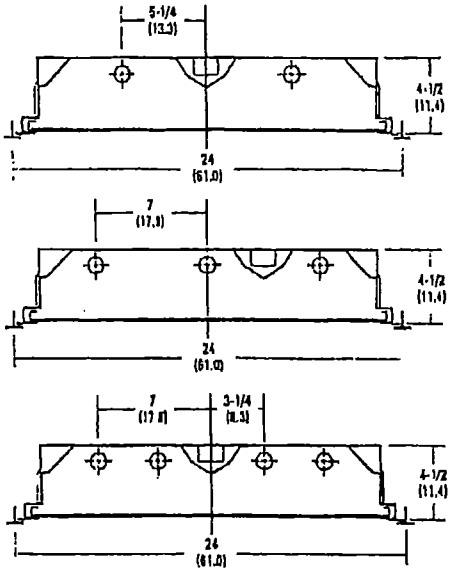


NOTES:

1 Recommended rough-in dimensions for F trim fixtures 24"x48" (Tolerance is +1/4", -0"). Swing-gate range 1-1/4" to 3-7/16", span 23-7/16" to 28-15/16".

DIMENSIONS

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



PHOTOMETRICS

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

2SP G B 2 32 A12 GEB
Report: LTL12404
LUMENS PER LAMP:2850
Luminaire Efficiency: 75.4%

Coefficients of Utilization

RCR \ pf / pc	20% / 80% / pw 70%	50%	30%	50% / 50%	30%	10%	30% / 50%	30%	10%
0	90	90	90	84	84	84	80	80	80
1	83	78	76	74	72	70	72	70	68
2	76	70	65	68	62	59	64	61	58
3	70	62	57	59	54	51	57	53	50
4	64	56	50	53	48	44	51	47	43
5	59	50	44	48	43	38	46	42	38
6	55	45	39	43	38	34	42	37	34
7	51	41	35	40	34	30	39	34	30
8	48	38	32	36	31	27	35	31	27
9	45	35	29	34	28	25	33	28	25
10	42	32	26	31	26	23	30	26	22

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1390	24.4	32.4
0° - 40°	2263	39.7	52.7
0° - 60°	3671	64.4	85.5
0° - 90°	4296	75.4	100.0
90° - 180°	0	0.0	0.0
0° - 180°	4296	75.4	100.0

2SP G B 3 32 A12 1/3 GEB
Report: LTL12405
LUMENS PER LAMP:2850
Luminaire Efficiency: 71.6%

Coefficients of Utilization

RCR \ pf / pc	20% / 80% / pw 70%	50%	30%	50% / 50%	30%	10%	30% / 50%	30%	10%
0	85	85	85	80	80	80	76	76	76
1	79	75	73	71	69	67	68	66	65
2	72	67	62	63	59	56	61	58	55
3	66	59	54	56	52	48	54	50	47
4	61	53	47	50	46	42	49	45	41
5	56	48	42	45	40	37	44	40	36
6	52	43	37	41	36	32	40	36	32
7	49	39	33	38	33	29	37	32	29
8	45	36	30	35	30	26	34	29	26
9	42	33	28	32	27	24	31	27	23
10	40	31	25	30	25	22	29	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2005	23.5	32.8
0° - 40°	3230	37.8	52.8
0° - 60°	5226	61.1	85.4
0° - 90°	6120	71.6	100.0
90° - 180°	0	0.0	0.0
0° - 180°	6120	71.6	100.0

2SP G B 4 32 A12 GEB
Report: LTL12406
LUMENS PER LAMP:2850
Luminaire Efficiency: 70.9%

Coefficients of Utilization

RCR \ pf / pc	20% / 80% / pw 70%	50%	30%	50% / 50%	30%	10%	30% / 50%	30%	10%
0	84	84	84	79	79	79	75	75	75
1	78	75	72	70	68	66	67	66	64
2	71	66	62	62	59	56	60	57	55
3	66	59	53	56	51	48	54	50	47
4	61	53	47	50	45	42	48	44	41
5	56	47	41	45	40	36	44	39	36
6	52	43	37	41	36	32	40	35	32
7	48	39	33	37	32	29	36	32	29
8	45	36	30	34	29	26	34	29	26
9	42	33	27	32	27	23	31	27	23
10	40	31	25	29	25	21	29	24	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2659	23.3	32.9
0° - 40°	4293	37.7	53.1
0° - 60°	6920	60.7	85.6
0° - 90°	8088	70.9	100.0
90° - 180°	0	0.0	0.0
0° - 180°	8088	70.9	100.0

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

LER	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
66	$3.66	(2) 32W T8	2850	.86	56
68	$3.55	(3) 32W T8	2850	.89	81
66	$3.64	(4) 32W T8	2850	.88	108

* Comparative yearly lighting energy cost per 1000 lumens

LITHONIA LIGHTING®
An AcuityBrands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763
www.lithonia.com

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LITHONIA LIGHTING

TYPE: CJ
JOB NAME: TIFFIN REC CENTER
CAT#: AV G 2 32 MDR MVOLT GEB10IS

FEATURES & SPECIFICATIONS

INTENDED USE—The Avante 1x4 is a general lighting luminaire. Row or unit mount to provide ambient lighting for large spaces. Makes for excellent corridor lighting. Use AV 1x4 in conjunction with 2x4's to fill difficult areas of lighting layout. 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.

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

INSTALLATION — Trims available for standard 1" tee bar, 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).

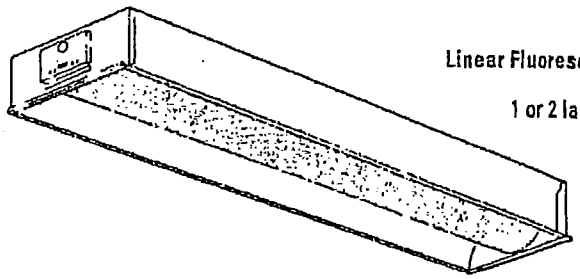
Avante is covered by one or more of the following patents: 5,988,829; 399,586; 411,641; 413,402; 2,212,513; 87,513.

NOTE! Specifications are subject to change without notice.

Avante
Direct/Indirect Lighting

Recessed Direct/Indirect Lighting

AV 1'x4'

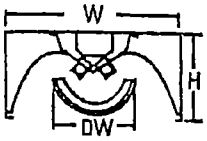


Linear Fluorescent
T8
1 or 2 lamps

Specifications

Length: 48" (1219)
Width: 12" (305)
Diffuser Width: 5-1/2" (140)
Depth: 5-1/2" (140)

All dimensions are inches (millimeters).



ORDERING INFORMATION

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

Example: AV G 2 32 MDR MVOLT GEB10IS

AV — Series
AV 1' wide

Trim type
G End trim
ST Screw slot

Number of lamps
1 2
Not included.

Air function
(blank) Static (no air function)
A Air return/supply

32 — Lamp type
32 32W T8 (48")

Diffuser
MDR Metal diffuser, round holes
SBL Straight blade louver, round holes
MDM Metal diffuser, mini slots
Others available.

Voltage
347
MVOLT[1]
Others available.

Options

GEB10IS	Electronic ballast, ≤10% THD, Instant Start
GEB10RS	Electronic ballast, ≤10% THD, Rapid Start
ALG	Acrylic litter guard[3]
EL	Emergency battery pack (nominal 300 lumens, see Life Safety section)
GLR	Internal fast-blow fuse[3]
LP_	Lamped. Specify lamp type and color
PWS1836	6' prewire, 3/8" dia., 18-gauge, 3 wires
NY3	New York City approved
CP	Chicago Plenum approved
APB	Air pattern control blades[3]

Reflector Option

ASR	Aluminum stepped reflector

NOTES
1 MVOLT (120 - 277 volt).
2 Refer to options and accessories tab for more detailed information.
3 Not available with MVOLT.

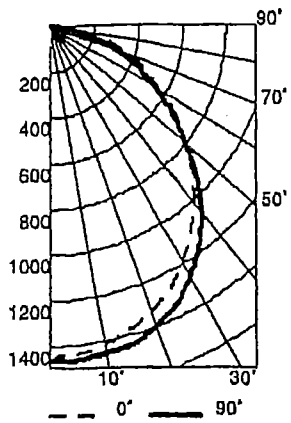
Accessories

Order as separate catalog number.

DGA14 Drywall ceiling adapter, unit installation. Use G trim plus DGA accessory for fixture trim flange and fixture support in plaster or plasterboard ceilings.

AV 1x4 T8 Direct/Indirect Lighting

AV G 2 32 SBL, (2) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10969



Coefficients of Utilization

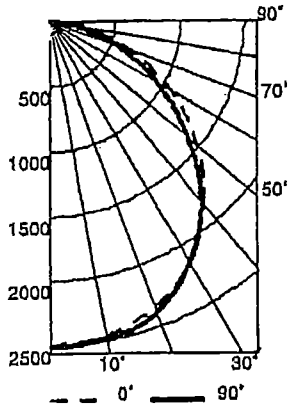
CP Summary 0°	90	pf po pw	80% 70%	50%	30%	20% 70% 50%	30%	10%	50% 50%	30%	10%
0° 1464	1464	0	82	82	82	80	80	80	76	76	76
5° 1436	1466	1	75	72	69	70	68	65	67	65	63
15° 1378	1441	2	68	63	58	62	57	54	59	56	53
25° 1272	1342	3	62	55	50	54	49	45	52	48	44
35° 1108	1174	RCR 4	57	49	43	48	43	39	47	42	38
45° 913	940	5	53	44	38	43	38	33	42	37	33
55° 691	669	6	49	40	34	39	33	29	38	33	29
65° 469	427	7	45	36	30	36	30	26	34	29	26
75° 283	200	8	42	33	27	33	27	23	32	27	23
85° 57	45	9	39	30	25	30	25	21	29	24	21
90 0	0	10	37	28	23	28	22	19	27	22	19

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1143	20.0	29.2
0° - 40°	1861	32.6	47.6
0° - 60°	3191	56.0	81.6
0° - 90°	3909	68.6	100.0
90° - 180°	0	0.0	0.0
0° - 180°	3909	68.6	100.0

Efficiency: 68.6%

AV G 2 54T5HO MDR, (2) 54W T5HO lamps, 4400 lumens per lamp, s/m 1.3 (along) 1.3 (across), test no. LTL 11002



Coefficients of Utilization

CP Summary 0°	90	pf po pw	80% 70%	50%	30%	20% 70% 50%	30%	10%	50% 50%	30%	10%
0° 2508	2508	0	93	93	93	91	91	91	87	87	87
5° 2478	2501	1	86	82	79	80	77	75	77	75	72
15° 2412	2456	2	78	72	67	70	66	62	68	64	60
25° 2256	2284	3	71	63	57	62	56	52	60	55	51
35° 2001	1998	RCR 4	65	56	49	55	49	44	53	48	43
45° 1673	1615	5	60	50	43	49	43	38	48	42	38
55° 1283	1161	6	56	45	38	45	38	33	43	37	33
65° 866	745	7	52	41	34	40	34	29	39	33	29
75° 453	370	8	48	38	31	37	31	26	36	30	26
85° 78	77	9	45	34	28	34	28	24	33	27	24
90 0	0	10	42	32	26	31	25	21	31	25	21

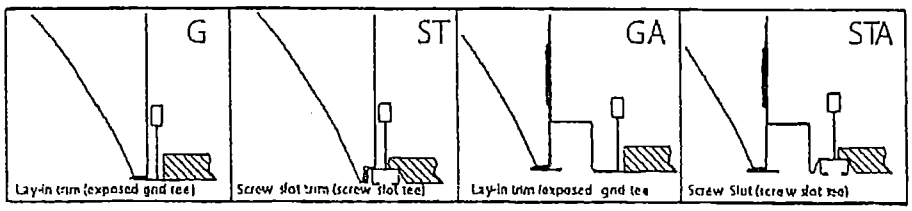
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1982	22.5	28.7
0° - 40°	3244	36.9	46.9
0° - 60°	5625	63.9	81.4
0° - 90°	6911	78.5	100.0
90° - 180°	0	0.0	0.0
0° - 180°	6911	78.5	100.0

Efficiency: 78.5%

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*



*OGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for OGA installation is 12-3/4" x 48-3/4" (Tolerance is +1/8", -0").

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www.lithonia.com

Sheet #: AV 1X4 T8

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LITHONIA LIGHTING

TYPE: CJEM
JOB NAME: TIFFIN REC CENTER
CAT#: AV G 2 32 MDR MVOLT GEB10IS BGTD BSE

FEATURES & SPECIFICATIONS

INTENDED USE — The Avante 1x4 is a general lighting luminaire. Row or unit mount to provide ambient lighting for large spaces. Makes for excellent corridor lighting. Use AV 1x4 in conjunction with 2x4's to fill difficult areas of lighting layout. 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.

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

INSTALLATION — Trims available for standard 1" tee bar, 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).

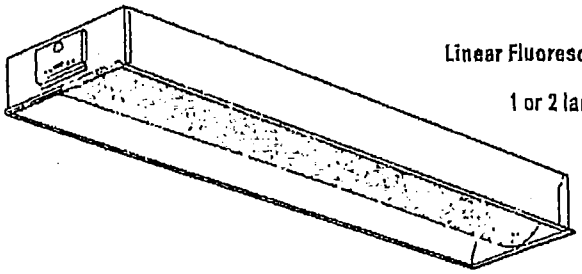
Avante is covered by one or more of the following patents: 5,989,829; 399,586; 411,641; 413,402; 2,212,513; 87,513.

NOTE: Specifications are subject to change without notice.

Avante
Direct/Indirect Lighting

Recessed Direct/Indirect Lighting

AV 1'x4'

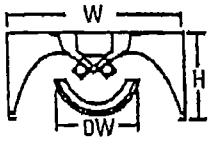


Linear Fluorescent
T8
1 or 2 lamps

Specifications

Length: 48" (1219)
Width: 12" (305)
Diffuser Width: 5-1/2" (140)
Depth: 5-1/2" (140)

All dimensions are inches (millimeters).



ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.
Example: AV G 2 32 MDR MVOLT GEB10IS

AV — Series
AV 1' wide

Trim type
G Grid trim
ST Screw slot

Number of lamps
1, 2
Not included.

Air function
(blank) Static (no air function)
A Air return/supply

32 — Lamp type
32 32W T8 (48")

Diffuser
MDR Metal diffuser, round holes
SBL Straight blade louver, round holes
MDM Metal diffuser, mini slots
Others available.

Voltage
347
MVOLT[1]
Others available.

Options

GEB10IS	Electronic ballast, ≤10% THD. Instant Start
GEB10RS	Electronic ballast, ≤10% THD. Rapid Start
ALG	Acrylic litter guard[2]
EL	Emergency battery pack (nominal 300 lumens, see Life Safety section)
GLR	Internal fast-blow fuse[3]
LP_	Lamped. Specify lamp type and color
PWS1836	6' prewire, 3/8" dia., 18-gauge, 3 wires
NY3	New York City approved
BGTD BSE10	Bodine generator transfer device

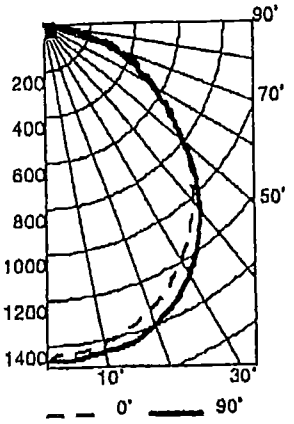
Reflector Option
ASR Aluminum stepped reflector

NOTES
1 MVOLT (120 - 277 volt).
2 Refer to options and accessories tab for more detailed information.
3 Not available with MVOLT.

Accessories
Order as separate catalog number.
DGA14 Drywall ceiling adapter, unit installation. Use G trim plus DGA accessory for fixture trim flange and fixture support in plaster or plasterboard ceilings.

AV 1x4 T8 Direct/Indirect Lighting

AV G 2 32 SBL, (2) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10969



Coefficients of Utilization

CP Summary	0°	90	pf / pc / pw	80% 70%	80% 50%	80% 30%	20% 70% 50%	20% 70% 30%	20% 70% 10%	50% 50%	50% 30%	50% 10%
0°	1464	1464	0	82	82	82	80	80	80	78	78	78
5°	1436	1466	1	75	72	69	70	68	65	67	65	63
15°	1378	1441	2	68	63	58	62	57	54	59	56	53
25°	1272	1342	3	62	55	50	54	49	45	52	48	44
35°	1108	1174	4	57	49	43	48	43	39	47	42	38
45°	913	940	5	53	44	38	43	38	33	42	37	33
55°	691	669	6	49	40	34	39	33	29	38	33	29
65°	469	427	7	45	36	30	36	30	26	34	29	26
75°	263	200	8	42	33	27	33	27	23	32	27	23
85°	57	45	9	39	30	25	30	25	21	29	24	21
90	0	0	10	37	28	23	28	22	19	27	22	19

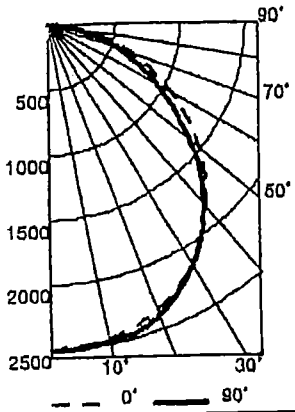
RCR

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1143	20.0	29.2
0° - 40°	1861	32.6	47.6
0° - 60°	3191	56.0	81.6
0° - 90°	3909	68.6	100.0
90° - 180°	0	0.0	0.0
0° - 180°	3909	68.6	100.0

Efficiency: 68.6%

AV G 2 54T5HO MDR, (2) 54W T5HO lamps, 4400 lumens per lamp, s/m 1.3 (along) 1.3 (across), test no. LTL 11002



Coefficients of Utilization

CP Summary	0°	90	pf / pc / pw	80% 70%	80% 50%	80% 30%	20% 70% 50%	20% 70% 30%	20% 70% 10%	50% 50%	50% 30%	50% 10%
0°	2508	2508	0	93	93	93	91	91	91	87	87	87
5°	2478	2501	1	86	82	79	80	77	75	77	75	72
15°	2412	2456	2	78	72	67	70	66	62	68	64	60
25°	2256	2284	3	71	63	57	62	56	52	60	55	51
35°	2001	1998	4	65	56	49	55	49	44	53	48	43
45°	1673	1615	5	60	50	43	49	43	38	48	42	38
55°	1283	1161	6	56	45	38	45	38	33	43	37	33
65°	866	745	7	52	41	34	40	34	29	39	33	29
75°	453	370	8	48	36	31	37	31	26	36	30	26
85°	76	77	9	45	34	28	34	28	24	33	27	24
90	0	0	10	42	32	26	31	26	21	31	25	21

RCR

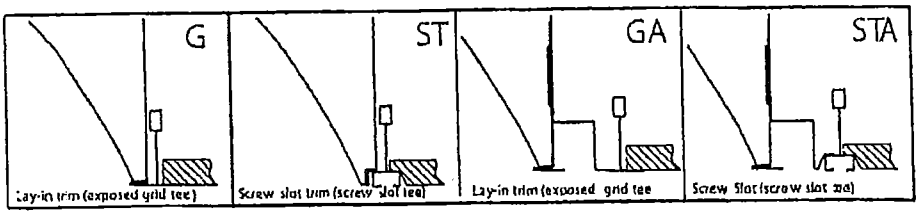
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1982	22.5	28.7
0° - 40°	3244	36.9	46.9
0° - 60°	5625	63.9	81.4
0° - 90°	6911	78.5	100.0
90° - 180°	0	0.0	0.0
0° - 180°	6911	78.5	100.0

Efficiency: 78.5%

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 12-3/4" x 48-3/4" (Tolerance is +1/8", -0").

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www.lithonia.com

Sheet #: AV 1X4 T8

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FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse reflector. Patented Vertisys® - Bounding Ray™ Optical Principle design (US Patent #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.

MECHANICAL SYSTEM

- 16-gauge galvanized steel mounting/plaster frame with friction support clips to retain optical system. Maximum 7/8" ceiling thickness.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with bottom-hinged access covers and spring latch. 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

- Rugged aluminum lampholder housing.
- Vertically-mounted, positive-latch, thermoplastic socket.
- Class P, thermally protected, high power factor electronic ballast mounted to the junction box.
- Simply5™ technology available. SIMPLY5

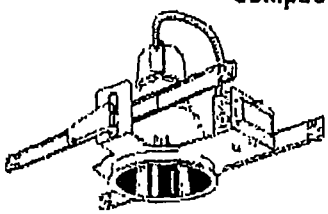
LISTING

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

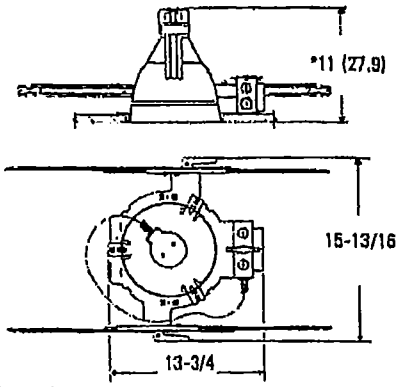
TYPE: DA
JOB NAME: TIFFIN REC CENTER
CAT#: AFV 32TRT 8AR MVOLT TRW

Compact Fluorescent Downlights

8" AFV



Open Reflector
Vertical Double Twin-Tube or Triple-Tube Lamp



Aperture: 7-7/8 (20.1)
Ceiling opening: 8-7/8 (21.5)
Overlap trim: 9-1/4 (23.5)

*Maximum height depends on lamp wattage/type, dimensions range from 11" for 18DTT, 26DTT and 42TRT; 10-1/8" for 13DTT, 18TRT, 26TRT and 32TRT.

All dimensions are inches (centimeters)

ORDERING INFORMATION

Example: **AFV 32TRT 8AR MVOLT WLP**

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

AFV

Series	Wattage/ Lamp	Aperture/ Trim color	Finish	Voltage	Ballast[2]	Options
✓ AFV	13DTT	8AR Clear ✓	(blank) Semi-specular ✓	MVOLT[2] ✓	(blank) Electronic ballast ✓	EL[6] Emergency battery pack with integral test switch
	18DTT	8PR Pewter	LD Matte-diffuse	120	ECOS[4] EcoSystem electronic dimming ballast. Minimum dimming level 5%.	ELHL[6] High lumen output emergency battery pack with integral test switch
	26DTT	8UBR Umber		277	ADEZ[4,7] Advance Mark 10® electronic ballast. Minimum dimming level 5%	ELR[6] Emergency battery pack with remote test switch
	18TRT	8WTR Wheat		347	S5[5] SIMPLY5™ system ballast	ELRHL[6] High lumen output emergency battery pack with remote test switch
	26TRT	8WR[1] White painted				ELRB94 B94 remote emergency battery pack
	✓ 32TRT	8MB[1] Black baffle				GMF[7] Single, slow-blow fuse
	42TRT	8WB[1] White baffle				GLR[7] Single, fast-blow fuse
						TRW White painted flange (standard on MB and WB). ✓
						TRBL Black painted flange
						GSKT Foam gasketing
						WLP 3500°K lamp (shipped separately)
						LRC[8] Provides compatibility with Lithonia Reloc® wiring system; access above ceiling required
						CP[9] Chicago plenum
						BDP[10] Ballast disconnect plug
						HW Hardwire for S5 system; replaces Reloc
						NSD[11] Sensorswitch nLight™ dimming relay

NOTES:
1 Not available with finishes.
2 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60Hz.
3 For additional ballast types, refer to Technical Bulletins tab.
4 Available in 18W, 26W, 32W or 42W.
5 SIMPLY5 includes 9' S5 MLC Reloc wiring system (shipped separately). Available in 26W, 32W or 42W; 120V or 277V only. See simply5.net for more information.
6 For dimensional changes, refer to Technical Bulletins tab.
7 Not available with MVOLT.
8 For compatible Reloc systems, refer to Technical Bulletins tab.
9 Not available with EL, ELHL, ELR or ELRHL options.
10 Meets codes that require in-fixture disconnect.
11 One 5A relay with one 0-10 VDC dimming output, shipped installed. Requires additional nLight bus power supply.

Accessories

Order as separate catalog numbers.

SCA8 Sloped ceiling adapter. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA8 10D

CTA8BD Ceiling thickness adapter. (Extends mounting frame to accommodate ceiling thickness up to 2")

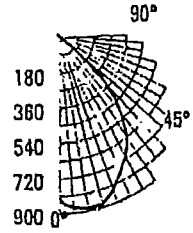
gotham®
An AcuityBrands Company

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

8" AFV Open Reflector

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

AFV 26TRT 8AR, (1) PL-T 26W/30/4P lamp, 1800 rated lumens, 1.3 s/mh, test no. 2194021601



From 0°	cp.	Lumens
0°	830	
5°	870	84
15°	876	247
25°	782	353
35°	630	390
45°	354	255
55°	5	24
65°	0	1
75°	0	1
85°	0	1
90°	0	

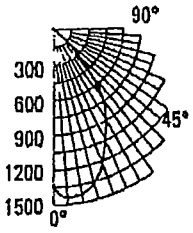
Zone	Lumens	%lamp
0°-30°	682	37.9
0°-40°	1071	59.5
0°-60°	1349	75.0
0°-90°	1349	75.0
90°-180°	0	0.0
0°-180°	1349	75.0*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	83	81	82	80	78	77
2	78	75	78	74	74	72
3	72	68	71	68	69	66
4	67	63	66	63	65	62
5	63	58	62	58	60	57
6	58	54	58	53	56	53
7	54	49	53	49	52	48
8	50	45	49	45	48	44
9	46	41	46	43	46	40
10	42	37	42	37	41	37

Mount height	Initial fc at beam center	50% beam angle 64.0° Beam diameter	fc at beam edge	10% beam angle 93.8° Beam diameter	fc at beam edge
8'	27.5	6.9'	13.7	11.8'	2.7
10'	14.8	8.4'	7.4	16.0'	1.5
12'	9.2	11.9'	4.6	20.3'	0.9
14'	6.3	14.4'	3.1	24.6'	0.8
16'	4.6	16.9'	2.3	28.9'	0.5

AFV 32TRT 8AR, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.1 s/mh, test no. 2194021402



From 0°	cp.	Lumens
0°	1344	
5°	1440	137
15°	1360	382
25°	1038	481
35°	737	460
45°	280	219
55°	4	7
65°	1	1
75°	0	1
85°	0	1
90°	0	

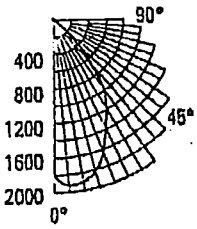
Zone	Lumens	%lamp
0°-30°	998	41.6
0°-40°	1457	60.7
0°-60°	1682	70.1
0°-90°	1683	70.1
90°-180°	0	0.0
0°-180°	1683	70.1*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	78	77	77	75	74	73
2	73	71	72	70	70	68
3	69	66	68	65	66	64
4	65	61	64	61	63	60
5	61	57	60	56	59	56
6	57	53	57	53	55	52
7	53	49	53	49	52	49
8	50	46	49	46	49	45
9	47	43	46	42	46	42
10	43	39	43	39	43	39

Mount height	Initial fc at beam center	50% beam angle 55.3° Beam diameter	fc at beam edge	10% beam angle 87.6° Beam diameter	fc at beam edge
8'	44.5	5.8'	22.2	10.5'	4.4
10'	23.9	7.9'	12.0	14.4'	2.4
12'	14.9	9.9'	7.4	18.2'	1.5
14'	10.2	12.0'	5.1	22.1'	1.0
16'	7.4	14.1'	3.7	26.9'	0.7

AFV 42TRT 8AR, (1) PL-T 42W/30/4P lamp, 3200 rated lumens, 1.0 s/mh, test no. 2195121902



From 0°	cp.	Lumens
0°	1568	
5°	1705	162
15°	1487	407
25°	1145	527
35°	821	505
45°	244	198
55°	10	8
65°	4	4
75°	2	3
85°	2	2
90°	0	

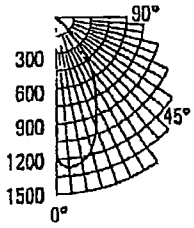
Zone	Lumens	%lamp
0°-30°	1097	34.3
0°-40°	1602	50.1
0°-60°	1808	56.5
0°-90°	1817	56.8
90°-180°	0	0.0
0°-180°	1817	56.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	63	61	61	60	59	58
2	58	55	57	55	55	53
3	54	51	53	50	51	49
4	50	46	49	46	48	46
5	46	43	46	42	45	42
6	43	40	43	39	42	39
7	40	37	40	36	39	36
8	38	34	37	34	37	34
9	35	32	35	32	34	31
10	33	30	33	30	32	29

Mount height	Initial fc at beam center	50% beam angle 53.7° Beam diameter	fc at beam edge	10% beam angle 85.6° Beam diameter	fc at beam edge
8'	51.8	5.6'	25.9	10.2'	5.2
10'	27.9	7.6'	13.9	13.9'	2.8
12'	17.4	8.6'	8.7	17.6'	1.7
14'	11.9	11.7'	5.9	21.3'	1.2
16'	8.6	13.7	4.3	25.0'	0.9

AFV 32TRT 8MB, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.0 s/mh, test no. 2196071102



From 0°	cp.	Lumens
0°	1182	
5°	1279	120
15°	1157	322
25°	812	378
35°	525	329
45°	178	141
55°	2	4
65°	0	1
75°	0	1
85°	0	1
90°	0	

Zone	Lumens	%lamp
0°-30°	819	34.1
0°-40°	1147	47.8
0°-60°	1291	53.8
0°-90°	1291	53.8
90°-180°	0	0.0
0°-180°	1291	53.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	60	59	59	58	57	56
2	57	55	56	54	54	53
3	53	51	53	50	51	49
4	50	48	50	47	49	47
5	47	44	47	44	46	44
6	45	42	44	42	44	41
7	42	39	42	39	41	38
8	39	37	39	36	39	36
9	37	34	37	34	36	34
10	35	32	35	32	34	31

Mount height	Initial fc at beam center	50% beam angle 50.8° Beam diameter	fc at beam edge	10% beam angle 84.2° Beam diameter	fc at beam edge
8'	39.1	5.2'	19.5	9.9'	3.9
10'	21.0	7.1'	10.5	13.6'	2.1
12'	13.1	9.0'	6.6	17.2'	1.3
14'	8.9	10.9'	4.5	20.8'	0.9
16'	6.5	12.8'	3.2	24.4'	0.6

ENERGY (Calculated in accordance with NEMA standard LE-5A)

LER.DOH	Annual* Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
40	$5.99	(1) 26W DTT	1800	1.00	28
48	$4.98	(1) 26W DTT	1800	1.00	28
46	$5.24	(2) 32W TRT	2400	0.98	36
40	$6.07	(2) 42W TRT	3200	1.00	46

*Comparative yearly lighting energy cost per 1000 lumens

NOTES:
1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

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

FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse reflector. Patented Vertisys® - Bounding Ray™ Optical Principle design (US Patent #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.

MECHANICAL SYSTEM

- 16-gauge galvanized steel mounting/plaster frame with friction support clips to retain optical system. Maximum 7/8" ceiling thickness.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with bottom-hinged access covers and spring latch. 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

- Rugged aluminum lampholder housing.
- Vertically-mounted, positive-latch, thermoplastic socket.
- Class P, thermally protected, high power factor electronic ballast mounted to the junction box.
- Simply5™ technology available. SIMPLY5

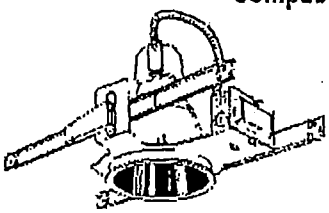
LISTING

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

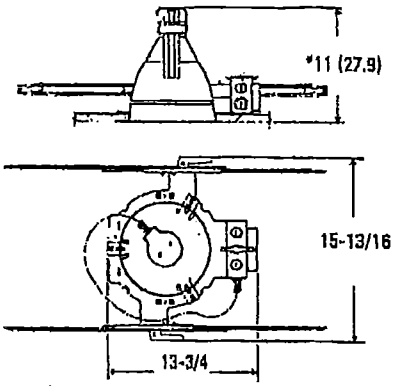
TYPE: DA EM
JOB NAME: TIFFIN REC CENTER
CAT#: AFV 32TRT 8AR MVOLT TRW

Compact Fluorescent Downlights

8" AFV



Open Reflector
Vertical Double Twin-Tube or Triple-Tube Lamp



Aperture:	7-7/8 (20.1)
Ceiling opening:	8-7/8 (21.6)
Overlap trim:	9-1/4 (23.5)

*Maximum height depends on lamp wattage/type, dimensions range from 11" for 18DTT, 26DTT and 42TRT; 10-1/8" for 13DTT, 18TRT, 26TRT and 32TRT.

All dimensions are inches (centimeters)

ORDERING INFORMATION

Example: **AFV 32TRT 8AR MVOLT WLP**

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

AFV

Series	Wattage/ Lamp	Aperture/ Trim color	Finish	Voltage	Ballast[3]	Options
AFV	**13DTT**	**8AR** Clear	(blank) Semi-specular	**MVOLT[2]**	(blank) Electronic ballast	**EL[6]** Emergency battery pack with integral test switch
	18DTT	**8PR** Pewter	**LD** Matte-diffuse	**120**	**ECOS[4]** EcoSystem electronic dimming ballast. Minimum dimming level 5%.	**ELHL[6]** High lumen output emergency battery pack with integral test switch
	26DTT	**8UBR** Umber		**277**	**ADEZ[4,7]** Advance Mark 10® electronic ballast. Minimum dimming level 5%	**ELR[6]** Emergency battery pack with remote test switch
	18TRT	**8WTR** Wheat		**347**	**S5[5]** SIMPLY5™ system ballast	**ELRHL[6]** High lumen output emergency battery pack with remote test switch
	26TRT	**8WR[1]** White painted				**ELRB94** B94 remote emergency battery pack
	32TRT	**8MB[1]** Black baffle				**GMF[7]** Single, slow-blow fuse
	42TRT	**8WB[1]** White baffle				**GLR[7]** Single, fast-blow fuse
						TRW White painted flange (standard on MB and WB)
						TRBL Black painted flange
						GSKT Foam gasketing
						WLP 3500°K lamp (shipped separately)
						LRC[8] Provides compatibility with Lithonia Reloc® wiring system; access above ceiling required
						CP[9] Chicago plenum
						BDP[10] Ballast disconnect plug
						HW Hardwire for S5 system; replaces Reloc
						NSD[11] Sensorswitch nLight™ dimming relay

NOTES:
1 Not available with finishes.
2 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60Hz.
3 For additional ballast types, refer to Technical Bulletins tab.
4 Available in 18W, 26W, 32W or 42W.
5 SIMPLY5 includes 9' S5 MLC Reloc wiring system (shipped separately). Available in 26W, 32W or 42W; 120V or 277V only. See simply5.net for more information.
6 For dimensional changes, refer to Technical Bulletins tab.
7 Not available with MVOLT.
8 For compatible Reloc systems, refer to Technical Bulletins tab.
9 Not available with EL, ELHL, ELR or ELRHL options.
10 Meets codes that require in-fixture disconnect.
11 One 5A relay with one 0-10 VDC dimming output, shipped installed. Requires additional nLight bus power supply.

Accessories

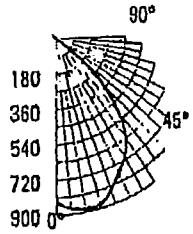
Order as separate catalog numbers.

SCA8	Sloped ceiling adapter. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA8 10D
CTA8SD	Ceiling thickness adapter. (Extends mounting frame to accommodate ceiling thickness up to 2")

8" AFV Open Reflector

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

AFV 26TRT 8AR, (1) PL-T 26W/30/4P lamp, 1800 rated lumens, 1.3 s/mh, test no. 2194021601



From 0°	cp.	Lumens
0°	830	
5°	870	84
15°	876	247
25°	762	353
35°	630	390
45°	354	255
55°	5	24
65°	0	1
75°	0	1
85°	0	1
90°	0	

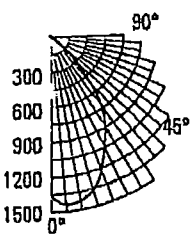
Zone	Lumens	%lamp
0°-30°	682	37.9
0°-40°	1071	59.5
0°-60°	1349	75.0
0°-90°	1349	75.0
90°-180°	0	0.0
0°-180°	1349	75.0*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	83	81	82	80	78	77
2	78	75	76	74	74	72
3	72	68	71	68	69	66
4	67	63	66	63	66	62
5	63	58	62	58	60	57
6	58	54	58	53	56	53
7	54	49	53	49	52	48
8	50	45	49	45	48	44
9	46	41	45	43	45	40
10	42	37	42	37	41	37

Mount height	Initial fc at beam center	50% beam angle 64.0° Beam diameter	fc at beam edge	10% beam angle 93.8° Beam diameter	fc at beam edge
8'	27.5	8.9'	13.7	11.8'	2.7
10'	14.8	9.4'	7.4	16.0'	1.5
12'	9.2	11.9'	4.6	20.3'	0.9
14'	6.3	14.4'	3.1	24.6'	0.6
16'	4.6	16.9'	2.3	28.9'	0.5

AFV 32TRT 8AR, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.1 s/mh, test no. 2194021402



From 0°	cp.	Lumens
0°	1344	
5°	1440	137
15°	1360	382
25°	1036	481
35°	737	460
45°	280	219
55°	4	7
65°	1	1
75°	0	1
85°	0	1
90°	0	

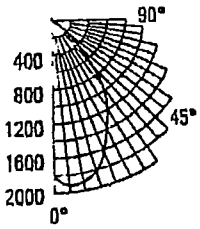
Zone	Lumens	%lamp
0°-30°	998	41.6
0°-40°	1457	60.7
0°-60°	1682	70.1
0°-90°	1683	70.1
90°-180°	0	0.0
0°-180°	1683	70.1*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	78	77	77	75	74	73
2	73	71	72	70	70	68
3	69	66	68	65	66	64
4	65	61	64	61	63	60
5	61	57	60	56	59	56
6	57	53	57	53	55	52
7	53	49	53	49	52	49
8	50	46	49	46	49	45
9	47	43	46	42	46	42
10	43	39	43	39	43	39

Mount height	Initial fc at beam center	50% beam angle 55.3° Beam diameter	fc at beam edge	10% beam angle 87.6° Beam diameter	fc at beam edge
8'	44.5	5.8'	22.2	10.5'	4.4
10'	23.9	7.9'	12.0	14.4'	2.4
12'	14.9	9.9'	7.4	18.2'	1.5
14'	10.2	12.0'	5.1	22.1'	1.0
16'	7.4	14.1'	3.7	25.9'	0.7

AFV 42TRT 8AR, (1) PL-T 42W/30/4P lamp, 3200 rated lumens, 1.0 s/mh, test no. 2195121902



From 0°	cp.	Lumens
0°	1568	
5°	1705	162
15°	1467	407
25°	1145	527
35°	821	505
45°	244	198
55°	10	8
65°	4	4
75°	2	3
85°	2	2
90°	0	

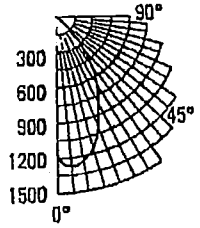
Zone	Lumens	%lamp
0°-30°	1097	34.3
0°-40°	1602	50.1
0°-60°	1808	56.5
0°-90°	1817	56.8
90°-180°	0	0.0
0°-180°	1817	56.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	63	61	61	60	59	58
2	58	55	57	55	55	53
3	54	51	53	50	51	49
4	50	46	49	46	48	45
5	46	43	46	42	45	42
6	43	40	43	39	42	39
7	40	37	40	36	39	36
8	38	34	37	34	37	34
9	35	32	35	32	34	31
10	33	30	33	30	32	29

Mount height	Initial fc at beam center	50% beam angle 53.7° Beam diameter	fc at beam edge	10% beam angle 85.6° Beam diameter	fc at beam edge
8'	51.8	5.6'	25.9	10.2'	5.2
10'	27.9	7.6'	13.9	13.9'	2.8
12'	17.4	9.6'	8.7	17.6'	1.7
14'	11.9	11.7'	5.9	21.3'	1.2
16'	8.6	13.7	4.3	25.0'	0.9

AFV 32TRT 8MB, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.0 s/mh, test no. 2196071102



From 0°	cp.	Lumens
0°	1182	
5°	1279	120
15°	1157	322
25°	812	378
35°	526	329
45°	176	141
55°	2	4
65°	0	1
75°	0	1
85°	0	1
90°	0	

Zone	Lumens	%lamp
0°-30°	819	34.1
0°-40°	1147	47.8
0°-60°	1291	53.8
0°-90°	1291	53.8
90°-180°	0	0.0
0°-180°	1291	53.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	60	59	59	58	57	56
2	57	55	56	54	54	53
3	53	51	53	50	51	49
4	50	48	50	47	49	47
5	47	44	47	44	46	44
6	45	42	44	42	44	41
7	42	39	42	39	41	38
8	39	37	39	36	39	36
9	37	34	37	34	36	34
10	35	32	35	32	34	31

Mount height	Initial fc at beam center	50% beam angle 50.8° Beam diameter	fc at beam edge	10% beam angle 84.2° Beam diameter	fc at beam edge
8'	39.1	5.2'	19.5	9.9'	3.9
10'	21.0	7.1'	10.5	13.6'	2.1
12'	13.1	9.0'	6.6	17.2'	1.3
14'	8.9	10.9'	4.5	20.8'	0.9
16'	6.5	12.8'	3.2	24.4'	0.6

ENERGY (Calculated in accordance with NEMA standard LE-5A)

LER.DOH	Annual* Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
40	$5.39	(1) 26W DTT	1800	1.00	28
48	$4.98	(1) 26W DTT	1800	1.00	28
46	$5.24	(2) 32W TRT	2400	0.98	36
40	$8.07	(2) 42W TRT	3200	1.00	46

*Comparative yearly lighting energy cost per 1000 lumens

NOTES:
1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

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GOTHAM ARCHITECTURAL DOWNLIGHTING
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FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse reflector.
- Patented Vertisys® - Bounding Ray™ Optical Principle design (US Patent #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.

MECHANICAL SYSTEM

- 16-gauge galvanized steel mounting/plaster frame with friction support clips to retain optical system. Maximum 7/8" ceiling thickness.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with hinged access covers and spring latch. 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.

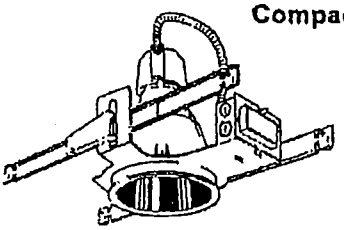
ELECTRICAL SYSTEM

- Rugged aluminum lampholder housing.
- Vertically-mounted, positive-latch, thermoplastic socket.
- Class P, thermally protected, high power factor electronic ballast mounted to the junction box.
- Simply5™ technology available. SIMPLY5™

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: DH
JOB NAME: TIFFIN REC CENTER
CAT#: AFV 32TRT 6AR MVOLT TRW

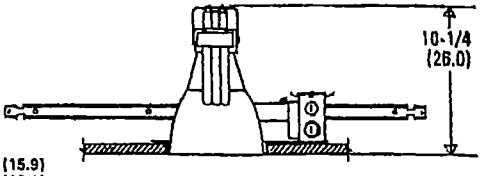


Compact Fluorescent Downlights

6" AFV

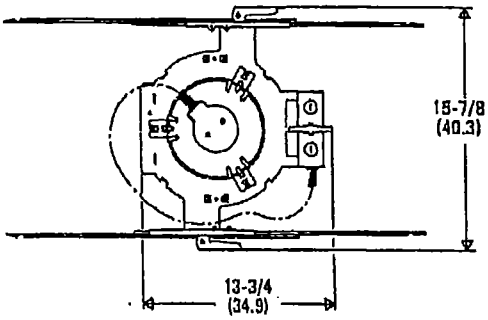
Open Reflector

Vertical Double Twin-Tube or Triple-Tube Lamp



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).



*Maximum height depends on lamp wattage/type, dimensions range from 10-3/4" for 18DTT, 26DTT and 42TRT; 9-3/8" for 13DTT, 18TRT, 26TRT and 32TRT

ORDERING INFORMATION

Example: **AFV 32TRT 6AR MVOLT WLP**

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

AFV

Series	Wattage /Lamp	Aperture /Trim color	Finish	Voltage	Ballast[3]	Options
AFV	13DTT	6AR Clear	(blank) Semi-specular	MVOLT[2]	(blank) Electronic ballast	EL[7] Emergency battery pack with integral test switch
	18DTT	6PR Pewter	LD Matte-diffuse	120	ECOS[4] EcoSystem electronic dimming ballast. Minimum dim-ming level 5%.	ELR[7] Emergency battery pack. Remote test switch
	26DTT	6UBR Umber		277	ADEZ[4,9] Advance Mark10® electronic dimming ballast. Minimum dim-ming level 5%	GMF[8] Single, slow-blow fuse
	18TRT	6WTR Wheat		347	S5[5] SIMPLY5™ system ballast	GLR[8] Single, fast-blow fuse
	26TRT	6WR[1] White painted				TRW White painted flange (standard on MB and WB)
	32TRT	6MB[1] Black baffle				TRBL Black painted flange
	42TRT	6WB[1] White baffle				GSKT Foam gasketing
						WLP With 3500° Klamp (shipped separately)
						LRC[9] Provides compatibility with Lithonia Reloc System. Reloc System can be installed less this option with connectors provided by others. Access above ceiling required
						CP[11] Chicago Plenum
						CSA CSA Certified
						BDP[11] Ballast disconnect plug
						HW Hardwire for S5 system; replaces Reloc
						ELHL[7] High lumen output emergency battery pack. Integral test switch provided
						ELRHL[7] High lumen output emergency battery pack. Remote test switch provided
						NSD[11] Sensorswitch nLight™ dimming relay

NOTES
1 Not available with finishes.
2 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 Hz.
3 For additional ballast types, refer to Technical Bulletins tab.
4 Not available with 13DTT.
5 Available in 120V or 277V only.
6 Simply5™ includes 9' S5 MLC Reloc wiring system (shipped separately). Available in 120V or 277V only. Not available in 13W or 18W. See simply5.net for more information.
7 For dimensional changes, refer to Technical Bulletins tab.
8 Not available with MVOLT.
9 For compatible Reloc systems, refer to Technical Bulletins tab.
10 Not available with EL or ELR options.
11 Meets codes that require in-fixture disconnect.
12 One 5A relay with one 0-10 VDC dimming output, shipped installed. Requires additional nLight bus power supply.

Accessories

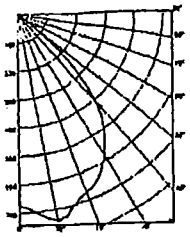
Order as separate catalog numbers.

SCA6	Sloped ceiling adapter. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D
CTA4-8 YK	Ceiling thickness adapter. (Extends mounting frame to accommodate ceiling thickness up to 4-1/4" DTT and 3-1/4" TRT)

6" AFV Open Reflector

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

AFV 26TRT 6AR, (1) PL-T 26W/30/4P lamp, 1800 rated lumens, 1.2 s/mh, Test No. 94021501



From 0°	Ave	Lumens
0°	676	
5°	708	69
15°	704	199
25°	639	292
35°	505	312
45°	269	198
55°	4	16
65°	0	0
75°	0	0
85°	0	0
90°	0	

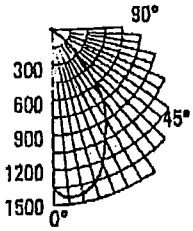
Zone	Lumens	%lamp
0°-30°	559.4	31.1
0°-40°	871.9	48.4
0°-60°	1085.5	60.3
0°-90°	1085.7	60.3
90°-180°	0	0.0
0°-180°	1085.7	60.3*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	66	65	65	63	62	61
2	61	58	60	57	58	56
3	56	53	55	52	53	51
4	51	48	51	47	49	46
5	47	43	47	43	46	42
6	44	40	43	39	42	39
7	41	36	40	36	39	36
8	38	34	37	33	37	33
9	35	31	35	31	34	31
10	33	29	32	29	32	28

Mount height	Initial fc at beam center	50% beam angle 63.7° Beam diameter	50% beam angle 63.7° fc at beam edge	10% beam angle 93.3° Beam diameter	10% beam angle 93.3° fc at beam edge
8'	22.3	8.8'	11.2	11.7'	2.2
10'	12.0	9.3'	6.0	15.9'	1.2
12'	7.5	11.8'	3.7	20.1'	0.7
14'	5.1	14.3'	2.6	24.4'	0.5
16'	3.7	16.8'	1.9	28.6'	0.4

AFV 32TRT 6AR, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.1 s/mh, Test No. 17111



From 0°	Ave	Lumens
0°	1146	
5°	1150	108
15°	1012	285
25°	861	394
35°	631	390
45°	308	226
55°	20	27
65°	6	6
75°	2	2
85°	0	0
90°	0	

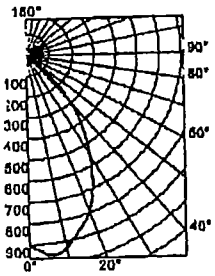
Zone	Lumens	%lamp
0°-30°	787.2	64.7
0°-40°	1177.5	49.1
0°-60°	1430.1	59.6
0°-90°	1438.3	59.9
90°-180°	0	0.0
0°-180°	1438.3	59.9*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	66	64	65	63	62	61
2	61	58	60	57	58	56
3	56	53	55	52	53	51
4	52	48	51	47	49	47
5	48	44	47	43	46	43
6	44	40	44	40	43	39
7	41	37	41	37	40	36
8	38	34	38	34	37	34
9	36	32	35	32	35	31
10	33	29	33	29	33	29

Mount height	Initial fc at beam center	50% beam angle 54.8° Beam diameter	50% beam angle 54.8° fc at beam edge	10% beam angle 89.4° Beam diameter	10% beam angle 89.4° fc at beam edge
8'	37.9	5.7'	18.9	10.9'	3.8
10'	20.4	7.7'	10.2	14.8'	2.0
12'	12.7	9.8'	6.4	18.8'	1.3
14'	8.7	11.9'	4.3	22.8'	0.9
16'	6.3	13.9'	3.1	26.7'	0.6

AFV 32TRT 6MB, (1) PL-T 32W/30/4P lamp, 2400 rated lumens, 1.0 s/mh, Test no. 2196071001



	Ave	Lumens
0°	903	
5°	951	90
15°	891	242
25°	682	310
35°	428	253
45°	134	101
55°	0	0
65°	0	0
75°	0	0
85°	0	0
90	0	

Zone	Lumens	% Lamp
0°-30°	643	26.8
0°-40°	906	37.7
0°-60°	1007	42.0
0°-90°	1007	42.0
90°-180°	0	0.0
0°-180°	1007	42.0

ρf / ρc / ρw	80% 50%	80% 30%	80% 10%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	50	50	50	49	49	49	47	47	47
1	46	45	44	45	45	44	44	43	42
2	43	41	40	42	41	39	41	40	38
3	40	38	36	39	37	35	38	37	35
4	37	35	33	37	34	33	36	34	32
5	35	32	30	34	32	30	33	31	30
6	32	30	28	32	30	28	31	29	28
7	30	28	26	30	27	26	29	27	26
8	28	26	24	28	26	24	28	25	24
9	27	24	22	26	24	22	26	24	22
10	25	22	21	25	22	21	24	22	21

Mount height	Initial fc at beam center	50% beam angle 53.8° Beam diameter	50% beam angle 53.8° fc at beam edge	10% beam angle 84.2° Beam diameter	10% beam angle 84.2° fc at beam edge
8.0	29.4	5.6	14.9	9.9	3.0
10.0	16.1	7.8	8.0	13.6	1.6
12.0	10.0	9.6	5.0	17.2	1.0
14.0	6.8	11.6	3.4	20.8	0.7
16.0	5.0	13.6	2.5	24.4	0.6

ENERGY (Calculated in accordance with NEMA standard LE-5A)					
LER.DOH	Annual* Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
32	$7.44	(1) 26W DTT	1800	1.0	20
39	$8.12	(1) 26W TRT	1800	1.0	28
38	$6.34	(1) 32W TRT	2400	0.98	36

*Comparative yearly lighting energy cost per 1000 lumens

NOTES:
1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

DCF-370

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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

- Aluminum upper reflector coated with highly reflective white paint provides high efficiency and an evenly illuminated aperture appearance.
- Available with tempered prismatic lens (T73), flat Fresnel lens (FFL) or flat opal lens (FOL).
- Regressed white door (RW) or stepped black baffle (SB) available with white painted flange provided.
- Door is retained by self-aligning, torsion support springs, preventing gaps between door and ceiling.

MECHANICAL SYSTEM

- 16-gauge galvanized steel mounting/plaster frame with integral brackets to retain optical system. Maximum 1-1/2" ceiling thickness.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with hinged access covers and spring latch. 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

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

LISTING

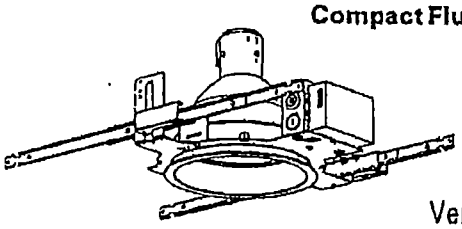
- Fixtures are UL Listed for thru-branch wiring, Non-IC recessed mounting and wet locations. Listed and labeled to comply with Canadian Standards.

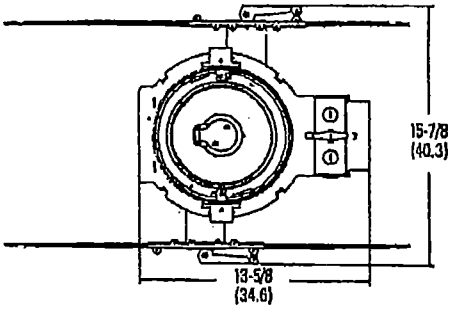
TYPE: DM
JOB NAME: TIFFIN REC CENTER
CAT#: LGFV 32TRT 8RW FFL MVOLT

Compact Fluorescent Downlights

8" LGFV

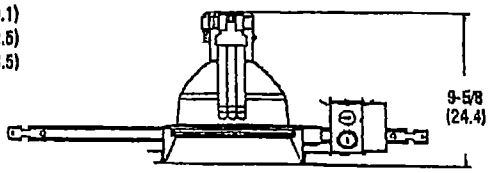
Round Lens
Wet Location
Vertical Triple-Tube Lamp





Aperture:	7-7/8 (20.1)
Ceiling Opening:	8-7/8 (22.5)
Overlap Trim:	9-1/4 (23.5)

All dimensions are inches (centimeters).



ORDERING INFORMATION

Example: LGFV 32TRT 8RW T73 MVOLT

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

LGFV

Series	Wattage/ Lamp	Door Frame	Shielding	Voltage	Ballast[3]	Options
LGFV	18TRT[1] 26TRT[1] 32TRT 42TRT	8RW Regressed white door 8SB Stepped black baffle	T73 Tempered prismatic lens FFL Flat Fresnel lens FOL Flat opal lens	MVOLT[2] 120 277 347	(blank) Electronic ballast (standard) ECOS EcoSystem electronic dimming ballast. Minimum dimming level 5%. ADEZ[4] Advance Mark X™ electronic dimming ballast; minimum dimming level 5%. S5[5] Simply5 system ballast	CP Chicago Plenum TRDA Tamper-Resistant Door Assembly. LRC[6] Provides compatibility with Lithonia Reloc® System. Lithonia Reloc System can be installed less this option with connectors provided by others. Access above ceiling required GMF Single slow-blow fuse (not available with MVOLT) GLR Single fast-blow fuse (not available with MVOLT) WLP 3500°KLamp (shipped separately) RIF Radio Interference Filter ELR[7] Emergency battery pack. Remote test switch provided GSKT Foam gasketing, ships uninstalled NSO[8] Sensorswitch nLight™ dimming relay

NOTES
1 Will also operate DTT 4-PIN lamps of same wattage.
2 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 Hz.
3 For additional ballast types refer to Technical Bulletins tab.
4 120 or 277V only.
5 SIMPLY5™ includes 9' S5 MLC Reloc wiring system (shipped separately). Available in 120 or 277V. Not available in 18W. See Simply5.net for more information.
6 For compatible Reloc Systems, refer to Technical Bulletins tab.
7 For dimensional changes refer to Technical Bulletins tab.
8 One 5A relay with one 0-10 VDC dimming output, shipped installed. Requires additional nLight bus power supply.

Accessories

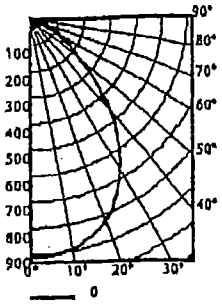
Order as separate catalog number.

SCA8 Sloped ceiling adapter Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA8 10D.

8" LGFV Round Lens

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

LGFV 42TRT 8RW T73, 42TRT lamp, 1.1 s/mh, 3200 rated lumens, Test no. LTL14206



From 0°	Ave	Lumens
0	913	
5	909	86
15	864	243
25	752	344
35	569	354
45	350	270
55	170	155
65	79	80
75	29	33
85	7	8
90	0	

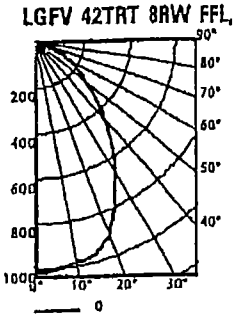
Zone	Lumens	% Lamp
0° - 30°	673.3	21.0
0° - 40°	1027.0	32.1
0° - 60°	1431.9	45.4
0° - 90°	1572.5	49.1
90° - 180°	0.0	0.0
0° - 180°	1572.5	*49.1

*Efficiency

pf	80%		20%			
pc			70%		50%	
pw	50%	30%	50%	30%	50%	30%
1	.53	.51	.52	.50	.50	.49
2	.48	.45	.47	.44	.45	.43
3	.43	.40	.42	.39	.41	.38
4	.39	.35	.38	.35	.37	.34
5	.36	.32	.35	.32	.34	.31
6	.33	.29	.32	.29	.31	.28
7	.30	.26	.30	.26	.29	.26
8	.28	.24	.27	.24	.27	.24
9	.26	.22	.25	.22	.25	.22
10	.24	.20	.24	.20	.23	.20

		50% beam angle 58.1°		10% beam angle 95.0°	
Mount height	Initial fc at beam center	Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8	30.2	6.1	15.1	12.0	3.0
10	16.2	8.3	8.1	16.4	1.6
12	10.1	10.6	5.1	20.7	1.0
14	6.9	12.8	3.5	25.1	0.7
16	5.0	15.0	2.5	29.4	0.5

LGFV 42TRT 8RW FFL, 42TRT lamp, 1.0 s/mh, 3200 rated lumens, Test no. LTL14207



From 0°	Ave	Lumens
0	1013	
5	1004	95
15	966	269
25	781	358
35	554	146
45	354	275
55	208	187
65	103	103
75	36	40
85	9	10
90	0	

Zone	Lumens	% Lamp
0° - 30°	721.8	22.6
0° - 40°	1067.7	33.4
0° - 60°	1529.5	47.8
0° - 90°	1682.7	52.6
90° - 180°	0.0	0.0
0° - 180°	1682.7	*52.6

*Efficiency

pf	80%		20%			
pc			70%		50%	
pw	50%	30%	50%	30%	50%	30%
1	.56	.55	.55	.54	.53	.52
2	.51	.48	.50	.47	.48	.46
3	.46	.42	.45	.42	.43	.41
4	.41	.38	.41	.37	.40	.36
5	.38	.34	.37	.33	.36	.33
6	.35	.30	.34	.30	.33	.30
7	.32	.28	.31	.28	.31	.27
8	.29	.25	.29	.25	.28	.25
9	.27	.23	.27	.23	.26	.23
10	.25	.22	.25	.22	.25	.21

		50% beam angle 54.8°		10% beam angle 94.1°	
Mount height	Initial fc at beam center	Beam diameter	fc at beam edge	Beam diameter	fc at beam edge
8	33.5	5.7	16.7	11.8	3.3
10	18.0	7.8	9.0	16.1	1.8
12	11.2	9.9	5.6	20.4	1.1
14	7.7	11.9	3.8	24.7	0.8
16	5.6	14.0	2.8	29.0	0.6

NOTES:
1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

gotham
An McGillyBeard's Company

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

LITHONIA LIGHTING®

TYPE: FA
JOB NAME: TIFFIN REC CENTER
CAT#: AF10 3 32 ME MVOLT 1/3 GEB10IS ACEP

FEATURES & SPECIFICATIONS

INTENDED USE

For applications that require medium to high light levels such as manufacturing, warehousing, storage, retail or task lighting. Ideal for mounting heights up to 25'.

ATTRIBUTES

Heavy-duty design for demanding industrial environments. Pressure-lock lampholders enclosed in snap-in turret housing. Available in 4' or 8' lengths. 6" lamp spacing of 2-lamp models, 3" lamp spacing on 3-lamp models. Solid top, 10% or 20% uplight reflectors available, painted after fabrication.

CONSTRUCTION

Die-embossed reflector constructed of heavy gauge cold-rolled steel. White enamel reflector finish standard, porcelain finish optional.

FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Finish is high-gloss baked white enamel.

ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, UL listed, CSA Certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

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

INSTALLATION

For surface or suspended mounting, unit or row installation.

LISTING

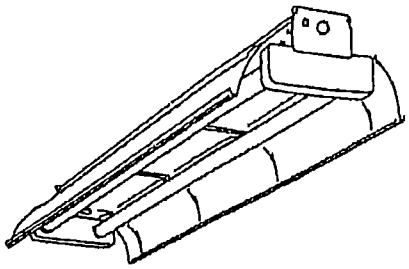
120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options).

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Heavy-Duty Turret Industrial

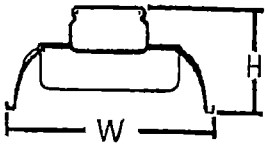
AF



Rapid Start
4' or 8' lengths
1, 2, 3 or 4 lamps

Specifications

Length: 49-13/16 (1265) or 99-5/8 (2530)
Width: 13-3/8 (340)
Height: 6-5/8 (168)



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

ORDERING INFORMATION

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

Example: AF 3 32 277 1/3 GEB10IS

Series

AFST Solid reflector
AF10 10% uplight apertured reflector
AF 20% uplight apertured reflector

For tandem double-length unit, add prefix T.
Example: TAF10

Lamps

1
2
3
4

Not included.

Lamp type

32 32W T8 (48")

Voltage

120
277
347
MVOLT[2]

Options

Shipped installed in fixture

1/3 One 3-lamp ballast (32 watt electronic ballast only)
1/4 One 4-lamp ballast (32 watt electronic ballast only)
GEB T8 electronic ballast, ≤20% THD
GEB10IS T8 electronic ballast, ≤10% THD, instant start[4]
GEB10RS T8 electronic ballasts, 10% THD, rapid start
EL Emergency battery pack (nominal 300 lumens), see Life Safety Section
GLR Internal fast-blow fusing (add X for external)
GMF Internal slow-blow fusing (add X for external)
PLF_ Plug-in wiring, Specify 1, 2 or 3 branch circuits & hot wires (A = black, B = red, C = blue, AB or AC)
TILW Tandem in-line wiring
PO White porcelain reflector finish
CSA CSA Certified (347V only)
NOM NOM Certified
BDP Ballast disconnect[3]

Accessories

Order as separate catalog number.

ACEP Full-depth endplates (1 pair)
HRUN Hooker® T-bar hanger for 5" channel (flush to ceiling)
HRUN1 Hooker® T-bar hanger for 5" channel (1-1/2" from ceiling)
SQ_ Swivel stem hanger (specify length in 2" increments)
18 Ceiling spacer (1-1/2" to 2-1/2" from ceiling)
HC36 Chain hangers (1 pair, 36" long)
THUN Tong hanger for 5" channel
WGAFPV Wireguard, 4' white (order 2 for 8' fixtures)[4]
~~DLAF ME 4' 30° x 90° metal eggcrate louver[4]~~
DLAF A12 4' framed acrylic prismatic lens[4]

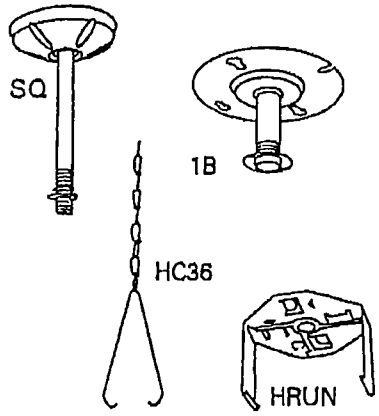
NOTES:

1 Available only with 32 lamp type.
2 Electronic ballast 120 through 277 volt only. Available with 32 watt T8 only. MVOLT must specify GEB10IS.
3 Meets codes that require in fixture disconnect.
4 Order 2 for 8' fixtures.

AF Rapid Start

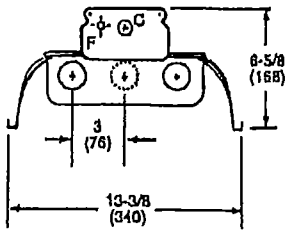
MOUNTING DATA

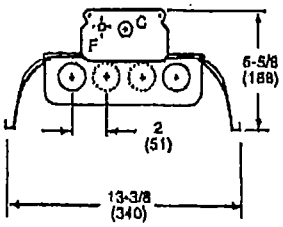
For unit or row installation. Surface or stem mounting.[1]
UNIT INSTALLATION — Minimum of two hangers required.
ROW INSTALLATION — One hanger per fixture plus one per row required.

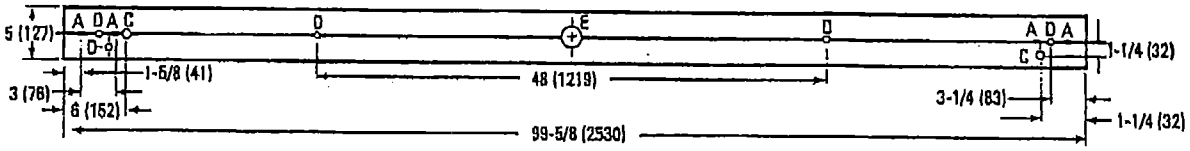


DIMENSIONS

A = 1/4 x 1/2 (64 x 13) Oval Hole
C = 7/8 (22) Dia.K.O.
D = 11/16 (17) Dia. K.O.
E = 2 (51) Dia. K.O.
F = 7/16 (111) Dia. K.O.
All dimensions are inches (millimeters).
Specifications subject to change without notice.



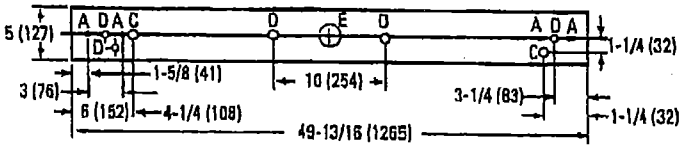




Energy (Calculated in accordance with NEMA standard LE-5)

LER.FW	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
74	$3.24	(2) F32T8	2800	.88	60

*Calculated in accordance with NEMA Standards LE-5.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

AF2 32
Report ITL 5711
S/MH 1.4

Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	94	90	86	90	86	83	79	76	74
2	86	79	73	82	75	70	69	65	61
3	78	69	62	74	66	60	61	56	52
4	72	61	54	68	59	52	54	48	44
5	65	54	46	62	52	44	48	41	37
10	43	31	24	41	30	23	28	22	18

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	998	17.2	19.0
0-40	1677	28.9	31.9
0-60	3126	53.9	59.8
0-90	4074	70.2	77.6
90-180	1175	20.3	22.4
0-180	5249	90.5	100.0

LITHONIA LIGHTING®
An AcuityBrands Company

Lithonia Lighting
Industrial
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000 Fax: 770-981-8141
www.lithonia.com

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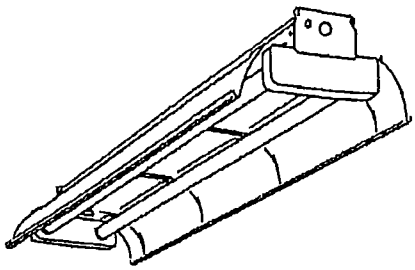
LITHONIA LIGHTING

TYPE: FB
JOB NAME: TIFFIN REC CENTER
CAT#: AF10 3 32 ME MVOLT GEB10IS ACEP

FEATURES & SPECIFICATIONS

Heavy-Duty Turret Industrial

AF



Rapid Start
4' or 8' lengths
1, 2, 3 or 4 lamps

INTENDED USE

For applications that require medium to high light levels such as manufacturing, warehousing, storage, retail or task lighting. Ideal for mounting heights up to 25'.

ATTRIBUTES

Heavy-duty design for demanding industrial environments. Pressure-lock lampholders enclosed in snap-in turret housing. Available in 4' or 8' lengths. 6" lamp spacing of 2-lamp models, 3" lamp spacing on 3-lamp models. Solid top, 10% or 20% uplight reflectors available, painted after fabrication.

CONSTRUCTION

Die-embossed reflector constructed of heavy gauge cold-rolled steel. White enamel reflector finish standard, porcelain finish optional.

FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Finish is high-gloss baked white enamel.

ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, UL listed, CSA Certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

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

INSTALLATION

For surface or suspended mounting, unit or row installation.

LISTING

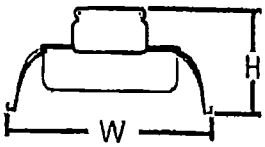
120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options).

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications

Length: 49-13/16 (1265) or 99-5/8 (2530)
Width: 13-3/8 (340)
Height: 6-5/8 (168)



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

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: AF 3 32 277 1/3 GEB10IS

Series

AFST Solid reflector
AF10 10% uplight apertured reflector
AF 20% uplight apertured reflector

For tandem double-length unit, add prefix T.
Example: TAF10

Lamps

1
2
3
4

Not included.

Lamp type

32 32W T8 (48")

Voltage

120
277
347
MVOLT[1]

Options

Shipped installed in fixture

1/3	One 3-lamp ballast (32 watt electronic ballast only)
1/4	One 4-lamp ballast (32 watt electronic ballast only)
GEB	T8 electronic ballast, ≤20% THD
GEB10IS	**T8 electronic ballast, ≤10% THD, instant start[1]**
GEB10RS	T8 electronic ballasts, 10% THD, rapid start
EL	Emergency battery pack (nominal 300 lumens), see Life Safety Section
GLR	Internal fast-blow fusing (add X for external)
GMF	Internal slow-blow fusing (add X for external)
PLF_	Plug-in wiring, Specify 1, 2 or 3 branch circuits & hot wires (A = black, B = red, C = blue, AB or AC)
TILW	Tandem in-line wiring
PO	White porcelain reflector finish
CSA	CSA Certified (347V only)
NOM	NOM Certified
BDP	Ballast disconnect[3]

Accessories

Order as separate catalog number.

ACEP	Full-depth endplates (1 pair)
HRUN	Hooker® T-bar hanger for 5" channel (flush to ceiling)
HRUN1	Hooker® T-bar hanger for 5" channel (1-1/2" from ceiling)
SQ_	Swivel stem hanger (specify length in 2" increments)
18	Ceiling spacer (1-1/2" to 2-1/2" from ceiling)
HC36	Chain hangers (1 pair, 36" long)
THUN	Tong hanger for 5" channel
WGAFPV	Wireguard, 4' white (order 2 for 8' fixtures)[4]
~~OLAF ME~~	~~4' 30" X 30" metal egg-crate louver[4]~~
OLAF A12	4' framed acrylic prismatic lens[4]

NOTES:
1 Available only with 32 lamp type.
2 Electronic ballast 120 through 277 volt only. Available with 32 watt T8 only. MVOLT must specify GEB10IS.
3 Meets codes that require in fixture disconnect.
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AF Rapid Start

MOUNTING DATA

For unit or row installation. Surface or stem mounting.[1]
UNIT INSTALLATION — Minimum of two hangers required.
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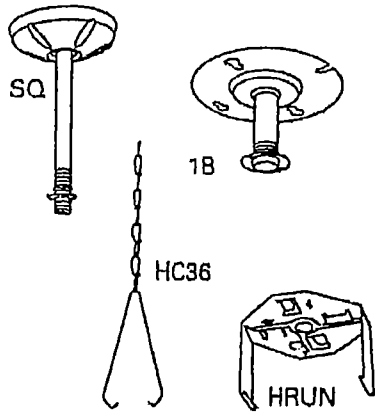

DIMENSIONS

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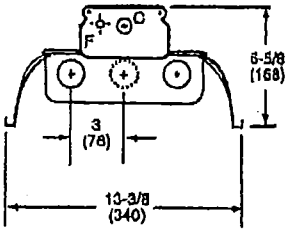
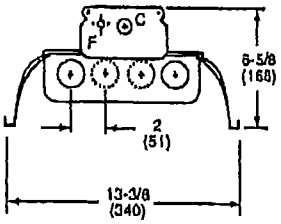
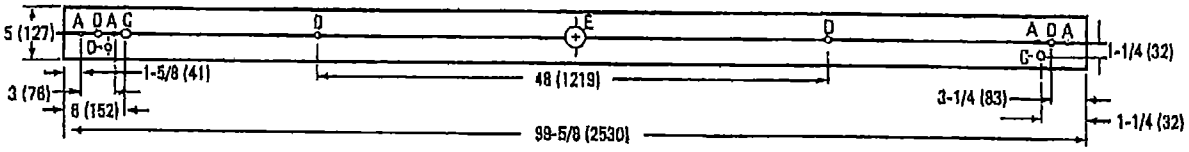


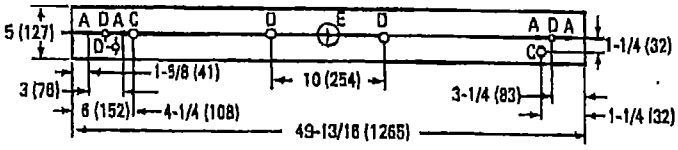




Energy (Calculated in accordance with NEMA standard LE-5)

LER.FW	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
74	$3.24	(2) F32T8	2800	.88	80

*Calculated in accordance with NEMA Standards LE-5.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

AF 2 32
Report ITL 5711
S/MH 1.4
Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	94	90	86	90	86	83	79	76	74
2	86	79	73	82	75	70	69	65	61
3	78	69	62	74	66	60	61	56	52
4	72	61	54	68	59	52	54	48	44
5	65	54	46	62	52	44	48	41	37
10	43	31	24	41	30	23	28	22	18

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	998	17.2	19.0
0-40	1677	28.9	31.9
0-60	3126	53.9	59.6
0-90	4074	70.2	77.6
90-180	1175	20.3	22.4
0-180	5249	90.5	100.0

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Industrial
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www.lithonia.com

Sheet #: AF-RS

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LITHONIA LIGHTING®

TYPE: FF
JOB NAME: TIFFIN REC CENTER
CAT#: FGB24 6 54T5HO N1X20 ACL MVOLT 1/41/2 GEB10PS LP841 WG IBAC120

FEATURES & SPECIFICATIONS

INTENDED USE — The SPEC-BEAM™ is an ideal one-for-one replacement of common metal halide high bay systems. The optional Cool Running Technology provides trouble-free operation in ambient spaces up to 65°C. Applications include warehousing, manufacturing, commercial facilities and retail. The SPEC-BEAM performs best at mounting heights from 15' to 40'. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table, for suitable uses.

ATTRIBUTES — Designed for optimum performance using highly efficient T5HO lamps. Best in applications requiring a rugged full body assembly with excellent fixture performance. Multiple optical systems allow the right distribution for the right application. Three mounting choices are available. Available in MVOLT, 347 or 480 volt.

CONSTRUCTION — Full fixture body provides strength and rigidity during shipment and installation. Channel, end caps and socket brackets are manufactured from code grade steel, fixture assembly is riveted and screwed together for added strength. Access to ballast and wiring compartment is accessed from below and is completely tool-less.

FINISH — High-gloss white baked enamel, pretreated with five-stage iron phosphate system. Optional polyester powder coat available.

OPTICAL SYSTEM — All distributions included, precision formed, high performance, 95% reflective, segmented optics utilizing Alanod MIRO® 4 specular aluminum warranted for 25 years. Reflector optics are available in a wide variety of distributions and spacing criteria.

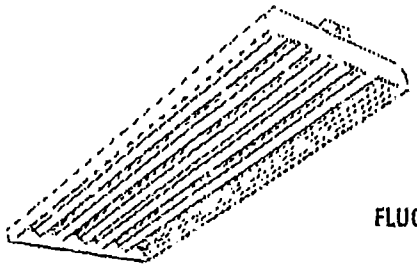
Reflectors are available with uplight (recommended) or solid top that includes heat dissipation slots for heat management venting (2-3% uplight typical).

ELECTRICAL SYSTEM — Thermally protected, resetting Class P, HPF, A+ sound rated electronic ballast. AWM, TFM or THHN wire used throughout rated for required temperatures.

Lamps are secured with rotary locking lamp sockets for ease of relamping and to reduce lamps from disconnecting due to vibration or incidental contact.

INSTALLATION — The SPEC-BEAM™ is suitable for suspension by chain, cable or monopoint-mounted with appropriate accessories. Fixture must be suspended mount for ceiling structures.

LISTING — UL Listed, CSA Certified, (UL 1598 and CSA C22.2 No. 250.0-00.) For ambient operation up to 55°C. Suitable for damp locations.



SPEC-BEAM™

FGB

FLUORESCENT HIGH BAY
T5HO Lamps

COOL RUNNING TECHNOLOGY

PATENT PENDING

5HO Technology

Specifications

# Lamps:	2 or 3	4	6
Length:	48 (1220)	48 (1220)	48 (1220)
Width:	12 (305)	16 (407)	24 (610)
Depth:	4-1/2 (111)	4-1/2 (111)	4-3/4 (121)
Weight:	16 lbs (7.26 kg)	17 lbs (7.71 kg)	19 lbs (8.62 kg

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

WARRANTY — Ballast Warranty - five years when operated at ambient temperatures up to 55°C, three years when operated at ambient temperatures up to 65°C. Lensed fixtures are warranted for five years when operated at ambient temperatures up to 40°C.

ORDERING INFORMATION

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

Example: FGB24 6 54T5HO T1X20 MVOLT 1/41/2 GEB10PS LP841

Series
FGB14
FGB164
FGB24

Number of lamps[1]
2
3
4
6

Lamp type
54T5HO 54W T5HO

Shielding[4]
(blank) No shielding
A12125 Pattern 12 acrylic, 0.125"
A12125WG Pattern 12 acrylic, 0.125" w/ wireguard in door frame
ACL Clear acrylic, 0.125"
ACLWG Clear acrylic, 0.125" w/ wireguard in door frame
PCL125 Clear polycarbonate, 0.125"
PCL125WG Clear polycarbonate, 0.125" w/ wireguard in door frame
NLWG No lens; wireguard in door frame

Distribution/Reflector[4]

Distribution		Reflector	
F1	Focus (0.9>SC)	X20	Specular aluminum
T1	Task (0.9<1.2 SC)	X20U	Specular aluminum w/ uplight
N1	Normal (1.2<1.4 SC)	D20	White powder coat[3]
S1	Spread (1.4<1.8 SC)	D20U	White powder coat w/ uplight[3]
B1	Broad (1.8<SC)[2]		

Voltage
MVOLT 120V-277V
HVOLT 347V-480V

Ballast configuration
(blank) All two-lamp ballasts
1/3 One, three-lamp ballast
1/4 One, four-lamp ballast
1/41/2 One, four-lamp and one, two-lamp ballast
2/3 Two, three-lamp ballasts

Ballast
ACRP Cool Running Plus[4]
GEB10PS T5HO electronic, ≤10% THD, programmed rapid start

Lamp color
(blank) No lamps
LP830 85 CRI, 3000°K, std. life
LP835 85 CRI, 3500°K, std. life
LP841 85 CRI, 4100°K, std. life
LP850 85 CRI, 5000°K, std. life

Options
OUTCTR Wiring leads through back center of fixture[7]
PAF Powder coat after fabrication
PAF AL Aluminum construction, PAF
20GA 20-gauge steel construction
TCP Top cover panels[4]
WG Wireguard, 11 gauge, external mount
MSI Occupancy sensor pre-wired (aisle)[5]
MSI360 Occupancy sensor pre-wired (360°)[5]
MSIPE Occupancy sensor pre-wired with photocell[5]
EL14 Emergency battery pack (900 lumens)[5,6]

NOTES:
1 See Configurations table for availability.
2 Not available with prismatic lens option.
3 Available with N1 (normal distribution) only.
4 5/55 warranty for open fixtures only. Fixtures should be mounted at a minimum plenum height of 18".
5 Must specify voltage.
6 UL listed for 55°C. Output in emergency mode carries with ambient temperature (approx. 944 lumens at 25°C and 911 lumens at 45°C). Single-lamp operation only. Not available with HVOLT or MVOLT. Requires some assembly in the field for six-lamp fixtures.
7 Every distribution not available in every lamp configuration.
8 Specify OUTCR when monopoint hanger will be used.

Accessories
Order as a separate catalog number.

IBAC120 M20 10' adjustable aircraft cable, 2-hook, Y hanger (one pair)
IBAC240 M20 20' adjustable aircraft cable, 2-hook, Y hanger (one pair)
HSD36 3' jack chain with hanger (one pair)
THSD Monopoint hanger with 3/4" KO[8]
THSDHB Monopoint hanger with 3/4" hub[8]
THSDSK Side covers for monopoint hanger (one pair)[8]

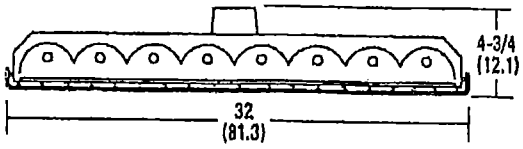
FGB T5HO Fluorescent High Bay

Configurations

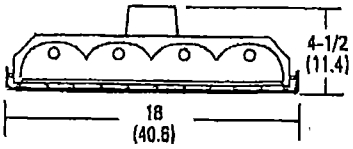
Series	Number of lamps	Width	Height	Length
FGB14	2 or 3	12 (30.5)	4-1/2 (11.4)	48 (121.9)
FGB164	4	16 (40.6)	4-1/2 (11.4)	48 (121.9)
FGB24	6	24 (61.0)	4-3/4 (12.1)	48 (121.9)

DIMENSIONS

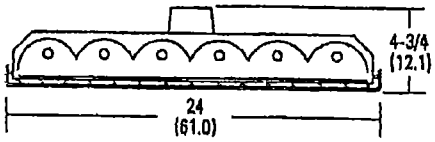
All dimensions are in inches (millimeters).



FGB324



FGB168



FGB28

Cord Set Option:

Add suffix to end of catalog number, specify voltage. All cord sets are 16/3, 6', white unless otherwise noted. Other configurations available, consult factory.

Suffix	Description
CS1W	Straight plug, 120V
CS3W	Twist lock, 120V
CS7W	Straight plug, 277V
CS11W	Twist-lock, 277V
CS25W	Twist-lock, 347V
CS97W	Twist-lock, 480V
CS93W	600V SO white cord, no plug (no voltage required)

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

FGB164 4 54T5HO B1X20
TEST NO: LTL 14960
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR (pf 20%, pc / pw)	80% 50%	80% 30%	80% 10%	50% 50%	50% 30%	50% 10%	30% 50%	30% 30%	30% 10%
0	108	108	108	100	100	100	95	95	95
1	95	91	88	88	85	83	84	82	80
2	83	76	71	77	72	68	73	69	65
3	72	64	58	67	61	56	64	59	55
4	63	55	49	59	52	47	57	51	46
5	58	46	41	52	45	40	50	44	39
6	50	41	35	47	40	35	45	39	34
7	45	37	31	42	35	30	41	34	30
8	40	32	27	38	31	26	37	31	26
9	37	29	24	35	28	23	34	27	23
10	34	26	21	32	25	21	31	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	3288.8	18.7	20.4
0° - 40°	6209.6	35.3	38.5
0° - 60°	12719.4	72.3	78.8
0° - 90°	15576.3	88.5	96.5
90° - 180°	572.5	3.3	3.5
0° - 180°	16148.8	91.8	100.0

FGB164 4 54T5HO T1X20U
TEST NO: LTL 14958
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR (pf 20%, pc / pw)	80% 50%	80% 30%	80% 10%	50% 50%	50% 30%	50% 10%	30% 50%	30% 30%	30% 10%
0	110	110	110	99	99	99	92	92	92
1	98	94	91	88	86	83	83	81	79
2	86	80	76	78	74	70	74	70	67
3	77	70	64	70	65	60	66	61	58
4	69	61	55	63	57	52	59	54	50
5	62	54	48	57	51	46	54	49	44
6	56	48	43	52	46	41	49	44	40
7	51	44	38	48	41	37	45	40	36
8	47	40	34	44	38	33	42	36	32
9	43	36	31	41	34	30	39	33	29
10	40	33	29	38	32	28	36	31	27

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	5287.2	30.0	31.7
0° - 40°	7953.9	45.2	47.7
0° - 60°	12351.2	70.2	74.0
0° - 90°	14648.9	83.2	87.8
90° - 180°	2043.1	11.6	12.2
0° - 180°	15692.0	94.8	100.0

FGB24 6 54T5HO T1X20U
TEST NO: LTL 14957
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR (pf 20%, pc / pw)	80% 50%	80% 30%	80% 10%	50% 50%	50% 30%	50% 10%	30% 50%	30% 30%	30% 10%
0	113	113	113	102	102	102	95	95	95
1	100	96	93	90	88	85	85	83	81
2	88	82	77	80	76	72	75	72	68
3	78	71	65	71	66	61	67	63	59
4	70	62	56	64	58	53	60	55	51
5	63	55	49	58	52	47	55	49	45
6	57	49	43	53	46	41	50	44	40
7	52	44	39	48	42	37	46	40	36
8	48	40	35	45	38	34	42	37	33
9	44	37	32	41	35	31	39	34	30
10	41	34	29	38	32	28	37	31	27

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	8032.9	30.4	31.3
0° - 40°	12030.4	45.6	46.8
0° - 60°	18791.8	71.2	73.1
0° - 90°	22563.5	85.5	87.8
90° - 180°	3137.9	11.9	12.2
0° - 180°	25701.4	97.4	100.0

LITHONIA LIGHTING®
An AcuityBrands Company

Sheet #: FGB-T5HO

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Lithonia Lighting
Industrial
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000 Fax: 770-981-8141
www.lithonia.com

FEATURES

OPTICAL SYSTEM

- Self-flanged, semi-specular or matte-diffuse reflector. Patented Bounding Ray™ Optical Principle design (U.S. Patent No. 5,800,050) provides lamp before lamp image and smooth transition from top of reflector to bottom.

HOUSING

- Heavy-gauge aluminum housing with top deck for clean appearance. Matte white textured polyester powder paint finish standard.
- Reflector edge sits flush with cylinder wall for clean, one-piece appearance.
- Reveal on standard ceiling and optional pendant mount give floating luminaire appearance.

MOUNTING

- Ceiling mount (standard) offers patented (U.S. Patent No. 4,300,190) quick-mount attachment plate for direct installation to 4" square junction box.
- Optional wall mount provided with mounting pattern for direct installation to 4" square or octagonal junction box.
- Optional pendant mounting entry provided for 3/8" National Pipe Thread stem. Mounting accessories available (see Accessories).

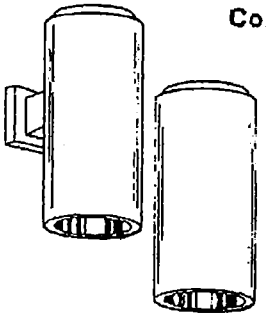
ELECTRICAL SYSTEM

- Vertically mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally protected, high-power-factor electronic ballast.

LISTING

- Fixtures are UL Listed for damp locations. Listed and labeled to comply with Canadian Standards.

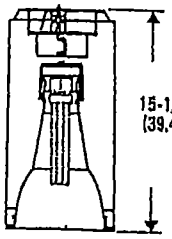
TYPE: PA
JOB NAME: TIFFIN REC CENTER
CAT#: CFV8 42TRT 6AR MVOLT PM DWHG



Compact Fluorescent Cylinders

8" CFV

Cylinders
Vertical Lamp
Double Twin-Tube
or Triple-Tube
6" Aperture

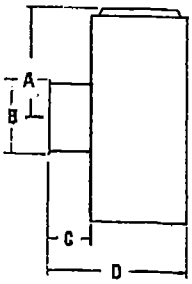


Reflector Aperture: 6-1/4 (15.9)
Housing Diameter: 7-5/8 (19.4)

All dimensions are inches (centimeters).

A = 7-3/4 (19.7)
B = 5-5/16 (13.5)
C = 3-1/4 (8.3)
D = 10-7/8 (27.6)

Wall Mount Dimensions



ORDERING INFORMATION

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

Example: CFV8 26DTT 6AR 120 DWHG

CFV8

Series	Wattage/ Lamp	Trim color	Finish	Voltage	Ballast	Mounting	Options	Housing Color[4]
CFV8	13DTT	6AR Clear	(blank) Semi-specular	MVOLT[1]	(blank) Electronic ballast	(blank) Ceiling mount	WLP With lamp (3500 K)	DWHG Matte white
	18DTT	6PR Pewter	LD Matte diffuse	120	ECOS Lutron EcoSystem™	PM[3] Pendant 3/8" thread mount	GMF[5] Single slow-blow fuse	DBL Black
	26DTT	6WTR Wheat		277	ADEZ[2] Advance Mark 10	WM Wall mount	GLR[5] Single fast-blow fuse	DNA Natural aluminum
	13TRT			347	ADZT[2] Advance Mark 7			DDB Dark bronze
	18TRT							DWH Gloss white
	26TRT							
	32TRT							
	42TRT							

NOTES:

1 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 Hz.
2 Available in 120V or 277V only.
3 Stem not included.
4 Additional housing colors available; please see brochure 794.3.
5 For use on pendant mount (PM) only. Specify length of stem (from 6" to 240" in even increments in maximum sections of 48"). EX.: CYS06 DWHG. Consult Gotham Technical Support for exterior use.

Accessories

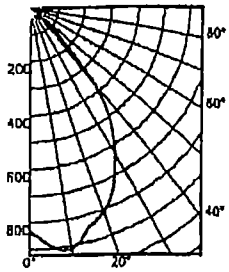
Order as separate catalog number

CYS[3] 3/8" stem and canopy with 5° "hang straight" swivel
CRS[3] 3/8" stem and canopy with 45° swivel
nSP5 D Sensor Switch nLight™ 0-10V dimming relay. Requires additional nLight bus power supply.

8" CFV Fluorescent Cylinders

Distribution curve | Distribution data | Output data | Coefficient of utilization | Single luminaire data 30" above floor

CFV8 26TRT 6AR, (1) 26W PL-T 26W/30/4P lamp, 1.1 s/mh, 1800 rated lumens, Test No. 2196032101



	Avg	Lumens
0	833	
5	694	68
15	647	241
25	740	335
35	518	318
45	117	108
55	3	2
65	0	0
75	0	0
85	0	0
90	0	

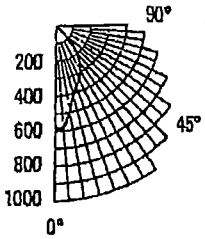
Zone	Lumens	% Lamp
0°-30°	662.4	36.8
0°-40°	980.3	54.5
0°-60°	1090.6	60.6
0°-90°	1091.0	60.6
90°-180°	0.0	0.0
0°-180°	1091.0	*60.6

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	80% 10%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	72	72	72	70	70	70	67	67	67
1	67	65	64	66	64	63	63	62	61
2	62	59	57	61	59	57	59	57	55
3	57	54	52	57	54	51	55	52	50
4	53	50	47	53	49	47	51	48	46
5	49	46	43	49	45	43	46	45	42
6	46	42	39	46	42	39	45	41	39
7	43	39	36	43	39	36	42	38	36
8	40	36	34	40	36	34	39	36	33
9	38	34	31	37	34	31	37	33	31
10	35	32	29	35	31	29	34	31	29

Mounting Height	Initial FC Center Beam	50% beam - 59.5' Diameter	FC	10% beam - 85.1° Diameter	FC
8.0	27.5	6.3	13.8	10.3	2.8
10.0	14.8	8.6	7.4	14.0	1.5
12.0	9.2	10.9	4.6	17.7	0.9
14.0	6.3	13.1	3.1	21.5	0.6
16.0	4.6	15.4	2.3	25.2	0.5

CFV8 13DTT 6AR, (1) 13W PL-C 13W/27/4P lamp, 0.8 s/mh, 900 rated lumens, Test No. 2196032201



From 0°	cp.	Lumens
0°	571	
5°	573	53
15°	404	117
25°	329	151
35°	245	151
45°	112	84
55°	2	10
65°	0	1
75°	0	1
85°	0	1
90°	0	

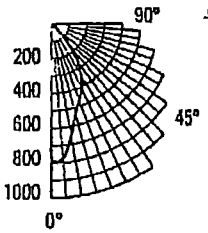
Zone	Lumens	%lamp
0°-30°	320	35.6
0°-40°	470	52.3
0°-60°	564	62.7
0°-90°	564	62.8
90°-180°	0	0.0
0°-180°	564	62.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	70	69	69	67	66	65
2	66	63	64	62	62	61
3	61	58	60	58	59	57
4	58	54	57	54	56	53
5	54	50	53	50	52	49
6	51	47	50	47	49	46
7	47	43	47	43	46	43
8	44	40	43	40	43	40
9	41	37	41	37	40	37
10	38	34	38	34	37	34

Mount height	Initial fc at beam center	50% beam angle 41.0° Beam diameter	fc at beam edge	10% beam angle 84.6° Beam diameter	fc at beam edge
8'	18.9	4.1'	9.5	10.0'	1.9
10'	10.2	5.6'	5.1	13.6'	1.0
12'	6.3	7.1'	3.2	17.3'	0.6
14'	4.3	8.6'	2.2	20.9'	0.4
16'	3.1	10.1'	1.6	24.5'	0.3

CFV8 18DTT 6AR, (1) 18W DULUX D/E CF18DD/E/827 lamp, 0.7 s/mh, 1250 rated lumens, Test No. 2196032501



From 0°	cp.	Lumens
0°	777	
5°	774	71
15°	528	153
25°	409	188
35°	267	169
45°	78	68
55°	1	2
65°	0	1
75°	0	1
85°	0	1
90°	0	

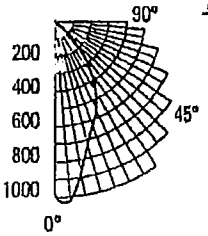
Zone	Lumens	%lamp
0°-30°	410	32.9
0°-40°	578	46.3
0°-60°	647	51.8
0°-90°	648	51.8
90°-180°	0	0.0
0°-180°	648	51.8*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	58	57	57	56	55	54
2	55	53	54	52	52	51
3	51	49	51	49	49	48
4	49	46	48	46	47	45
5	46	43	45	43	44	42
6	43	40	43	40	42	40
7	41	38	40	38	40	37
8	38	35	38	35	37	35
9	36	33	36	33	35	33
10	34	31	34	31	33	31

Mount height	Initial fc at beam center	50% beam angle 39.0° Beam diameter	fc at beam edge	10% beam angle 81.3° Beam diameter	fc at beam edge
8'	25.7	3.9'	12.8	9.4'	2.6
10'	13.8	5.3'	6.9	12.9'	1.4
12'	8.6	6.7'	4.3	16.3'	0.9
14'	5.9	8.1'	2.9	19.7'	0.6
16'	4.3	9.6'	2.1	23.2'	0.4

CFV8 26DTT 6AR, (1) 26W DULUX D/E 26W/27K lamp, 0.8 s/mh, 1825 rated lumens, Test No. 2196032502



From 0°	cp.	Lumens
0°	988	
5°	1014	93
15°	717	206
25°	549	251
35°	369	228
45°	146	115
55°	5	14
65°	1	1
75°	0	1
85°	0	1
90°	0	

Zone	Lumens	%lamp
0°-30°	549	30.1
0°-40°	776	42.5
0°-60°	904	49.5
0°-90°	905	49.6
90°-180°	0	0.0
0°-180°	905	49.6*

*Efficiency

ρf / ρc / ρw	80% 50%	80% 30%	70% 50%	70% 30%	50% 50%	50% 30%
1	56	54	54	53	52	51
2	52	50	51	49	49	48
3	49	47	48	46	47	45
4	46	43	45	43	44	42
5	43	40	43	40	42	40
6	41	38	40	38	40	37
7	38	35	38	35	37	35
8	36	33	35	33	35	32
9	33	31	33	31	33	30
10	31	28	31	28	31	28

Mount height	Initial fc at beam center	50% beam angle 41.4° Beam diameter	fc at beam edge	10% beam angle 81.9° Beam diameter	fc at beam edge
8'	32.7	4.2'	16.3	9.5'	3.3
10'	17.6	5.7'	8.8	13.0'	1.8
12'	11.0	7.2'	5.5	16.5'	1.1
14'	7.5	8.7'	3.7	19.9'	0.7
16'	5.4	10.2'	2.7	23.4'	0.5

NOTES:

1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

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gotham
An AcuityBrands Company

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

UNIVERSITY OF TIFFIN REC CENTER
BODIE ELECTRIC
SYLVANIA LAMP SPECS

METALARC® PULSE START
High Output, Reduced Color Shift – Enclosed Fixtures

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code	Pkg Qty	Lamp Finish	Operating Position	Fix Req	Avg Rated Life (hrs)	Approx Lumens (initial)	Approx Lumens (mean)	CRI	CCT (K)	Symbols & Footnotes
250	BT28	E39 Mogul	64320	M250/PS/U	M153/E, M138/E	6	Clear	Universal	E	15000V 12000H	22000V 19000H	15400V 14000H	65	3800	4,18,23

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life @3hrs/start	CCT (K)	CRI	Approx Lumens Initial @25°C/77°F	Approx Lumens Mean @25°C/77°F	Symbols & Footnotes
32	T8	48	47.78	Med Bipin	21998	F032/735/ECO	30	25000	3500	78	2800	2520	1,23,44, 82,78,119

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial @25°C/77°F @35°C/95°F	Approx Lumens Mean @25°C/77°F	Symbols & Footnotes
32	T (T4)	5.8	142	GX24Q-3	20885	CF32DT/E/IN/835/ECO	CFTR32W/GX24Q/835	50	12000	3500	82	2328 2400	2002 2064	1,2,5,6, 7,12,18,20,21
42	T (T4)	6.5	163	GX24Q-4	20871	CF42DT/E/IN/835/ECO	CFTR42W/GX24Q/835	50	12000	3500	82	3104 3200	2670 2752	1,2,5,6, 7,12,18,20,21

Type: DG

Catalognumber: LGFV 32TRT 8RW FFL MVOLT

FEATURES

OPTICAL SYSTEM

- Aluminum upper reflector coated with highly reflective white paint provides high efficiency and an evenly illuminated aperture appearance.
- Available with tempered prismatic lens (T73), flat Fresnel lens (FFL) or flat opal lens (FOL).
- Regressed white door (RW) or stepped black baffle (SB) available with white painted flange provided.
- Door is retained by self-aligning, torsion support springs, preventing gaps between door and ceiling.

MECHANICAL SYSTEM

- 16-gauge galvanized steel mounting/plaster frame with integral brackets to retain optical system. Maximum 1-1/2" ceiling thickness.
- 16-gauge galvanized steel mounting bars with continuous 4" vertical adjustment are shipped pre-installed. Post installation adjustment possible without the use of tools from above or below ceiling.
- Galvanized steel junction box with hinged access covers and spring latch. 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

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

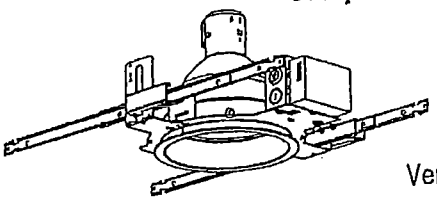
LISTING

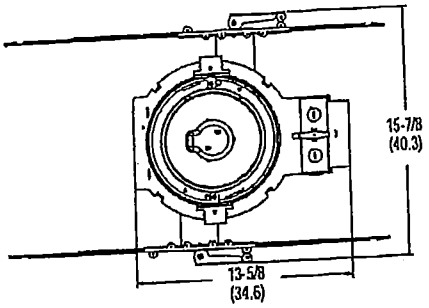
- Fixtures are UL Listed for thru-branch wiring, Non-IC recessed mounting and wet locations. Listed and labeled to comply with Canadian Standards.

Compact Fluorescent Downlights

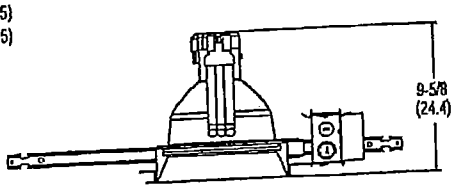
8" LGFV

Round Lens
Wet Location
Vertical Triple-Tube Lamp





Aperture:	7-7/8 (20.1)
Ceiling Opening:	8-7/8 (22.5)
Overlap Trim:	9-1/4 (23.5)



All dimensions are inches (centimeters).

Example: LGFV 32TRT 8RW T73 MVOLT

ORDERING INFORMATION

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

LGFV	32TRT	8RW	FFL	MVOLT		
Series	**Wattage/Lamp**	**Door Frame**	**Shielding**	**Voltage**	**Ballast**	**Options**
LGFV	18TRT 26TRT[1] 32TRT 42TRT	8RW Regressed white door 8SB Stepped black baffle	T73 Tempered prismatic lens FFL Flat Fresnel lens FOL Flat opal lens	120 277 347 MVOLT[7]	(blank) Electronic ballast (standard) DMHL[3,6] Lutron Compact SE® electronic dimming ballast ADEZ[3,4] Advance Mark X™ electronic dimming ballast ADZT[4] Advance Mark VII™ electronic dimming ballast	CP Chicago Plenum TRDA Tamper-Resistant Door Assembly, LRC[5] Provides compatibility with Lithonia Reloc® System. Lithonia Reloc System can be installed less this option with connectors provided by others. Access above ceiling required GMF Single slow-blow fuse (not available with MVOLT) GLR Single fast-blow fuse (not available with MVOLT) WLP Lamp (shipped separately) RIF Radio Interference Filter QDS[6] Quick Disconnect System for easy ballast replacement ELR[7] Emergency battery pack. Remote test switch provided ELRSD[7] Emergency battery pack. Remote test switch and self-diagnostics module provided GSKT Foam gasketing, ships uninstalled

NOTES
1 Will also operate 26DTT 4-PIN lamp.
2 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 Hz.
3 Not available with MVOLT.
4 Not available with 347V.
5 For compatible Reloc Systems, refer to Technical Bulletins tab.
6 Not available with ELR option.
7 For dimensional changes refer to Technical Bulletins tab.

Accessories

Order as separate catalog number.
SCA8 Sloped ceiling adapter Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SCA8 10D.

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1400 Lester Road Conyers Georgia 30012
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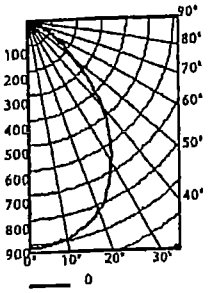
8" LGFV Round Lens

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

LGFV 42TRT 8RW T73, 42TRT lamp, 1.1 s/mh, 3200 rated lumens, Test no. LTL14206



From 0°	Ave	Lumens
0	913	
5	909	86
15	864	243
25	752	344
35	569	354
45	350	270
55	170	155
65	79	80
75	29	33
85	7	8
90	0	

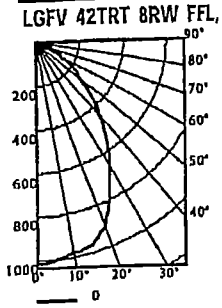
Zone	Lumens	% Lamp
0° - 30°	673.3	21.0
0° - 40°	1027.0	32.1
0° - 60°	1451.9	45.4
0° - 90°	1572.5	49.1
90° - 180°	0.0	0.0
0° - 180°	1572.5	*49.1

*Efficiency

pf / pc / pw	80% 50%	80% 30%	20% 70% 50%	20% 70% 30%	50% 50%	50% 30%
1	.53	.51	.52	.50	.50	.49
2	.48	.45	.47	.44	.45	.43
3	.43	.40	.42	.39	.41	.38
4	.39	.35	.38	.35	.37	.34
5	.36	.32	.35	.32	34	.31
6	.33	.29	.32	.29	.31	.28
7	.30	.26	.30	.26	.29	.26
8	.28	.24	.27	.24	.27	.24
9	.26	.22	.25	.22	.25	.22
10	.24	.20	.24	.20	.23	.20

Mount height	Initial fc at beam center	50% beam angle 58.1° Beam diameter	50% beam angle 58.1° fc at beam edge	10% beam angle 95.0° Beam diameter	10% beam angle 95.0° fc at beam edge
8	30.2	6.1	15.1	12.0	3.0
10	16.2	8.3	8.1	16.4	1.6
12	10.1	10.6	5.1	20.7	1.0
14	6.9	12.8	3.5	25.1	0.7
16	5.0	15.0	2.5	29.4	0.5

LGFV 42TRT 8RW FFL, 42TRT lamp, 1.0 s/mh, 3200 rated lumens, Test no. LTL14207



From 0°	Ave	Lumens
0	1013	
5	1004	95
15	966	269
25	781	358
35	554	346
45	354	275
55	208	187
65	103	103
75	36	40
85	9	10
90	0	

Zone	Lumens	% Lamp
0° - 30°	721.8	22.6
0° - 40°	1067.7	33.4
0° - 60°	1529.5	47.8
0° - 90°	1682.7	52.6
90° - 180°	0.0	0.0
0° - 180°	1682.7	*52.6

*Efficiency

pf / pc / pw	80% 50%	80% 30%	20% 70% 50%	20% 70% 30%	50% 50%	50% 30%
1	.56	.55	.55	.54	.53	.52
2	.51	.48	.50	.47	.48	.46
3	.46	.42	.45	.42	.43	.41
4	.41	.38	.41	.37	.40	.36
5	.38	.34	.37	.33	.36	.33
6	.35	.30	.34	.30	.33	.30
7	.32	.28	.31	.28	.31	.27
8	.29	.25	.29	.25	.28	.25
9	.27	.23	.27	.23	.26	.23
10	.25	.22	.25	.22	.25	.21

Mount height	Initial fc at beam center	50% beam angle 54.8° Beam diameter	50% beam angle 54.8° fc at beam edge	10% beam angle 94.1° Beam diameter	10% beam angle 94.1° fc at beam edge
8	33.5	5.7	16.7	11.8	3.3
10	18.0	7.8	9.0	16.1	1.8
12	11.2	9.9	5.6	20.4	1.1
14	7.7	11.9	3.8	24.7	0.8
16	5.6	14.0	2.8	29.0	0.6

DATE REC'D: JOB NO:
3-17-10 USS 13612130

Review is only for conformance with the design concept of the Project and general conformance with the Contract Documents. Not by review a directive additional cost. The Contractor is totally responsible for:
- deviations from the Contract Documents
- conformance to field dimensions
- fabrication process, elevation
- means, methods, techniques, sequences, and procedures of construction, and construction safety.
- Coordination of the Work.

CONFORMS AS IS ☐ CONFORMS AS NOTED ☒
DOES NOT CONFORM/RESUBMIT ☒
SEE ATTACHED COMMENTS ☐
BY: BB DATE: 4/05/10

NOTES:
1. For electrical characteristics consult Technical Bulletins tab.
2. Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change without notice.

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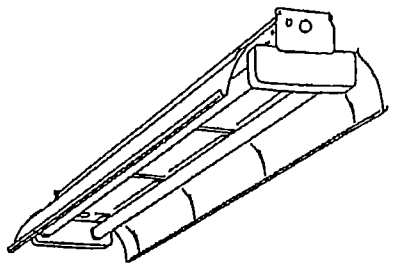
LITHONIA LIGHTING®

Catalog Number	AF10232MEMVOLTGEB10IS
Notes	Type FB

FEATURES & SPECIFICATIONS

Heavy-Duty Turret Industrial

AF



Rapid Start
4' or 8' lengths
1, 2, 3 or 4 lamps

INTENDED USE

For applications that require medium to high light levels such as manufacturing, warehousing, storage, retail or task lighting. Ideal for mounting heights up to 25'.

ATTRIBUTES

Heavy-duty design for demanding industrial environments. Pressure-lock lampholders enclosed in snap-in turret housing. Available in 4' or 8' lengths. 6" lamp spacing of 2-lamp models, 3" lamp spacing on 3-lamp models. Solid top, 10% or 20% uplight reflectors available, painted after fabrication.

CONSTRUCTION

Die-embossed reflector constructed of heavy gauge cold-rolled steel. White enamel reflector finish standard, porcelain finish optional.

FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Finish is high-gloss baked white enamel.

ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, HPF, UL listed, CSA Certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

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

INSTALLATION

For surface or suspended mounting, unit or row installation.

LISTING

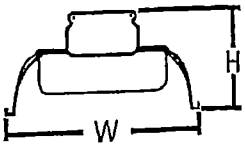
120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options).

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications

Length: 49-13/16 (1265) or 99-5/8 (2530)
Width: 13-3/8 (340)
Height: 6-5/8 (168)



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

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: AF 3 32 277 1/3 GEB10IS

AF10 | 2 | 32 | MVOLT | GEB10IS

Series

AFST Solid reflector
AF10 10% uplight apertured reflector
AF 20% uplight apertured reflector

For tandem double-length unit, add prefix T.
Example: TAF10

Lamps

1
2
3
4

Not included.

Lamp type

32 32W T8 (48")

Voltage

120
277
347
MVOLT[2]

Options

Shipped installed in fixture

1/3 One 3-lamp ballast (32 watt electronic ballast only)
1/4 One 4-lamp ballast (32 watt electronic ballast only)
GEB T8 electronic ballast, ≤20% THD
GEB10IS T8 electronic ballast, ≤10% THD, instant start[1]
GEB10RS T8 electronic ballasts, 10% THD, rapid start
EL Emergency battery pack (nominal 300 lumens), see Life Safety Section
GLR Internal fast-blow fusing (add X for external)
GMF Internal slow-blow fusing (add X for external)
PLF_ Plug-in wiring, Specify 1, 2 or 3 branch circuits & hot wires (A = black, B = red, C = blue, AB or AC)
TILW Tandem in-line wiring
PO White porcelain reflector finish
CSA CSA Certified (347V only)
NOM NOM Certified
BDP Ballast disconnect[3]

Accessories

Order as separate catalog number.

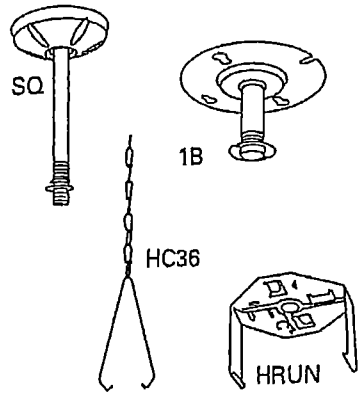
ACEP Full-depth endplates (1 pair)
HRUN Hooker® T-bar hanger for 5" channel (flush to ceiling)
HRUN1 Hooker® T-bar hanger for 5" channel (1-1/2" from ceiling)
SQ_ Swivel stem hanger (specify length in 2" increments)
1B Ceiling spacer (1-1/2" to 2-1/2" from ceiling)
HC36 Chain hangers (1 pair, 36" long)
THUN Tong hanger for 5" channel
WGAFPV Wireguard, 4' white (order 2 for 8' fixtures)[4]
DLAF ME 4' 30° x 30° metal eggcrate louver[4]
DLAF A12 4' framed acrylic prismatic lens[4]

NOTES:
1 Available only with 32 lamp type.
2 Electronic ballast 120 through 277 volt only. Available with 32 watt T8 only. MVOLT must specify GEB10IS.
3 Meets codes that require in fixture disconnect.
4 Order 2 for 8' fixtures.

AF Rapid Start

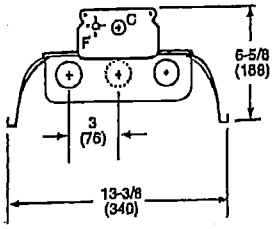
MOUNTING DATA

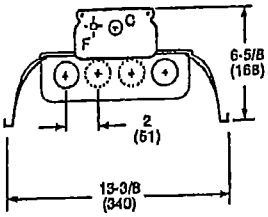
For unit or row installation. Surface or stem mounting.[1]
UNIT INSTALLATION — Minimum of two hangers required.
ROW INSTALLATION — One hanger per fixture plus one per row required.

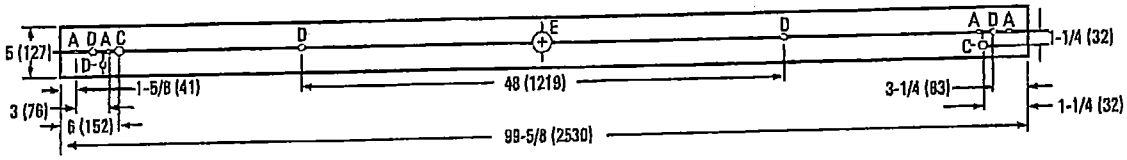


DIMENSIONS

A = 1/4 x 1/2 (64 x 13) Oval Hole
C = 7/8 (22) Dia.K.O.
D = 11/16 (17) Dia. K.O.
E = 2 (51) Dia. K.O.
F = 7/16 (111) Dia. K.O.
All dimensions are inches (millimeters).
Specifications subject to change without notice.

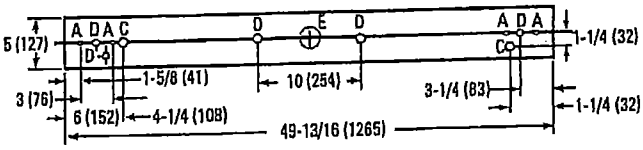






Energy (Calculated in accordance with NEMA standard LE-5)					
LER.FW	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
74	$3.24	(2) F32T8	2800	.88	60

*Calculated in accordance with NEMA Standards LE-5.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

AF 2 32
Report ITL 5711
S/MH 1.4
Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
1	94	90	86	90	86	83	79	76	74
2	86	78	73	82	75	70	69	65	61
3	78	69	62	74	66	60	61	56	52
4	72	61	54	68	59	52	54	48	44
5	65	54	46	62	52	44	48	41	37
10	43	31	24	41	30	23	28	22	18

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	998	17.2	19.0
0-40	1677	28.9	31.9
0-60	3126	53.9	59.6
0-90	4074	70.2	77.6
90-180	1175	20.3	22.4
0-180	5249	90.5	100.0

LITHONIA LIGHTING®
An AcuityBrands Company

Lithonia Lighting
Industrial
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000 Fax: 770-981-8141
www.lithonia.com

Sheet #: AF-RS

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LITHONIA LIGHTING®

Catalog Number	WC 2 32 MVOLT GEB10IS
Notes	Type 6A

FEATURES & SPECIFICATIONS

INTENDED USE

For wall or ceiling mounting — vertical or horizontal. Ideal for stairwells, corridors, lavatories or any utility application. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

ATTRIBUTES

Easy maintenance design for individual or tandem mounting. For row mounting, order RMT option.

CONSTRUCTION

Heavy-duty code grade steel. Metal parts are die-formed.

FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Standard finish is high-gloss, high reflectivety, baked white polyester (architectural black available).

OPTICAL SYSTEM

Available with high performance A12 pattern clear acrylic or low brightness matte white opal acrylic. Front metal fascia eliminates direct illumination. Provides up/down distribution.

ELECTRICAL SYSTEM

AWM, TFN or THHN wire used throughout, rated for required temperatures. UL/CSA Listed ballast disconnect with strain relief and leads provided standard.

INSTALLATION

End caps spring-loaded for easy diffuser removal.

LISTING

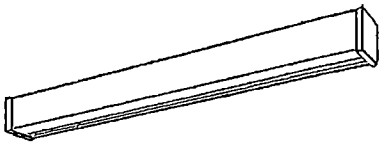
UL Listed to US and Canadian safety standards. Optional: Mexico NOM.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Commercial Wall Bracket

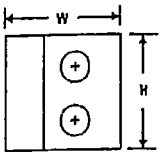
WC



T5 and T8
2', 3' or 4' Lengths
1 or 2 Lamps

Specifications

Length: 24 (609), 36 (914) or 48 (1218)
Width: 4-5/8 (118)
Depth: 4-9/16 (116)
Weight: 14 lbs (6.3 kg)



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

ORDERING INFORMATION

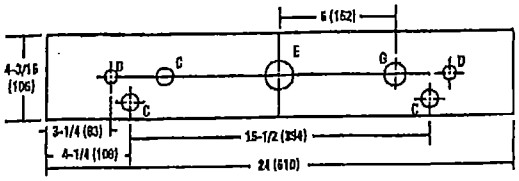
For shortest lead times, configure product using standard options (shown in bold).
Example: WC 2 32 120 MVOLT GEB10IS

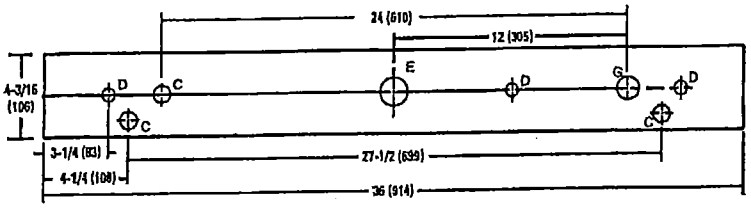
WC	2	32		MVOLT	GEB10IS
Series	Number of lamps	Lamp type	Diffuser type	Voltage	Options
WC All purpose wall bracket	1 2 Not included.	17 17W T8 (24") 25 25W T8 (36") **32 32W T8 (48")** 14 14W T5 (24")[2] 21 21W T5 (36")[2] 28 28W T5 (48")[2] 24 24W T5HO (24")[2] 39 39W T5HO (36")[2] 54 54W T5HO (48")[2]	(blank) **Matte white opal acrylic** A12 #12 pattern acrylic FAC Matte white opal acrylic with front metal fascia FA12 #12 pattern acrylic with front metal fascia	120 277 347 MVOLT[1] Others available.	CO Grounded convenience outlet, 120V only (lower right)[1] S1 Pull-chain switch; installed bottom right; on/off operation of all lamps only (120V only)[1] **GEB10IS Electronic ballasts, ≤10% THD, instant-start** GEB10PS Electronic ballasts, ≤10% THD, program-start MB Architectural black finish RMT Row mount[3] CSA CSA Certified

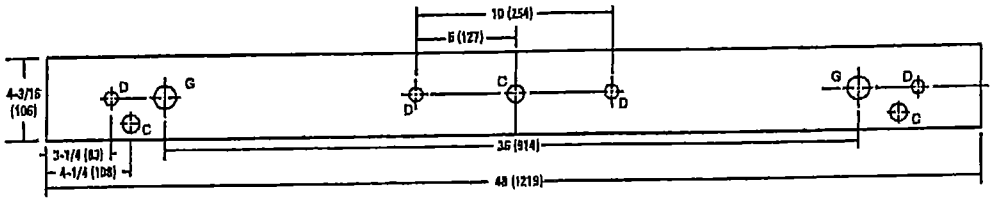
NOTES:
1 For optional locations, consult factory.
2 All T5 lamp types use GEB10PS ballast only.
3 Includes continuous row joiner band. Not available with CSA; models requiring CSA labeling ship standard with joiner band.

WC Wall Bracket, All Purpose

MOUNTING DATA

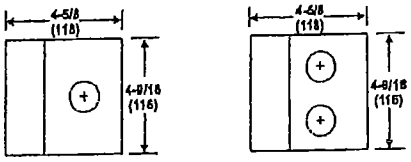






DIMENSIONS

Inches (millimeters). Subject to change without notice.



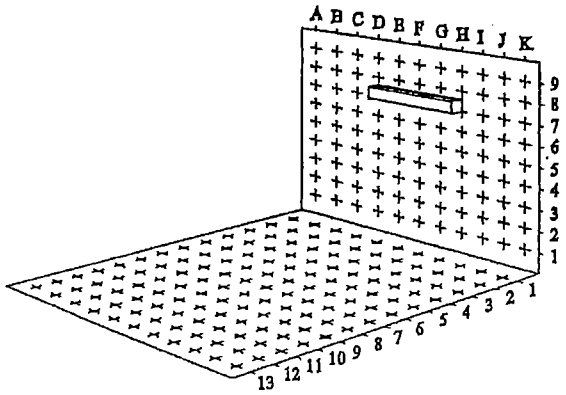
C = 7/8 (22) Dia. K.O.
D = 11/16 (18) Dia. K.O.
E = 2(51) Dia. K.O.
G = 1-1/8 (29) Dia. K.O.

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Vertical and horizontal illuminance is calculated with fixture mounting 7' above floor. Reflectances 80/50/20%. Full photometric data available upon request.

WC 2 32
Report LTL 5736
Initial point illuminance on wall and horizontal work surface (fc)
X and Y coordinates are on 12" centers.

	X	A	B	C	D	E	F	G	H	I	J	K
	9	3	4	6	11	15	16	15	11	6	4	4
	8	3	4	6	18	31	33	31	18	6	4	3
	7	2	3	3						3	3	2
	6	2	3	5	16	28	30	28	16	5	3	2
Vert.	5	2	2	4	6	8	9	8	6	4	3	2
	4	2	2	3	3	4	4	4	4	3	2	2
	3	2	2	2	3	3	3	3	3	2	2	2
	2	1	2	2	2	2	2	2	2	2	2	1
	1	1	2	2	2	2	2	2	2	2	2	1
	Y											
	1	6	7	8	9	10	10	10	9	8	6	5
	2	6	7	8	10	11	11	11	10	9	7	6
	3	6	7	8	10	11	11	11	10	9	7	7
	4	7	7	8	10	11	11	11	10	9	8	7
	5	6	7	8	9	10	10	10	9	9	7	7
Horiz.	6	6	7	7	9	9	9	9	9	8	7	6
	7	5	6	6	7	7	7	7	7	7	6	5
	8	5	5	6	6	7	7	7	6	6	5	5
	9	5	5	5	6	6	6	6	6	6	5	5
	10	4	4	4	4	5	5	5	4	4	4	4
	11	3	3	4	4	4	4	4	4	4	3	3
	12	3	3	3	4	4	4	4	4	4	3	3
	13	2	2	3	3	3	3	3	3	3	2	2



LITHONIA LIGHTING®
An AcuityBrands Company

Sheet #: WC

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Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012-3957
Phone: 800-858-7763 Fax: 770-929-6789
www.lithonia.com

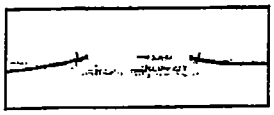
TYPE FF

08/11/09

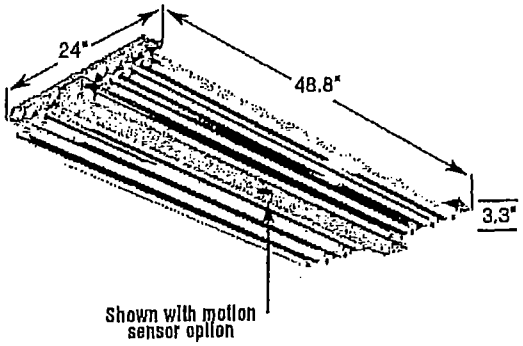
e-conolight®
A Division of Ruud Lighting

LINEAR FLUORESCENT 6-LAMP T5HO HIGH BAY SPECULAR REFLECTOR

Applications – Warehouses, industrial and retail sites.
Typical Mounting Height: 25-45 feet.
Comparable Performance: 400-watt Probe Start Metal Halide High bay.



Factory installed ballast disconnect to meet 2008 NEC Article 410.130(G). Standard on all fixtures without emergency ballast.



Features

- Quality die-formed galvanized steel ballast housing and cover
- Fixture supplied with high efficiency MIRO 4™ specular reflector (95% reflectance) for narrow distribution
- 120-277V programmed start electronic universal voltage ballast
- Includes two wire-form hangers for mounting
- Access cover for 3/4" conduit and wire entry for hard wiring
- Recommended minimum operating temperature 40° F (5° C)
- 24" wide design is suitable for use in applications with sprinkler systems installed in accordance with NFPA 13 and Factory Mutual codes
- Emergency Ballast option is Plug-N-Go
- All T5 lamps are TCLP compliant
- Lamp Type: 54W T5HO
- UL Listed for damp locations
- Optional 6' cord factory installed
- Fixtures are manufactured custom specifically for your order
- 5-year fixture warranty

With Motion Sensor

- 120-277V programmed start electronic universal ballast
- Integrated 360° Motion Sensor
- Switch Selectable Low Mode ("All Off" or "Partial Off"; T5HO = 4 lamps off)
- Adjustable Low Mode Time Delay from 30 second to 20 minutes

Note: Fixtures must be mounted a minimum of 7.5-inches below ceiling

How To Order

E-LN	# of Lamps	Reflector	Voltage	Sensor	Emergency	Lamps
e-conolight Linear Fluorescent	6	S = Specular	U = Universal (120/208/270/277) (hardwire only) D - Dual Volt (120/277) (hardwire for E-option) S = 120V 3-wire Straight Blade (cord & plug) 1 = 120V 3-wire (cord & plug) 2 = 277V 3-wire (cord & plug) 3 = 208V 3-wire (cord & plug) 4 = 240V 3-wire (cord & plug) 8 = 120V 4-wire for E option (cord & plug) 9 = 277V 4-wire for E option (cord & plug) *4-wire required for E-option if fixture is to be switched*	N = None K = With Sensor	N = None E = Emergency capable *E option only available with voltages D, 1, 2, 8, 9 Voltages 1, 2 to be used if fixture is not to be switched*	0 = None 3 = 3500K 4 = 4100K 5 = 5000K

- Re-submit
- Non-compliant
- Provide manufacturer per Lighting Fixture Schedule

1501 96th Street Sturtevant, Wisconsin 53177 | (888)243-9445 | Fax (262)504-5409 | www.e-conolight.com

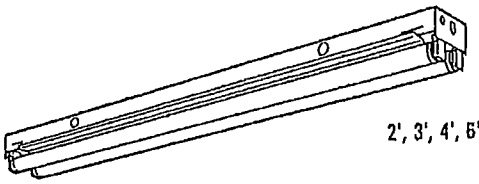
LITHONIA LIGHTING®

Catalog Number	C232MVOLT GEB10IS WGCUN NST
Notes	Type KA

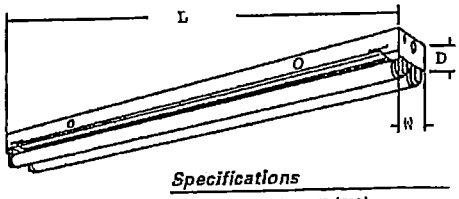
FEATURES & SPECIFICATIONS

General-Purpose Strip

C



2', 3', 4', 6' or 8' length
1 or 2 lamps



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.

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, 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

UL listed to US and Canadian safety standards. Optional: Mexico NOM.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications subject to change without notice.

Specifications

Length:	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).

ORDERING INFORMATION

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

Example: C 2 32 MVOLT GEB10IS

C 2 32 MVOLT GEB10IS

Series

C General-purpose strip

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

Number of lamps

1
2

Not included.

Lamp type

T8
- 17 17W T8 (24")
- 25 25W T8 (36")
- 32 32W T8 (48")
- 96T8 59W T8 slimline (96")

T12 Slimline
- 36 30W slimline (36")
- 48 38W slimline (48")
- 72 55W slimline (72")
- 96 75W slimline (96")

Voltage

MVOLT[1,2]
120
277
347

Others available.

Options

GEB	Electronic ballasts, ≤20% THD[3]
GEB10IS	Electronic ballasts, ≤10% THD instant start[1,2]
GEB10RS	T8 electronic ballast, ≤ 10% THD, rapid start
BILP	High-efficiency ballast, .78bf (low), instant start
BINP	T8 high-performance ballast, .88 bf (normal), instant start
BIHP	T8 high-performance ballast, 1.20 bf (high), instant start[4]
1/4	One four-lamp ballast[5]
EL	Emergency battery pack (nominal 300 lumens)
GLR	Internal fast-blow fuse (add X for external)[6]
GMF	Internal slow-blow fuse (add X for external)[6]
PLR_	Plug-in wiring; specify 1, 2 or 3 branch circuits and hot wires (A = Black, B = Red, C = Blue, AB or AC)
TILW	Tandem in-line wiring
CW	Cold-weather ballast; 0°F starting temp
CSA	CSA Certified (only required for 347V)
NOM	NOM Certified

• Re-submit

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.[1]
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.[1]
WGCASR	Wireguard, 4' white for asymmetric reflector.[1]
CSMR48	Symmetric reflector, 4' white, 7" aperture.[1]
CASR48	Asymmetric reflector, 4' white, 5-3/4" wide.[1]

NOTES:
1. MVOLT standard for 120-277V applications, 50-60 mhz operation. Some options require voltage specified.
2. T8 lamps only.
3. Slimline lamps only.
4. Not available in 347V.
5. Not available in slimline.
6. Specify voltage.
7. Order two for 8' fixtures.

• Non-compliant
• Provide per Fixture Sched.

C General-Purpose Strip

MOUNTING DATA

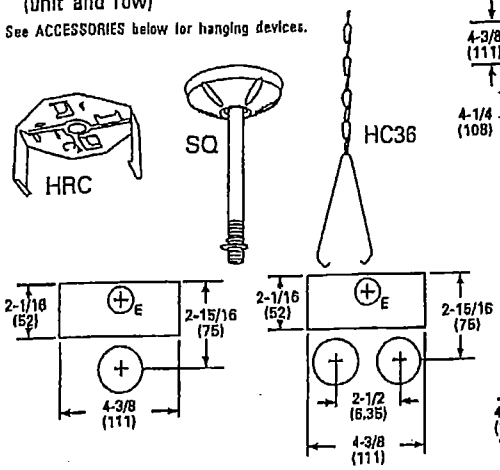
For unit or row installation, surface or suspended mounting.

Unit installation — Minimum of two hangers required.

Row installation — Two hangers per channel required. One per fixture plus one per row if CONLGC installed.

Hooker® (HRC) and HC Hangers — Minimum two per channel (unit and row)

See ACCESSORIES below for hanging devices.

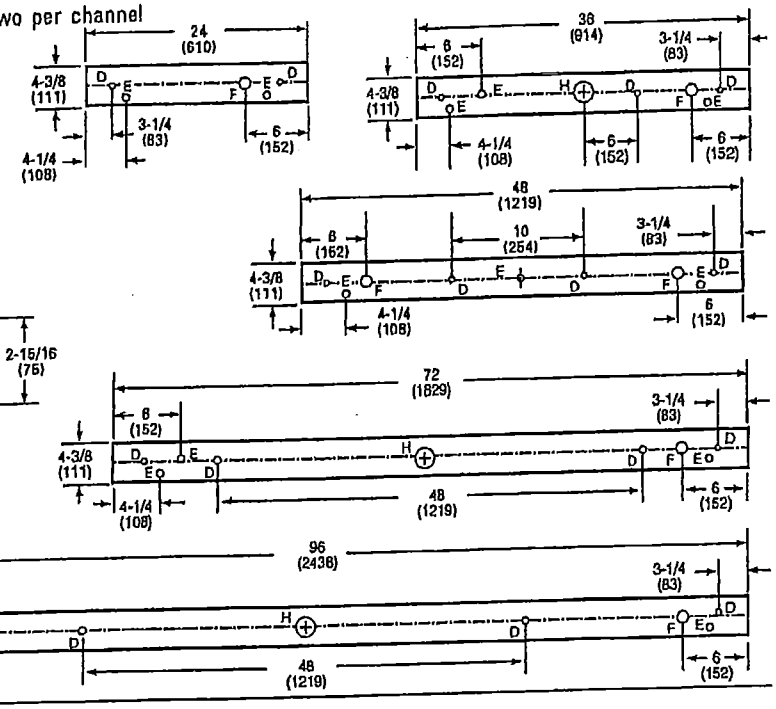


DIMENSIONS

Inches (millimeters). Subject to change without notice.

48", 72" and 96" have only two 7/8" K.O.'s 6" from each end

24" and 36" have only two 7/8" K.O.'s 3-1/4" from each end



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

C 2 96
TEST NO: LTL 18310
LUMENS PER LAMP: 6300

Coefficients of Utilization

pf / pc / pw	80% 50%	80% 30%	80% 10%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	103	103	103	98	98	98	90	90	90
1	85	82	78	82	78	74	76	72	69
2	74	67	61	70	64	59	64	59	55
3	64	58	49	61	54	48	56	49	44
4	56	47	41	53	46	40	49	42	37
5	49	41	35	47	39	34	43	37	31
6	44	36	30	42	34	29	39	32	27
7	40	32	26	36	30	25	35	28	24
8	36	28	23	35	27	22	32	25	21
9	33	25	20	32	25	20	29	23	19
10	30	23	18	29	22	18	27	21	17

RCR

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1785.6	14.2	15.7
0° - 40°	3042.4	24.1	26.8
0° - 60°	5944.0	47.2	52.3
0° - 90°	9027.5	71.6	79.4
90° - 180°	2341.8	18.6	20.6
0° - 180°	11369.4	90.2	100.0

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

LER.FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
86.2	$2.79	(2)T8 F32	2900	.88	55

* Comparative yearly lighting energy cost per 1000 lumens

C 2 32
TEST NO: LTL 5181
LUMENS PER LAMP: 2800

Coefficients of Utilization

pf / pc / pw	80% 50%	80% 30%	80% 10%	70% 50%	70% 30%	70% 10%	50% 50%	50% 30%	50% 10%
0	106	106	106	102	102	102	93	93	93
1	89	84	79	85	80	76	78	74	71
2	76	68	62	72	66	60	66	61	56
3	65	57	50	62	55	49	57	51	46
4	57	48	42	55	47	40	50	43	36
5	51	42	35	48	40	34	44	37	32
6	45	36	30	43	36	29	40	33	28
7	41	32	26	39	31	26	36	29	24
8	37	29	23	36	28	22	33	26	21
9	34	26	20	32	25	20	30	23	19
10	31	23	18	30	23	18	28	21	17

RCR

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	842.1	14.5	15.6
0° - 40°	1435.8	24.8	26.7
0° - 60°	2810.1	48.4	52.2
0° - 90°	4362.5	75.2	81.0
90° - 180°	1021.0	17.6	19.0
0° - 180°	5383.6	92.8	100.0

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

ORDERING INFORMATION	LER.FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
C 2 32 MVOLT GEB10IS	77.6	$3.09	F32T8/735	2800	.88	59
C 2 32 MVOLT BILP	93.6	$2.56	F32T8/835/HT8	3100	.78	48

* Comparative yearly lighting energy cost per 1000 lumens

LITHONIA LIGHTING®
An AcuityBrands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000, 800-315-4983, Fax: 770-602-1531
www.lithonia.com

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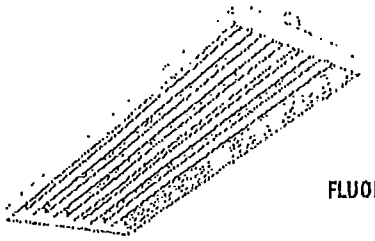
LITHONIA LIGHTING®

TYPE FF
JOB NAME: TIFFIN REC CENTER
CAT#: FGB 6 54T5HO N1X20 MVOLT 1/41/2 GEB10PS LP841

FEATURES & SPECIFICATIONS

**NEW NOMENCLATURE FOR FSB 054 HO



SPEC-BEAM™

FGB

FLUORESCENT HIGH BAY
T5HO Lamps

COOL TECHNOLOGY

PATENT PENDING

T5HO Technology

INTENDED USE — The SPEC-BEAM™ is an ideal one-for-one replacement of common metal halide high bay systems. The optional Cool Running Technology provides trouble-free operation in ambient spaces up to 65°C. Applications include warehousing, manufacturing, commercial facilities and retail. The SPEC-BEAM performs best at mounting heights from 15' to 40'. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table, for suitable uses.

ATTRIBUTES — Designed for optimum performance using highly efficient T5HO lamps. Best in applications requiring a rugged full body assembly with excellent fixture performance. Multiple optical systems allow the right distribution for the right application. Three mounting choices are available. Available in MVOLT, 347 or 480 volt.

CONSTRUCTION — Full fixture body provides strength and rigidity during shipment and installation. Channel, end caps and socket brackets are manufactured from code grade steel, fixture assembly is riveted and screwed together for added strength. Access to ballast and wiring compartment is accessed from below and is completely tool-less.

FINISH — High-gloss white baked enamel, pretreated with five-stage iron phosphate system. Optional polyester powder coat available.

OPTICAL SYSTEM — All distributions included, precision formed, high performance, 95% reflective, segmented optics utilizing Alanod MIRO® 4 specular aluminum warranted for 25 years. Reflector optics are available in a wide variety of distributions and spacing criteria.

Reflectors are available with uplight (recommended) or solid top that includes heat dissipation slots for heat management venting (2-3% uplight typical).

ELECTRICAL SYSTEM — Thermally protected, resettling Class P, HPF, A+ sound rated electronic ballast. AWM, TFM or THHN wire used throughout rated for required temperatures.

Lamps are secured with rotary locking lamp sockets for ease of relamping and to reduce lamps from disconnecting due to vibration or incidental contact.

INSTALLATION — The SPEC-BEAM™ is suitable for suspension by chain, cable or monopoint-mounted with appropriate accessories. Fixture must be suspended mount for ceiling structures.

LISTING — UL Listed, CSA Certified. (UL 1598 and CSA C22.2 No. 250.0-00.) For ambient operation up to 55°C. Suitable for damp locations.

Specifications

#Lamps:	2 or 3	4	6
Length:	48 (1220)	48 (1220)	48 (1220)
Width:	12 (305)	16 (407)	24 (610)
Depth:	4-1/2 (111)	4-1/2 (111)	4-3/4 (121)
Weight:	16 lbs (7.26 kg)	17 lbs (7.71 kg)	19 lbs (8.62 kg)

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

WARRANTY — Ballast Warranty - five years when operated at ambient temperatures up to 55°C, three years when operated at ambient temperatures up to 65°C. Lensed fixtures are warranted for five years when operated at ambient temperatures up to 40°C.

ORDERING INFORMATION

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

Example: FGB24 6 54T5HO T1X20 MVOLT 1/41/2 GEB10PS LP841

Series
FGB14
FGB164
FGB24

Number of lamps[1]
2
3
4
6

Lamp type
54T5HO
54W T5HO

Shielding[1]
(blank) No shielding
A12125 Pattern 12 acrylic, 0.125"
A12125WG Pattern 12 acrylic, 0.125" w/ wireguard in door frame
ACL Clear acrylic, 0.125"
ACLWG Clear acrylic, 0.125" w/ wireguard in door frame
PCL125 Clear polycarbonate, 0.125"
PCL125WG Clear polycarbonate, 0.125" w/ wireguard in door frame
NLWG No lens; wireguard in door frame

Distribution/Reflector[4]

Distribution		Reflector	
		(blank)	Anodized aluminum
F1	Focus (0.9>SC)	X20U	Specular aluminum w/ uplight
T1	Task (0.9<1.2SC)		
N1	Normal (1.2<1.4SC)		
S1	Spread (1.4<1.8SC)	D20	White powder coat[3]
B1	Broad (1.8<SC)[2]	D20U	White powder coat w/ uplight[3]

Voltage
(blank) 120V-277V
HVOLT 347V-480V

Ballast configuration
(blank) All two-lamp ballasts
1/3 One, three-lamp ballast
1/4 One, four-lamp ballast
(blank) One, two-lamp ballast
2/3 Two, three-lamp ballasts

Ballast
ACRB Cool Running[4]
GEB10PS T10 Electronic 10% T10 programmed rapid start

Lamp color
(blank) No lamps
LP830 85 CRI, 3000°K, std. life
LP835 85 CRI, 3500°K, std. life
(blank) 85 CRI, 4100°K, std. life
LP850 85 CRI, 5000°K, std. life

Options
OUTCTR Wiring leads through back center of fixture[7]
PAF Powder coat after fabrication
PAFAL Aluminum construction, PAF
20GA 20-gauge steel construction
TC Top cover panels[4]
WG Wireguard, 11 gauge, external mount
MSI Occupancy sensor pre-wired (aisle)[5]
MSI360 Occupancy sensor pre-wired (360°)[5]
MSIPE Occupancy sensor pre-wired with photocell[5]
EL14 Emergency battery pack (900 lumens)[6]

NOTES:
1 See Configurations table for availability.
2 Not available with prismatic lens option.
3 Available with N1 (normal distribution) only.
4 5/55 warranty for open fixtures only. Fixtures should be mounted at a minimum plenum height of 18'.
5 Must specify voltage.
6 UL listed for 55°C. Output in emergency mode varies with ambient temperature (approx. 944 lumens at 25°C and 911 lumens at 45°C). Single-lamp operation only. Not available with HVOLT. Requires some assembly in the field for six-lamp fixtures.
7 Every distribution not available in every lamp configuration.

Accessories

Order as a separate catalog number.

IBAC120M20	10' adjustable aircraft cable, 2-hook, Y hanger (one pair)
IBAC240M20	20' adjustable aircraft cable, 2-hook, Y hanger (one pair)
HSD06	3' jack chain with hanger (one pair)
THSD	Monopoint hanger with 3/4" KO
THSDHB	Monopoint hanger with 3/4" hub
THSDSK	Side covers for monopoint hanger (one pair)

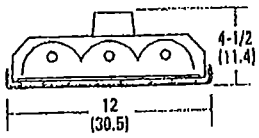
FGB T5HO Fluorescent High Bay

Configurations

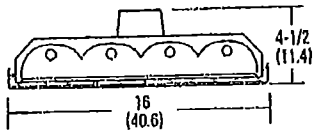
Series	Number of lamps	Width	Height	Length
FGB14	2 or 3	12 (30.5)	4-1/2 (11.4)	48 (121.9)
FGB164	4	16 (40.6)	4-1/2 (11.4)	48 (121.9)
FGB24	6	24 (61.0)	4-3/4 (12.1)	48 (121.9)

DIMENSIONS

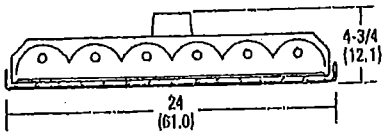
All dimensions are in inches (millimeters).



FGB14



FGB164



FGB24

Cord Set Option:

Add suffix to end of catalog number, specify voltage. All cord sets are 18/3, 6', white unless otherwise noted. Other configurations available, consult factory.

Suffix	Description
CS1W	Straight plug, 120V
CS3W	Twist lock, 120V
CS7W	Straight plug, 277V
CS11W	Twist-lock, 277V
CS25W	Twist-lock, 347V
CS97W	Twist-lock, 480V
CS93W	600V SO white cord, no plug (no voltage required)

PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

FGB164 4 64T5HO B1X20
TEST NO: LTL 14950
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR	80% 50%	80% 30%	80% 10%	20% 50%	20% 30%	20% 10%	30% 50%	30% 30%	30% 10%
0	108	106	108	100	100	100	95	95	95
1	95	91	88	88	86	83	84	82	80
2	83	76	71	77	72	68	73	69	66
3	72	64	58	67	61	56	64	59	55
4	63	55	49	59	52	47	57	51	46
5	56	46	41	52	46	40	50	44	39
6	50	41	35	47	40	35	45	39	34
7	45	37	31	42	36	30	41	34	30
8	40	32	27	38	31	26	37	31	26
9	37	29	24	35	28	23	34	27	23
10	34	26	21	32	25	21	31	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	3288.8	16.7	20.4
0° - 40°	6209.5	35.3	38.5
0° - 60°	12719.4	72.3	78.8
0° - 90°	15576.3	88.6	96.6
90° - 180°	572.5	3.3	3.5
0° - 180°	16148.8	91.8	100.0

FGB164 4 64T5HO T1X20U
TEST NO: LTL 14935
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR	80% 50%	80% 30%	80% 10%	20% 50%	20% 30%	20% 10%	30% 50%	30% 30%	30% 10%
0	110	110	110	99	99	99	92	92	92
1	98	94	91	88	86	83	83	81	79
2	86	80	76	78	74	70	74	70	67
3	77	70	64	70	65	60	66	61	58
4	69	61	55	63	57	52	59	54	50
5	62	54	48	57	51	46	54	49	44
6	56	48	43	52	46	41	49	44	40
7	51	44	38	48	41	37	45	40	36
8	47	40	34	44	38	33	42	36	32
9	43	36	31	41	34	30	39	33	29
10	40	33	29	38	32	28	36	31	27

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	5287.2	30.0	31.7
0° - 40°	7953.9	45.2	47.7
0° - 60°	12351.2	70.2	74.0
0° - 90°	14646.0	83.2	87.8
90° - 180°	2043.1	11.6	12.2
0° - 180°	16692.0	94.8	100.0

FGB24 6 64T5HO T1X20U
TEST NO: LTL 14967
LUMENS PER LAMP: 4400

Coefficients of Utilization

RCR	80% 50%	80% 30%	80% 10%	20% 50%	20% 30%	20% 10%	30% 50%	30% 30%	30% 10%
0	113	113	113	102	102	102	95	95	95
1	100	96	93	90	88	85	85	83	81
2	88	82	77	80	76	72	75	72	68
3	78	71	65	71	66	61	67	63	59
4	70	62	56	64	58	53	60	55	51
5	63	55	49	58	52	47	55	49	45
6	57	49	43	53	46	41	50	44	40
7	52	44	38	48	42	37	46	40	36
8	48	40	35	45	38	34	42	37	33
9	44	37	32	41	35	31	39	34	30
10	41	34	29	38	32	28	37	31	27

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	6032.9	30.4	31.3
0° - 40°	12030.4	45.6	46.8
0° - 60°	18791.8	71.2	73.1
0° - 90°	22563.6	85.5	87.8
90° - 180°	3137.8	11.9	12.2
0° - 180°	25701.4	97.4	100.0

LITHONIA LIGHTING®
An Acuity Brands Company

Lithonia Lighting
Industrial
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000 Fax: 770-981-8141
www.lithonia.com

Sheet #: FGB-T5HO

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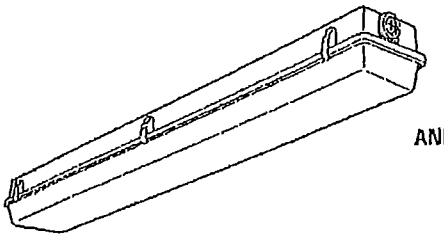
LITHONIA LIGHTING

TYPE: KA
JOB NAME: TIFFIN REC CENTER
CAT #: DMW 2 32 MVOLT GEB10IS

FEATURES & SPECIFICATIONS

Enclosed and Gasketed Industrial

DMW



INSTANT, PROGRAMMED AND RAPID START
4' or 8' length
1, 2 or 3 lamps

INTENDED USE

Intended for low to medium mounting heights where dust, dirt, humidity, moisture, or corrosive elements are present. Ideal for canopies, dock areas, wastewater treatment, refrigerated areas, food processing and other non-hazardous environments.

CONSTRUCTION

Housing formed from impact resistant, UV stabilized, fiberglass reinforced polyester with cold-rolled steel enclosed wireway. Poured in gasketing provides a seal between housing and diffuser. Captive, corrosion-resistant cam-action latches secure the diffuser: six on 4' units, and ten on 8' units. Stainless steel latches available.

FINISH

Painted parts pretreated with a five-stage iron-phosphate process to ensure superior paint adhesion and corrosion resistance, then finished with a high-gloss, baked white enamel.

OPTICAL SYSTEM

High-Impact Acrylic diffuser with a stippled interior surface to spread lamp image.

ELECTRICAL SYSTEM

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

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

INSTALLATION

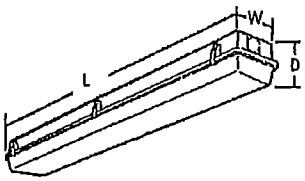
For unit or row installations, surface (ceiling or wall) or suspended mounting.

LISTING

120V, 277V and MVOLT are UL Listed and CSA Certified (standard). 347V is CSA Certified (see Options). NOM Certified (see Options). Listed for 25°C ambient and wet locations for covered-ceiling applications. IP65 rated. Optional IP67 rating available for 4' units only. Compliance to FDA/USDA requirements and/or NSF splash-zone certification.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.



Specifications

Length: 50" (1270)
98" (2489)
Width: 8-1/8" (206)
Fixture depth: 5-5/8" (143)

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

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: DMW 2 32 MVOLT GEB10IS

DMW

Series

DMW 1 lamp
DMW 2 lamp
DMW 3 lamp

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

Number of lamps

1
2
3[1]

Not included

Lamp type

28T5 28W T5 (48")[2]
32 32W T8 (48")
54 54W T5HO (48")[3]

Diffuser

(Blank) High impact acrylic (50% DR)
ARDP Deep high-impact acrylic (50% DR)[4]

Voltage

120
277
347
MVOLT
Others available

Ballast

GEB10IS Electronic ballast, ≤10% THD, instant start
GEB10RS Electronic ballast, ≤10% THD, rapid start[2]
GEB10PS T5 electronic ballast, ≤10% THD, programmed rapid start
GEB10PS90 T5HO 90° case temperature ballast

Options

ELDW Emergency battery pack (nominal 300 lumens)
EL5DW Emergency battery pack (nominal 500 lumens)
EL6DW Emergency battery pack (nominal 600 lumens)
EL14DW Emergency battery pack (nominal 1400 lumens)
GLR Internal fast-blow fuse[5]
GMF Internal slow-blow fuse[5]
RIF1 Radio interference filter, 1 per fixture
STSL Stainless steel latches
WLF Wet location fittings (1 pair, installed, top)
IP67 IP67 rated; requires 8 latches
CSA CSA Certified (Only required for 347V)
NOM NOM Certified

NOTES:
1 32W T8 lamps only.
2 Must specify GEB10PS ballast.
3 Must specify GEB10PS90 ballast.
4 Deep lens is standard on 8' fixtures.
5 Must specify voltage. Not available with MVOLT.
6 For stainless steel, specify STS (ex: BCD STS).

Accessories

Order as separate catalog numbers.

BCD Bracket for hanger chain mounting. Two per package.[6]
HC36 Chain hangers (1 pair, 36" long) Requires BCD.
WLF Wet location fittings (1 pair, not installed).

DMW Rapid Start

MOUNTING DATA

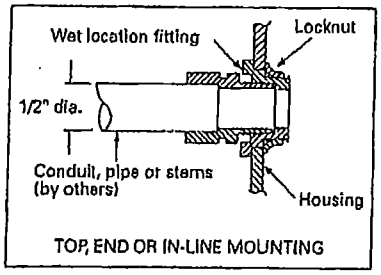
For unit or row installation, surface (ceiling or wall) or suspended mounting.

DMW — Drill holes through housing and channel at appropriate locations. Includes gasketed wet location fittings on ends for power feeding/mounting. Fitting is threaded for 1/2" rigid conduit (optional WLF for top mounting). Attach to surface using fasteners and sealing washers (by others) appropriate to ceiling materials.

Unit Installation — Minimum of two hangers required.

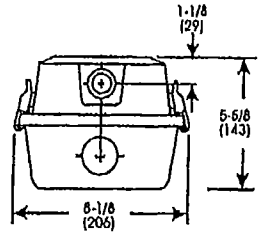
Row Installation — Minimum of two hangers required. Recommend 1/2" nipple with union (by others).

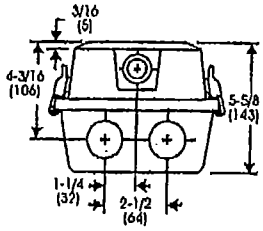
See ACCESSORIES on page 1 for hanging devices.



DIMENSIONS

Inches (millimeters). Subject to change without notice





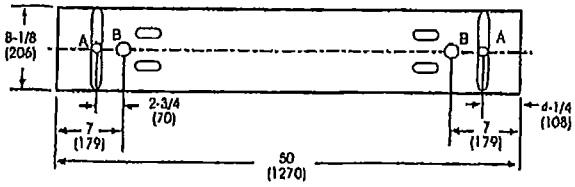
A = 11/16 (17) Dia.

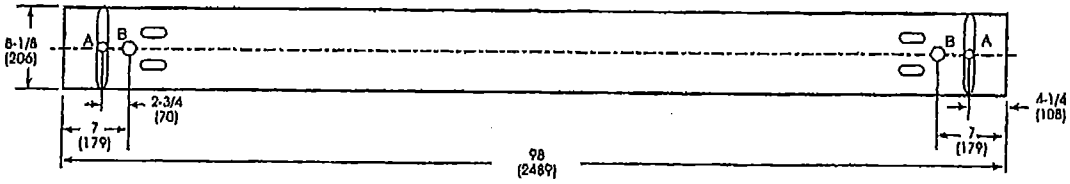
B = 1-1/8 (29) Dia.

Recommended mounting locations (field drilling required)

"8" fixtures are 5-5/8" deep

4' fixtures are 4-5/8" deep





PHOTOMETRICS

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

TEST NO: LTL17548
LUMINAIRE CATALOG NO.: DMW 2 32 MVOLT
LUMENS PER LAMP: 2800

Coefficients of Utilization

pf / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
0	84	84	84	82	82	82	77	77	77
1	71	67	64	69	65	62	65	62	60
2	60	56	50	59	54	49	56	51	47
3	52	46	40	51	45	40	48	43	39
4	46	39	34	45	38	33	42	37	32
5	41	34	29	40	33	28	38	32	28
6	36	29	25	35	29	24	34	28	24
7	33	26	21	32	26	21	31	25	21
8	30	23	19	29	23	19	28	22	19
9	27	21	17	27	21	17	25	20	17
10	25	19	15	25	19	15	24	18	15

RCR

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	807.5	14.4	20.2
0° - 40°	1360.2	24.4	34.0
0° - 60°	2591.8	46.3	65.0
0° - 90°	3822.1	68.3	95.9
90° - 180°	165.4	3.0	4.1
0° - 180°	3987.5	71.2	100.0

TEST NO: LTL17482
LUMINAIRE CATALOG NO.: DMW 2 54T5HO MVOLT ACNS96
LUMENS PER LAMP: 4500

Coefficients of Utilization

pf / pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
0	87	87	87	84	84	84	79	79	79
1	73	69	65	70	67	63	66	63	60
2	62	56	51	60	55	50	58	52	48
3	54	47	42	52	46	41	49	43	39
4	47	40	35	46	39	34	43	37	33
5	42	35	29	41	34	29	38	32	28
6	38	31	26	37	30	25	34	29	24
7	34	27	22	33	27	22	31	25	21
8	31	24	20	30	24	19	28	23	19
9	28	22	18	28	21	17	26	21	17
10	26	20	16	25	20	16	24	19	15

RCR

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1285.5	14.3	19.1
0° - 40°	2169.8	24.1	32.2
0° - 60°	4044.8	44.9	60.1
0° - 90°	6083.7	67.6	90.4
90° - 180°	646.5	7.2	9.6
0° - 180°	6730.2	74.8	100.0

LITHONIA LIGHTING®
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Sheet #: DMW-RS

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LITHONIA LIGHTING

TYPE: BB
JOB NAME: TIFFIN REC CENTER
CAT#: 2SP G B 3 32 RW A12125 MVOLT 1/3 GEB10IS

FEATURES & SPECIFICATIONS

INTENDED USE — Specification premium air-handling luminaires offer general illumination for recessed applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION — Black reveal provides floating door appearance, conceals optional air-supply slots. Optional air flow controls available.

Standard steel doorframe has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows lens replacement without frame disassembly (for lenses up to .156" thick). Superior mechanical light seal requires no foam gasketing. Latches spring loaded, concealed in reveal.

Overlapping flange and modular ceiling trims factory-installed with standard swing-gate hangers.

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

Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

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

ELECTRICAL — Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTINGS — UL Listed (standard). Optional: Canada CSA or C-UL. Mexico NOM.

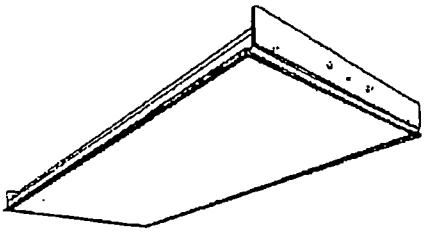
WARRANTY — Guaranteed for one year against mechanical defects in manufacture.

NOTE: Specifications subject to change without notice.

Specification Premium Air-Handling Troffer

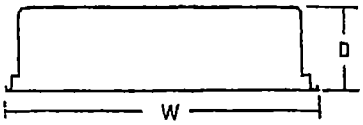
SP AIR 2'X4'

2, 3, 4 or 6 Lamps



Specifications

Length: 48 (121.9)
Width: 24 (61.0)
Depth: 4-1/2 (11.4)



All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: 2SP G B 3 32 FW A12125 MVOLT 1/3 GEB10IS

2SP

Series
- 2SP 2' wide

Trim type
- G Grid
- F Overlapping flanged
- MT Modular fit-in

Air function
- A Air supply/return (slots in side trim)
- H Heat removal (through lamp cavity, dampers available)
- D Combination A and H
- B Static (no air function, matching appearance)

Number of lamps
- 2
- 3
- 4
- 6
- Not included.

Lamp type
- 32 32W T8 (48")
- 28T5 28W T5 (46")
- 54T5HO 54W T5 (46")

Door frame
- (blank) Flush steel, white
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- FW Flush aluminum, white
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- RW Regressed aluminum, white

Diffuser type
- A12 #12 pattern acrylic
- A12125 #12 pattern acrylic, 0.125" thick
- A19 #19 pattern acrylic, 0.156" thick
- A15 #15 pattern acrylic, 0.2" thick
- PC1S 1/2" x 1/2" x 1/2' plastic cube louver, silver
- PC2S 1-1/2" x 1-1/2" x 1" plastic cube louver, silver w/ flange
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

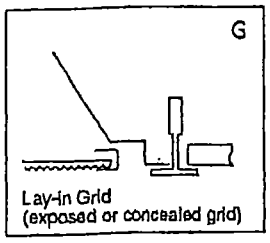
Voltage
- 120
- 277
- 347
- MVOLT
- Others available.

Options
- 1/4 One 4-lamp ballast
- 1/3 One 3-lamp ballast
- GEB10IS Electronic ballast, ≤10% THD, Instant Start
- GEB10RS Electronic ballast, ≤10% THD, Rapid Start
- GEB10PS Electronic ballast, ≤ 10% THD, program start (T8 only)
- EL Emergency battery pack (nominal 300 lumens)
- EL14 Emergency battery pack (nominal 1400 lumes)
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- PWS1836 6' prewire, 3/8" dia., 18-gauge, 1 circuit
- LP735 Lamped; 700-series, 3500K
- LP741 Lamped; 700-series, 4100K
- LP__ Lamped, specify lamp type and color
- HRO Heat-removal dampers (H and D models only)
- APB Air-pattern control blades (A and D models only)
- ACS Air closure strips (A and D models only)
- PAF Painted after fabrication (white enamel)
- SSR Specular silver interior finish (95% reflective)
- CSA CSA Certified
- NOM NOM Certified
- JP Palletized and stretch-wrapped (G trim only)

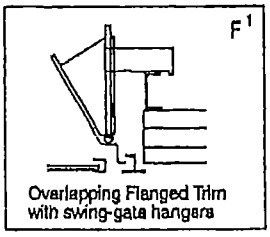
SP AIR 2'x4' Air-Handling, Straight Lamps

MOUNTING DATA

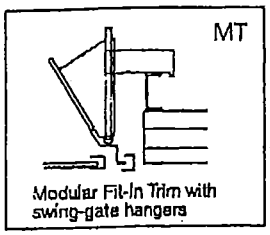
Continuous row mounting of flanged units requires CRE and CRM trim options (see Options).



Lay-in Grid
(exposed or concealed grid)



Overlapping Flanged Trim
with swing-gate hangers



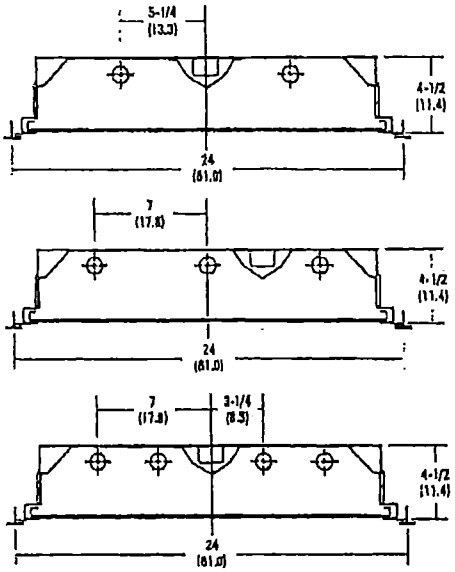
Modular Fit-In Trim with
swing-gate hangers

NOTES:

1 Recommended rough-in dimensions for F trim fixtures 24"x48" (Tolerance is +1/4", -0"). Swing-gate range 1-1/4" to 3-7/16", span 23-7/16" to 26-15/16".

DIMENSIONS

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



PHOTOMETRICS

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

2SP G B 2 32 A12 GEB
Report: LTL12404
LUMENS PER LAMP:2850
Luminaire Efficiency: 75.4%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
RCR / pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0	90	80	90	84	84	84	80	80	80
1	83	79	76	74	72	70	72	70	68
2	76	70	65	68	62	59	64	61	58
3	70	62	57	59	54	51	57	53	50
4	64	56	50	53	48	44	51	47	43
5	59	50	44	48	43	38	46	42	38
6	55	45	39	43	38	34	42	37	34
7	51	41	35	40	34	30	39	34	30
8	48	38	32	36	31	27	35	31	27
9	45	35	29	34	28	25	33	28	25
10	42	32	26	31	26	23	30	26	22

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1390	24.4	32.4
0° - 40°	2263	39.7	52.7
0° - 60°	3671	64.4	85.5
0° - 90°	4296	75.4	100.0
90° - 180°	0	0.0	0.0
0° - 180°	4296	75.4	100.0

2SP G B 3 32 A12 1/3 GEB
Report: LTL12405
LUMENS PER LAMP:2850
Luminaire Efficiency: 71.6%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
RCR / pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0	85	85	85	80	80	80	76	76	76
1	79	75	73	71	69	67	68	66	65
2	72	67	62	63	59	56	61	58	55
3	66	59	54	56	52	48	54	50	47
4	61	53	47	50	46	42	49	45	41
5	56	48	42	45	40	37	44	40	36
6	52	43	37	41	36	32	40	36	32
7	49	39	33	38	33	29	37	32	29
8	45	36	30	35	30	26	34	29	26
9	42	33	28	32	27	24	31	27	23
10	40	31	25	30	25	22	29	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2005	23.5	32.8
0° - 40°	3230	37.8	52.8
0° - 60°	5226	61.1	85.4
0° - 90°	6120	71.6	100.0
90° - 180°	0	0.0	0.0
0° - 180°	6120	71.6	100.0

2SP G B 4 32 A12 GEB
Report: LTL12406
LUMENS PER LAMP:2850
Luminaire Efficiency: 70.9%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
RCR / pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0	84	84	84	79	79	79	75	75	75
1	78	75	72	70	68	66	67	66	64
2	71	66	62	62	59	56	60	57	55
3	66	59	53	56	51	48	54	50	47
4	61	53	47	50	45	42	48	44	41
5	56	47	41	45	40	36	44	39	36
6	52	43	37	41	36	32	40	35	32
7	48	39	33	37	32	29	36	32	29
8	45	36	30	34	29	26	34	29	26
9	42	33	27	32	27	23	31	27	23
10	40	31	25	29	25	21	29	24	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2659	23.3	32.8
0° - 40°	4293	37.7	53.1
0° - 60°	6920	60.7	85.6
0° - 90°	8088	70.9	100.0
90° - 180°	0	0.0	0.0
0° - 180°	8088	70.9	100.0

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

LER	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
66	$3.66	(2) 32W T8	2850	.86	56
68	$3.55	(3) 32W T8	2850	.89	81
66	$3.64	(4) 32W T8	2850	.88	108

* Comparative yearly lighting energy cost per 1000 lumens

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An AcuityBrands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763
www.lithonia.com

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LITHONIA LIGHTING

TYPE: BC
JOB NAME: TIFFIN REC CENTER
CAT#: 2SP G B 2 32 RW A12125 MVOLT GEB10IS

FEATURES & SPECIFICATIONS

INTENDED USE — Specification premium air-handling luminaires offer general illumination for recessed applications. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.

CONSTRUCTION — Black reveal provides floating door appearance, conceals optional air-supply slots. Optional air flow controls available.

Standard steel doorframe has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows lens replacement without frame disassembly (for lenses up to .156" thick). Superior mechanical light seal requires no foam gasketing. Latches spring loaded, concealed in reveal.

Overlapping flange and modular ceiling trims factory-installed with standard swing-gate hangers.

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

Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

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

ELECTRICAL — Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard. Energy saving and electronic ballasts are sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTINGS — UL Listed (standard). Optional: Canada CSA or C-UL. Mexico NOM.

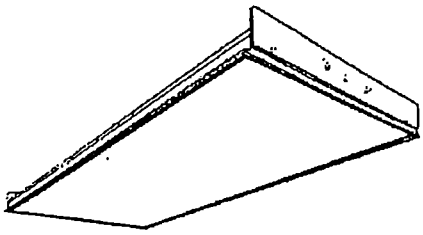
WARRANTY — Guaranteed for one year against mechanical defects in manufacture.

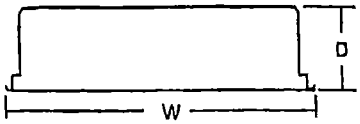
NOTE: Specifications subject to change without notice.

Specification Premium Air-Handling Troffer

SP AIR 2'X4'

2, 3, 4 or 6 Lamps





Specifications

Length: 48 (121.9)
Width: 24 (61.0)
Depth: 4-1/2 (11.4)

All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using standard options (shown in bold).
Example: 2SP G B 3 32 FW A12125 MVOLT 1/3 GEB10IS

2SP

Series
- 2SP 2' wide

Trim type
- G Grid
- F Overlapping flanged
- MT Modular fit-in

Number of lamps
- 2
- 3
- 4
- 6

Not included.

Lamp type
- 32 32W T8 (48")
- 28T5 28W T5 (46")
- 54T5HO 54W T5 (46")

Door frame
- (blank) Flush steel, white
- FN Flush aluminum, natural
- FM Flush aluminum, matte black
- FW Flush aluminum, white
- RN Regressed aluminum, natural
- RM Regressed aluminum, matte black
- RW Regressed aluminum, white

Voltage
- 120
- 277
- 347
- MVOLT

Others available.

Options
- 1/4 One 4-lamp ballast
- 1/3 One 3-lamp ballast
- GEB10IS Electronic ballast, ≤10% THD, Instant Start
- GEB10RS Electronic ballast, ≤10% THD, Rapid Start
- GEB10PS Electronic ballast, ≤ 10% THD, program start (T5 only)
- EL Emergency battery pack (nominal 300 lumens)
- EL14 Emergency battery pack (nominal 1400 lumes)
- GLR Internal fast-blow fuse
- GMF Internal slow-blow fuse
- PWS1836 6' prewire, 3/8" dia., 18-gauge, 1 circuit
- LP735 Lamped; 700-series, 3500K
- LP741 Lamped; 700-series, 4100K
- LP__ Lamped, specify lamp type and color
- HRD Heat-removal dampers (H and D models only)
- APB Air-pattern control blades (A and D models only)
- ACS Air closure strips (A and D models only)
- PAF Painted after fabrication (white enamel)
- SSR Specular silver interior finish (95% reflective)
- CSA CSA Certified
- NOM NOM Certified
- JP Palletized and stretch-wrapped (G trim only)

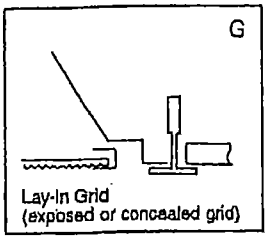
Air function
- A Air supply/return (slots in side trim)
- H Heat removal (through lamp cavity, dampers available)
- D Combination A and H
- B Static (no air function, matching appearance)

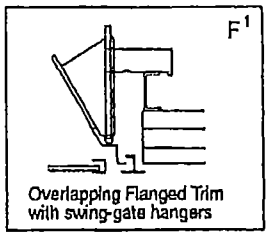
Diffuser type
- A12 #12 pattern acrylic
- A12125 #12 pattern acrylic, 0.125" thick
- A19 #19 pattern acrylic, 0.156" thick
- A15 #15 pattern acrylic, 0.2" thick
- PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver
- PC2S 1-1/2" x 1-1/2" x 1" plastic cube louver, silver w/ flange
- PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

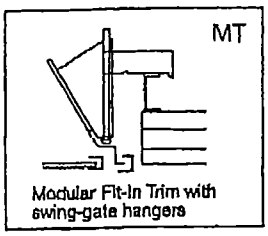
SP AIR 2'x4' Air-Handling, Straight Lamps

MOUNTING DATA

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





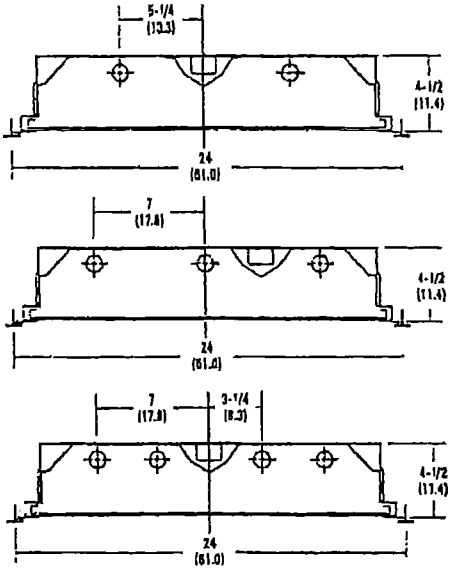


NOTES:

1 Recommended rough-in dimensions for F trim fixtures 24"x48" (Tolerance is +1/4", -0"). Swing-gate range 1-1/4" to 3-7/16", span 23-7/16" to 26-15/16".

DIMENSIONS

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



PHOTOMETRICS

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

2SP G B 2 32 A12 GEB
Report: LTL12404
LUMENS PER LAMP:2850
Luminaire Efficiency:75.4%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR 0	80	90	90	84	84	84	80	80	80
1	83	79	76	74	72	70	72	70	68
2	76	70	65	68	62	59	64	61	58
3	70	62	57	59	54	51	57	53	50
4	64	56	50	53	48	44	51	47	43
5	59	50	44	48	43	38	46	42	38
6	55	45	39	43	38	34	42	37	34
7	51	41	35	40	34	30	39	34	30
8	48	38	32	36	31	27	35	31	27
9	45	35	29	34	28	25	33	28	25
10	42	32	28	31	26	23	30	26	22

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1390	24.4	32.4
0° - 40°	2263	39.7	52.7
0° - 60°	3671	64.4	85.5
0° - 90°	4296	75.4	100.0
90° - 180°	0	0.0	0.0
0° - 180°	4296	75.4	100.0

2SP G B 3 32 A12 1/3 GEB
Report: LTL12405
LUMENS PER LAMP:2850
Luminaire Efficiency:71.6%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR 0	85	85	85	80	80	80	76	76	76
1	79	75	73	71	69	67	68	66	65
2	72	67	62	63	59	56	61	58	55
3	66	59	54	56	52	48	54	50	47
4	61	53	47	50	46	42	49	45	41
5	56	48	42	46	40	37	44	40	36
6	52	43	37	41	36	32	40	36	32
7	49	39	33	38	33	29	37	32	29
8	45	36	30	35	30	26	34	29	26
9	42	33	28	32	27	24	31	27	23
10	40	31	25	30	25	22	29	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2005	23.5	32.8
0° - 40°	3230	37.8	52.8
0° - 60°	5226	61.1	85.4
0° - 90°	6120	71.6	100.0
90° - 180°	0	0.0	0.0
0° - 180°	6120	71.6	100.0

2SP G B 4 32 A12 GEB
Report: LTL12406
LUMENS PER LAMP:2850
Luminaire Efficiency:70.9%

Coefficients of Utilization

pf	20%								
pc	80%			50%			30%		
pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR 0	84	84	84	79	79	79	75	75	75
1	78	75	72	70	68	66	67	66	64
2	71	66	62	62	59	56	60	57	55
3	66	59	53	56	51	48	54	50	47
4	61	53	47	50	45	42	48	44	41
5	56	47	41	45	40	36	44	39	36
6	52	43	37	41	36	32	40	35	32
7	48	39	33	37	32	29	36	32	29
8	45	36	30	34	29	26	34	29	26
9	42	33	27	32	27	23	31	27	23
10	40	31	25	29	25	21	29	24	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	2669	23.3	32.9
0° - 40°	4293	37.7	53.1
0° - 60°	6920	60.7	85.6
0° - 90°	8088	70.9	100.0
90° - 180°	0	0.0	0.0
0° - 180°	8088	70.9	100.0

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

LER	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
56	$3.66	(2) 32W T8	2850	.86	56
68	$3.55	(3) 32W T8	2850	.89	81
56	$3.64	(4) 32W T8	2850	.88	108

* Comparative yearly lighting energy cost per 1000 lumens

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Sheet #: SP-Air-2x4

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MITSUBISHI ELECTRIC

HVAC Advanced Products Division

Mr. SLIM

Split Zoning A/C and Heat Pumps

SUBMITTAL DATA: MSY-GE18NA & MUY-GE18NA

18,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEMS

Job Name: Tiffin Univ - Rec Center Location: Date: 8/16/2011

Purchaser: Dundore Plumbing & Heating Engineer:

Submitted to: For ☐ Reference ☑ Approval ☐ Construction

Unit Designation: AC-1 / CU-3 Schedule No.:

GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Choice of fan speeds: Quiet, Low, Medium, High, and Super High; Auto fan speed control also included
- Wireless remote controller is included; PAR-21MAA wired remote controller can be installed as an option
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years on parts and defects and seven years on the compressor

OPTIONAL ACCESSORIES

Outdoor Unit

- Drain Socket Assembly (MAC-811DS)

Indoor Unit

- M-NET Control Adapter (MAC-399IF)
- MA Contact Terminal Interface (MAC-397IF)
- Wired Remote Controller (PAR-21MAA; requires MAC-397IF)
- Condensate Pump (230V; SI3100-230)
- Anti-allergy Enzyme Filter (Two pieces per set; MAC-408FT-E)

Cooling*

Rated Capacity ..... 17,200 Btu/h
Minimum Capacity ..... 3,700 Btu/h
SEER ..... 19.2 Btu/h/W
Total Input ..... 1,640 W

* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB; Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Electrical Requirements

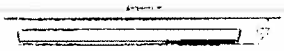
Power Supply ..... 208 / 230V, 1-Phase, 60 Hz
Breaker Size ..... 15 A

Voltage

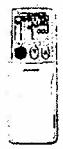
Indoor - Outdoor S1-S2 ..... AC 208 / 230V
Indoor - Outdoor S2-S3 ..... DC 12-24V
Indoor - Remote Controller ..... Wireless

OPERATING RANGE

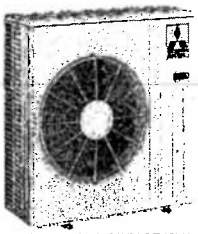
		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 73°F (23°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	14°F (-10°C) DB



Indoor Unit: MSY-GE18NA



Wireless Remote Controller



Outdoor Unit: MUY-GE18NA

Indoor Unit

MCA ..... 1 A
Fan Motor ..... 0.76 F.L.A.
Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling ..... 230 - 275 - 339 - 420 - 533 Dry CFM
194 - 240 - 304 - 385 - 498 Wet CFM

Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)
Cooling ..... 28 - 33 - 38 - 44 - 49 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	31-7/16 / 799
D	9-1/8 / 232
H	11-5/8 / 295

Weight ..... 22 lbs. / 10 kg
External Finish ..... Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. ..... 5/8" / 15.88 mm
Remote Controller ..... Wireless
(Optional Wired Remote Controller PAR-21MAA; see Data Submittal Sheet)

Outdoor Unit

Compressor ..... DC Inverter-driven Twin Rotary
MCA ..... 14 A
Fan Motor ..... 0.93 F.L.A.
Sound Pressure Level
Cooling ..... 54 dB(A)

DIMENSIONS	INCHES / MM
W	33-1/16 / 840
D	13 / 330
H	33-7/16 / 849

Weight ..... 119 lbs. / 54 kg
External Finish ..... Munsell No. 3Y 7.8 / 1.1

Refrigerant Type R410A
Refrigerant Pipe Size O.D.
Gas Side ..... 1/2" / 12.7 mm
Liquid Side ..... 1/4" / 6.35 mm
Max. Refrigerant Pipe Length ..... 100 ft. / 30 m
Max. Refrigerant Pipe Height Difference ..... 50 ft. / 15 m
Connection Method ..... Flared

R410A INVERTER

SHOP DRAWING
PROJECT TIFFIN UNIV. REC CENTER
ITEM MINI SPLIT SYSTEM
REVIEWED BY jh DATE 8-26-11
SPEC # 23 8126

MITSUBISHI ELECTRIC

HVAC Advanced Products Division

Mr. SLIM

Split Zoning A/C and Heat Pumps

SUBMITTAL DATA: MSY-GE24NA & MUY-GE24NA. . . . . 24,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEMS

Job Name: Tiffin Univ - Rec Center Location: Date:

Purchaser: Dundore Plumbing & Heating Engineer:

Submitted to: For ☐ Reference ☑ Approval ☐ Construction

Unit Designation: AC-2,3 / CU-4,5 Schedule No.:

GENERAL FEATURES

- Wall-mounted indoor unit
- Nano Platinum and and Anti-allergy Enzyme filters are included
- Quiet operation
- Choice of fan speeds: Low, Medium, High, and Powerful
- Wireless handheld remote controller is included; PAR-21MAA wired remote controller can be installed as an option
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years on parts and defects and seven years on the compressor

OPTIONAL ACCESSORIES

Outdoor Unit

- ☐ Three-pole Disconnect Switch (TAZ-MS303)
- ☐ Air Outlet Guide (MAC-856SG)
- ☐ Mounting Base (DSD-400N)
- ☐ Mounting Pad (ULTRILITE1)

Indoor Unit

- ☐ Condensate Pump (SI3100-230; 230V)
- ☐ Replacement Anti-allergy Enzyme Filters (MAC-2310FT-E; 2/set)

Controller Options

- ☐ Wall-mounted Wired Controller (PAR-21MAA; req. MAC-3971F)
- ☐ MA Contact Terminal Interface (MAC-397IF)
- ☐ M-NET Control Adapter (MAC-399IF)
- ☐ Remote Temperature Sensor (M21-JKO-307)
- ☐ Lockdown Bracket for Handheld Controller (RCMKP1CB)

Cooling*

Rated Capacity . . . . . 22,500 Btu/h
~~Minimum to Maximum Capacity Range . . . . . 8,200 - 31,400 Btu/h~~
SEER . . . . . 19.0 Btu/h/W
EER . . . . . 12.5 Btu/h/W
Total Rated Input . . . . . 1,800 W

* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB; Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Electrical Requirements

Power Supply . . . . . 208 / 230V, 1-Phase, 60 Hz
Breaker Size . . . . . 20 A

Voltage

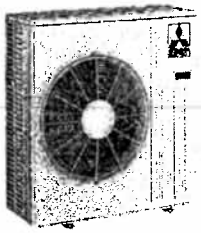
Indoor - Outdoor S1-S2 . . . . . AC 208 / 230V
Indoor - Outdoor S2-S3 . . . . . DC 12-24V
Indoor - Remote Controller . . . . . Wireless

OPERATING CONDITIONS

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 73°F (23°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	14°F (-10°C) DB

Indoor Unit: MSY-GE24NA

Wireless Handheld Remote Controller



Outdoor Unit: MUY-GE24NA

Indoor Unit

MCA . . . . . 1 A
Fan Motor . . . . . 0.76 F.L.A.
Airflow (Lo - Med - Hi - Powerful)
Cooling . . . . . 388 - 469 - 628 - 738 Dry CFM
347 - 420 - 562 - 661 Wet CFM

Sound Pressure Level (Lo - Med - Hi - Powerful)
Cooling . . . . . 34 - 41 - 49 - 53 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	43-5/16 / 1,116
D	9-3/8 / 238
H	12-13/16 / 325

Weight . . . . . 37 lbs. / 17 kg
Moisture Removal . . . . . 2.7 pt./h
External Finish . . . . . Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. . . . . 5/8" / 15.88 mm
Remote Controller . . . . . Wireless Handheld
(Optional Wired Remote Controller PAR-21MAA; see Data Submittal Sheet)

Outdoor Unit

Compressor . . . . . DC Inverter-driven Twin Rotary
MCA . . . . . 17.1 A
Fan Motor . . . . . 0.93 F.L.A.
Sound Pressure Level (Cooling) . . . . . 55 dB(A)

DIMENSIONS	INCHES / MM
W	33-1/16 + 3-3/16 / 840 + 81
D	13 / 330
H	34-5/8 / 880

Weight . . . . . 119 lbs. / 54 kg
External Finish . . . . . Munsell No. 3Y 7.8 / 1.1

Refrigerant Type R410A
Refrigerant Pipe Size O.D.
Gas Side . . . . . 5/8" / 15.88 mm
Liquid Side . . . . . 3/8" / 6.35 mm
Max. Refrigerant Pipe Length . . . . . 100' / 30 m
Max. Refrigerant Pipe Height Difference . . . . . 50' / 15 m
Connection Method . . . . . Flared

INVERTER

3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop (Qty: 3)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1 7.5t	1	R410A PKGD Gas/Electric	YSC092E4RXA--D1D1A1B60101
A2	RTU-2 7.5t	1	R410A PKGD Gas/Electric	YSC092E4RXA--D0D1A1B60101
A3	RTU-4 10t	1	R410A PKGD Gas/Electric	YHC120E4RZA--D0D1A1B6B007

Product Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

All Units

DX cooling, gas heat
Convertible configuration
460/60/3
Microprocessor controls
Economizer Dry Bulb 0-100% with ~~Barometric Relief~~ Exhaust Fan - See Pg 5 - See Spec's.
Standard panel/2 in pleated filters Merv 13
Standard condenser coil w/hail guard
Through the base electrical
~~Non-fused disconnect~~
~~Powered convenience outlet~~
BACnet Communications Interface
2-5 Year parts warranty — 5 yrs - Compressors & Furnaces; 3 yrs - Ignition & Controls

Item: A1 Qty: 1 Tag(s): RTU-1 7.5t

Standard efficiency
7.5 Ton Dual compressor
Low gas heat stainless steel heat exchanger
Oversize motor
Frostat
Clogged filter switch
Add - Hot Gas Bypass

Item: A2 Qty: 1 Tag(s): RTU-2 7.5t

Standard efficiency
7.5 Ton Dual compressor
Low gas heat stainless steel heat exchanger
Frostat
Clogged filter switch

Item: A3 Qty: 1 Tag(s): RTU-4 10t

High efficiency
10 Ton
High gas heat stainless steel heat exchanger
Dehumidification-hot gas reheat
Clogged filter switch, Fan failure and Discharge air sensing tube
Variable Speed Direct Drive Supply Fan
VAV Controls (Discharge Air Control)
Humidity wall mounted sensor (Fld)

Performance Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Tags	RTU-1 7.5t	RTU-2 7.5t	RTU-4 10t
Design Airflow (cfm)	3410	2580	3500
Airflow Application	Downflow	Downflow	Downflow
Cooling Entering DB (F)	77.40	78.70	82.30
Cooling Entering WB (F)	65.20	66.00	68.20
Ent Air Relative Humidity (%)	52.28	51.33	48.87
Ambient Temp (F)	90.00	90.00	90.00
Evap Coil Leaving Air Temp (DB) (F)	-	-	57.40
Evap Coil Leaving Air Temp (DB) (F)	57.90	54.72	57.40
Evap Coil Leaving Air Temp (WB) (F)	-	-	57.00
Evap Coil Leaving Air Temp (WB) (F)	55.73	53.93	57.00
Cooling Leaving Unit DB (F)	60.18	56.36	59.69

Tiffin Univ - Rec Center

July 18, 2011

Tags	RTU-1 7.5t	RTU-2 7.5t	RTU-4 10t
Cooling Leaving Unit WB (F)	56.63	54.61	57.88
Cooling LDB with reheat (F)	-	-	78.29
Gross Total Capacity (MBh)	96.80	92.59	122.85
Gross Sensible Capacity (MBh)	71.80	66.81	94.14
Gross Latent Capacity (MBh)	25.00	25.77	28.71
Net sensible heat ratio w/reheat on (Number)	-	-	0.21
Net Total Capacity (MBh)	89.54	89.42	115.72
Net Sensible Capacity (MBh)	64.53	63.64	87.01
Net Sensible Heat Ratio (Number)	0.72	0.71	0.75
Heating EAT (F)	57.00	51.80	45.00
Heating LAT (F)	83.70	87.00	98.10
Heating Delta T (F)	26.70	35.20	53.10
Input Heating Capacity (MBh)	120.00	120.00	250.00
Output Heating Capacity (MBh)	97.20	97.20	200.00
Output Heating Cap. w/Fan (MBh)	104.47	100.37	207.12
Design ESP (in H2O)	1.200	1.000	1.500
Component SP (in H2O)	0.251	0.196	0.339
Field supplied drive kit required	None	None	None
Indoor mtr operating power (bhp)	2.34	1.34	2.54
Indoor RPM (rpm)	1011	864	1522
Indoor Motor Power (kW)	1.74	0.99	1.89
Outdoor Motor Power (kW)	0.77	0.77	0.70
Compressor Power (kW)	6.19	6.17	7.22
System Power (kW)	8.71	7.93	9.81
IPLV @ AHRI (IPLV)	13.0	13.0	14.0
MCA (A)	22.40	19.50	24.90
MOP (A)	25.00	25.00	30.00
Compressor 1 RLA (A)	7.10	7.10	9.60
Compressor 2 RLA (A)	6.10	6.10	7.10
Evaporator fan FLA (A)	4.60	1.70	4.30
Condenser fan FLA (A)	2.80	2.80	1.50
Evaporator face area (sq ft)	12.36	12.36	16.65
Evaporator rows (Each)	3.00	3.00	4.00
Evaporator fin spacing (Per Foot)	192	192	192
Evaporator face velocity (ft/min)	276	209	210
Min. unit operating weight (lb)	916.0	916.0	1369.0
Max. unit operating weight (lb)	1081.0	1081.0	1601.0
Fan motor heat (MBh)	7.27	3.17	7.12
Reheat Temp Rise (F)	-	-	20.90
Reheat Capacity (MBh)	-	-	79.35
Dew Point (F)	-	-	56.75
Dew Point (F)	54.27	53.38	56.75
Leaving Air Humidity Ratio (lb/lb)	-	-	0
Moisture Removal (gal/hr) (gph)	-	-	3.25
Mixed Air Humidity Ratio (lb/lb)	-	-	0
Leaving Unit Rel Humid w/Reheat (%)	-	-	47.54
Rated capacity (AHRI) (MBh)	89.3	89.3	113.00
Exhaust fan power (kW)	0.65	0.65	0.65
Refrig charge (HFC-410A) - ckt 1 (lb)	7.1	7.1	14.0
Refrig charge (HFC-410A) - ckt 2 (lb)	6.6	6.6	11.8
ASHRAE 90.1	Yes	Yes	Yes
Saturated Suction Temp Circuit 1 (F)	50.81	48.18	52.98
Saturated Discharge Temp Circuit 1 (F)	114.19	113.35	113.27
Saturated Suction Temp Circuit 2 (F)	50.29	47.57	53.54
Saturated Discharge Temp Circuit 2 (F)	111.53	110.79	108.44
IEER ( )	13.00	13.00	14.00

— OK "Relief"

Project # 14-12429
Docket # 14-1231

Product Catalog

Split System Condensing Units —RAUJ
Remote Chiller Evaporators

20 - 120 Tons — 50/60 Hz — R-410A

March 2012

SS-PRC030-EN

TRANE

General Data

Table 2. General data - 20 - 120 ton remote chillers

Model Number	RAUJ-C20	RAUJ-C25	RAUJ-C30	RAUJ-C40	RAUJ-C50	RAUJ-C60	RAUJ-C80	RAUJ-D10	RAUJ-D12
Shipping weight, lbs	44	84	113	90	135	157	208	292	320
Operating weight, lbs	56	104	142	131	206	244	330	473	520
No. of refrigerant circuits	1	1	1	2	2	2	2	2	2
Water volume, Gal	1.4	2.2	3.3	4.6	7.9	9.7	13.6	20.1	22.2
Chiller refrig charge @ AHRI condition, lbs	0.9	1.5	2.2	3.1	5.3	6.4	9.0	13.3	14.7
Minimum water flow rate, GPM	24	30	36	48	60	72	96	120	144
Maximum water flow rate, GPM	69	89	100	136	176	201	275	346	407
Chiller Water Supply/Return Pipe Size, in	2.0	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0

Notes:
1. All heat exchangers are brazed plate.
2. All heat exchangers are single circuit on the water side.
3. Shipping and operating weights are approximate.
4. Refrigerant charge is approximate and for chiller only.
5. Applications with leaving water temperature below 42°F require freeze protection down to 15°F.
6. Maximum chiller operating ambient is 115°F.

Table 3. EER data - condensing unit only[(a)]

	Net Cap (MBH)	Total Compressor kW	Condenser Fan kW Each/Total	Control kW	Total Power kW	EER	IEER
RAUJ-C20	266.9	20.6	0.9/1.8	0.4	22.9	11.7	15.1
RAUJ-C25	324.9	23.9	0.9/2.7	0.4	26.9	12.1	15.1
RAUJ-C30	399.4	32.1	0.9/2.7	0.4	35.2	11.4	15.5
RAUJ-C40	545.5	42.4	0.9/3.6	0.7	46.7	11.7	15.4
RAUJ-C50	690.5	53.5	0.9/5.4	0.7	59.6	11.6	15.1
RAUJ-C60	786.6	64.4	0.9/5.4	0.7	70.5	11.2	15.3
RAUJ-C80	1121.0	94.3	0.9/7.2	0.7	102.1	11.0	15.4
RAUJ-D10	1374.0	109.3	0.9/10.8	0.7	120.7	11.4	15.6
RAUJ-D12	1661.0	134.3	0.9/10.8	0.7	145.6	11.3	15.7

Note: Capacity is rated in accordance with AHRI 365 - 95F Ambient, 45F Saturated Suction Temperature

(a) Condensing unit only ratings are in accordance with AHRI standard 365. Full load ratings are at 95°F entering air temperature, and refrigerant conditions entering the condensing unit of 45°F saturated and 60°F actual temperature. Part load ratings are at 80°F entering air temperature and refrigerant conditions entering the condensing unit of 50°F saturated suction and 65°F actual temperature.

Table 4. Altitude correction multiplier for capacity

Altitude (ft.)	2,000	4,000	6,000	8,000	10,000
Condensing Unit Only	0.982	0.960	0.933	0.902	0.866
Condensing Unit / Air Handling Unit Combination	0.983	0.963	0.939	0.911	0.881
Condensing Unit With Evap.	0.986	0.968	0.947	0.921	0.891

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in

Case No(s). 14-1231-EL-EEC

Summary: Application -Tiffin University 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