

# Club Room Control System

GRAFIK Eye®

3000/4000 SERIES  
SPECIFICATION GUIDE



# Club Room Control System

SPECIFICATION GUIDE TABLE OF CONTENTS		
2-3	General Specifications/Sources/ Scenes/Zones	11 Software
4-5	GRAFIK Eye 3000 Series Preset Dimming Control Diagram Model Specifications	12-13 Accessory Controls
6-7	GRAFIK Eye 4000 Series Preset Dimming Control Diagram	14-15 Dimensions/Mounting
8-9	Dimming Panel Model Specifications	16-17 Dimming System Specifications
10	GRAFIK Eye 3500/4500 Models	18-19 Colors, Finishes, Ordering Information and Warranty

## GRAFIK Eye®

### General Specifications

#### Fade Times:

Adjustable for each scene from immediate to 60 minutes.

#### Power Failure Memory:

Lights automatically return to prior levels; scenes and fade times are saved.

#### Input Power:

50/60 Hz from conventional utility distribution systems or from a generator-based system.

#### Energy Management / Savings:

GRAFIK Eye lighting controls offer longer bulb life for incandescent sources, energy savings and increased productivity.






#### Integration:

Interfaces are available for seamless integration with audio/visual, security and other equipment. Visit the Lutron website, [www.lutron.com](http://www.lutron.com), for detailed application notes.

GRAFIK Eye® preset dimming controls increase the functionality, flexibility and beauty of any space, from the simplest residential applications to the most complex commercial applications.

One standard product family handles virtually any job. GRAFIK Eye 3000 Series controls operate via integral dimmers for residential and smaller commercial applications. GRAFIK Eye 4000 Series controls are used with separate Dimming Panels for high performance architectural applications. Both specification grade, GRAFIK Eye 3000 & 4000 Series controls offer consistent, convenient lighting scene recall at the touch of a button.

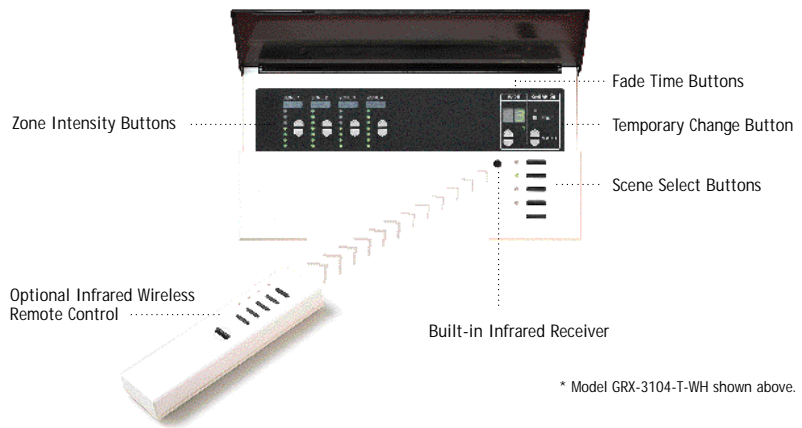
Lutron offers a choice of GRAFIK Eye Models to control 2 to 64 zones of lighting along with Accessory Controls to expand the system's capabilities for such functions as light sequencing, lockout features and much more. Consult your Lutron representative for the right GRAFIK Eye lighting control solution for your needs.

SOURCES			Incandescent/Tungsten
	Neon/Cold-Cathode		Electronic Transformer Low Voltage
	T-12, T-8, T-5, plus T-4 Compact Fluorescent		Magnetic Transformer Low Voltage
GRAFIK Eye controls work with above sources for intensity changes (either directly or through interfaces) that are smooth and continuous. GRAFIK Eye Dimmers are electronically assigned to the appropriate load types/dimming curve (including non-dim) and can be reassigned at any time. Contact Lutron for information on other lighting sources.			

# Club Room Control System

## GRAFIK Eye PRESET LIGHTING CONTROL

GRAFIK Eye controls allow the user to create and recall custom preset scenes for common room activities. Scenes are set by adjusting the lighting zones (a light or group of lights controlled together within a room or space) to create the perfect combination for any activity. Switch between scenes at the touch of a button.

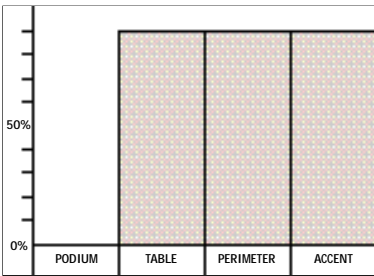


### SCENES

### ZONES

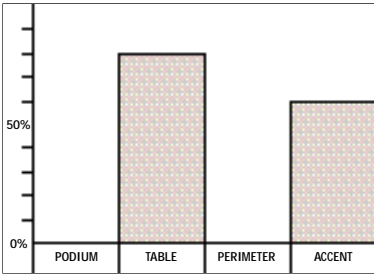
#### 1. Set Up

Lights are on for room set up before use. Table, perimeter and accent lighting are all preset at 90 percent for maximum viewing and energy savings. Podium lights are off.



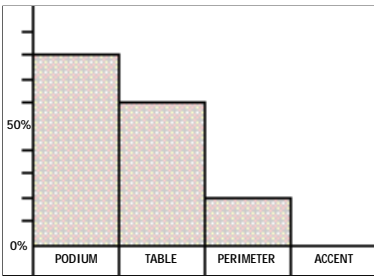
#### 2. General Meeting

Once participants are assembled, this general meeting setting highlights the working area with table lighting at 80 percent and accent lights set at 60 percent while podium and perimeter lights are completely off.



#### 3. A/V Presentation

For A/V presentations, this setting allows the room to be darkened without sacrificing work lighting at the table. Podium lighting is at 80 percent, table lighting is at 60 percent, perimeter lighting is at 20 percent while accent lighting is off to darken the background.



#### 4. Unoccupied/Night light

Lights are set at low levels when room is not in use. Podium, table and accent lights are all off, with perimeter lighting set at 50 percent.

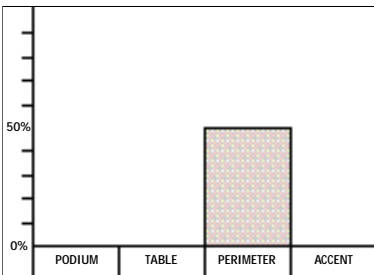


Photo location: Executive Board Room, Manulife Financial, Toronto, Ontario

# Club Room Control System

GRAFIK Eye®

3000 SERIES

MULTI-SCENE  
PRESET DIMMING CONTROLS

Models 3100 & 3500 for residential and smaller commercial applications have integral power dimmers with line voltage outputs.

### 3000 Series—Specification Grade

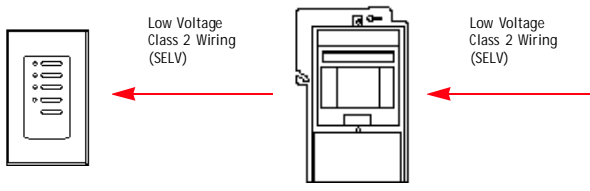
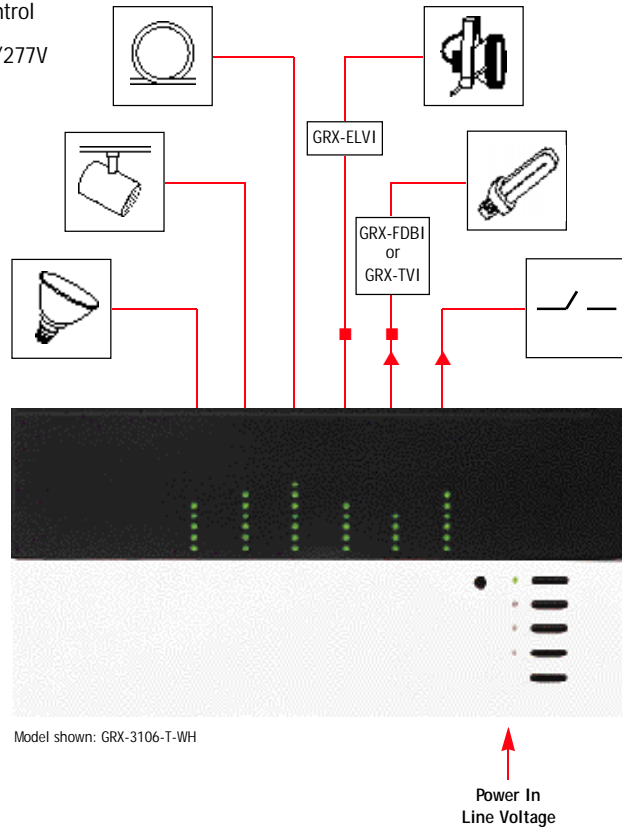
4 Scenes and 2, 3, 4, or 6 Zones, expandable to 16 scenes and 48 zones.

- Can link up to 8 GRAFIK Eye Control Units (8 addresses) for up to 48 zones
- Up to 16 Accessory Controls for total of 24 control points
- Built-in Infrared Receiver/Optional Infrared Wireless Remote Control
- Can increase individual zone capacities to 30,000 W/VA at 120V/277V (For detailed information, see page 13.)

■ Power Interfaces are necessary for Fluorescent (GRX-FDBI) and Electronic Low Voltage (GRX-ELVI). Power Interfaces are not required with HP 2•4•6 Dimming Module. (For detailed Power Interface information, see page 13.)

▲ GRX-TVI— Provides a 0-10V output that conforms to BSI 929. Can be used to switch all lighting loads, including metal halide and electronic ballasts. If switching other non-lighting loads, use a relay by others.

**Note:** System requires interface at 230V.



**Accessory Controls-**  
A full line of wallstation controls (up to 16 per system) available to expand system capabilities (For more detailed information, see page 12.) (1)

**Interface Accessories-**  
Provide inputs and outputs for seamless integration with additional equipment (For more detailed information, see page 13.)

(1) Use of more than 3 Accessory Controls and Low Voltage Interface Accessories per GRAFIK Eye 3000 Series Control Unit requires addition of Part No. GRX-12VDC Class 2 transformer (120V AC: 12 VDC). Consult factory for 220-240V applications.

GRAFIK Eye Models 3100 & 3500 Control Unit Specifications	GRAFIK EYE MODEL NO.	NO. OF ZONES	WALLBOX SIZE*	TOTAL WATTS/VA			
				120V	100V (-JA)	220-240V (-AU)	230V CE (-CE)
	GRX-3102- GRX-3502-	2	2 Gang <sup>††</sup> (2) SB-1G	1200	1000	1600	1600 <sup>†</sup>
	GRX-3103- GRX-3503-	3	3 Gang <sup>††</sup> (3) SB-1G	1500	1250	2400	2300 <sup>†</sup>
	GRX-3104- GRX-3504-	4	4 Gang (1) SB-4G	2000	1600	3000	2300
	GRX-3106- GRX-3506-	6	4 Gang (1) SB-4G	2000	1600	3000	2300

\* Mount in standard multiple gang wallbox, 2.75" deep minimum, 3.5" deep recommended.  
\* Available from Lutron as Part No. listed.  
† (1) No. SB-4G required.  
†† CE requires SB-4G (4 gang) wallbox.

Note: To build a complete Model No., see page 18.

# Club Room Control System

## Global Product Offerings

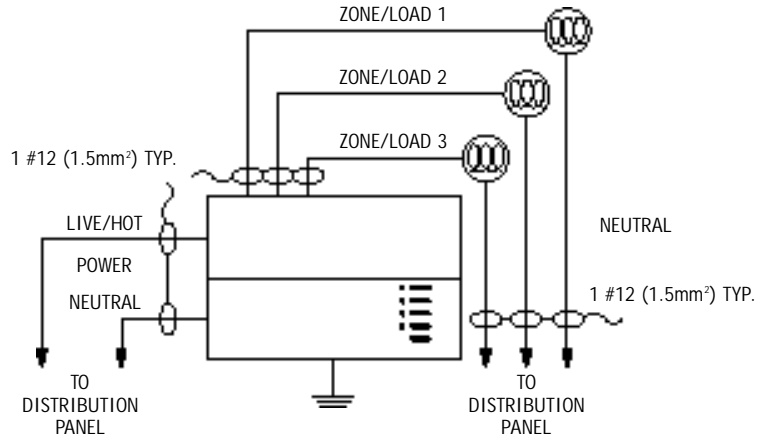
Volts	Zone Capacity
120V	6.7A/800WA
100V	6.0A/600W/VA
220-240V	5.0A/1200W/VA
230V	3.4A/800W/VA

**Note:** GRAFIK Eye Control Units have both a maximum capacity limit per zone and a maximum capacity limit per unit. Each **zone** cannot exceed the total Watts/VA in the chart at left, and each **unit** cannot exceed the total Watts/VA outlined in the chart on page 4. However, the maximum unit capacity can be allocated among each individual zone in the unit. For example, on a 3-zone unit at 120V with a maximum zone capacity of 800W and a maximum unit capacity of 1500W, some zones will not reach the individual zone maximum because the total unit maximum cannot exceed 1500W. Check total unit maximums before ordering Model Nos.

## SYSTEM WIRING

Diagram at right illustrates basic system wiring for GRAFIK Eye 3000 Series Control Units.

**Note:** For wiring multiple Control Units, Interfaces, and Accessory Controls, system wiring should be: Low Voltage Class 2 (SELV) 4-wire daisy chain of two No. 18 (1.0mm<sup>2</sup>) twisted pairs (4 wires); two Belden 9740, or one Liberty LU02PSH18EX-GRN. For complete system wiring information, see 3000 Series Installer's Guide, P/N 032-042.

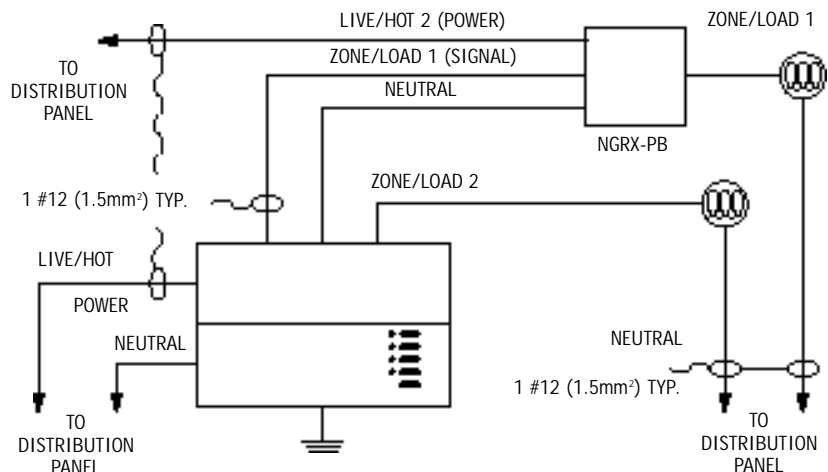


For CE Wiring, consult factory.

## POWER BOOSTER AND INTERFACE WIRING

For GRAFIK Eye 3000 Series controls only, Lutron Power Boosters can be added to increase zone capacities. Consult factory for other load types (e.g. HID). (For 120V, Power Interfaces are not required with HP 2-4-6 Dimming Module.)

For other Interface Wiring information, consult installation information shipped with product.



# Club Room Control System

GRAFIK Eye®

4000 SERIES

ARCHITECTURAL  
LIGHTING SYSTEMS

Models 4100 & 4500 combine with GRAFIK Eye Dimming Panels for higher performance architectural control applications.

## 4000 Series—Specification Grade

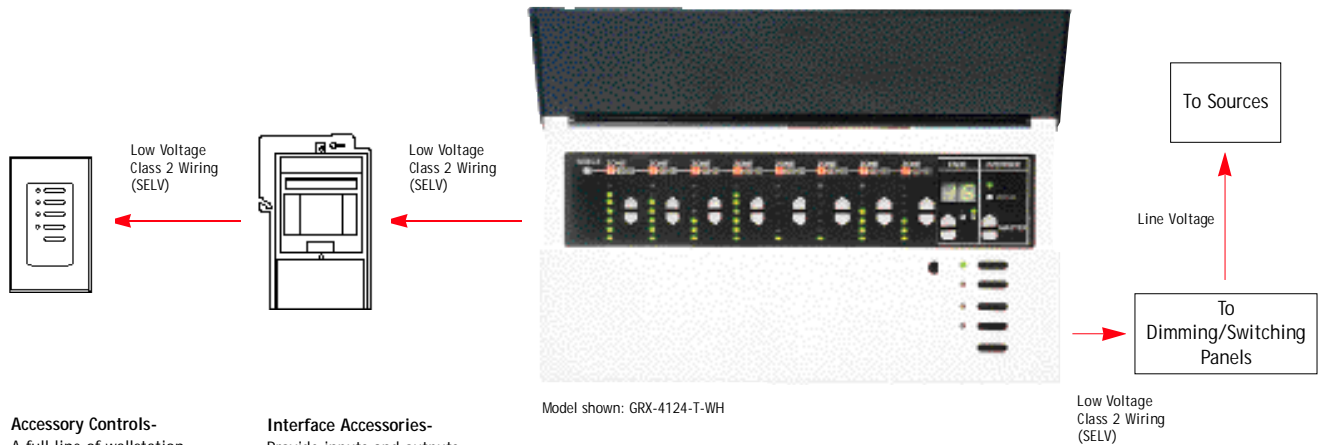
4 Scenes and 2, 3, 4, 6, 8, 16 or 24 Zones: expandable to 16 scenes and 64 zones.

- Can link up to 8 GRAFIK Eye Control Units (8 addresses) for up to 64 zones
- Use with GRAFIK Eye Dimming or Switching Panels (32 panels, 768 circuits maximum)
- Up to 16 Accessory Controls for total of 24 control points
- Built-in Infrared Receiver/Optional Infrared Wireless Remote Control

## System Wiring:

Low Voltage Class 2 (SELV) 4-wire daisy chain of two No. 12 (4.0mm<sup>2</sup>) wires and one No. 18 (1.0mm<sup>2</sup>) twisted shielded pair (Beldon 9461, Alpha 2211) 2000 ft. (610 m) maximum. Available in one cable (Liberty LUCOM 12/22-RBL). For complete system wiring information, see 4000 Series Installer's Guide, P/N 032-036.

**Note:** For CE Wiring, consult factory.



### Accessory Controls-

A full line of wallstation controls (up to 16 per system) available to expand system capabilities (For more detailed information, see page 12.)

### Interface Accessories-

Provide inputs and outputs for seamless integration with additional equipment (For more detailed information, see page 13.)

## GRAFIK Eye Models 4100 & 4500 Control Unit Specifications

GRAFIK EYE MODEL NO.	NO. OF ZONES	WALLBOX SIZE*
GRX-4102- GRX-4502-	2	2 GANG (2) SB-1G
GRX-4103- GRX-4503-	3	3 GANG (3) SB-1G
GRX-4104- GRX-4504-	4	4 GANG (1) SB-4G
GRX-4106- GRX-4506-	6	4 GANG (1) SB-4G
GRX-4108- GRX-4508-	8	4 GANG (1) SB-4G
GRX-4116- <sup>†</sup> GRX-4516-	16	4 GANG (1) SB-4G
GRX-4124- <sup>††</sup> GRX-4524-	24	4 GANG (1) SB-4G

\* Mount in standard multiple gang wallbox, 2.75" deep minimum, 3.5" deep recommended.  
\* Available from Lutron as Part No. listed.  
† 4116/4516 requires 2 addresses.  
†† 4124/4524 requires 3 addresses.

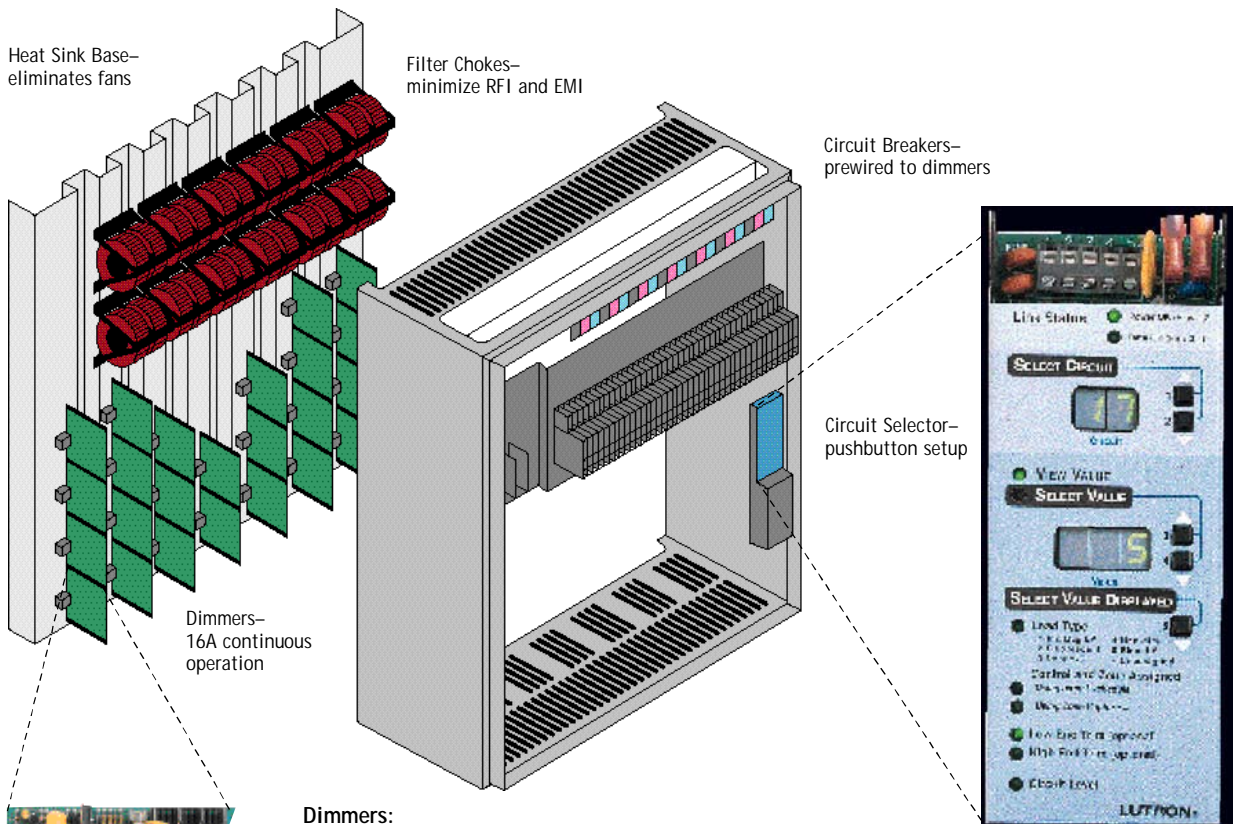
Note: To build a complete Model No., see page 18.

# Club Room Control System

## DIMMING PANELS

Lutron Dimming Panels are used with GRAFIK Eye 4000 Series controls for architectural lighting control of premiere spaces and complete buildings.

- **Prewired.** Panels are prewired and ready for installation. Dimmer modules are plug-in design, 20A per circuit (16A continuous), 120-277 VAC, 50/60 Hz, and compensate for line voltage changes. **Note: 100 VAC available for Japan.**
- **Normal/Emergency.** All Panels have an internal switch for normal or normal/emergency (non-essential or essential) power operation.
- **No Ventilation Fans.** Unique ribbed base conducts heat out of panel via convection cooling.
- **Quick Shipment.** Panels are pre-engineered for quick shipment. Panels can be surface- or flush-mounted (GP Panel is surface-mount only).
- **Premium Temperature Margins.** Panels operate at a minimum of 20 degrees Celsius below the power conducting component temperature rating. Electronic components live twice as long for every 10 degrees Celsius below the rating at which they operate both increasing semiconductor reliability and ensuring the system's design life span.



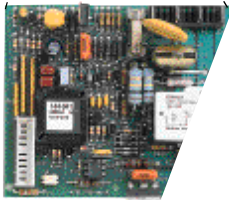
Heat Sink Base—  
eliminates fans

Filter Chokes—  
minimize RFI and EMI

Circuit Breakers—  
prewired to dimmers

Circuit Selector—  
pushbutton setup

Dimmers—  
16A continuous  
operation



### Dimmers:

- Handles all GRAFIK Eye lighting sources
- Automatically sets Square Law dimming curves for smooth, linear control when load types are selected (at circuit selector)
- High-end trim easily adjusted to extend Incandescent/Tungsten and Low Voltage lamp life, and for energy savings
- Employs plug-in design, 20A per circuit (16A continuous), 100-277 VAC, 50/60 Hz, and compensates for line voltage changes

### Circuit Selector:

#### Fast Easy Pushbutton Setup

- Assigns load types to circuits
- Assigns circuits to zones
- Simplifies system setup
- Makes field changes easy
- Flashes individual circuits for visual identification

# Club Room Control System

GRAFIK Eye®

4 0 0 0 S E R I E S

DIMMING/SWITCHING  
PANEL INFORMATION

GP DIMMING PANELS					
Model Prefix	No. of Circuits	Voltage	Feed Type*	Main Lugs Only (ML) Main Breaker (M) Isolator Switch (IS)	Branch Circuit Breaker Capacity (Amps)
<b>120-127 VOLTS</b>					
GP 3-	3-	120	4	M-	20
GP 3-	3-	120	4	M-	15
GP 4-	4-	120	FT	ML-	—
GP 8-	8-	120	2	ML-	20
GP 8-	8-	120	2	ML-	15
GP 8-	8-	120	3	ML-	20
GP 8-	8-	120	3	ML-	15
GP 8-	8-	120	4	ML-	20
GP 8-	8-	120	4	ML-	15
GP 12-	12-	120	3	ML-	20
GP 12-	12-	120	3	ML-	15
GP 12-	12-	120	4	ML-	20
GP 12-	12-	120	4	ML-	15
GP 16-	16-	120	4	ML-	20
GP 16-	16-	120	4	ML-	15
GP 16-	16-	120	4	M125-	20
GP 16-	16-	120	4	M100-	15
GP 20-	20-	120	4	ML-	20
GP 20-	20-	120	4	ML-	15
GP 24-	24-	120	4	ML-	20
GP 24-	24-	120	4	ML-	15
GP 24-	24-	120	4	M175-	20
GP 24-	24-	120	4	M125-	15
GP 72-	72-	120	4	ML-	20
GP 72-	72-	120	4	ML-	15
<b>220-240 VOLTS</b>					
GP 3-	3-	230	4	M-	10CE †
GP 4-	4-	230	FT	ML-	CE †
GP 8-	8-	230	2	IS-	10CE †
GP 8-	8-	230	4	IS-	10CE †
GP 12-	12-	230	4	IS-	10CE †
GP 16-	16-	230	4	IS-	10CE †
GP 20-	20-	230	4	IS-	10CE †
GP 24-	24-	230	4	IS-	10CE †
GP 3-	3-	240	4	M-	16AU
GP 4-	4-	240	FT	ML-	AU
GP 8-	8-	240	2	IS-	16AU
GP 8-	8-	240	4	IS-	16AU
GP 12-	12-	240	4	IS-	16AU
GP 16-	16-	240	4	IS-	16AU
GP 20-	20-	240	4	IS-	16AU
GP 24-	24-	240	4	IS-	16AU
GP 72-	72-	240	4	ML-	16AU
<b>277 VOLTS</b>					
GP 3-	3-	277	4	M-	20
GP 4-	4-	277	FT	ML-	—
GP 8-	8-	277	2	ML-	20
GP 8-	8-	277	4	ML-	20
GP 16-	16-	277	4	ML-	20
GP 16-	16-	277	4	M125-	20
GP 72-	72-	277	4	ML-	20

† Panels meet CE requirements.

Popular models that meet most applications are listed; consult your Lutron representative for additional models.

**How to Build a Model No.:** Take the model prefix (i.e. GP, LP, XP), add the number of circuits, the voltage, feed type, panel type and breaker size (as appropriate). For example: GP3-1204M-20 is a three circuit, 120/208V, 3φ, 4 wire feed, main lugs only, 20A branch breakers panel.

LP DIMMING PANELS						
Model Prefix	No. of Dimmer Modules	No. of Switch Legs	Voltage	120/208V 3φ, 4 Wire Feed	Main Lugs Only (ML)	Branch Circuit Breaker Capacity (Amps)
<b>120-127 VOLTS</b>						
LP 1/	1/	4-	120	2	M-	20
LP 1/	1/	4	120	2	M-	15
LP 2/	2/	8-	120	3	M-	20
LP 2/	2/	8-	120	3	M-	15
LP 3/	3/	12-	120	4	M-	20
LP 3/	3/	12-	120	4	M-	15
LP 4/	4/	16-	120	4	ML-	20
LP 4/	4/	16-	120	4	ML-	15
LP 5/	5/	20-	120	4	ML-	20
LP 5/	5/	20-	120	4	ML-	15
LP 6/	6/	24-	120	4	ML-	20
LP 6/	6/	24-	120	4	ML-	15
LP 7/	7/	28-	120	4	ML-	20
LP 7/	7/	28-	120	4	ML-	15
LP 8/	8/	32-	120	4	ML-	20
LP 8/	8/	32-	120	4	ML-	15
<b>230 VOLTS</b>						
LP 1/	1/	4-	230	2	M-	16 †
LP 2/	2/	8-	230	2	M-	16 †
LP 3/	3/	12-	230	4	M-	16 †
LP 4/	4/	16-	230	4	ML-	16 †
LP 5/	5/	20	230	4	ML-	16 †
LP 6/	6/	24	230	4	ML-	16 †
LP 7/	7/	28	230	4	ML-	16 †
LP 8/	8/	32	230	4	ML-	16 †
<b>240 VOLTS</b>						
LP 1/	1/	4	240	2	M-	16
LP 2/	2/	8	240	2	M-	16
LP 3/	3/	12	240	4	M-	16
LP 4/	4/	16	240	4	ML-	16
LP 5/	5/	20	240	4	ML-	16
LP 6/	6/	24	240	4	ML-	16
LP 7/	7/	28	240	4	ML-	16
LP 8/	8/	32	240	4	ML-	16

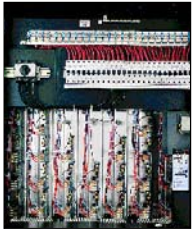
XP SWITCHING PANELS				
Model Prefix	No. of Switching Circuits	Control Circuit Power Voltage	Feed Through Only (FT)	Main Lugs Only (ML)
<b>120-127 VOLTS</b>				
XP 4-	4-	120	FT	ML-
XP 8-	8-	120	FT	ML-
XP 12-	12-	120	FT	ML-
XP 16-	16-	120	FT	ML-
XP 24-	24-	120	FT	ML-
XP 32-	32-	120	FT	ML-
XP 48-	48-	120	FT	ML-
<b>220-240 VOLTS</b>				
XP 4-	4-	230	FT	ML-
XP 8-	8-	230	FT	ML-
XP 12-	12-	230	FT	ML-
XP 16-	16-	230	FT	ML-
XP 24-	24-	230	FT	ML-
XP 32-	32-	230	FT	ML-
XP 48-	48-	230	FT	ML-
<b>277 VOLTS</b>				
XP 4-	4-	277	FT	ML-
XP 8-	8-	277	FT	ML-
XP 12-	12-	277	FT	ML-
XP 16-	16-	277	FT	ML-
XP 24-	24-	277	FT	ML-
XP 32-	32-	277	FT	ML-
XP 48-	48-	277	FT	ML-



# Club Room Control System



GP 24 Panel  
without cover  
←



←  
GP 24 (CE) Panel  
without cover



↑  
Mini GP Panel  
with cover

←  
GP 72 Panel  
without cover

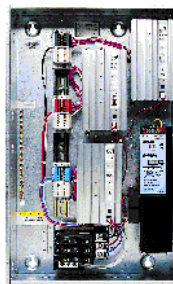
## GP Dimming Panels

Offered in three cabinet sizes, from 3 to 72 circuits, prewired for 120-127, 220-240, 230 or 277 volts. Field wiring is similar to wiring in distribution panel. Meets CE requirements for Europe. (See page 15 for specific dimensions and mounting instructions.)



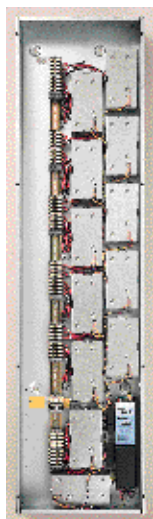
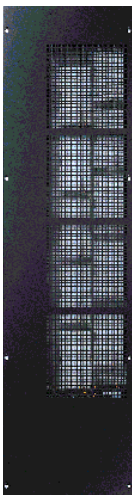
↑  
Mini LP Panel  
with and without cover

←  
LP Panel  
with and without cover



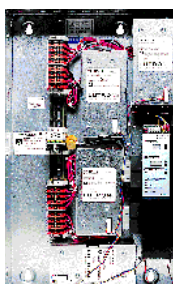
## LP Dimming Panels

For handling numerous small loads. Panels have from 1 to 8 four-circuit Dimming Modules (4-32 switch legs, 8-16 KW). Panels control Fluorescent and Electronic Low Voltage sources through Power Interface Accessories. (See page 15 for specific dimensions and mounting instructions.)



↑  
Mini XP Panel  
with and without cover

←  
XP Panel  
with and without cover



## XP Switching Panels

For Low Voltage switching control of large numbers of circuits. Panels have 1 to 12 four-circuit switching modules with individual circuit relays with mechanical latching switch contacts. (See page 15 for specific dimensions and mounting instructions.)

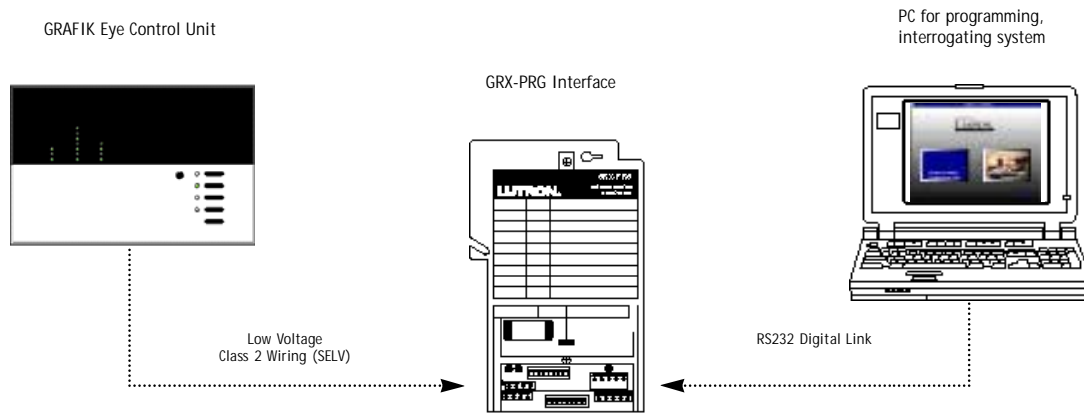
# Club Room Control System

GRAFIK Eye®

3 5 0 0 / 4 5 0 0 M O D E L S

Set presets manually for simple setup or use GRAFIK Eye LIAISON™ software for repeatability and convenience.

New GRAFIK Eye® models 3500/4500 provide increased functionality to the GRAFIK Eye 3000/4000 series. The new models offer greater flexibility, repeatability, convenience and systems integration. With GRAFIK Eye 3500/4500, the user now has the ability to perform a variety of programming functions and interrogate the system for feedback via RS232 or a Windows™- based software program—GRAFIK Eye LIAISON (optional). The new models maintain a common hardware architecture with 3100/4100 models and are retro-compatible with existing systems.



## Features of 3500/4500 Models:

**1%.** All GRAFIK Eye Control Units have an easy-to-use bar graph to set (and see) light levels. The 3500/4500 Model now adds the ability to set lights in 1% increments—a precision that is not available with any other wallbox-based product. Levels for similar rooms can be set identically using the 1% increments. These levels can be saved easily either manually or via GRX-PRG Interface and a PC.

**Lockout.** GRAFIK Eye products ship with standard intuitive approach to setting light levels. Some spaces may require tamper protection for preset scenes or complete unit lockout. Four options, each more secure than the previous, are available to protect/lockout units.

**Non-dim.** GRAFIK Eye products have always had various Square Law curves for different sources. Now there are two non-dim options—one for controlling lighting and one for controlling a separate relay for a projection screen or other audio/visual equipment.

## Additional Features:

- Program system data at remote location, prior to installation if necessary.
- Set up system manually, then interrogate system to retrieve program values.
- Set up subsequent systems using data obtained from manual setup.
- Save preset and communication assignments.
- Integrate with other A/V equipment or building management systems.
- Create temporary scenes (not stored in the GRAFIK Eye Control Unit).

**Note:** For specific model offerings, see page 4 for GRAFIK Eye 3000 and page 6 for GRAFIK Eye 4000).

# Club Room Control System

GRAFIK Eye®

S O F T W A R E

GRAFIK Eye LIAISON™ and DESIGNER™ software features.

## Software for Operation and Setup

**GRAFIK Eye**  
**LIAISON™**  
LIGHTING CONTROL SOFTWARE



### GRAFIK Eye LIAISON Software Features

Windows™-based (3.1 or 95) programming utility for GRAFIK Eye 3500/4500 to program the following:

- Scenes – intensities and fade times—in 1% increments
- Load types – includes non-dim options
- Temporary Mode setting (allows user to make lighting changes without changing stored presets)
- Control unit communication assignments
- Temporary, on-line scenes

◀ Specify Control Units, choose load types, and create preset scenes for a system all via Windows™-based LIAISON software program.

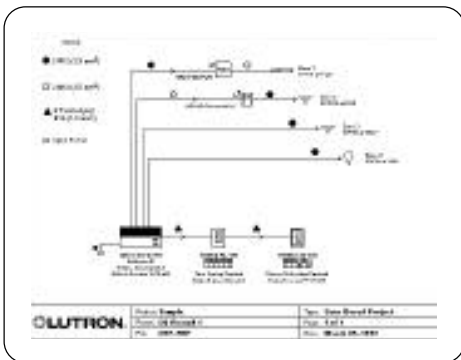
## Software for Design

### GRAFIK Eye DESIGNER Software Features

Windows™-based (3.1 or 95) design software to create a one-line diagram, bill of materials and specification for any project:

- Designs control systems 2 to 4 times faster
- Automates and standardizes the specification process
- Integrates with AutoCad® and Microsoft® Access™ database formats
- Accommodates circuit- or zone-based designs
- Prepares job-specific documentation
- Links to LIAISON

Consult your Lutron representative for more information about DESIGNER.



◀ Provides load schedule and Accessory Controls information to create a one-line diagram, bill of materials, and specification for any project.

# Club Room Control System


GRAFIK Eye®

ACCESSORY  
CONTROLS

Handheld wireless and wallstation  
Accessory Controls expand GRAFIK Eye 3000  
and 4000 Series system capabilities.

Use of more than 3 Accessory Controls and Low Voltage Interface Accessories per GRAFIK Eye 3000 Series Control Unit requires addition of Part No. GRX-12VDC Class 2 transformer (120V AC: 12 VDC). Consult factory for 220-240V applications.



## Class 2 (SELV) Low Voltage Accessory Controls (for GRAFIK Eye 3000 and 4000 Series)

	DESCRIPTION	FUNCTIONS	REF. P/N <sup>†</sup>
	<b>GRX-IT, GRX-8IT</b> Handheld Infrared Wireless Remote Control Transmitters	Controls 4 (or 8) scenes plus master raise/lower and off. Recalls scenes or fine tunes light levels. Turns lighting on or off. <b>Note: Not included in 16 accessory maximum.</b>	362-592
	<b>NTGRX-2B-SL</b> Two-Button Entrance Control	Turns lighting (scene 1) on or off. Selects 2 scenes (either 1/off, 9/10 or 13/14), partition opened/closed, panic station, sequencing, raise/lower.	362-933, 362-593
	<b>NTGRX-4S, NTGRX-4B</b> Scene Selection Control Four-Button Control	Activates scenes 1-4; master raise/lower and off. Recalls or fine tunes light levels. Activates scenes 1-4, 5-8, 9-12, or 13-16; operates one or more GRAFIK Eye units.	362-596 362-934
	<b>GRX-4S-DW</b> Architrave™ Door Jamb Control	Activates scenes 1-4; master raise/lower and off. Recalls or fine tunes light levels. Ideal for door jambs. Operates one or more GRAFIK Eye units.	362-597
	<b>NTGRX-4M</b> Master Control	Activates scene 1 or off for up to eight GRAFIK Eye units, and all on or all off.	362-598
	<b>NTGRX-4PS</b> Partition Control	Provides 4 buttons to operate selected GRAFIK Eye units independently, or in combination to reflect partition status.	362-599
	<b>NTGRX-4S-IR</b> Infrared Receiver/Scene Selection Control	Activates scenes 1-4 and off by touch-buttons or infrared transmitters (above). Recalls or fine tunes light levels. Activates scenes 1-4, 5-8, 9-12, or 13-16; operates one or more GRAFIK Eye units.	362-602
	<b>NTGRX-SI4S-IR</b> Infrared Receiver/Scene Control/Switch Interface	Provides access to scenes 1-4 or 5-8 based on external contact closure (example: to control partitioned spaces).	362-782




<sup>†</sup> GRAFIK Eye Specification Submittal Sheets are available for downloading/printing on Lutron's website, [www.lutron.com](http://www.lutron.com).

# Club Room Control System


## Low Voltage Interface Accessories (for GRAFIK Eye 3000 and 4000 Series)

	DESCRIPTION	FUNCTION	REF. P/N
	<b>GRX-AV</b> Contact Closure Interface	Two-way interface between GRAFIK Eye controls and contact-closure devices (A/V systems, timeclocks, security systems, occupant sensors, etc.).	362-600
	<b>GRX-RS232</b> RS232 Interface	Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment.	362-756
	<b>GRX-ATC</b> RS232/Timeclock Interface	Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment. Features built-in astronomic timeclock—4 schedules/60 events per schedule.	362-812
	<b>GRX-PRG</b> 3500/4500 Programmer Interface	For use with GRX-3500/4500. Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment. Features built-in astronomic timeclock (same as above). Provides access to advanced user-programmable features.	366-579
	<b>GRX-CIR</b> Ceiling Mounted Infrared Receiver	Provides remote infrared wireless control to GRAFIK Eye units. Functions with handheld transmitters. Activates scenes 1-4, 5-8, 9-12, or 13-16 via handheld transmitter. Operates one or more GRAFIK Eye units.	362-601

## Line/Mains Voltage Power Boosters and Interface Accessories (for GRAFIK Eye 3000 Series only)

	<b>NGRX-PB</b> Power Booster	Increases single zone load capacity for incandescent, magnetic low voltage, neon/cold-cathode sources. 1920W per zone @120V; 2400W @240V; 1200W flush mount (with face plate), 1840W surface mount (without face plate) @ 240V for CE.	362-603
	<b>GRX-FDBI</b> Fluorescent Power Interface	Single zone interface to dim or switch Lutron electronic dimming ballasts. 16A per zone @ 120V, 10A @ 240V.	362-622
	<b>GRX-ELVI</b> Electronic Low Voltage Power Interface	Single zone interface to dim electronic transformer supplied low voltage lighting. 1000W @ 120V, 1200W @ 240V, 1000W @ 230V for CE.	362-635
	<b>GRX-TVI</b> Phase Control to 0-10V Ballast Interface	Provides 0-10V control (BSI 929) and ballast switching capabilities in one; allows 120V fluorescent controls the ability to control 0-10V ballasts that reside in an industrial power grid (for example, 277V); provides switching relays that can handle the in-rush current of a circuit of ballasts.	366-551
	<b>HP 2•4•6</b> Dimming Module	Increases single zone load capacity to 2000 W/VA (HP-2), 4000 W/VA (HP), 6000 w/VA (HP-6), all @120V. For incandescent, magnetic and electronic low voltage, neon and fluorescent sources. Up to 5 modules can be daisy chained for greater capacity (30,000 W/VA @120V, also 240A @277V for fluorescent). <b>Note: Not for 100, 220-240V.</b>	362-604

## Other Accessories

	<b>NTGRX-1S</b> On/Off Doorway Control	Line/main voltage control. Switches lighting (scene 1) on or off from a remote wall location. (Functions as three-way switch.)	360-178
---	---	--	---------

**Note:** Also available: A Lockable Cover which prevents tampering with GRAFIK Eye controls and accessories and permits infrared operation—translucent black—Model No. GRX-\_\_\_-GLC (Insert 1, 2, 3, or 4 in Model No. for wallbox gang size); and Matching Receptacles, 15A and 20A 120V conventional and GFCI, with matching telephone and cable TV jacks.

# Club Room Control System

GRAFIK Eye®

## DIMENSIONS & MOUNTING

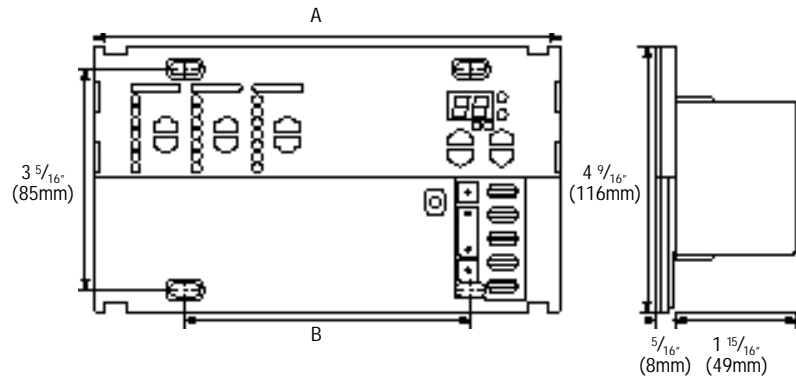
Basic information; see instruction sheets for more details.

### Control Unit

For specific Model No. in series, place a 1 or 5 in the blank space, i.e. GRX-3102.

Main Control Unit (GRX-3000, GRX-4000)  
Mount in standard 2-, 3- or 4-gang wallbox  
(3.5" deep, 89 mm).

MODEL NO.	A	B
GRX-3_02 <sup>†</sup>	4-15/16"	1-13/16"
GRX-4_02 <sup>†</sup>	(123mm)	(46mm)
GRX-3_03 <sup>†</sup>	6-11/16"	3-5/8"
GRX-4_03 <sup>†</sup>	(168mm)	(92mm)
GRX-3_04	8-5/16"	5-7/16"
GRX-4_04	(208mm)	(138mm)
GRX-3_06		
GRX-4_06		
GRX-4_08		
GRX-4_16		
GRX-4_24		

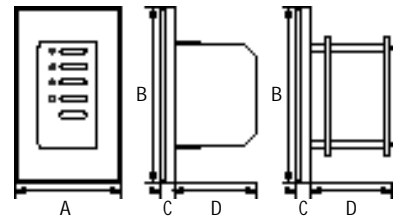


<sup>†</sup> For CE requirements, Control Unit dimensions are 8 5/16" (208 mm) x 5 7/16" (138 mm) and must mount in standard 4-gang wallbox.

### Accessories

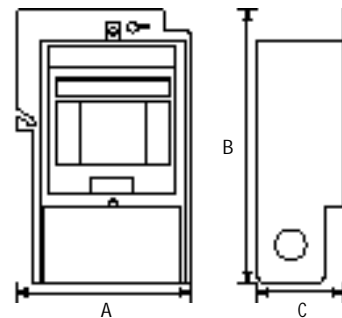
FIG.	MODEL NO.	A	B	C	D
1	NTGRX-1S	2-3/4"	4-9/16"	5/16"	1-3/8"
	NTGRX-2B-SL	(70mm)	(116mm)	(8mm)	(35mm)
	NTGRX-4S, 4B, 4SIR	2-3/4"	4-9/16"	5/16"	13/16"
		(70mm)	(116mm)	(8mm)	(21mm)
	NTGRX-4M	2-3/4"	4-9/16"	5/16"	13/16"
		(70mm)	(116mm)	(8mm)	(21mm)
	NTGRX-4PS	2-3/4"	4-9/16"	5/16"	13/16"
		(70mm)	(116mm)	(8mm)	(21mm)
2	GRX-AV	5"	7-3/4"	2-1/2"	—
	GRX-RS232	(127mm)	(197mm)	(64mm)	
	GRX-ATC				
	GRX-PRG				
3	GRX-4S-DW	1-3/4"	4-1/2"	1/4"	1-3/8"
		(44mm)	(114mm)	(6mm)	(35mm)
4	NGRX-PB	4-1/2"	4-9/16"	11/16"	1-7/8"
	GRX-FDBI/ELVI	(114mm)	(116mm)	(17mm)	(48mm)

FIG. 1



Wallbox Control Panels (NTGRX-1S, -2B-SL, -4S, -4B, -4SIR, -4M, and -4PS)  
Mount in single-gang wallbox. (1) See mounting notes below.

FIG. 2



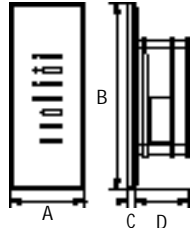
Interface Control (GRX-AV, -ATC, -PRG, -RS232)  
Mounts on 4" -square utility box. (3)

**Mounting Notes:** (1) Mounts in standard single-gang wallbox 2.75" deep minimum, 3.5" deep recommended (Lutron Part No. SB-1G). (2) Lutron supplies backbox (Part No. 241-399). (3) Mounts on standard 4"x4" junction box (Lutron Part No. 241-496). (4) Mounts in standard two-gang wallbox; 2.75" deep minimum, 3.5" deep recommended. (Two each Lutron Part No. SB-1G).

# Club Room Control System

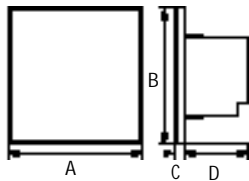
## Accessories (continued)

FIG. 3



Architrave Door Jamb Control (GRX-4S-DW)  
Mounts directly in door jamb. (2)

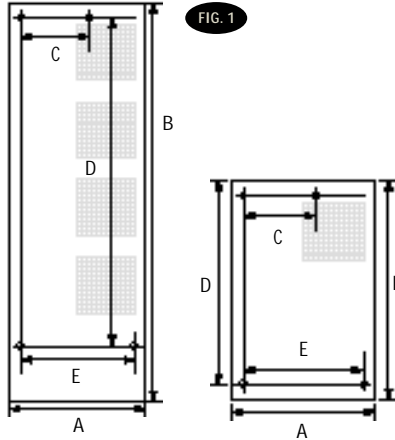
FIG. 4



Power Booster (NGRX-PB), Fluorescent Interface (GRX-FDBI), Electronic Low Voltage Interface (GRX-ELVI), Mount in two-gang wallbox. (4)

## XP Switching/LP Dimming Panels

FIG. 1



XP Panel (24, 32 and 48 switching circuits)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-849.

LP Panel (16-32 switching legs)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-552.

FIG. 2

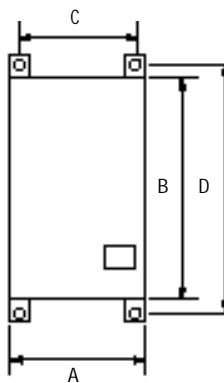
Mini XP Panel (4, 8, 12, and 16 switching circuits)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-529.

Mini LP Panel (4, 8, and 12 switching legs)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-530.

FIG.	MODEL NO.	A	B	C	D	E	DEPTH
1	XP, LP	14.375" (37cm)	59" (150cm)	8" (20cm)	41.75" (106cm)	11" (28cm)	4" (10cm)
2	Mini XP, Mini LP	14.375" (37cm)	26" (66cm)	8" (20cm)	21.5" (55cm)	10.75" (28cm)	4" (10cm)

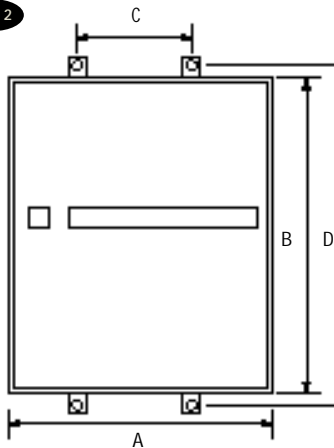
## Dimming Panels

FIG. 1



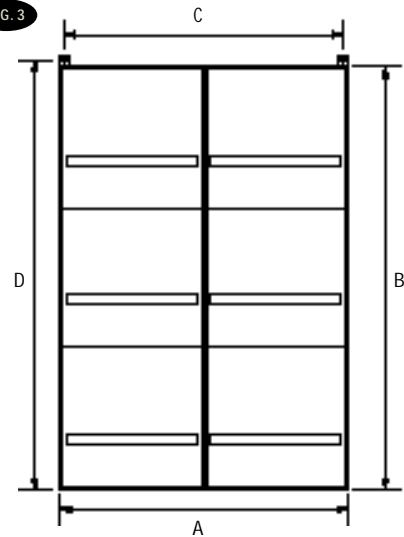
Mini Panel, GP3 and GP4 (3 and 4 circuits)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-643.

FIG. 2



GP8, GP12, GP16, GP20, and GP24 Panels  
(8, 12, 16, 20 and 24 circuits)  
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-605.

FIG. 3



GP72 Panel  
Handles up to 3 feeds. Floor-standing: allow 12" (305 mm) clearance above panel. Reference publication P/N 362-788.

FIG.	MODEL NO.	A	B	C	D	DEPTH
1	GP3, GP4	11" (28cm)	18" (46cm)	9.625" (25cm)	19.5" (50cm)	6.25" (16cm)
2	GP8, 12, 16, 20 and 24	27.6" (70cm)	32.9" (84cm)	11.9" (30cm)	35" (89cm)	12" (31cm)
3	GP72	52.3" (133cm)	86" (218cm)	50" (127cm)	87" (220cm)	14" (36cm)

# Club Room Control System

GRAFIK Eye®

SPECIFICATIONS

Key performance features for all system components.

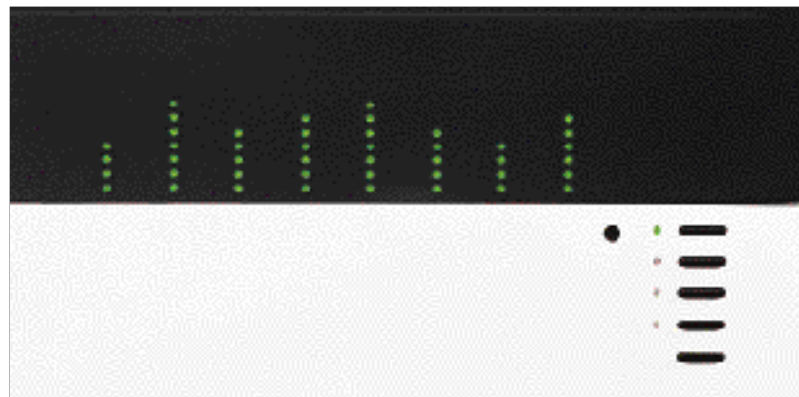


LUTRON Quality Systems  
Registered to ISO 9001

Safety standards listed above apply to one or more products in the GRAFIK Eye product line. Consult factory for specific information.

## General Specifications

- The entire lighting control system shall be U.L., CSA or CE marked as appropriate. Manufacturer shall maintain ISO 9001 certification. Dimming system shall be covered by a minimum one-year warranty from time of purchase.
- Manufacturer shall be capable of providing on-site service support within 24 hours anywhere in the continental U.S.A., and within five business days anywhere in the world, except where special visas are required.
- Premium Temperature Margins: Panels operate at a minimum of 20 degrees Celsius below the power conducting component temperature rating. Electronic components live twice as long for every 10 degrees Celsius below the rating at which they operate both increasing semiconductor reliability and ensuring the system's design life span.



## Accessories

- Four-Scene Control(s) shall be capable of recalling any one of four scenes, master raise/lower and off. Control shall provide access for up to 16 scenes.
- Wireless Infrared Transmitter(s) shall be capable of recalling any one of four preset scenes and off. In addition, a master raise/lower shall be provided. The transmitter shall be manufactured by the dimming system manufacturer. The range of the transmitter to any single receiver shall be at least 50 feet.
- System should employ common architecture for products, accessories and user interfaces.

## Control Unit

Preset dimming control shall incorporate an airgap switch relay which shall be accessible without removing the faceplate.

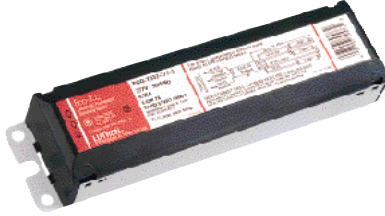
- Preset dimming control shall meet ANSI/IEEE Std. C62.41<sup>1980</sup>, tested to withstand voltage surges of up to 6000V and current surges of up to 200A without damage.
- Preset dimming control shall provide power failure memory.
- Faceplate shall attach using no visible means of attachment.
- Controls shall incorporate built-in wide angle Infrared Receiver, providing control via a separate Wireless Remote Control Transmitter from up to 50 feet away.
- Programming of preset scenes shall be accomplished without the use of an ENTER or STORE button.



# Club Room Control System

## Ballasts

- Ballasts shall withstand 4000 volt surges as specified in ANSI C62.41.
- Ballasts shall preheat lamp cathodes before applying arc voltage to ensure rated lamp life is not diminished.
- Ballasts shall internally limit in-rush current to not exceed three amps at 277 volts or seven amps at 120 volts to avoid computer problems, nuisance circuit breaker trips, and control contact malfunctions.



## Installation

- Wiring from preset dimming control to Dimming Panel and Accessory Controls shall be Low Voltage Class 2 Wiring (SELV).



## XP Switching Panel

- Relays shall be rated for 16 Amps, continuous duty, for the following load types: Incandescent/Tungsten, Electronic and Magnetic Low Voltage, Neon/Cold-Cathode, high intensity discharge, high in-rush Electronic and Magnetic Fluorescent lamp ballasts.
- Load shall be switched in a manner that ensures no arcing will occur at the mechanical contacts when power is applied to the load circuit.

## Dimming Panels: LP/GP

- Panels shall be completely prewired by the manufacturer. The contractor shall be required to provide input feed wiring, load wiring, and control wiring.
- Panels shall be cooled via free-convection, unaided by fans, and capable of continuous operation to all of these section specifications within an ambient temperature range of 0°C (32°F) to 40°C (104°F). Panel shall provide capability to electronically assign each circuit to any zone in the dimming system. Panels using mechanical switches, rewiring, or EPROMS shall not be acceptable.
- One type of Dimming Module/Card shall be used for all sources. Systems requiring different types of modules or modular dimming cards shall not be acceptable.
- A positive air gap relay shall be employed with each dimmer to ensure that the load circuits are open when the "off" function is selected at a control station.
- Dimmers shall operate the following sources/load types with a smooth continuous Square Law dimming curve: Incandescent, Tungsten and Magnetic Low Voltage Transformer, Electronic Low Voltage Transformer, Fluorescent Electronic Dimming Ballasts (Ballasts for Fluorescent fixtures must be Lutron Hi-lume "FDB" or "Eco-10" series), Neon and Cold-Cathode.
- Dimmers shall also be capable of operating sources on a non-dim basis. Dimmers shall be electronically assigned to the appropriate load type/dimming curve and can be reassigned at any time. Universal-type dimmers that do not adjust the dimming curve shall not be acceptable.

# Club Room Control System

GRAFIK Eye®

3000 & 4000  
SERIES

Colors, finishes, ordering information  
and warranty.

GRAFIK Eye Accessories and Control Units are available in a variety of colors and finishes. Custom paint matching and personalized engraving of Accessories and Control Units also are available. Consult your Lutron representative to find the right custom solution for your needs.

Engraving is available in the following timesteps:

**HELVETICA BOLD**  
**ROMAN BLOCK**  
GOTHIC

Engraving is available in the following colors:

White, Beige, Black, Brown, Gray

Controls are available in the following colors:

**Control Unit**

Cover—Opaque to match base color (A) or translucent black (T).

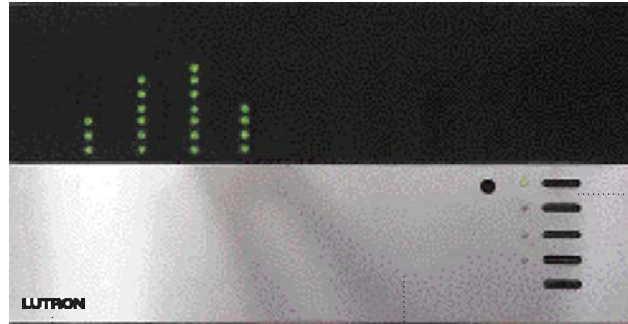
Base—White (WH), beige (BE), ivory (IV), brown (BR), black (BL), gray (GR), bright brass (BB), bright chrome (BC), satin brass (SB).

**Accessories**

Accessory Controls, receptacles and jacks are available in white (WH), beige (BE), ivory (IV), brown (BR), black (BL), and gray (GR).

Architrave™ Controls are available in bright brass (BB), and white (WH).

Handheld transmitters and ceiling receivers are available in white (WH).



Your company name or logo here.

Choice of six distinct colors and three metallic/metal finishes.

\* Example: Model GRX-3104-T-BC shown above.



**Global Product Offerings:**

Add suffix to all Model Nos. when ordering for global power requirements:

Volts	Model Suffix
120V	(none)
100V	-JA
220-240V	-AU
230V	-CE

**Ordering Information:**

Follow the examples below when creating Model Nos. to order product:

- To order a four-zone Control Unit with a bright brass (BB) base and a translucent (T) cover in 120V, the model number would be GRX-3104-T-BB.
- To order a six-zone Control Unit with a white cover (A) to match a white (WH) base in 230V, the model number would be GRX-3106-A-WH-CE.

Consult your Lutron representative for more details about custom finishes and engraving or call the Lutron Hotline at 1.800.523.9466.

# Club Room Control System

## **Lutron is the World's Leading Manufacturer of Lighting Controls**

A dedication to quality and a commitment to product innovation have made Lutron the world's leading manufacturer of solid state controls to manage the visual environment. Lutron was among the first companies to be registered to ISO 9001, the broadest international quality standard.

Lutron products are available in voltages, frequencies and capacities for residential, commercial and institutional applications, and they meet or exceed applicable national and international product safety standards.

Customers in over 65 countries depend on Lutron controls for reliability, design elegance, and superior performance. For the name of your nearest representative, distributor or sales agent, call any of our worldwide offices.

## **Warranty**

Lutron warrants each new unit, for a period of one year from the date of shipment, to be free from defects in materials or workmanship under conditions of normal use and specified ambient temperature when installed and operated under Lutron product specifications and in accordance with the applicable National Electrical Code and Safety Standards of Underwriters Laboratories. Lutron shall, at its option, repair or replace any defective unit which in its opinion, has not been improperly installed, wired, insulated, used or maintained, provided, however, that Lutron shall not be required to remove, install or re-install any defective unit and provided that Lutron is promptly notified of said defect within the aforementioned warranty period. The foregoing warranty and optional remedies are exclusive and, except for the foregoing warranties, THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY NOR OF ANY OTHER TYPE. In no event shall Lutron or any other seller be liable for consequential or special damages, nor for any repair work undertaken without its prior written consent, nor shall Lutron's liability on any claim for damages arising out of or connected with the manufacture, sale, installation, delivery or use of said unit ever exceed the price paid therefore.

These products may be covered by one or more of the following U.S. patents: 4,797,599; 4,803,380; 4,893,062; 5,030,893; 5,191,265; 5,430,356; 5,463,286; 5,633,540; DES 308,647; DES 310,349; DES 311,170; DES 311,382; DES 311,485; DES 311,678; DES 313,738; DES 335,867; DES 344, 264; and corresponding foreign patents. Other U.S. and foreign patents may be pending.

Lutron reserves the right to make product improvements or changes without prior notice. Lutron, GRAFIK Eye, Eco-10, Hi-lume, Serena and Architrave are trademarks of Lutron Electronics Co., Inc. AutoCAD is a trademark of Autodesk, Inc. Microsoft, Access and Windows are trademarks of Microsoft Corp.

© 1997 Lutron Electronics Co., Inc.

Consult your Lutron representative for the latest product information or to find the right combination of Control Units, Accessories and Dimming Modules for a specific job.

If you need more detailed information about GRAFIK Eye controls or other Lutron lighting control products, dial into our FAX-On-Demand line through our toll-free hotline or visit us at our website.

**Hotline: 1.800.523.9466**

**Website: [www.lutron.com](http://www.lutron.com)**

# Club Room Control System

## World Headquarters

Lutron Electronics Co., Inc.  
7200 Suter Road  
Coopersburg, PA 18036-1299 U.S.A.  
Toll Free: 800-523-9466  
(U.S.A., Canada & Caribbean)  
Tel: 610-282-3800;  
International 1-610-282-3800  
Fax: 610-282-3090;  
International 1-610-282-1243

## European Headquarters

Lutron EA Ltd.  
Lutron House  
6 Sovereign Close  
Wapping  
London, E1-9HW, England  
**Freephone:** 0800 282107 (U.K.)  
0130-8151-34 (Germany)  
Tel: 0171-702-0657;  
International 44-171-702-0657  
Fax: 0171-480-6899;  
International 44-171-480-6899

## Asian Offices

Lutron Asuka Corporation K.K.  
Madre Matsuda Bldg., 3F  
4-13 Kioi-cho  
Chiyoda-Ku, Tokyo 102, Japan  
**Toll Free:** (0120) 083417 (Japan)  
Tel: 03-3234-1486;  
International 81-3-3234-1486  
Fax: 03-3234-0167;  
International 81-3-3234-0167

## Hong Kong Sales Office

Tel: 2593-1119;  
International 852-2593-1119  
Fax: 2593-1197;  
International 852-2593-1197

## UAE, Dubai Sales Office

Tel/Fax: 04-440-206;  
International 971-4-440-206



LUTRON Quality Systems  
Registered to ISO 9001

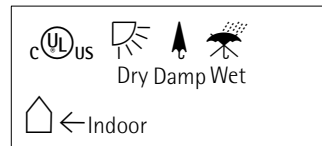
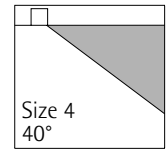
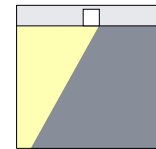
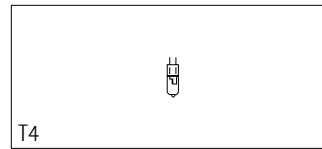
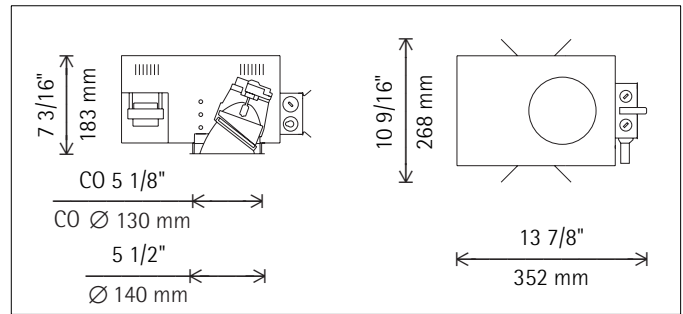
Safety standards listed above apply to one or more products in the GRAFIK Eye product line. Consult factory for specific information.



©1997 Lutron Electronics Co., Inc.  
Printed in U.S.A 9/97 P/N 366-580

For help with applications, call:  
**800-523-9466** (U.S.A., Canada & Caribbean);  
**(1) 610-282-3800** (Other Areas)

for low-voltage halogen lamps



22415.023 Reflector silver  
T4 75W 12V GY6.35 1450lm

**Product description**

Lampholder carrier: cast aluminum, black powder-coated, designed as heat sink.

Mounting ring: cast aluminum, white (RAL9002) powder-coated. 4-point support and screw tightening for fixing to mounting box.

Mounting box for preinstallation with junction box for through-wiring. Magnetic transformer 120/12V, 60Hz inside mounting box.

Snap-in plug for connection between transformer and downlight.

Upper and wallwasher reflector: aluminum, silver anodized.

Low brightness reflector: aluminum, specular anodized, with upper spread lens as safety glass. Cut-off angle 40° from horizontal.

Type Non IC luminaire.

Insulation materials must be kept away from the luminaire by a minimum of 3". Thermally protected luminaire. Suitable for damp location. Removal of luminaire allows access to transformer and junction box from below.

Max. ceiling thickness 3/4".

Weight 10.03lbs / 4.55kg

ERCO Lighting, Inc.  
160 Raritan Center Parkway  
Suite 10  
Edison, NJ 08837  
USA  
Tel.: +1 732 225 8856  
Fax: +1 732 225 8857  
info.us@erco.com

Technical Region: 120V/60Hz  
Edition: 11.15.2006  
Please download latest version from  
[www.erco.com/22415.023](http://www.erco.com/22415.023)

Planning Data

**Illuminance (fc)**

Specifications:

Number of luminaires n > 5

Light loss factor 0.80

Without indirect component

Without peripheral area

Wall height (ft) 10

T4 75W 12V GY6.35 1450lm

Offset from wall (ft)	3		4		5	
Luminaire spacing (ft)	3		4		5	
Distance from ceiling (ft)	below the luminaire	between the luminaires	below the luminaire	between the luminaires	below the luminaire	between the luminaires
0.000	0	0	0	0	0	0
1.000	3	3	1	1	0	0
2.000	9	9	4	4	2	2
3.000	13	11	6	5	3	3
4.000	16	14	7	6	4	3
5.000	17	15	8	8	5	4
6.000	16	14	9	9	5	5
7.000	14	12	10	9	6	5
8.000	11	9	9	8	6	6
9.000	9	7	8	7	6	5
10.000	7	6	7	6	6	5



## LV Capsule 75W GY6.35 12V T4 CL 1 BC

Product family description  
Single-ended low-voltage halogen capsule lamp giving crisp white halogen light.

### Features/Benefits

- Low pressure burner .
- Lifetime 2000 hours.
- Universal burning position.
- Variety of wattages.

### Applications

- Ideal for accent lighting.

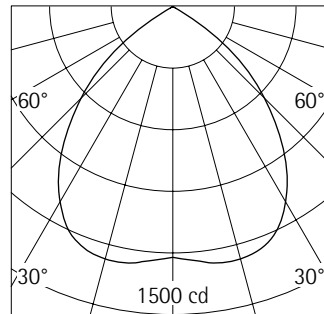
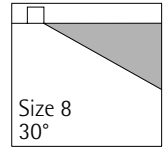
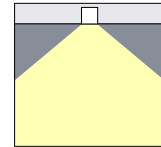
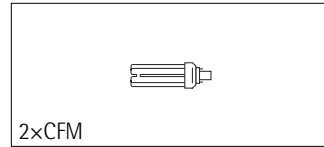
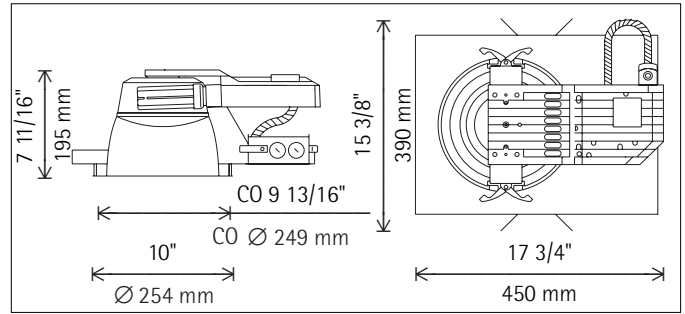
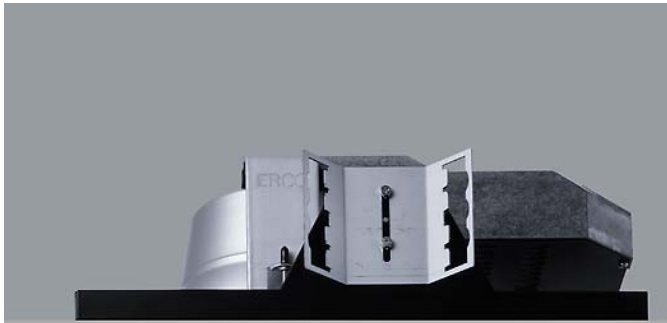
### Notes

- NOTICE: Do not touch bulb with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered

- glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350 degrees C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred. (95)
- Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not. (93)

### Product data

Product Number	134411
Full product name	LV Capsule 75W GY6.35 12V T4 CL 1BC
Ordering Code	BC75W/T
Pack type	1 Lamp in a Blister Card
Pieces per Sku	1
Skus / Case	12
Pack UPC	046677134419
EAN2US	
Case Bar Code	50046677134414
Successor Product number	
Watts[W ]	75W
Base	GY6.35 [GY6.35]
Voltage[V ]	12V
Bulb	T4 [Diameter: .5 inch]
Bulb Finish	CL [Clear]
Packing Type	1BC [1 Lamp in a Blister Card]



2xCFM 32W GX24q-3 2400lm

Efficiency: 48%

**22227.023** Reflector silver  
2xCFM 32W GX24q-3 2400lm  
ECG

**Product description**

Housing: cast aluminum, designed as heat sink.  
Mounting ring: cast aluminum, white (RAL9002) powder-coated. 4-point support and screw tightening for fixing to mounting plate.  
Electronic control gear 120V/277V, 60Hz, class P inside cast housing.  
Mounting plate for preinstallation with junction box for through-wiring. Snap-in plug for connection between junction box and luminaire.  
Low brightness reflector: aluminum, specular anodized. Cut-off angle 30° from horizontal.  
Diffuser as lamp cover: plastic, translucent, for lamp replacement removable without tools.  
Type Non IC luminaire.  
Insulation materials must be kept away from the luminaire by a minimum of 3". Suitable for damp location. Removal of reflector allows access to junction box from below.  
Max. ceiling thickness 3/4".  
Weight 10.14lbs / 4.60kg

ERCO Lighting, Inc.  
160 Raritan Center Parkway  
Suite 10  
Edison, NJ 08837  
USA  
Tel.: +1 732 225 8856  
Fax: +1 732 225 8857  
info.us@erco.com

Technical Region: 120V/277V, 60Hz  
Edition: 11.15.2006  
Please download latest version from  
[www.erco.com/22227.023](http://www.erco.com/22227.023)



## Planning Data

22227.023 CFM 32W GX24q-3 2400lm  
 Connected load P: 66 W  
 Connected load per 10fc P\*: 0.4 W/ft²  
 Number of luminaires per 10fc n\*: 5.3 1/1000ft²

22227.023 CFM 32W GX24q-3 2400lm  
 Number of luminaires per 1000ft² for

	10fc	20fc	30fc	50fc
	6	11	16	27

22227.023 CFM 32W GX24q-3 2400lm

Module (ft)	4x6	6x6	6x8	8x8
Illuminance (fc)	78	52	39	29

### Correction table

Ceiling	0.70	0.70	0.70	0.50	0
Wall	0.70	0.50	0.20	0.20	0
Floor	0.50	0.20	0.20	0.10	0

k	0.6	77	58	49	49	45
k	1.0	100	77	69	67	63
k	1.5	116	90	84	80	77
k	2.5	129	100	95	90	86
k	3.0	133	103	99	93	89

**Lamp Information**

CFM 32W GX24q-3 2400lm

Note:

Photometric data may change when using different lamps. These guide values are based on 10ft ceiling height in a square room of 1000ft<sup>2</sup> and mean reflectances (ceiling 70 %, walls 50 % and floor 20 %). Other room shapes or reflectances should be converted accordingly. The values include the light loss factor of 0.8.

**Coefficients of Utilisation**

Reflectances

Ceiling	80	80	80	70	70	70	50	50	50	30	30	30	10	10	10	0
Wall	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

Room Cavity Ratio

0	61	61	61	59	59	59	56	56	56	53	53	53	50	50	50	48
1	54	53	53	52	52	52	50	50	50	48	48	48	46	46	46	45
2	49	48	47	48	47	46	46	46	45	45	44	44	43	43	42	41
3	45	44	42	44	43	42	43	42	41	41	41	40	40	39	39	38
4	42	40	38	41	39	38	40	38	37	39	37	36	37	36	35	35
5	39	36	34	38	36	34	37	35	33	36	34	33	35	34	32	31
6	36	33	31	35	33	30	34	32	30	33	31	30	32	31	29	28
7	33	30	27	32	30	27	31	29	27	31	28	27	30	28	26	25
8	30	27	25	30	27	24	29	26	24	28	26	24	28	25	24	23
9	28	25	22	28	24	22	27	24	22	26	23	21	25	23	21	20
10	26	22	20	26	22	20	25	22	20	24	21	19	23	21	19	18

**Candlepower distribution**

Vertical Angle	Candelas		
	0°	45°	90°
0°	1222	1222	1222
10°	1268	1268	1268
20°	1255	1255	1255
30°	1098	1098	1098
40°	802	802	802
50°	457	457	457
60°	12	12	12
70°	0	0	0
80°	0	0	0
90°	0	0	0

**Zonal Lumen Summery**


Zone	Lumens	%Lamp	%Fixture
0°	0	0	0
10°	120	2	5
20°	478	10	21
30°	1026	21	44
40°	1624	34	70
50°	2108	44	91
60°	2321	48	100
70°	2324	48	100
80°	2324	48	100
90°	2324	48	100

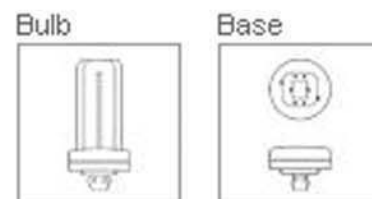
**Luminance Data**

Vertical Angle	Footlamberts		
	0°	45°	90°
45°	8063	8063	8063
50°	6405	6405	6405
55°	3914	3914	3914
60°	221	221	221
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

**97630 – F32TBX/830/A/ECO**

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

 **High Color Rendering**  
**Energy Savings**



 [View Larger](#)

**GENERAL CHARACTERISTICS**

Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	GX24q-3
Wattage	32
Voltage	120/100
Rated Life	12000 hrs
Starting Temperature (MIN)	0 °C (32 °F)
Cathode Resistance	2.700 Ohm
Rated Life (rapid start) @ Time	12000 h @ 3 h 20000 h @ 12 h
Additional Info	Dimmable with appropriate dimming ballast., End of Life Protection (EOL), TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

**PHOTOMETRIC CHARACTERISTICS**

Initial Lumens	2200
Mean Lumens	1850
Nominal Initial Lumens per Watt	68
Color Temperature	3000 K
Color Rendering Index (CRI)	82

**ELECTRICAL CHARACTERISTICS**

Current (max)	5.2500 A
Open Circuit Voltage (after preheating) (MAX)	265 V
Open Circuit Voltage (MIN)	515 V
Lamp Current	0.320 A
Preheat Voltage (MIN)	4 V
Current Crest Factor (MAX)	1.7
Supply Current Frequency	20000 Hz

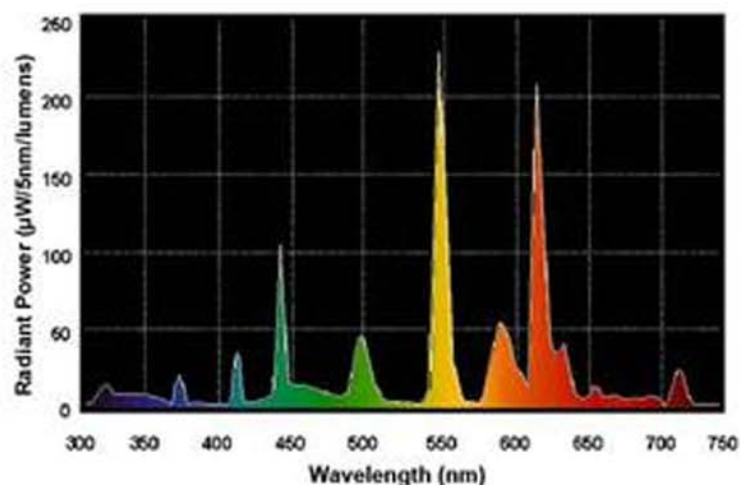
**ADDITIONAL RESOURCES****[Catalogs](#)****[Testimonials](#)****Brochures**

Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

**Sell Sheets**

- [Fast Warming](#)
- [Biax® T/E 32W with Amalgam](#)

**[Disposal Policies & Recycling Information](#)****GRAPHS & CHARTS****Spectral Power Distribution**

# F2

## Compact SE Overview

For designs requiring the energy savings and aesthetic appeal of dimmed T4 compact fluorescent or T5 twin-tube lamps, Compact SE dimming ballasts are your solution. The Compact SE product family includes ballasts for nearly every type of dimmable compact fluorescent lamp.



### Compact SE, case type A

3.00”w (76mm) x 1.00”h (25mm) x 4.90”l (124mm)



### Compact SE, case type B

3.00”w (76mm) x 1.00”h (25mm) x 6.75”l (171mm)



### Compact SE, case type F

2.38”w (60mm) x 1.50”h (38mm) x 9.50”l (241mm)

### Features

- Continuous, flicker-free dimming from 100% to 5%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models for 4-pin T4 compact lamps and T5 twin-tube lamps
- Programmed rapid start design will preheat lamp cathodes before applying full arc voltage
- Lamps turn on to any dimmed level without flashing to full brightness
- Low harmonic distortion throughout the entire dimming range maintains power quality
- Frequency of operation ensures that ballast does not interfere with infrared devices operating between 38 and 42 kHz
- Inrush current limiting circuitry eliminate circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry ensures safe operation throughout entire lamp life cycle
- Ultra quiet operation
- Protected from miswires of any input power to control lead, or lamp leads to each other or ground
- 100% compatible with all Lutron 3-wire fluorescent controls
- 100% performance tested at factory
- Designed and assembled in the USA
- 5-year limited warranty with Lutron field service commissioning (3-year standard warranty) from date of purchase
- Ballasts that dim T4 compact fluorescent lamps are intended for factory installation by OEM fixture manufacturer.

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

## Specifications

# F2

### Performance

- Dimming Range: 100% to 5% measured relative light output (RLO)
- Lamp Starting: programmed rapid start
- Minimum Lamp Starting Temperature: 10°C (50°F)
- Ambient Temperature Operating Range: 10°C (50°F) to 60°C (140°F)
- Relative Humidity: maximum 90% non-condensing
- Operating Voltage: 120V or 277V at 60Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output: constant  $\pm 2\%$  light output for line voltage variations of  $\pm 10\%$
- Lamp Life: average lamp life meets or exceeds rating of lamp manufacturer
- Ballast Factor: greater than .95 for T4 quad or triple tube lamps, and greater than .85 for T5 twin-tube lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 10%
- Maximum Inrush Current: 7 amps per ballast at 120V, 3 amps per ballast at 277V
- Sound Rating: Inaudible in a 27dBa ambient
- Maximum Ballast Case Temperature: 75°C (167°F)

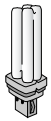

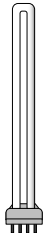
### Standards

- UL Listed (evaluated to the requirements of UL935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- Class P thermally protected
- Meets ANSI C82.11 High Frequency Ballast Standard
- Meets FCC Part 18 Non-Consumer for EMI/RFI emissions requirements
- T4 compact fluorescent ballasts are MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets ANSI C62.41 Category A surge protection standards to 6kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

Compact SE Ballast Models

F2

Lamp Type				120 VOLTS		277 VOLTS		
	Lamp Watts	Lamps per ballast	Case Type	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>	
<b>T4 4-Pin Quad-Tube</b>  1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S	
		2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S	
	26W	1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S	
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S	
	<b>T4 4-Pin Triple-Tube</b>  1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S
			2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S
26W		1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S	
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S	
32W	1	A	.31	FDB-T432-120-1-S	.13	FDB-T432-277-1-S		
	2	B	.59	FDB-T432-120-2-S	.24	FDB-T432-277-2-S		
42W	1	B	.36	FDB-T442-120-1-S	.16	FDB-T442-277-1-S		
	2	B	.67	FDB-T442-120-2-S	.29	FDB-T442-277-2-S		
<b>T5 Twin-Tube</b>  5/8" diameter	36/39W (16")	1	F	.33	FDB-1643-120-1	.14	FDB-1643-277-1	
		2	F	.58	FDB-1643-120-2	.25	FDB-1643-277-2	
		3	F	.85	FDB-1643-120-3	.35	FDB-1643-277-3	
	40W (22")	1	F	.33	FDB-2227-120-1	.14	FDB-2227-277-1	
		2	F	.61	FDB-2227-120-2	.25	FDB-2227-277-2	
		3	F	.88	FDB-2227-120-3	.38	FDB-2227-277-3	
	50W (22")	1	F	.38	FDB-2243-120-1	.17	FDB-2243-277-1	
		2	F	.69	FDB-2243-120-2	.32	FDB-2243-277-2	



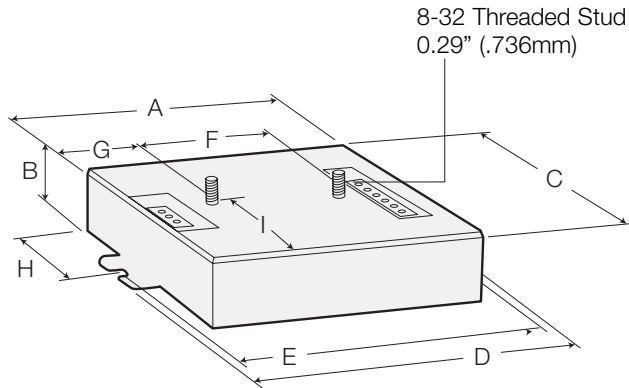
<sup>1</sup> Mounting studs standard for T4 ballasts. Delete suffix -S in the model number if mounting studs not needed.

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

Case Dimensions

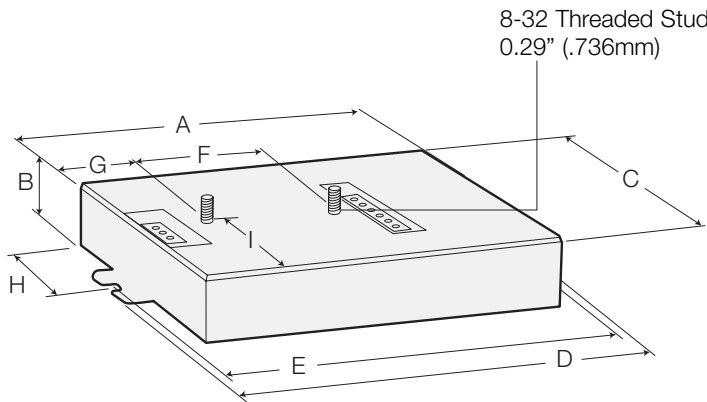
F2

A<sup>1</sup>



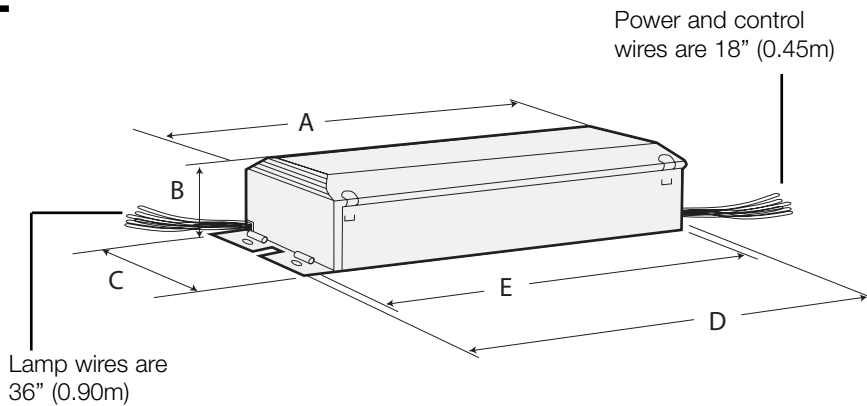
A	4.20"	(107 mm)
B	1.00"	(25 mm)
C	3.00"	(76 mm)
D	4.90"	(124 mm)
E	4.60"	(117 mm)
		(mounting centers)
F	2.00"	(51 mm)
G	1.08"	(27 mm)
H	1.60"	(41 mm)
I	1.39"	(35 mm)

B<sup>1</sup>



A	6.00"	(152 mm)
B	1.00"	(25 mm)
C	3.00"	(76 mm)
D	6.75"	(171 mm)
E	6.50"	(165 mm)
		(mounting centers)
F	2.00"	(51 mm)
G	1.00"	(29 mm)
H	1.60"	(41 mm)
I	1.39"	(35 mm)

F



A	8.30"	(211 mm)
B	1.50"	(38 mm)
C	2.38"	(60 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

If using four hole mount, mounting centers are 9.21" (234 mm) x 1.70" (43 mm).

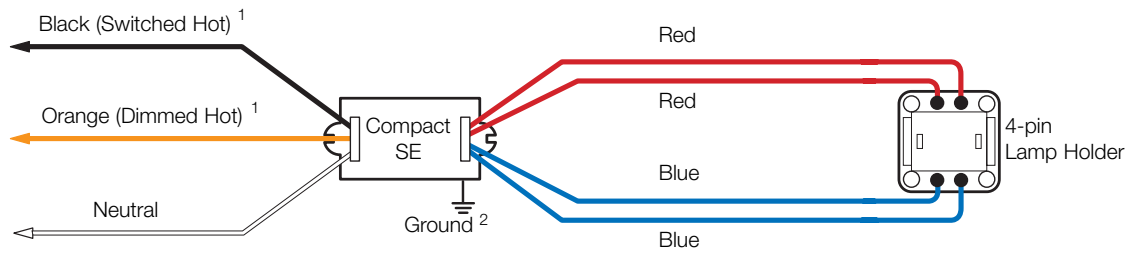
<sup>1</sup> Mounting studs standard. When ordering, delete suffix -S in the ballast model number if mounting studs not needed.

Job Name:	Model Numbers:	
<input type="text"/>	<input type="text"/>	<input type="text"/>
Job Number:	<input type="text"/>	<input type="text"/>

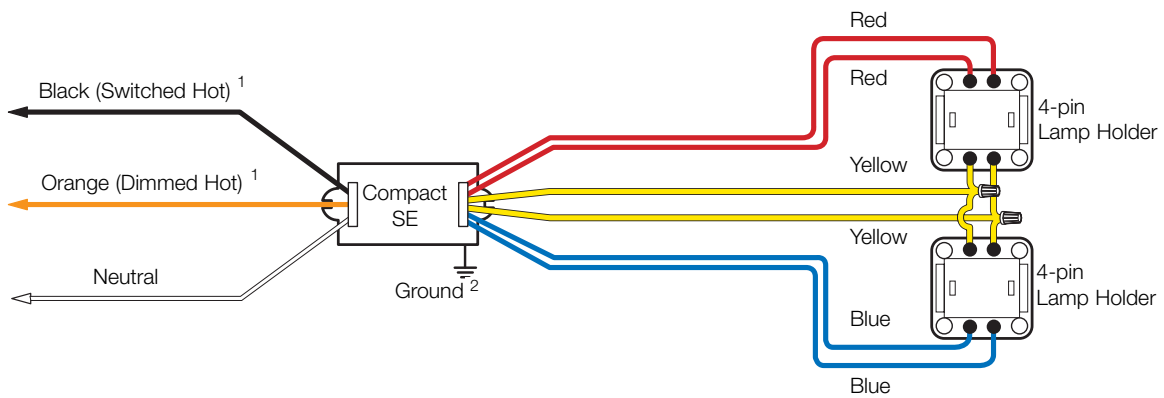
Wiring Diagrams

F2

One compact fluorescent lamp



Two compact fluorescent lamps



<sup>1</sup> Dimming control wire colors do not necessarily match ballast wire colors (e.g. control “dimmed hot” may be yellow and ballast “dimmed hot” may be orange). Wire colors shown are for Lutron controls and ballasts only.

<sup>2</sup> Ballast and lighting fixture must be effectively grounded.

Note: For T4 compact lamps, maximum lamp-to-ballast wire length is 3 feet (1m).

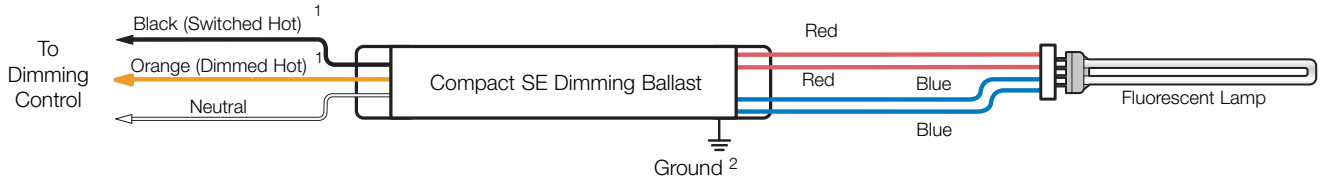
<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>



Compact SE Wiring Diagrams

F2

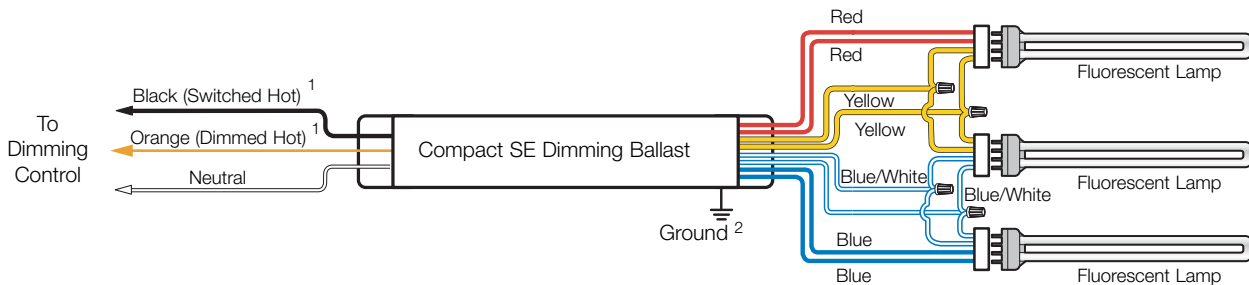
One T5 twin-tube lamp



Two T5 twin-tube lamps



Three T5 twin-tube lamps



<sup>1</sup> Dimming control wire colors do not necessarily match ballast wire colors (e.g. control 'dimmed hot' may be yellow, and ballast 'dimmed hot' may be orange). Wire colors shown are for Lutron ballasts and controls only.

<sup>2</sup> Ballast and lighting fixture must be effectively grounded.

Note: For T5 twin-tube lamps, maximum lamp-to-ballast wire length is 3 feet (1m).

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

# F2



## ATTENTION ELECTRICIANS AND CONTRACTORS

### Ballast/Socket Leads

Lead lengths from ballast to socket must not exceed 3' (1m) for T4 and T5 twin-tube lamps.

### Lamp Sockets

Quality lamp sockets are required to ensure positive lamp-pin to socket contact. T4 compact sockets must be the 4 pin type, and must be used with 4 pin compact lamps. T5 twin-tube lamps require sockets that lock into the lamp base and provide proper lamp support to hold lamp pins in full contact with socket.

### Lamp Mounting for T5 Twin-Tube

Many fluorescent lamp sockets are available with mounting slots to vary the height of the lamp away from the grounded metal surface. Use these slots to keep the outside edge of the lamp at least 1/4" away from the grounded metal surface.

Having a fluorescent lamp too close to the grounded metal will make the minimum intensity too low and will reduce lamp life.

### Wiring and Grounding

All wiring from the dimming control to Compact SE ballasts is line voltage wiring and may be run together in the same conduit.

Ballast and lighting fixture must be effectively grounded. Ballasts must be installed per national and local electrical codes.

### Number of Ballasts Per Control

To calculate the maximum number of ballasts allowed per control, divide control's current capacity by individual ballast current. Certain controls allow a specific maximum number of ballasts.

### Ballast Operating Temperature

Ballast case temperature must not exceed 75°C at any point on ballast.



## ATTENTION FACILITIES MANAGERS

### PERFORMANCE

#### Lamps Must Be Seasoned

New fluorescent lamps must be operated for 100 hours at full output ("seasoned") to render lamp impurities inert, so as to achieve proper dimming performance and average rated lamp life.

### SERVICE

#### Replacement Parts

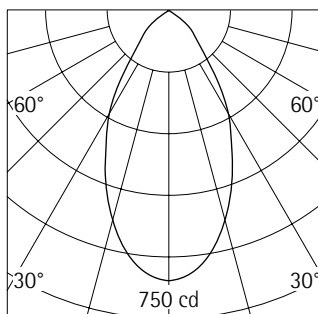
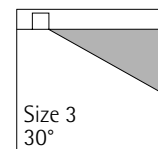
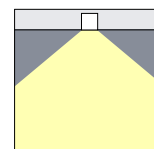
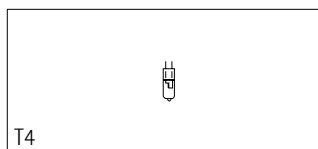
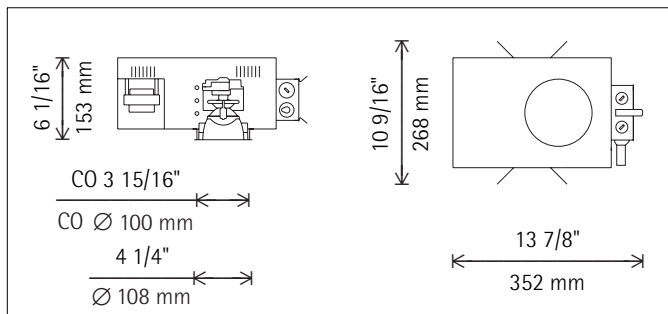
Use replacement parts with exact Lutron model numbers. Consult Lutron if you have any questions.

#### Further Information

Ballasts for other lamp types and voltages are available. Consult Lutron's Fluorescent Dimming Systems Selection Guide (P/N 366-002).

For further information, please visit us at <http://www.lutron.com/ballasts> or contact our 24-hour Technical Support Center at 1-800-523-9466.

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>



T4 50W 12V GY6.35 950lm

Efficiency: 63%

22403.023 Reflector silver  
 T4 50W 12V GY6.35 950lm

**Product description**

Lampholder carrier: cast aluminum, black powder-coated, designed as heat sink.

Mounting ring: plastic, white (RAL9002), with fixing springs.

Mounting box for preinstallation with junction box for through-wiring. Magnetic transformer 120/12V, 60Hz inside mounting box.

Snap-in plug for connection between transformer and downlight.

Low brightness reflector: aluminum, specular anodized. Cut-off angle 30° from horizontal.

Diffuser as lamp cover: glass, frosted.

Type Non IC luminaire.

Insulation materials must be kept away from the luminaire by a minimum of 3". Thermally protected luminaire. Suitable for damp location. Removal of luminaire allows access to transformer and junction box from below.

Max. ceiling thickness 3/4".

Weight 9.04lbs / 4.10kg

## Planning Data

22403.023 T4 50W 12V GY6.35 950lm  
 Connected load P: 58 W  
 Connected load per 10fc P\*: 1.2 W/ft²  
 Number of luminaires per 10fc n\*: 19.9 1/1000ft²

22403.023 T4 50W 12V GY6.35 950lm  
 Number of luminaires per 1000ft² for

	10fc	20fc	30fc	50fc
	20	40	60	100

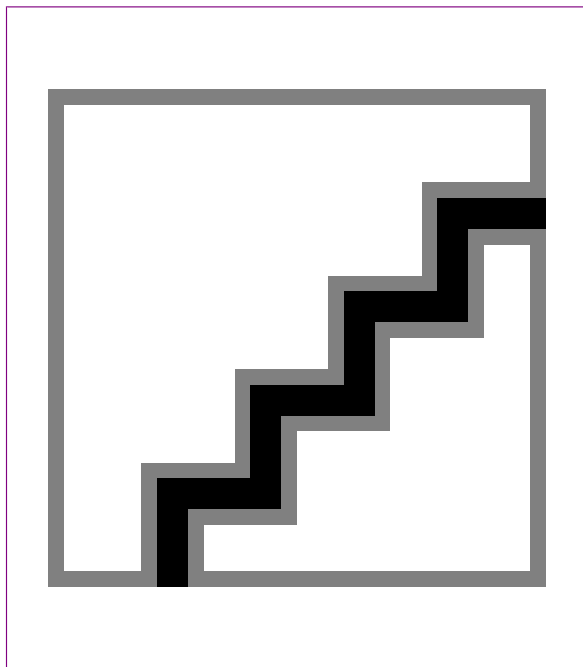
22403.023 T4 50W 12V GY6.35 950lm

Module (ft)	4x6	6x6	6x8	8x8
Illuminance (fc)	21	14	10	8

### Correction table

Ceiling	0.70	0.70	0.70	0.50	0
Wall	0.70	0.50	0.20	0.20	0
Floor	0.50	0.20	0.20	0.10	0

k	0.6	85	68	60	60	57
k	1.0	104	82	75	73	70
k	1.5	117	93	87	84	81
k	2.5	128	100	96	91	87
k	3.0	132	103	99	93	90



## LV Capsule 50W GY6.35 12V T4 CL 1BC

Product family description  
Single-ended low-voltage halogen capsule lamp giving crisp white halogen light.

### Features/Benefits

- Low pressure burner .
- Lifetime 2000 hours.
- Universal burning position.
- Variety of wattages.

### Applications

- Ideal for accent lighting.

### Notes

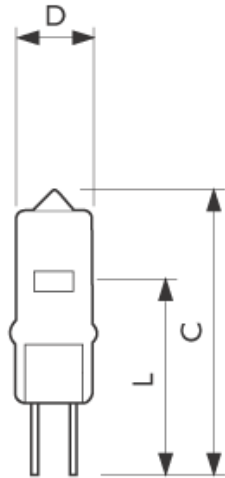
- NOTICE: Do not touch bulb with bare hands. Fingerprints may result in shorter life. Remove fingerprints with alcohol. CAUTION: THIS LAMP IS PRESSURIZED AND COULD SHATTER so to avoid injury and to avoid exposure to ultraviolet radiation, use only in fixtures that provide a protective shield of tempered

- glass. Provide adequate ventilation to ensure that seal temperature does not exceed 350 degrees C and use only in fixtures rated for the wattage stated on this package. To avoid risks of burns or other injury, turn power off and allow lamp to fully cool before attempting to replace. Socket condition may affect lamp life. Inspect and replace socket if deterioration has occurred. (95)
- Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not. (93)

### Product data

Product Number	130161
Full product name	LV Capsule 50W GY6.35 12V T4 CL 1BC
Ordering Code	BC50W/T/
Pack type	1 Lamp in a Blister Card
Pieces per Sku	1
Skus / Case	12
Pack UPC	046677108670
EAN2US	
Case Bar Code	50046677130164
Successor Product number	
Watts[W ]	50W
Base	GY6.35 [GY6.35]
Voltage[V ]	12V
Bulb	T4 [Diameter: .5 inch]
Bulb Finish	CL [Clear]
Packing Type	1BC [1 Lamp in a Blister Card]

Product data	
Base Information	na[-]
Operating Position	Universal[Any or Universal (U)]
Packing Configuration	12
Rated Avg. Life[hr ]	2000
Initial Lumens[Lm ]	700
Overall Length C[mm ]	44
Diameter D[mm ]	12



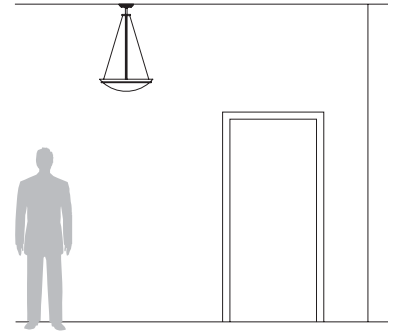
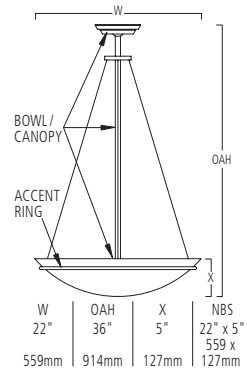
CAP FI

	C	D	L
Full product name	Max	Max	Nom
LV Capsule 50W GY6.35 12V T4 CL 1BC	44	12	30





CP1310



Model	Lamp (Voltage)	Bowl/Canopy Finish	Accent Ring Finish	Options
<b>CP1310</b>	<b>2F39</b> 39w long twin tube, 2G11 base <b>4N150</b> 150w A-21, medium base <b>2CH150T6</b> 150w T-6, G12 base, ceramic MH <b>4T250</b> 250w T-4, dc bayonet base  (Voltage) <b>120V</b> <b>277V</b>  Note: T250 lampping requires GE or Osram Sylvania lamps only	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White) <b>BA</b> Brushed Aluminum <b>BCA</b> Brushed Chrome Alternative • <b>BCB</b> Brushed Chrome • <b>CB</b> Polished Chrome <b>PB</b> Polished Brass • <b>SN</b> Satin Nickel <b>SNA</b> Satin Nickel Alternative	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White) • <b>CB</b> Polished Chrome <b>PB</b> Polished Brass	• <b>TL</b> Top lens, tempered prismatic glass (not available with T250 or CH150T6 lampping) <b>OAH</b> Overall height variation from standard. Include desired height in inches. (ex. OAH(36) will produce an overall fixture height of 36") <b>XPS</b> Express 10 day shipment  • Option is not available with <b>XPS</b> program

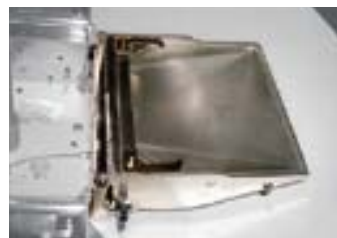
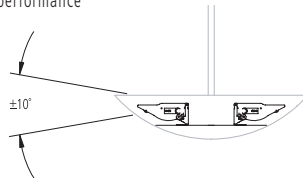


### Features

- ▼ Heavy gauge spun metal bowl
- ▼ 1/16" stainless steel aircraft cables
- ▼ Selectable mid point height for cable accent disk
- ▼ Oven cured low VOC lacquer paint
- ▼ Accenting colors available between bowl and accent ring
- ▼ Easy tool-less relamping
- ▼ Fluorescent, HID or incandescent lampping
- ▼ High power factor ballast (fluorescent and HID lampping)
- ▼ Remote ballast standard for HID lampping
- ▼ Remote mounted HID ballast with long distance ignitor, 50' maximum ballast to lamp distance (applies to CH150T6 lamp)
- ▼ Mounts to all standard electrical junction boxes (by others) for sloped ceiling up to 42 degrees from horizontal
- ▼ 5 year product warranty

### T250 and CH150T6 Lampping

T250 and CH150T6 lamppings include a high performance reflector module of specular extruded aluminum with integral borosilicate glass lens. +/- 10° tilt provided for uplight aiming. Use clear lamp for maximum optical performance

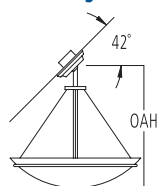


### Variations

- ▼ Specialty finishes to match architectural detail
- ▼ Increase/decrease bowl size
- ▼ Include dimming fluorescent ballast
- ▼ Add remote emergency battery pack
- ▼ Wire for multi-level switching
- ▼ Include fused circuit protection
- ▼ Sloped ceiling adapter for ceiling slopes greater than 42 degrees
- ▼ Accommodate lowering system mounting (by others)
- ▼ Constructed and labeled for damp location applications (ULD)

### Mounting on Sloped Ceilings

When fixtures are mounted to sloped ceilings, the overall fixture height may be limited by the fixture body's proximity to the ceiling





# Materials and Finishes

F4

## New Alternative Finishes

Visa Lighting continuously strives to develop alternatives to increase product value, without degrading performance or quality. In this catalog, three such finishes have been added:

### SNA - Satin Nickel Alternative

### BCA - Brushed Chrome Alternative

This process utilizes a dye application within a UV resistant clear coating over an aluminum substrate. The end results are finishes with a natural metal appearance that closely match Satin Nickel and Brushed Chrome Plating - at a fraction of the cost. There is no impact to lead time, and none of the environmental impact associated with conventional plating. Additionally, these new finishes can be applied to product designs not well suited to plating.

### ABA - Alabaster Alternative

This process utilizes multi-layered hand painting, over an acrylic substrate to produce a luminous diffuser with the character and natural appearance of alabaster at a fraction of the cost and with less fixture weight. This finish can also be applied to designs that cannot be produced in real marble materials.

### New Standard Matte Acrylic Diffuser Finish

All luminous acrylic diffusers used indoors include a matte finish to enhance softness of illumination, and to produce a more glass-like appearance. This scratch resistant surface is specifically designed to be durable and easily cleaned using mild cleansers during routine building maintenance.

## RAL Color System

The RAL color system is a worldwide color standard which assures that product finishes from diverse manufacturers match each other when installed on the job. The most recognized samples set is the RAL Classics, a collection of 210 colors used widely in architecture. Visa Lighting surface finishes are satin surface, which closely match the RAL K-5 series of color samples.

Visa recognizes the use of the RAL standard, and provides color matching to any of the Classic series colors at a lower premium than matching custom colors. In those instances which a Visa standard color matches an RAL standard, the RAL color reference is included in the color description in this catalog.

For more information on the RAL color system, or to obtain a color collection, see the RAL website at: [www.ral.de](http://www.ral.de)

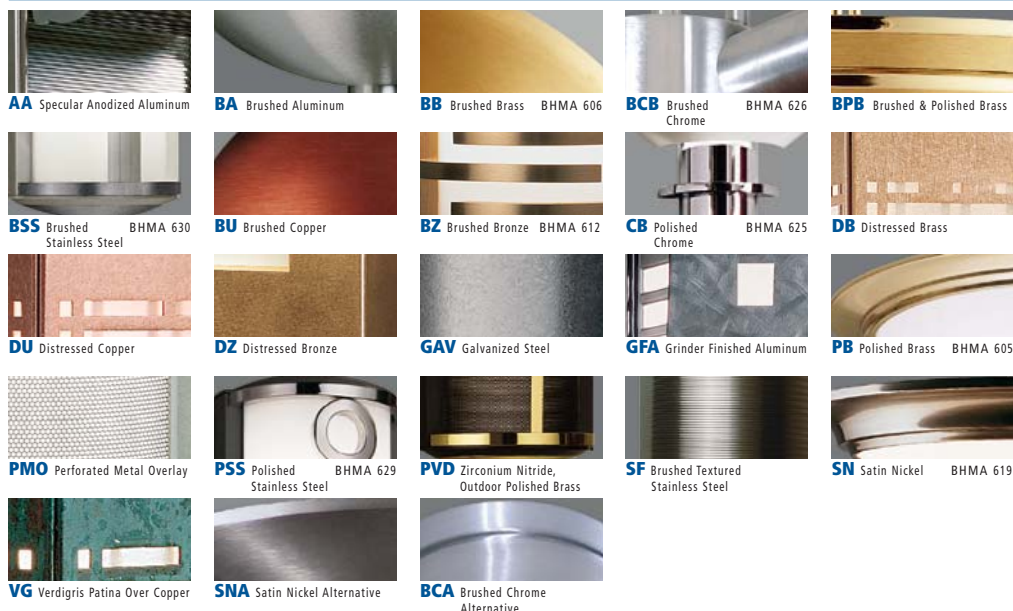
## ANSI/BHMA Material Finish Standards

The ANSI/BHMA finish standard, which has replaced the original US standards for metal finishing in building hardware, establishes a broad standard for color and surface finishing of metalwork within architecture.

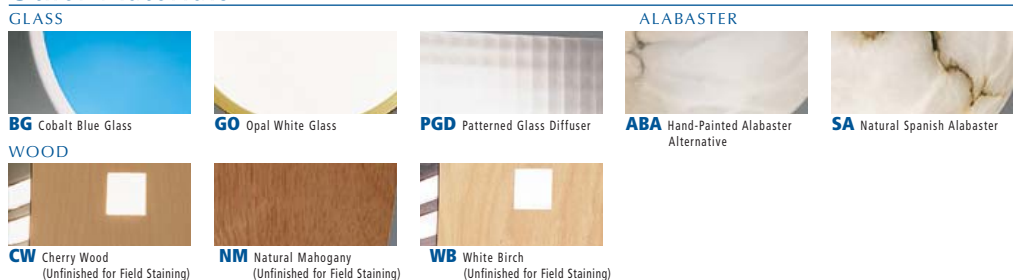
Visa recognizes the use of ANSI/BHMA standard as a method of communicating a desired finish treatment during product specification. Where Visa metal finishes match an ANSI/BHMA finish standard, the reference number is provided in the finish description. All Visa finishes are grade level 1. Visa also utilizes this standard as a means for specifiers to communicate a desired surface treatment, should one be desired that is not offered as a standard finish.

For more on the ANSI/BHMA standard, or to obtain a complete color samples kit, see the BHMA website at: [www.buildershardware.com](http://www.buildershardware.com)

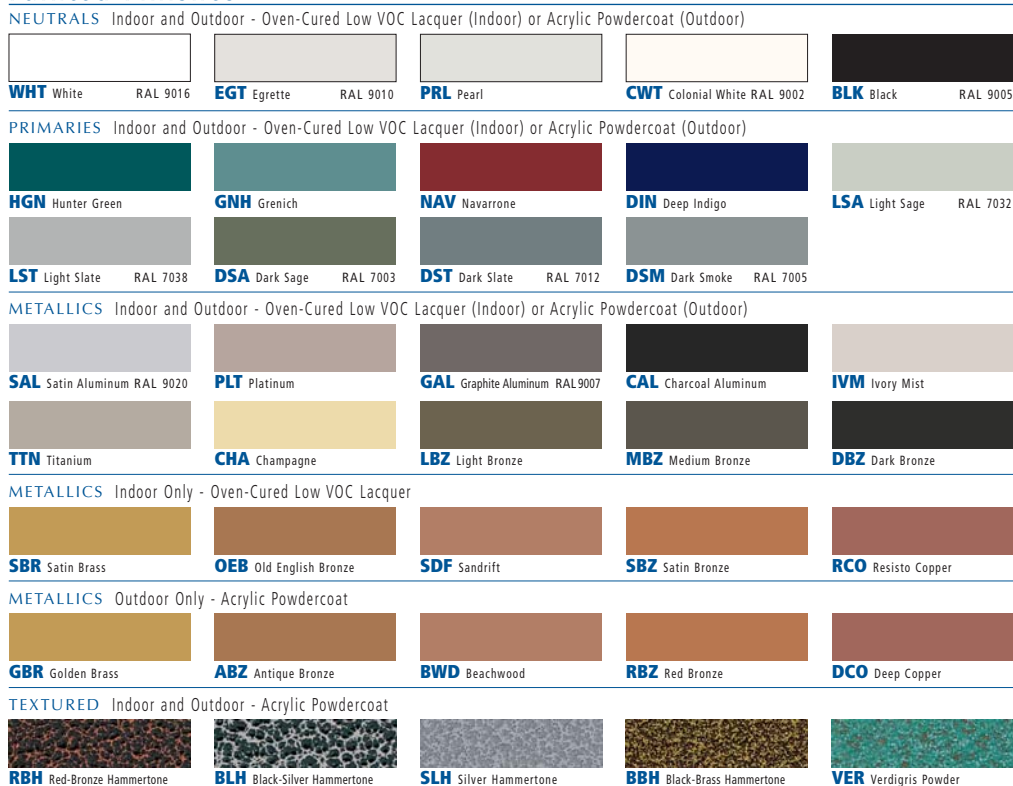
## Metal Finishes



## Other Materials




## Painted Finishes

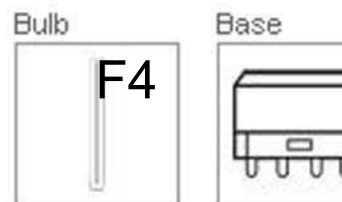


Slight variation in color and luster may be present in these examples due to limitations in the reproduction process. For accurate color verification, actual finish samples are available upon request.

# 16538 – F39BXSPX30RS10PK

GE Biax® T5 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

-  High Color Rendering
- Energy Savings



 [View Large](#)

## GENERAL CHARACTERISTICS

Lamp type	Compact Fluorescent - Plug-In
Bulb	T5
Base	4-Pin (2G11)
Wattage	39
Voltage	107
Rated Life	12000 hrs
Starting Temperature (MIN)	10 °C (50 °F)
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2850
Mean Lumens	2510
Nominal Initial Lumens per Watt	73
Color Temperature	3000 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Lamp Current	0.428 A
--------------	---------

## DIMENSIONS

Maximum Overall Length (MOL)	16.5000 in (419.1 mm)
Bulb Diameter (DIA)	0.406 in (10.3 mm)

## PRODUCT INFORMATION

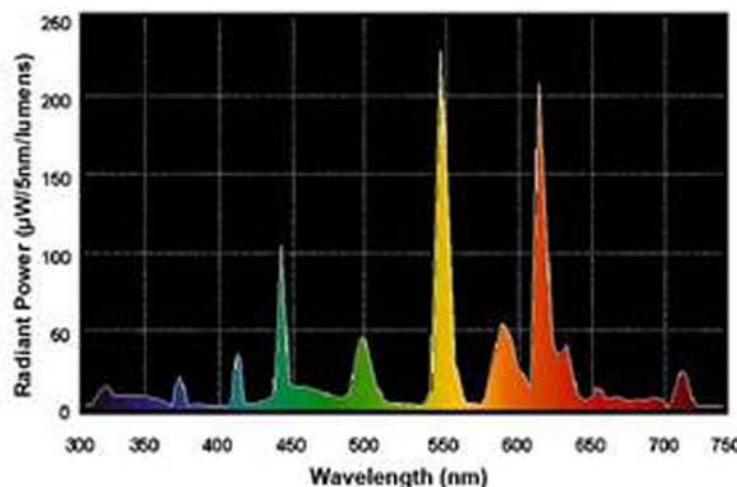
Product Code	16538
Description	F39BXSPX30RS10PK
ANSI Code	60501-IEC-4236-1
Standard Package	Master
Standard Package GTIN	10043168165386
Standard Package Quantity	40
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Sales Unit Appendix A	40

## ADDITIONAL RESOURCES

- [Catalogs](#)
- [Testimonials](#)
- [Sell Sheets](#)
  - [High Lumen Biax®](#)
- [Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

### Spectral Power Distribution



## Compact SE Overview

For designs requiring the energy savings and aesthetic appeal of dimmed T4 compact fluorescent or T5 twin-tube lamps, Compact SE dimming ballasts are your solution. The Compact SE product family includes ballasts for nearly every type of dimmable compact fluorescent lamp.

### Features

- Continuous, flicker-free dimming from 100% to 5%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models for 4-pin T4 compact lamps and T5 twin-tube lamps
- Programmed rapid start design will preheat lamp cathodes before applying full arc voltage
- Lamps turn on to any dimmed level without flashing to full brightness
- Low harmonic distortion throughout the entire dimming range maintains power quality
- Frequency of operation ensures that ballast does not interfere with infrared devices operating between 38 and 42 kHz
- Inrush current limiting circuitry eliminate circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry ensures safe operation throughout entire lamp life cycle
- Ultra quiet operation
- Protected from miswires of any input power to control lead, or lamp leads to each other or ground
- 100% compatible with all Lutron 3-wire fluorescent controls
- 100% performance tested at factory
- Designed and assembled in the USA
- 5-year limited warranty with Lutron field service commissioning (3-year standard warranty) from date of purchase
- Ballasts that dim T4 compact fluorescent lamps are intended for factory installation by OEM fixture manufacturer.

# F4



### Compact SE, case type A

3.00"w (76mm) x 1.00"h (25mm) x 4.90"l (124mm)



### Compact SE, case type B

3.00"w (76mm) x 1.00"h (25mm) x 6.75"l (171mm)



### Compact SE, case type F

2.38"w (60mm) x 1.50"h (38mm) x 9.50"l (241mm)

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

## Specifications

# F4

### Performance

- Dimming Range: 100% to 5% measured relative light output (RLO)
- Lamp Starting: programmed rapid start
- Minimum Lamp Starting Temperature: 10°C (50°F)
- Ambient Temperature Operating Range: 10°C (50°F) to 60°C (140°F)
- Relative Humidity: maximum 90% non-condensing
- Operating Voltage: 120V or 277V at 60Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output: constant  $\pm 2\%$  light output for line voltage variations of  $\pm 10\%$
- Lamp Life: average lamp life meets or exceeds rating of lamp manufacturer
- Ballast Factor: greater than .95 for T4 quad or triple tube lamps, and greater than .85 for T5 twin-tube lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 10%
- Maximum Inrush Current: 7 amps per ballast at 120V, 3 amps per ballast at 277V
- Sound Rating: Inaudible in a 27dBa ambient
- Maximum Ballast Case Temperature: 75°C (167°F)

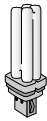

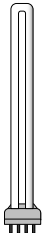
### Standards

- UL Listed (evaluated to the requirements of UL935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- Class P thermally protected
- Meets ANSI C82.11 High Frequency Ballast Standard
- Meets FCC Part 18 Non-Consumer for EMI/RFI emissions requirements
- T4 compact fluorescent ballasts are MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets ANSI C62.41 Category A surge protection standards to 6kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

## Compact SE Ballast Models

## F4

Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts	Lamps per ballast	Case Type	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>
 1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S
		2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S
	26W	1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S
 1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S
		2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S
	26W	1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S
	32W	1	A	.31	FDB-T432-120-1-S	.13	FDB-T432-277-1-S
		2	B	.59	FDB-T432-120-2-S	.24	FDB-T432-277-2-S
	42W	1	B	.36	FDB-T442-120-1-S	.16	FDB-T442-277-1-S
		2	B	.67	FDB-T442-120-2-S	.29	FDB-T442-277-2-S
 5/8" diameter	36/39W (16")	1	F	.33	FDB-1643-120-1	.14	FDB-1643-277-1
		2	F	.58	FDB-1643-120-2	.25	FDB-1643-277-2
		3	F	.85	FDB-1643-120-3	.35	FDB-1643-277-3
	40W (22")	1	F	.33	FDB-2227-120-1	.14	FDB-2227-277-1
		2	F	.61	FDB-2227-120-2	.25	FDB-2227-277-2
		3	F	.88	FDB-2227-120-3	.38	FDB-2227-277-3
	50W (22")	1	F	.38	FDB-2243-120-1	.17	FDB-2243-277-1
		2	F	.69	FDB-2243-120-2	.32	FDB-2243-277-2



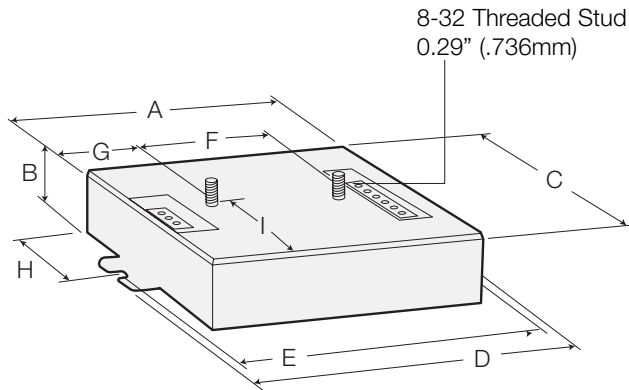
<sup>1</sup> Mounting studs standard for T4 ballasts. Delete suffix -S in the model number if mounting studs not needed.

Job Name:	Model Numbers:	
<input type="text"/>	<input type="text"/>	<input type="text"/>
Job Number:	<input type="text"/>	<input type="text"/>

Case Dimensions

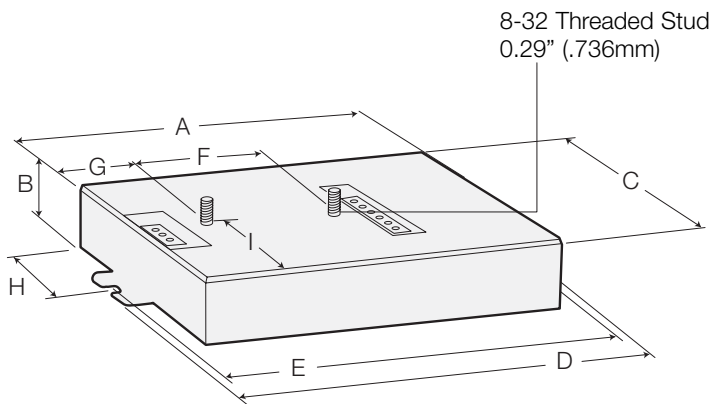
F4

A<sup>1</sup>



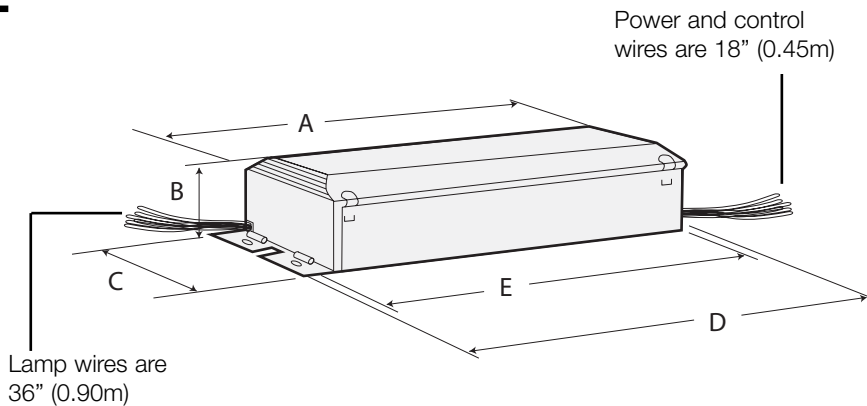
A	4.20"	(107 mm)
B	1.00"	(25 mm)
C	3.00"	(76 mm)
D	4.90"	(124 mm)
E	4.60"	(117 mm)
		(mounting centers)
F	2.00"	(51 mm)
G	1.08"	(27 mm)
H	1.60"	(41 mm)
I	1.39"	(35 mm)

B<sup>1</sup>



A	6.00"	(152 mm)
B	1.00"	(25 mm)
C	3.00"	(76 mm)
D	6.75"	(171 mm)
E	6.50"	(165 mm)
		(mounting centers)
F	2.00"	(51 mm)
G	1.00"	(29 mm)
H	1.60"	(41 mm)
I	1.39"	(35 mm)

F



A	8.30"	(211 mm)
B	1.50"	(38 mm)
C	2.38"	(60 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

If using four hole mount, mounting centers are 9.21" (234 mm) x 1.70" (43 mm).

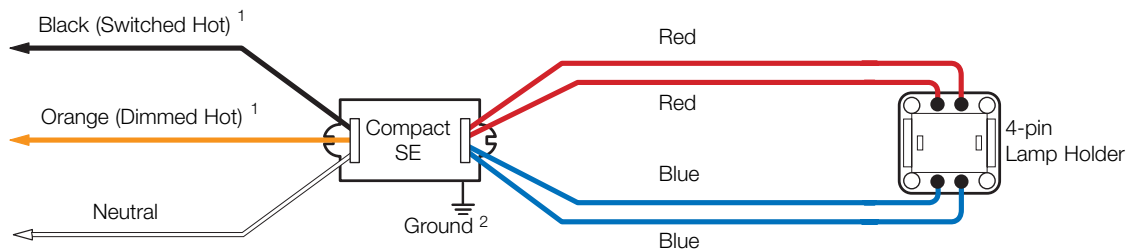
<sup>1</sup> Mounting studs standard. When ordering, delete suffix -S in the ballast model number if mounting studs not needed.

Job Name:	Model Numbers:	
<input type="text"/>	<input type="text"/>	<input type="text"/>
Job Number:	<input type="text"/>	<input type="text"/>

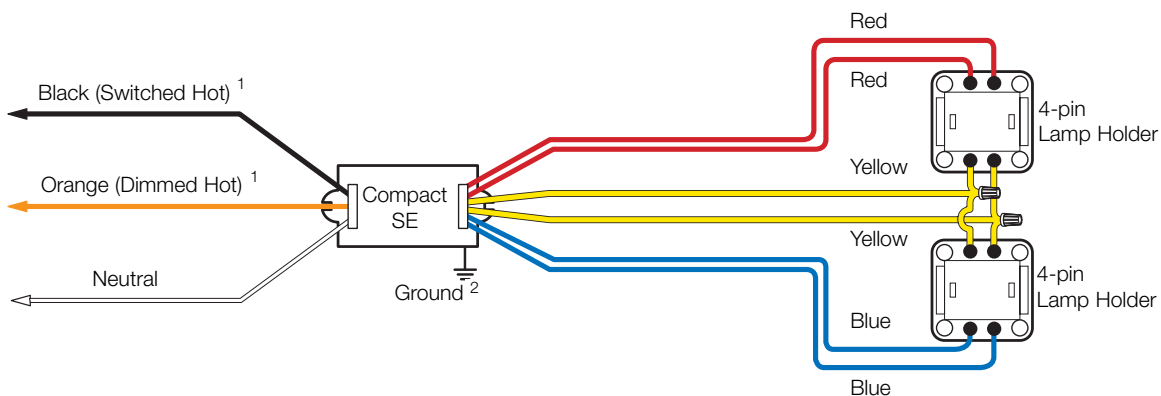
# Wiring Diagrams

# F4

## One compact fluorescent lamp



## Two compact fluorescent lamps



<sup>1</sup> Dimming control wire colors do not necessarily match ballast wire colors (e.g. control “dimmed hot” may be yellow and ballast “dimmed hot” may be orange). Wire colors shown are for Lutron controls and ballasts only.

<sup>2</sup> Ballast and lighting fixture must be effectively grounded.

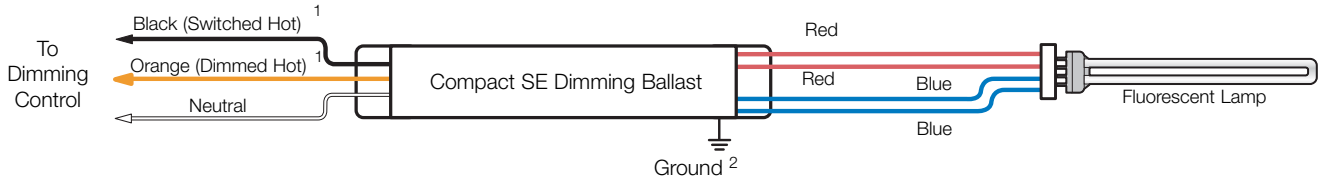
Note: For T4 compact lamps, maximum lamp-to-ballast wire length is 3 feet (1m).

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>

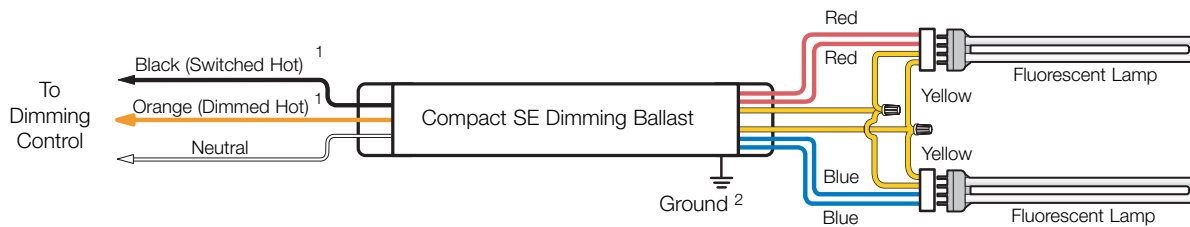
Compact SE Wiring Diagrams

F4

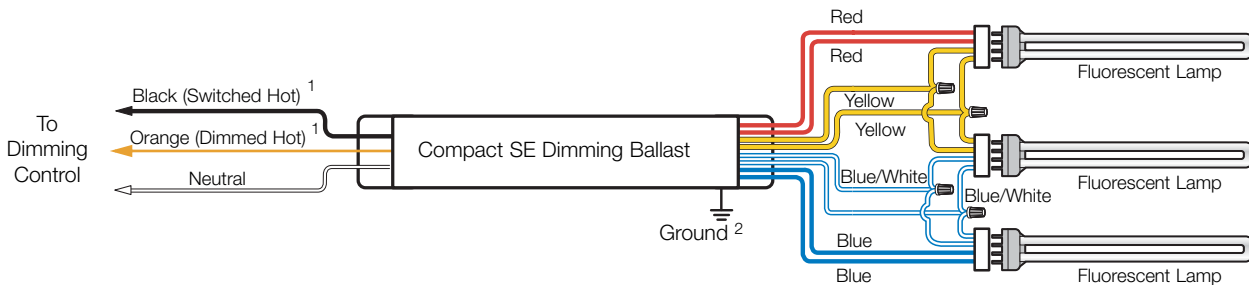
One T5 twin-tube lamp



Two T5 twin-tube lamps



Three T5 twin-tube lamps



<sup>1</sup> Dimming control wire colors do not necessarily match ballast wire colors (e.g. control 'dimmed hot' may be yellow, and ballast 'dimmed hot' may be orange). Wire colors shown are for Lutron ballasts and controls only.

<sup>2</sup> Ballast and lighting fixture must be effectively grounded.

Note: For T5 twin-tube lamps, maximum lamp-to-ballast wire length is 3 feet (1m).

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>



# F4



## ATTENTION ELECTRICIANS AND CONTRACTORS

### Ballast/Socket Leads

Lead lengths from ballast to socket must not exceed 3' (1m) for T4 and T5 twin-tube lamps.

### Lamp Sockets

Quality lamp sockets are required to ensure positive lamp-pin to socket contact. T4 compact sockets must be the 4 pin type, and must be used with 4 pin compact lamps. T5 twin-tube lamps require sockets that lock into the lamp base and provide proper lamp support to hold lamp pins in full contact with socket.

### Lamp Mounting for T5 Twin-Tube

Many fluorescent lamp sockets are available with mounting slots to vary the height of the lamp away from the grounded metal surface. Use these slots to keep the outside edge of the lamp at least 1/4" away from the grounded metal surface.

Having a fluorescent lamp too close to the grounded metal will make the minimum intensity too low and will reduce lamp life.

### Wiring and Grounding

All wiring from the dimming control to Compact SE ballasts is line voltage wiring and may be run together in the same conduit.

Ballast and lighting fixture must be effectively grounded. Ballasts must be installed per national and local electrical codes.

### Number of Ballasts Per Control

To calculate the maximum number of ballasts allowed per control, divide control's current capacity by individual ballast current. Certain controls allow a specific maximum number of ballasts.

### Ballast Operating Temperature

Ballast case temperature must not exceed 75°C at any point on ballast.



## ATTENTION FACILITIES MANAGERS

### PERFORMANCE

#### Lamps Must Be Seasoned

New fluorescent lamps must be operated for 100 hours at full output ("seasoned") to render lamp impurities inert, so as to achieve proper dimming performance and average rated lamp life.

### SERVICE

#### Replacement Parts

Use replacement parts with exact Lutron model numbers. Consult Lutron if you have any questions.

#### Further Information

Ballasts for other lamp types and voltages are available. Consult Lutron's Fluorescent Dimming Systems Selection Guide (P/N 366-002).

For further information, please visit us at <http://www.lutron.com/ballasts> or contact our 24-hour Technical Support Center at 1-800-523-9466.

<b>Job Name:</b> <input type="text"/>	<b>Model Numbers:</b> <input type="text"/>	
<b>Job Number:</b> <input type="text"/>	<input type="text"/>	<input type="text"/>



Catalog Number	F5
Notes	Type

Indoor Decorative

# Zentro Mini-Pendant

URBAN COLLECTION  
Compact DTT Fluorescent



## FEATURES & SPECIFICATIONS

### INTENDED USE

Provides task and general lighting in residential and light commercial applications. Suspended from ceiling, ideal for over dinette tables, game tables, entertainment bars, kitchen counters, or other work areas.

### ATTRIBUTES

Contemporary design with colored crinkle-glass, outer transparent cylinder and chrome accents. Available in azure blue, seaweed green or milk white. Suspended from chrome canopy with clear cord (adjustable up to 72").

Includes (1) 13W compact double twin tube (DTT) 3500K fluorescent lamp for energy efficiency, superior color rendering and long life.

Standard with electronic ballast (120 volt, 60Hz) ensures no flickering and quiet operation without interfering with other home electronics.

For use with non-dimmable switches only.

All mounting hardware included.

### LISTING

CUL listed to US and Canadian safety standards and suitable for damp locations. ENERGY STAR® qualified.

### WARRANTY

Guaranteed for two years against mechanical defects in manufacture.

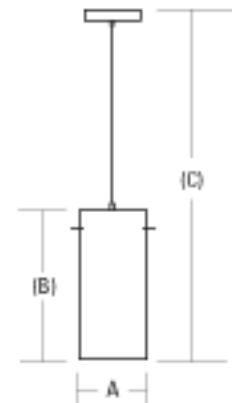


## DIMENSIONS

Nominal Size	Lamp Configuration	Model Number	Number of Lamps	(A) Diameter inches (cm)	(B) Height inches (cm)	(C) Extension* inches (cm)
Single		11990	(1) 13W compact (DTT)	4-3/4" (12.1)	11-1/2" (29.2)	up to 74-1/2" (189.2)

\* Maximum extension from ceiling with cord.

All dimensions are in inches (centimeters)



## ORDERING INFORMATION

Example: 11990

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

11990

Model Number <sup>(1,2)</sup>	Finish	Ballast/Voltage <sup>2</sup>	Options
<b>11990</b> (1) 13W compact DTT 4-pin 3500K fluorescent lamp <b>Included</b>	<b>GB</b> Blue glass <b>GW</b> White glass <b>GC</b> Green glass	(blank) 120 volt residential electronic ballast (standard)  Other voltage and ballast types (Consult factory)	(Consult factory)

### Accessories/Replacement parts

<b>CF130T35 4PIN R6</b>	13W compact DTT 4-pin 3500K fluorescent lamp
<b>BLST SUT13W R12</b>	13W GU24 pin-base socket g24q1 4-pin
<b>DZENAZ</b>	Azure blue etched crinkle glass shade - 3-5/8" (9.2) dia. x 10-3/4" (27.2) height
<b>DZENWH</b>	Milk white etched crinkle glass shade - 3-5/8" (9.2) dia. x 10-3/4" (27.2) height
<b>DZENSW</b>	Sea weed green etched crinkle glass shade - 3-5/8" (9.2) dia. x 10-3/4" (27.2) height
<b>DZENCLR</b>	Transparent outer glass cylinder - 4-3/4" (12.1) dia. x 11-1/2" (29.2) height


### Notes:

1. **INCLUDES** - 13W compact (DTT) 4-pin 3500K fluorescent lamp(s).
2. Use with non-dimmable switches only.
3. Supplied with 6' of power cord.
4. Retail packs must be ordered in increments of 6.
5. Retail packs must be ordered in increments of 12.

# 97595 – F13DBX/830/ECO4P

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

F5

 High Color Rendering  
Energy Savings

## GENERAL CHARACTERISTICS

Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	G24q-1
Wattage	13
Rated Life	12000 hrs/20000
Starting Temperature (MIN)	0 °C (32 °F)
Cathode Resistance	10.500 Ohm
Additional Info	Dimmable with appropriate dimming ballast., End of Life Protection (EOL), TCLP compliant
Primary Application	Standard; Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

## PHOTOMETRIC CHARACTERISTICS

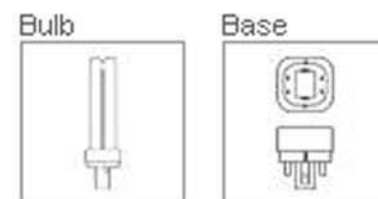
Initial Lumens	900
Mean Lumens	755
Nominal Initial Lumens per Watt	69
Color Temperature	3000 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Current (max)	5.2500 A
Open Circuit Voltage (after preheating) (MAX)	190 V
Open Circuit Voltage Across Starter (MIN)	198 V
Lamp Current	0.175 A
Preheat Voltage (MIN)	4 V
Current Crest Factor (MAX)	1.7
Supply Current Frequency	60 Hz

## DIMENSIONS

Maximum Overall Length (MOL)



 [View Larger](#)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

[Sell Sheets](#)

- [Double Biax® 2-Pin & 4-Pin](#)

[Disposal Policies & Recycling Information](#)



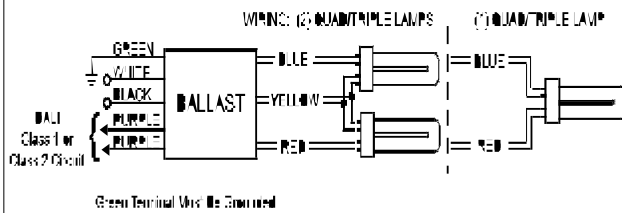
## IDL-2S26-M5-BS@120

Brand Name	ROVR
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* CFQ13W/G24Q	1	13	50/10	0.14	06/18	0.30/1.00	10	0.99	1.6	5.56
CFQ13W/G24Q	2	13	50/10	0.26	19/32	0.03/1.00	10	0.99	1.6	3.13

### Wiring Diagram



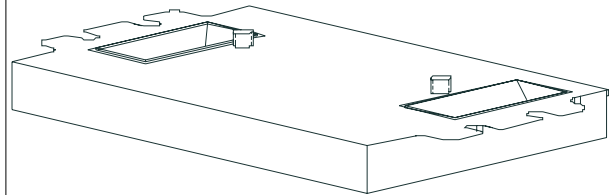
Diag. 165

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

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue		0
White	0	0	Blue/White		0
Blue	0	0	Brown		0
Red	0	0	Orange		0
Yellow	0	0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	3.00 "	1.18 "	2.00 "
4 49/50	3	1 9/50	2
12.6 cm	7.6 cm	3 cm	5.1 cm

Revised 08/17/2006



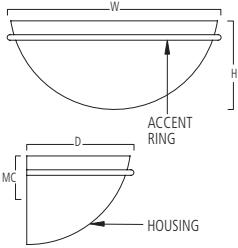
Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE

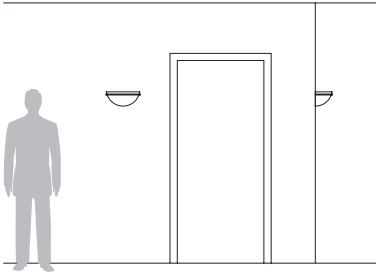
O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



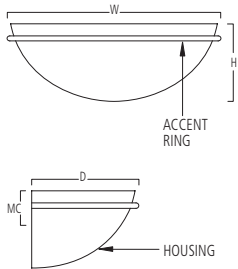
**CB3616**



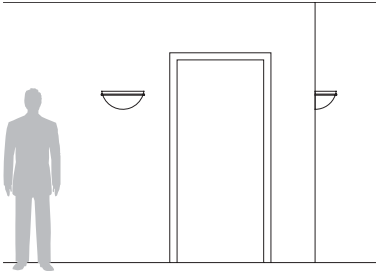
W	H	D	MC
14-1/4"	6-1/8"	7"	2-7/8"
362mm	156mm	178mm	73mm



**CB3618**





W	H	D	MC
18"	6-1/2"	9"	2-7/8"
457mm	165mm	229mm	73mm



Sample Catalog Number

**CB3616** - **2N100(120V)** - **PRL** - **WHT** - **XPS**  
 Model Lamp (Voltage) Housing Finish Accent Ring Finish Option

Model	Lamp (Voltage)	Housing Finish	Accent Ring Finish	Options	
<b>CB3616</b> 	<b>2F13</b>	13w twin tube, GX23 base	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White)	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White)	<b>FU</b> Fusing
	<b>1QF26</b>	26w quad, 4-pin G24q-3 base			<ul style="list-style-type: none"> <li>• <b>BCB</b> Brushed Chrome</li> <li>• <b>CB</b> Polished Chrome</li> <li>• <b>PB</b> Polished Brass</li> <li>• <b>SN</b> Satin Nickel</li> </ul>
	<b>2N100</b>	100w A-19, medium base	<b>ULD</b> UL damp location label (painted only)		
	<b>1H100</b>	100w ED-17, medium base	<b>XEM</b> Emergency battery pack mounted in provided recessed box for fluorescent lamping (replaces standard junction box)		
	<b>1T250</b>	250w T-4, dc bayonet base	<b>XPS</b> Express 10 day shipment		
	(Voltage)				• Option is not available with <b>XPS</b> program
	<b>120V</b>				
	<b>277V</b>				
	<b>347V</b>	(available only for HID lamping)			
		Note: T250 lamping requires GE or Osram Sylvania lamps only			

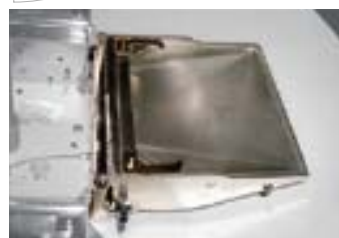
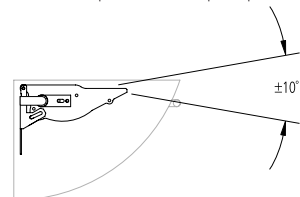
Model	Lamp (Voltage)	Housing Finish	Accent Ring Finish	Options	
<b>CB3618</b> 	<b>2F13</b>	13w twin tube, GX23 base	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White)	<b>PTD</b> Painted - specify color code, see page 519 (ex. <b>WHT</b> for White)	<b>FU</b> Fusing
	<b>2QF26</b>	26w quad, 4-pin G24q-3 base			<ul style="list-style-type: none"> <li>• <b>BCB</b> Brushed Chrome</li> <li>• <b>CB</b> Polished Chrome</li> <li>• <b>PB</b> Polished Brass</li> <li>• <b>SN</b> Satin Nickel</li> </ul>
	<b>2N150</b>	150w A-21, medium base	<b>ULD</b> UL damp location label (painted only)		
	<b>1H100</b>	100w ED-17, medium base	<b>XEM</b> Emergency battery pack mounted in provided recessed box for fluorescent lamping (replaces standard junction box)		
	<b>2T250</b>	250w T-4, dc bayonet base	<b>XPS</b> Express 10 day shipment		
	(Voltage)				• Option is not available with <b>XPS</b> program
	<b>120V</b>				
	<b>277V</b>				
	<b>347V</b>	(available only for HID lamping)			
		Note: T250 lamping requires GE or Osram Sylvania lamps only			

## Features

- ▶ Heavy gauge spun metal housing and rolled trim ring
- ▶ Oven cured low VOC lacquer paint
- ▶ Easy tool-less relamping
- ▶ Fluorescent, HID or incandescent lamping options
- ▶ High power factor ballast (fluorescent and HID lamping)
- ▶ Remote mounted HID ballast with long distance ignitor standard, 50' maximum ballast to lamp distance (applies to 1H100 and 1CH150T6 lamp)
- ▶ Clear tempered prismatic top glass lens standard with HID lamping
- ▶ Mounts to all standard electrical junction boxes (by others) with hardware provided (except XEM options)
- ▶ XEM recessed electrical box in stock and available for rough-in installation
- ▶ 5 year product warranty

## T250 and CH150T6 Lamping

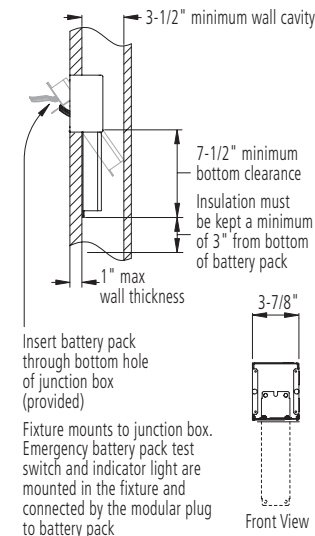
T250 and CH150T6 lamping includes a high performance reflector module of specular extruded aluminum with hinged borosilicate glass lens. +/-10° tilt provided for uplight aiming. Use clear lamp for maximum optical performance.



## Variations

- ▶ Specialty finishes to match architectural detail
- ▶ Mix and match accents and trim from other product designs
- ▶ Constructed of non-ferrous materials for use in magnetic resonance imaging (MRI) rooms
- ▶ Alternate lamping up to rated wattage listed

## XEM Emergency Battery Pack



## New Alternative Finishes

Visa Lighting continuously strives to develop alternatives to increase product value, without degrading performance or quality. In this catalog, three such finishes have been added:

### SNA - Satin Nickel Alternative

### BCA - Brushed Chrome Alternative

This process utilizes a dye application within a UV resistant clear coating over an aluminum substrate. The end results are finishes with a natural metal appearance that closely match Satin Nickel and Brushed Chrome Plating - at a fraction of the cost. There is no impact to lead time, and none of the environmental impact associated with conventional plating. Additionally, these new finishes can be applied to product designs not well suited to plating.

### ABA - Alabaster Alternative

This process utilizes multi-layered hand painting, over an acrylic substrate to produce a luminous diffuser with the character and natural appearance of alabaster at a fraction of the cost and with less fixture weight. This finish can also be applied to designs that cannot be produced in real marble materials.

### New Standard Matte Acrylic Diffuser Finish

All luminous acrylic diffusers used indoors include a matte finish to enhance softness of illumination, and to produce a more glass-like appearance. This scratch resistant surface is specifically designed to be durable and easily cleaned using mild cleansers during routine building maintenance.

## RAL Color System

The RAL color system is a worldwide color standard which assures that product finishes from diverse manufacturers match each other when installed on the job. The most recognized samples set is the RAL Classics, a collection of 210 colors used widely in architecture. Visa Lighting surface finishes are satin surface, which closely match the RAL K-5 series of color samples.

Visa recognizes the use of the RAL standard, and provides color matching to any of the Classic series colors at a lower premium than matching custom colors. In those instances which a Visa standard color matches an RAL standard, the RAL color reference is included in the color description in this catalog.

For more information on the RAL color system, or to obtain a color collection, see the RAL website at: [www.ral.de](http://www.ral.de)

## ANSI/BHMA Material Finish Standards

The ANSI/BHMA finish standard, which has replaced the original US standards for metal finishing in building hardware, establishes a broad standard for color and surface finishing of metalwork within architecture.

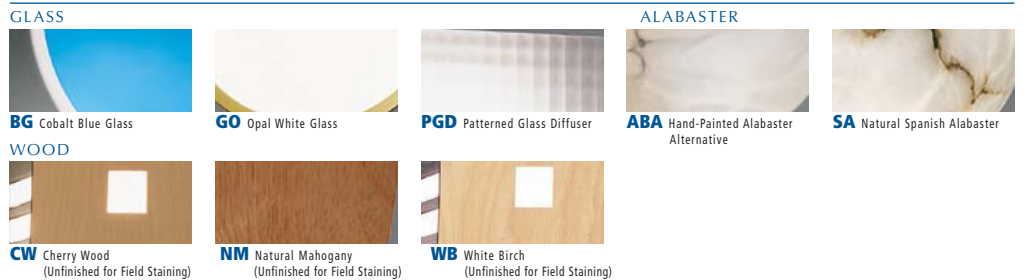
Visa recognizes the use of ANSI/BHMA standard as a method of communicating a desired finish treatment during product specification. Where Visa metal finishes match an ANSI/BHMA finish standard, the reference number is provided in the finish description. All Visa finishes are grade level 1. Visa also utilizes this standard as a means for specifiers to communicate a desired surface treatment, should one be desired that is not offered as a standard finish.

For more on the ANSI/BHMA standard, or to obtain a complete color samples kit, see the BHMA website at: [www.buildershardware.com](http://www.buildershardware.com)

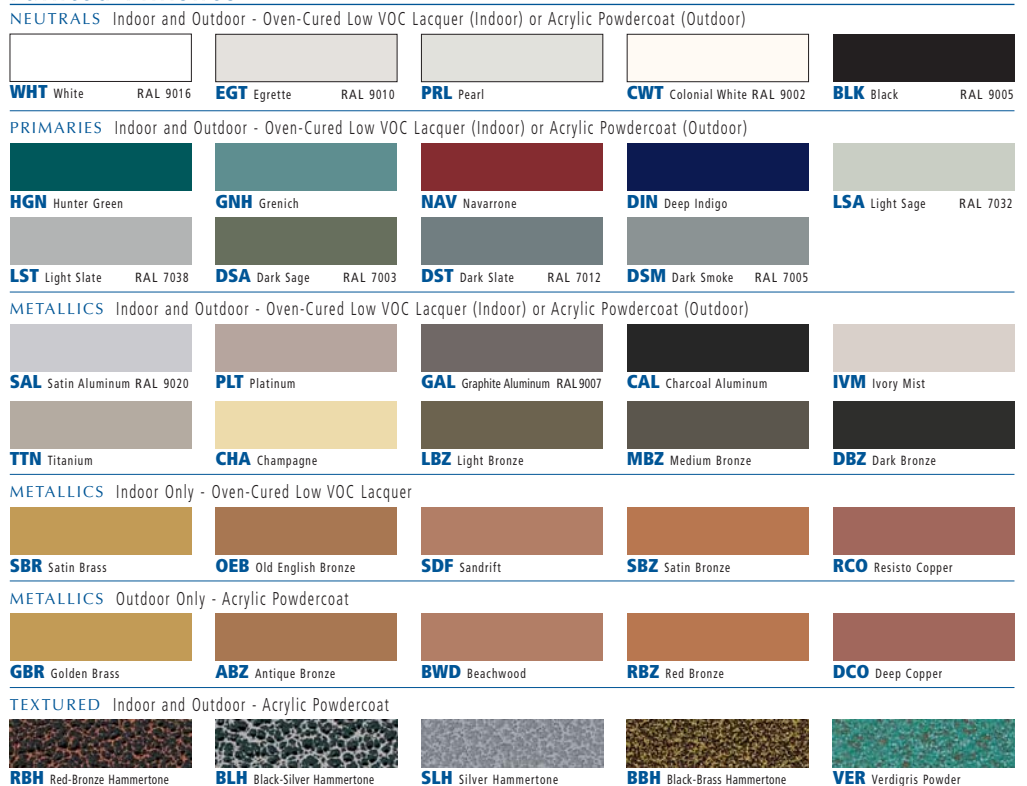
## Metal Finishes



## Other Materials



## Painted Finishes



Slight variation in color and luster may be present in these examples due to limitations in the reproduction process. For accurate color verification, actual finish samples are available upon request.

# 97574 – F13BX/830/ECO

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

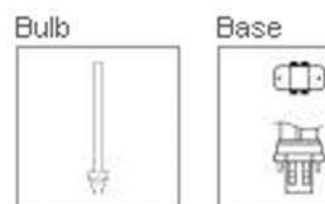
# F6

 High Color Rendering

Energy Savings

## GENERAL CHARACTERISTICS

Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	GX23
Wattage	13
Voltage	59
Rated Life	10000 hrs
Starting Temperature (MIN)	0 °C (32 °F)
Additional Info	TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse



 [View Larger Image](#)

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	825
Mean Lumens	710
Nominal Initial Lumens per Watt	63
Color Temperature	3000 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Lamp Current	0.285 A
Current Crest Factor (MAX)	1.7
Supply Current Frequency	60 Hz

## DIMENSIONS

Maximum Overall Length (MOL)	7.3000 in (185.4 mm)
Nominal Length	7.000 in (177.8 mm)
Base Face to Top of Lamp	6.690 in (169.9 mm)

## PRODUCT INFORMATION

Product Code	97574
Description	F13BX/830/ECO
ANSI Code	60901-IEC-0013-1
Standard Package	BUNDLE
Standard Package	100

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

[Disposal Policies & Recycling Information](#)



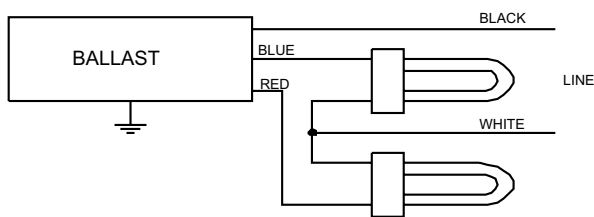


<b>H-2B13-TP-BLS</b>	
Brand Name	COMPACT-HPF
Ballast Type	Magnetic
Starting Method	Pre-Heat
Lamp Connection	Series
Input Voltage	120
Input Frequency	60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Starting Current (Amps)	Open Circuit (Amps)	Input Power (Watts)	Ballast Factor	MAX THD %	Power Factor
* CFQ13W/GX23	2	13	32/00	0.30	0.44	0.00	35	1.02	30	0.95
CFT13W/GX23	2	13	32/00	0.30	0.44	0.00	35	1.02	30	0.95

### Wiring Diagram



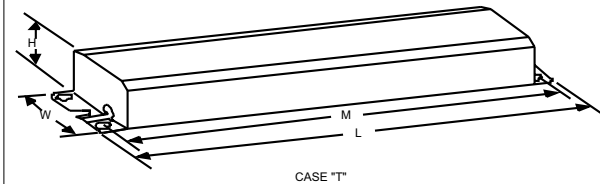
Diag. 51

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

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	7	17.8	Yellow/Blue		0
White		0	Blue/White		0
Blue	7	17.8	Brown		0
Red	7	17.8	Orange		0
Yellow		0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (std)/(TP)	Height (H)	Mounting (M)
6.5 "	2.375 "	1.5 "	6.0 "
6 1/2	2 3/8	1 1/2	6
16.5 cm	6 cm / 0 cm	3.8 cm	15.2 cm

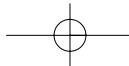
Revised 06/29/1999



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

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



F7



**DESCRIPTION**

Five light system designed for the home or office. Energy efficient, long lasting halogen lamp system. Easy installation to wall or ceiling. All parts included in kit - 5 20W MR16 lamps; 120V input, 12V output magnetic transformer; 5 lampholders; insulated cable and all necessary hardware.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

**SPECIFICATION FEATURES**

**A...Transformer**

Magnetic transformer 120V in, 12V out with adjustable length cable leads (each cable lead is 22" long). Installs to junction box with mounting plate (included). Replaceable fuse with one replacement fuse included. May be attached at any point along cable.

**B...Lampholder Fixture**

Five assembled fixtures included. Fixture consists of bodies that can be adjusted to accommodate variations in cable width spacing. Lampholders attach to cables with insulation piercing thumbscrews. Fixtures can be installed at any point along the cables. Fixture body allows adjustable aiming of lamps and shade.

**C...Shade**

Mesh shade backshields with silver finish. MR16 lamps attach with spring clips.

**D...Cable**

Two sections of low voltage cable each 20 feet in length. Cable can be shortened as desired.

**E...Turnbuckles**

Turnbuckle posts allow slack in cables to be removed for a clean professional looking installation. Turnbuckle assemblies may be mounted on wall or ceiling. Turnbuckles also pivot up to 90° to accommodate mounting variations. Mounting screws and toggle bolts included.

**F...Mounting Posts**

Mounting posts secure one end of cable. Mounting posts and turnbuckles may be mounted on wall or ceiling. Mounting screws and toggle bolts included.

**Allen wrench**

Allen wrench provided to make positive mechanical and electrical contact to lamp.

**Listings**

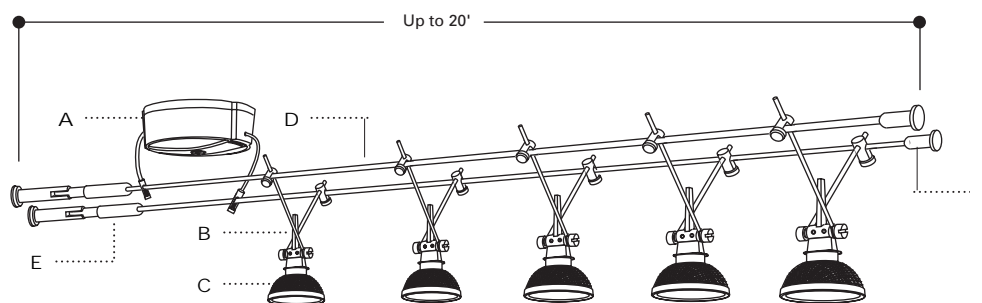
UL/CSA listed for wall or ceiling mounting.



LZR800

12V MR16  
CABLE KIT

Lazer by Halo



**ORDERING INFORMATION**

SAMPLE NUMBER: LZR800SL

**Cable Kit**

**Finish**

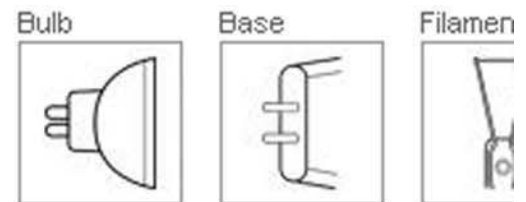


LZR800=Cable Kit Complete

SL=Silver

**GENERAL CHARACTERISTICS**

Lamp type	Halogen - MR
Bulb	MR16
Base	2-Pin (GX5.3)
Filament	C-6
Wattage	20
Voltage	12
Voltage (MIN)	20
Rated Life	5000 hrs
Rated Life (Vert)	5000 hrs
Lamp Enclosure Type (LET)	Open or enclosed fixtures



[View L](#)

**PHOTOMETRIC CHARACTERISTICS**

Initial Lumens	3750
Initial Lumens (Hor)	3750
Initial Lumens (Vert)	3750
Center Beam Candlepower (CBCP)	3750
Color Temperature	2900 K
Nominal Initial Lumens per Watt	187

**DIMENSIONS**

Maximum Overall Length (MOL)	1.8750 in (47.6 mm)
Bulb Diameter (DIA)	2.000 in (50.8 mm)

**PRODUCT INFORMATION**

Product Code	20815
Description	Q20MR16/C/NSP15
ANSI Code	ESX
Standard Package	BUNDLE
Standard Package GTIN	00043168208154
Standard Package Quantity	20
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	20
UPC	043168990097

**ADDITIONAL RESOURCES**

**Catalogs**

**Testimonials**

**Brochures**

Product Brochures

- [Color](#)
- [XL Brochure](#)

Application/Segment Brochures

- [Contractor Lighting](#)
- [Healthcare Lighting](#)
- [Office Lighting](#)
- [Specialty Store Lighting](#)

**Sell Sheets**

- [GE ConstantColor® Precise™ MR16 Lamps](#)

**IES/Photometric Download**

**MSDS (Material Safety Data Sheets)**

**Disposal Policies & Recycling Information**

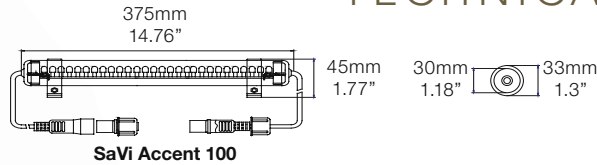
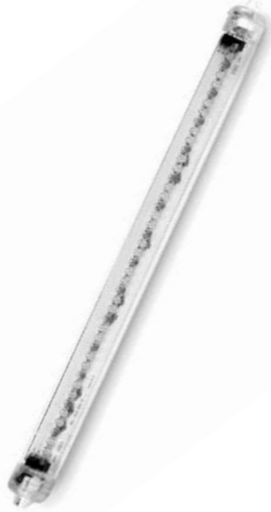
**CAUTIONS & WARNINGS**

[See list of cautions & warnings.](#)

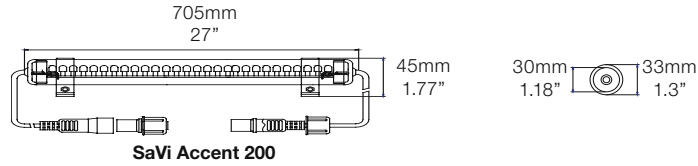
# F8

## TECHNICAL SPECIFICATIONS

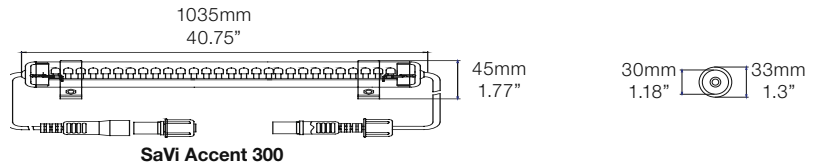
### SaVi Accent™



SaVi Accent 100



SaVi Accent 200



SaVi Accent 300



#### SPECIFICATION FEATURES

**Color Combination:** std. 3 primary, 3 secondary, white, fades, strobes  
Full 16 million color capability through DMX

**Light Source:** 45 High Power Light Emitting Diodes/FT (LEDs)

**Available Beam Angle:** 85°X40°

**Luminance Flux:** 21.3 lm

**Construction:** Clear Polycarbonate Tube

**Power Consumption:** 3.5W per foot

**Protective Rating:** IP64

**Rated Power:** 3.5W per foot

**Rated Current:** 0.29A per foot

**Rated Voltage:** 24VDC

**Dimensions:**  
45mm(W) x 375 / 705 / 1035mm(L) x 45mm(H)  
1.77\"(W) x 14.76\" / 27\" / 40.75\"(L) x 1.77\"(H)

**Weight:** 0.44 lbs (0.2 kg)

**Temperature Range:** -20°C to 40°C  
-4°F to 104°F )

**Max Connectable Units Per Controller:**  
24 units - Accent 100

**Control System / Power Supply:**  
SaVi 181-24U  
SaVi 181-120  
SaVi 181-240

**Warranty:** 2 years



#### \* STANDARD COLOR MODES

7 color change mode in sequence  
7 color flash mode in sequence  
7 color fade mode in sequence  
7 color change mode in sequence  
(mixing modes of jumping, flashing and fading)  
Red, Green, Blue intensity adjustment  
Color changing speed adjustment

#### DMX CONTROL MODES

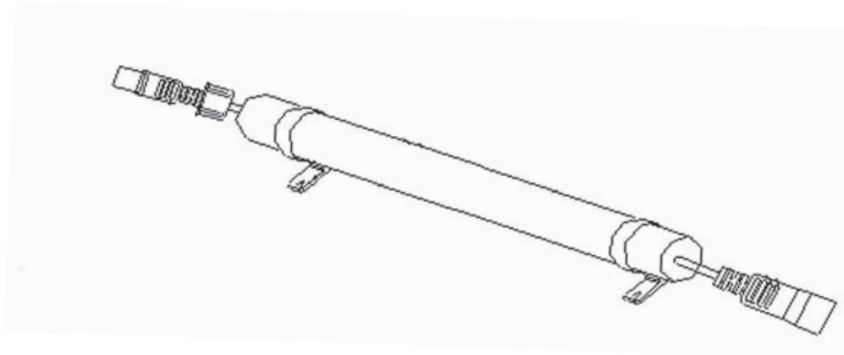
Trigger standard color modes

Full 16 million color RGB color mixing through use with SaVi™ 512 software

A SaVi™ Smart Controller is required to address a Savi™ Accent for DMX

#### ORDERING INFORMATION

MODEL	CONTROL / PS SYSTEM	ACCESSORIES	OPTIONAL DMX SMART CONTROLLER
SaVi Accent 100 375mm (14.76") length tube SaVi Accent 200 705mm (27") length tube SaVi Accent 300: 1035mm (40.75") length tube SaVi Accent 100E: 240 Volt SaVi Accent 200E: 240 Volt SaVi Accent 300E: 240 Volt	SaVi181-24U UL Listed 120 Volt Controller SaVi181-120 CE Listed 120 Volt Controller SaVi181-240 CE Listed 240 Volt Controller	28.8006 Mounting Clips Extension Cables: 17.4002 - 2ft. cable 17.4005 - 5ft. cable 17.4010 - 10ft. cable 17.4002-240 - 2ft. cable 17.4005-240 - 5ft. cable 17.4010-240 - 10ft. cable 16.6004 - 3 pin male adapter 16.6005 - 3 pin female adapter 16.6008 - Accent interface cable for SavVi-SC120 & SaVi-Sc240	SaVi-SC120: 120 Volt DMX Smart Controller SaVi-SC240: 240 Volt DMX Smart Controller
Maximum number of units connected SaVi™ Accent 100 = 24 or 30' Maximum number of units connected SaVi™ Accent 200 = 15 or 34' Maximum number of units connected SaVi™ Accent 300 = 9 or 31'			



### Specifications:

Application:	Dry & Wet Locations
Listings:	UL Listed, CE Certified
IP rating :	IP64
Dimensions:	14.76"(W)X40.75"(L)X1.77"(H) 375mm(W)X1035mm(L)X45mm(H)
Beam Angle:	85°
Lamps:	45 High Power LEDs
Operating Temperatures:	-4° F to 140° F (-20° C to 60° C)
Working Voltage:	120 or 240 VAC
Wattage / Current:	3.5 watt per foot / 0.29A per foot
Weight:	0.2lbs (0.44kg)
Warranty:	2 years

## Installation Manual

# 01. General Information F8

**SaVi™ Accent** - MINI LED TUBE (LOW VOLTAGE & WATERPROOF). With the excellent design of electrical circuit and the use of high quality component, led tube is a highly reliable and durable product. With an independent controller controlling the color change and the lighting effects, it is suitable for decoration of exhibition, restaurant, paint room, lounge, club, bar, cars and etc.

**SaVi™ Accent** uses high bright red, green and blue LEDs as illumination source. The 12V tube can be controlled and powered by controller SRC-181-12V to provide full color change effects. And controller SRC-181-24V takes all the control of 24V tube.

### Technical Parameter:

Item No.:	LN-MN-300-12V-M	LN-MN-600-12V-M	LN-MN-1000-12V-M
Source:	high bright LED	high bright LED	high bright LED
Quantity of LED:	R:15 G:15 B:15	R:30 G:30 B:30	R:45 G:45 B:45
Luminance flux(lm):		21.3	42      64
Beam angle:	85° „*40° „	85° „*40° „	85° „*40° „
Wavelength:	R 620-630	G 510-520	B 470-480
VF (V):	R 1.9-2.3	G 3.0-3.8	B 3.0-3.8
Rated power:	3.5W	7W	10.5W
Rated current :	0.29A	0.58A	0.87A
Rated voltage :	12VDC	2VDC	12VDC
Size:	L375*W45*H45	L705*W45*H45	L1035*W45*H45
Weight :	0.2Kg	0.28Kg	0.35Kg
Life span:	100,000Hours	100,000Hours	100,000Hours
Temperature range:	-20° „C--60° „C	-20° „C--60° „C	-20° „C--60° „C
Humidity range:	0-95%	0-95%	0-95%
IP rating:	IP44	IP44	IP44
Controller:	SRC-181-12V	SRC-181-12V	SRC-181-12V
Max connecting No.:	50pcs	25pcs	16pcs

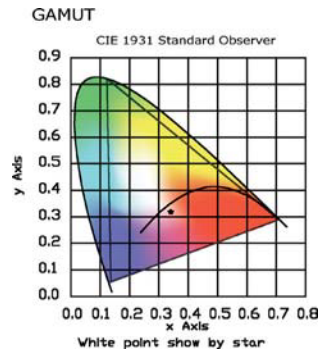
Item No.:	LN-MN-300-24V-M	LN-MN-600-24V-M	LN-MN-1000-24V-M
Source:	high bright LED	high bright LED	high bright LED
Quantity of LED:	R:15 G:15 B:15	R:30 G:30 B:30	R:45 G:45 B:45
Luminance flux(lm):		21.3	42      64
Beam angle:	85° „*40° „	85° „*40° „	85° „*40° „

# F8

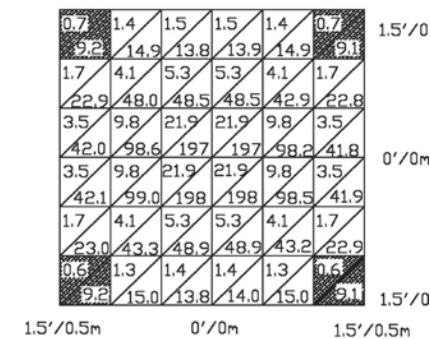
Wavelength:	R 620-630	G 510-520	B 470-480
VF (V):	R 1.9-2.3	G 3.0-3.8	B 3.0-3.8
Rated power:	3.84W	7.6W	11.5W
Rated current:	0.16A	0.32A	0.48A
Rated voltage:	24VDC	24VDC	24VDC
Size:	L375*W45*H45	L705*W45*H45	L1035*W45*H45
Weight:	0.2Kg	0.28Kg	0.35Kg
Life span:	100,000Hours	100,000Hours	100,000Hours
Temperature range:	-20°C--40°C	-20°C--40°C	-20°C--40°C
Humidity range:	0-95%	0-95%	0-95%
IP rating:	IP44	IP44	IP44
Controller :	SRC-181-24V	SRC-181-24V	SRC-181-24V
Max connecting No.:	60pcs	30pcs	20pcs

## SOURCE SPECIFICATIONS

Optics: Clear polycarbonate  
 Source: 45LEDs (R 15, G 15, B 15)  
 Beam Angle: 85°, \*40°, (at 50% of peak illuminance )  
 Distribution: Asymmetric direct illumination  
 CCT: Adjustable 8500-12000K  
 CRI: Not measurable (CIE 13.3-1995)

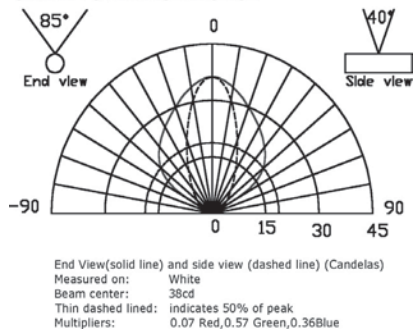


## ILLUMINANCE DISTRIBUTION



Units: Footcandles/Lux  
 Measured on: White  
 Distance from surface: 1'/0.3m (from center of grid)  
 Multipliers: 0.07 Red, 0.57 Green, 0.36 Blue

## CANDLE POWER DISTRIBUTION





Color Kinetics® ColorDial is a stand alone lighting controller and interface for Color Kinetics light fixtures. The ColorDial is an easy to install, wall-mountable assembly ideal for applications that desire a variety of effects in an easy interface. ColorDial's ease-of-use design lets you select and modify a variety of lighting effects with a simple push and turn of a knob.

ColorDial includes eight lighting effects that can be accessed and modified with the simple-to-use rotary/push dial – no programming required. Push the dial to select Fixed Color, Color Wash, three Chasing Rainbow settings, Random Color, Random Fade, White Light, or off. Rotate the dial to adjust the color or speed, depending on the chosen effect.

ColorDial comes ready to mount into a standard U.S. single or multi gang wall box using a standard face plate. It is designed for power and data connections to be hardwired to the internal five-position terminal block. Switches are provided to disable/enable effects prior to installation.

### FEATURES

- Contains eight pre-programmed, modifiable, light shows: Fixed Color, Color Wash, three Chasing Rainbows (4, 8, and 12 light width), Random Color, Random Fade, and White Light
- Real time color and effects changing
- Compatible with all Color Kinetics professional lighting products
- Controls up to 60 unique lighting addresses, with the data repeating after the first twelve.
- One-quarter inch D-shaft fits most standard dimmer knobs for knob interchange and customization.
- Memory feature recalls the last effect settings.

### COLORDIAL SPECIFICATIONS

<b>CONTROL</b>	Stand Alone
<b>HOUSING</b>	Fits standard U.S. single or multi gang electrical wall boxes - not provided
<b>CONNECTORS</b>	Five-position terminal block
<b>LISTINGS</b>	Meets National Electrical Code Class 2 requirements
<b>POWER INPUT</b>	24VDC @ 100mA

### DESCRIPTION OF EFFECTS

<b>FIXED COLOR</b>	Static display of a single color
<b>COLOR WASH</b>	Colors transition gracefully from color to color, repeat-cycling through the entire color spectrum
<b>CHASING RAINBOW</b>	When applied to a group of lights, colors of the rainbow appear to chase each other from one light to the next
<b>RANDOM COLOR</b>	Colors step or jump from one color to the next randomly
<b>RANDOM FADE</b>	Colors transition gracefully from one color to the next randomly
<b>WHITE</b>	Static display of white light, with dimming ability

### ITEM# 103-000014-00

This product is protected by one or more of the following patents:  
U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at  
<http://colorkinetics.com/patents/>. Other patents pending.

©2002-2005 Color Kinetics Incorporated. All rights reserved.  
Chromacore, Chromasic, Color Kinetics, the Color Kinetics logo, ColorBlast, ColorBlaze, ColorBurst, ColorCast, ColorPlay, ColorScope, Direct Light, iColor, iColor Cove, iPlayer, Opitbin, QuickPlay, Sauce, the Sauce logo, and Smartjuice are registered trademarks and DIMand, IntelliWhite, Powercore, and Video With Light are trademarks of Color Kinetics Incorporated.

All other brand or product names are trademarks or registered trademarks of their respective owners.

BR0092 Rev 08

Specifications subject to change without notice.

### DESCRIPTION OF CONTROLS

<b>PUSHING</b>	Cycles through enabled modes – up to eight color effects plus off
<b>ROTATING</b>	Varies the color in Fixed Color mode, the intensity in White, and the speed for all other effects

### INSTALLATION

<b>MOUNTING</b>	Fits standard U.S. one-gang wall box
<b>WIRING</b>	For complete installation instructions, refer to the ColorDial installation guide.

### U.S. AND FOREIGN PATENTS AND PATENTS PENDING

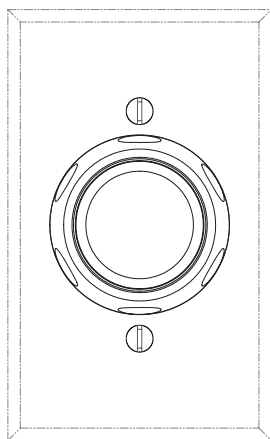


# F8 Control

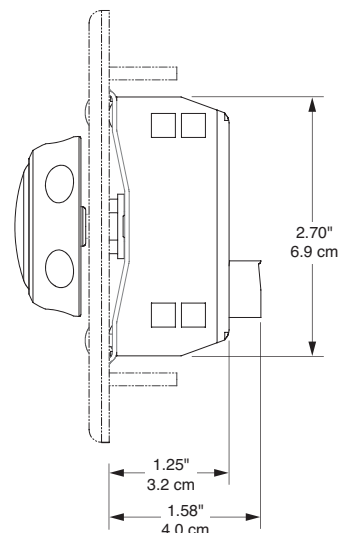
**COLORDIAL**

PHYSICAL DIMENSIONS

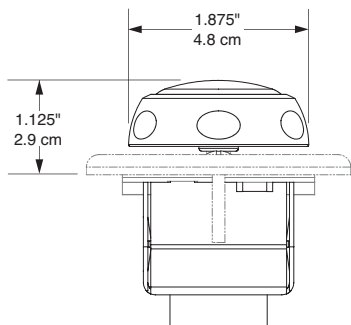
FRONT VIEW



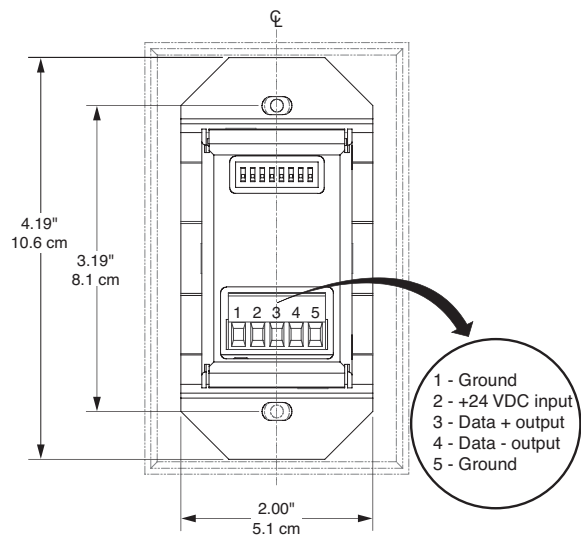
SIDE VIEW



TOP VIEW



BACK VIEW

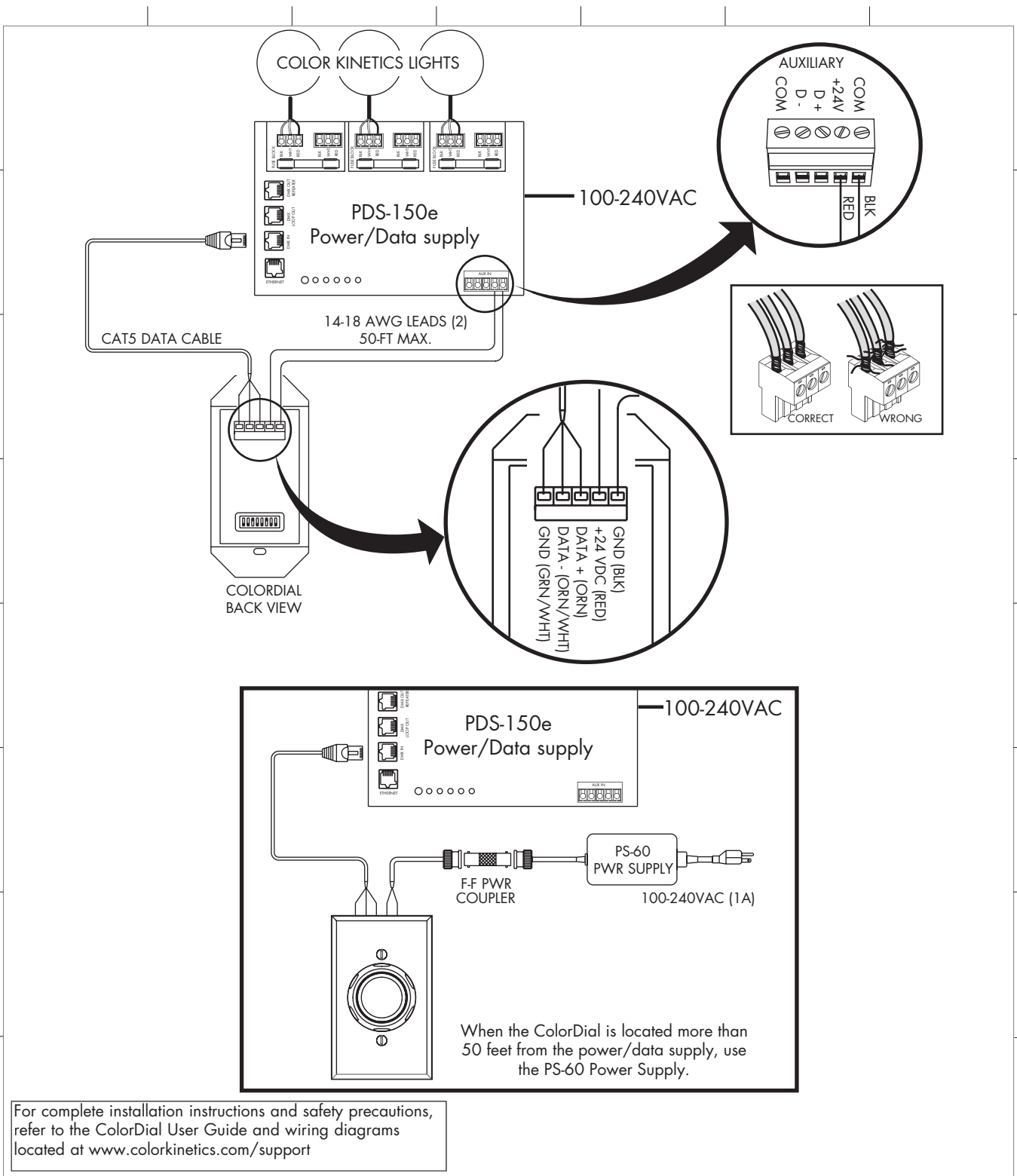


COLORDIAL MODEL # 103-000014-00	
WEIGHT	5.3oz (150g)
DATA	Data output via screw terminal
POWER CONNECTOR	Power input via screw terminal
POWER REQUIREMENT	100mA@24VDC (2.4W)

# F8 Control

**COLORDIAL**

FUNCTIONAL FLOW DIAGRAMS



For complete installation instructions and safety precautions, refer to the ColorDial User Guide and wiring diagrams located at [www.colorkinetics.com/support](http://www.colorkinetics.com/support)

## DATA ENABLER



Color Kinetics® Data Enabler is a data formatting device specifically designed for Color Kinetics fixtures, featuring Powercore® digital power processing technology. Data Enabler's data drivers condition data supplied from Ethernet or DMX512 controllers, including Color Kinetics full line of controllers, to a format compatible with the fixtures. The integration of power and data simplifies wiring installations, and the selection of control configurations expands the versatility of the applications.

Data Enabler automatically accommodates a universal supply voltage ranging from 100 to 240 volts AC, 50/60 Hz where the maximum connected load does not exceed 20 Amps. The input and output line voltage connections are made to terminal blocks. Data Enabler is available for either DMX, for use with Color Kinetics controllers or third-party DMX512 controllers; or Ethernet, for use with Color Kinetics Light System Manager. All data connections are made using the input RJ45 terminal. For DMX applications, data can be daisy chained between multiple Data Enablers using the output RJ45 terminal.

Data Enabler is housed in a compact NEMA 4 (IP66) enclosure designed for use in wet locations and complies with National Electrical Code (NEC) requirements. Each Data Enabler features multiple conduit entries sized for 3/4-inch NPT 59/64" conduit.

### FEATURES

- Economical
- Compact size
- Ease of installation
- Ethernet/DMX ready
- Wet/damp NEMA 4 housing
- Choice of intelligent data drivers



ITEM# 106-000003-04 (DMX)  
106-000003-05 (Ethernet)

For use under one or more of the following patents: U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>. Other patents pending.

©2004-2006 Color Kinetics Incorporated. All rights reserved. Chromacore, Chromasic, CK, the CK logo, Color Kinetics, the Color Kinetics logo, Color Kinetics The Leader in Intelligent Light, ColorBlast, ColorBlaze, ColorBurst, ColorCast, ColorPlay, ColorScape, DimMend, Direct Light, EssentialWhite, eV, iColor, iColor Cove, IntelliWhite, iV, iPlayer, Light Without Limits, Optibin, Powercore, QuickPlay, Sauce, the Sauce logo, and Smartjuice are either registered trademarks or trademarks of Color Kinetics Incorporated in the United States and/or other countries.

All other brand or product names are trademarks or registered trademarks of their respective owners.

BRO133 Rev 03

Specifications subject to change without notice. Refer to [www.colorkinetics.com](http://www.colorkinetics.com) for the most recent version.

### DATA ENABLER SPECIFICATIONS

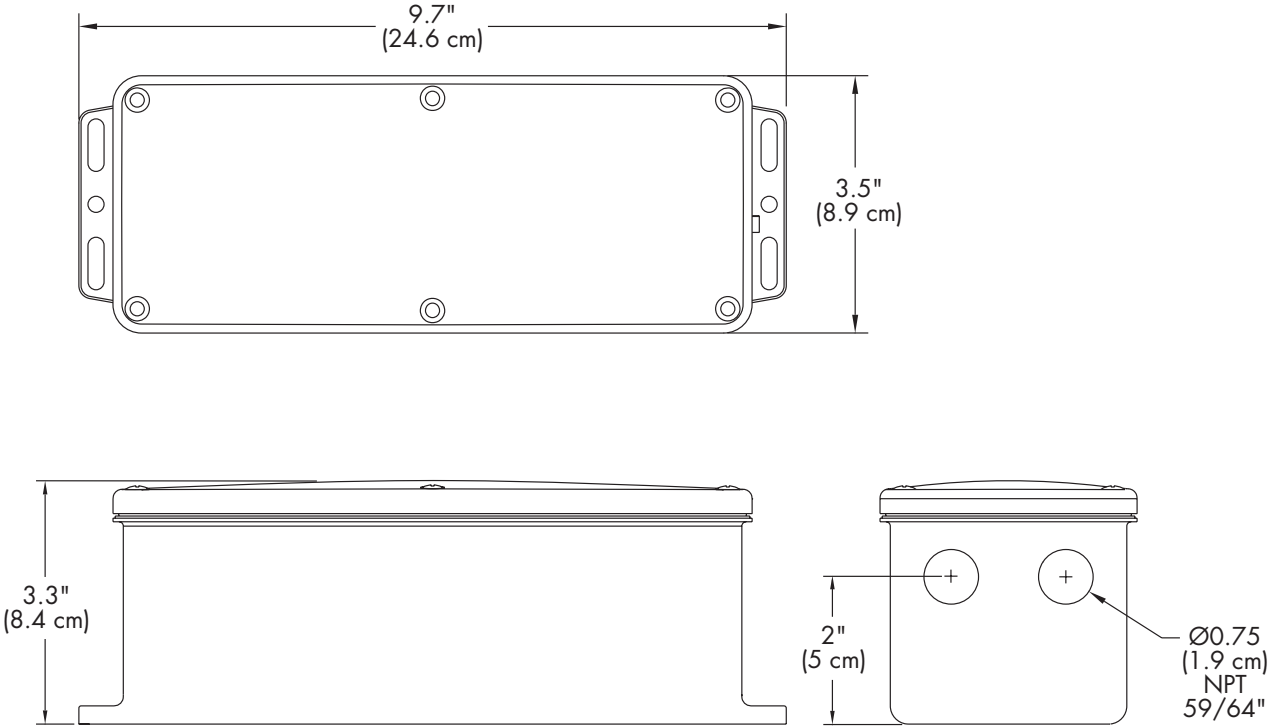
<b>POWER INPUT/OUTPUT</b>	100-240VAC, 50-60 Hz Max. connected load should not exceed 20 Amps
<b>INTERNAL LOAD</b>	10 Watts
<b>HEAT DISSIPATION</b>	10 Watts Max.
<b>AMBIENT OPERATING TEMP</b>	-4°F to 122°F (-20°C to 50°C)
<b>HOUSING</b>	NEMA 4 enclosure, suitable for wet locations: 9.7" (24.6 cm) X 3.5" (8.9 cm) X 3.2" (8.1 cm)
<b>CONNECTORS</b>	Power In: 3-wire terminal block connector Power/Data Out: 4-wire terminal block connector
<b>DATA INPUT INTERFACE</b>	<b>ETHERNET:</b> Color Kinetics Light System Manager Ethernet <b>DMX:</b> Color Kinetics DMX controllers or DMX512 compatible
<b>PROTECTION RATING</b>	IP66
<b>CLASSIFICATION</b>	Class 1
<b>LISTINGS</b>	UL/cUL, CE

# F8 Data Enabler

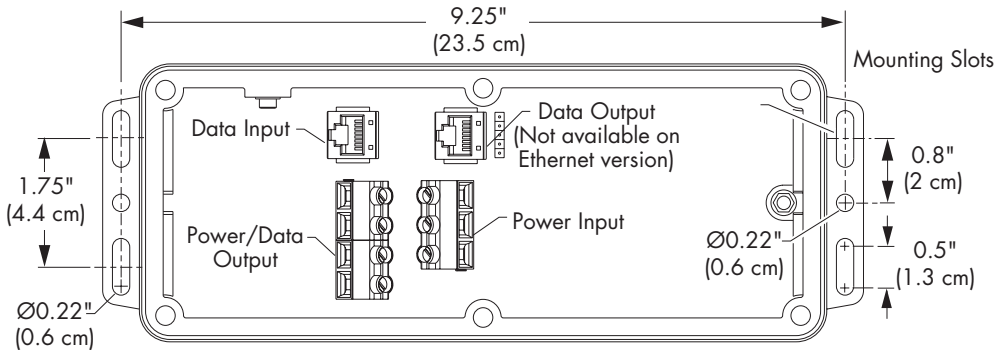
**DATA ENABLER**

PHYSICAL DIMENSIONS

**OVERALL DIMENSIONS**



**MOUNTING DIMENSIONS**

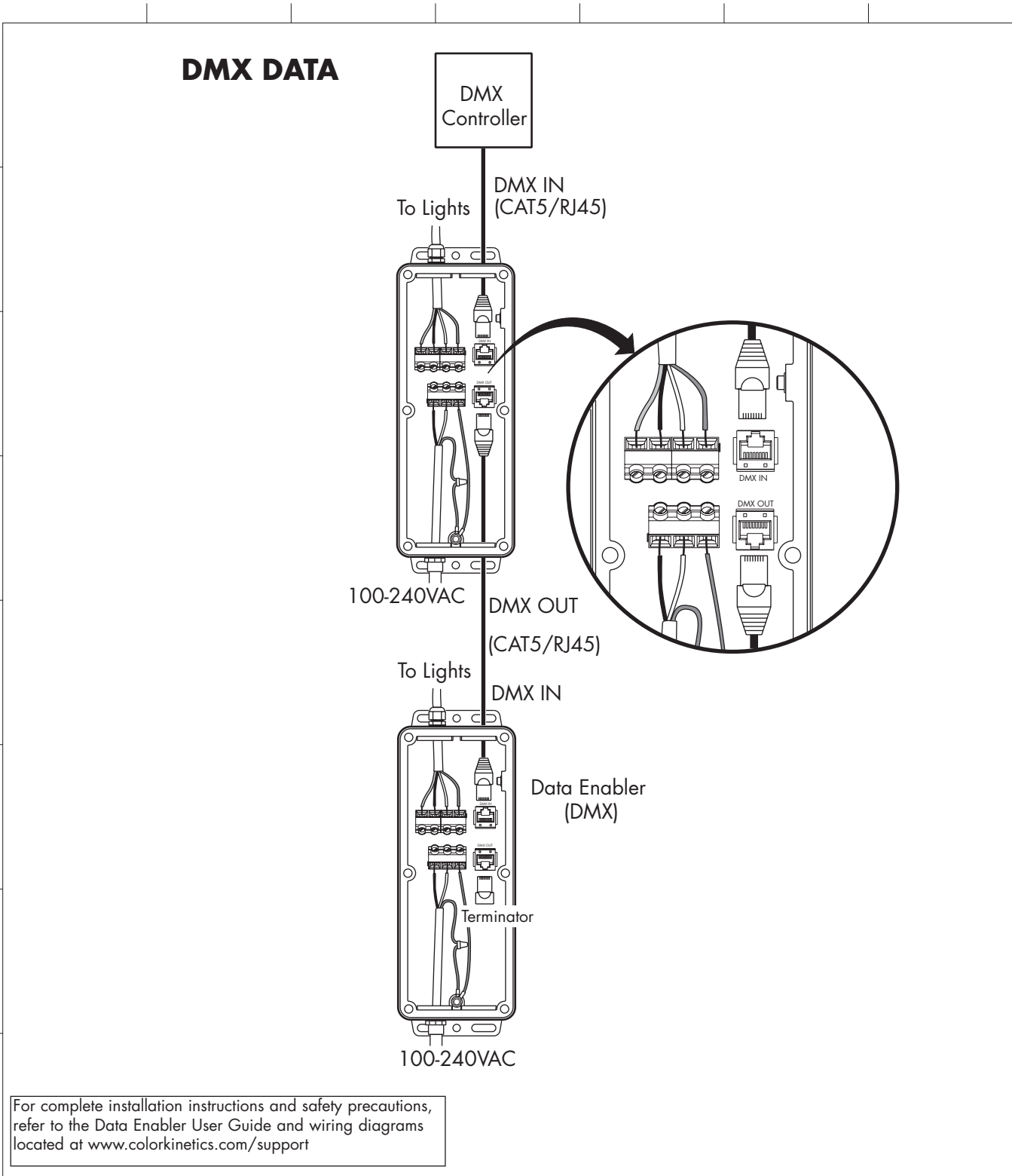


<b>DATA ENABLER</b>	
<b>ITEM # 106-000003-04/05</b>	
<b>DATA CONNECTOR</b>	Input and output: RJ45
<b>OUTPUT CONNECTOR</b>	4-pin terminal block
<b>SUPPLY CONNECTOR</b>	3-pin terminal block
<b>WEIGHT</b>	Approx. 2.5 lbs. (2 kg)

# F8 Data Enabler

**DATA ENABLER**

FUNCTIONAL FLOW DIAGRAM

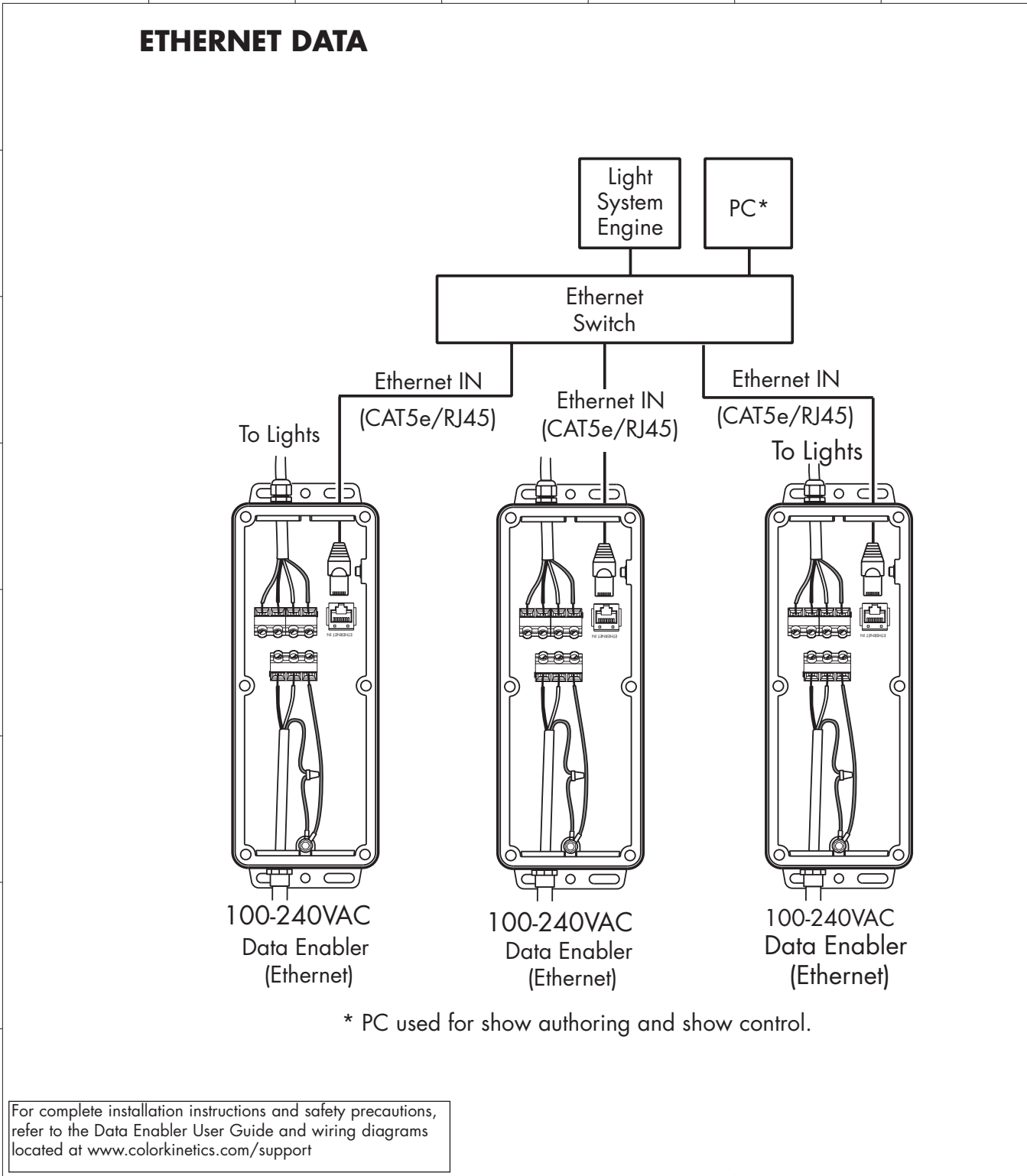


For complete installation instructions and safety precautions, refer to the Data Enabler User Guide and wiring diagrams located at [www.colorkinetics.com/support](http://www.colorkinetics.com/support)

# F8 Data Enabler

**DATA ENABLER**

FUNCTIONAL FLOW DIAGRAM



# FEATURES

## OPTICAL SYSTEM

- Reflector System - Self flanged highly reflective/diffuse white painted cone. Outside of inner reflector is white with specular clear or semi-diffuse inner surface finish. Bounding Ray Optical Principle provides lamp before lamp image and smooth transition from top of reflector to bottom.
- Inner reflector is field adjustable to three settings that place the reflector flush with the ceiling, 3/8" or 3/4" below the ceiling.
- Acrylic diffuser retains inner reflector.
- Clear (WHT - Snow) diffuser provides direct/indirect luminaire performance. Optional blue (BLU - Sky), green (GRN - Sea) or tan (TAN - Sand) diffusers add visual interest.
- Hinged lampdoor seals upper trim for optimal fixture efficiency and the reduction of stray light in the plenum.

## MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame with integral yoke to retain optical system. Maximum 1-1/2" ceiling thickness.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors rated for 90°C.

## ELECTRICAL SYSTEM

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

## LISTING

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

Type

Catalog number

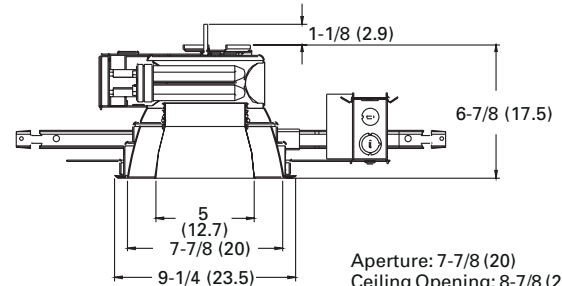
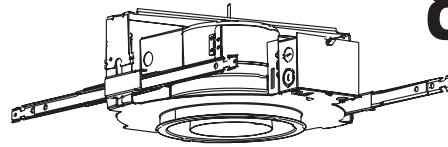
F9

## Compact Fluorescent Downlights

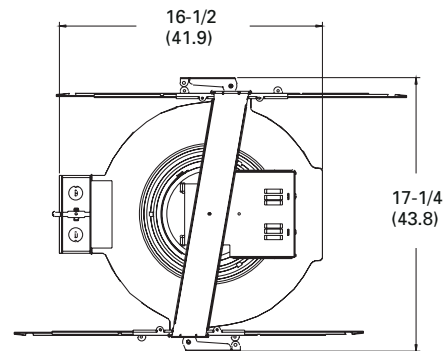
# 8" PDGF

## Open Reflector

Horizontal Lamp



Aperture: 7-7/8 (20)  
Ceiling Opening: 8-7/8 (22.5)  
Overlap Trim: 9-1/4 (23.5)



All dimensions are inches (centimeters).

# ORDERING INFORMATION

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

Example: PDGF 1/18TRT 8AR WHT MVOLT

## PDGF

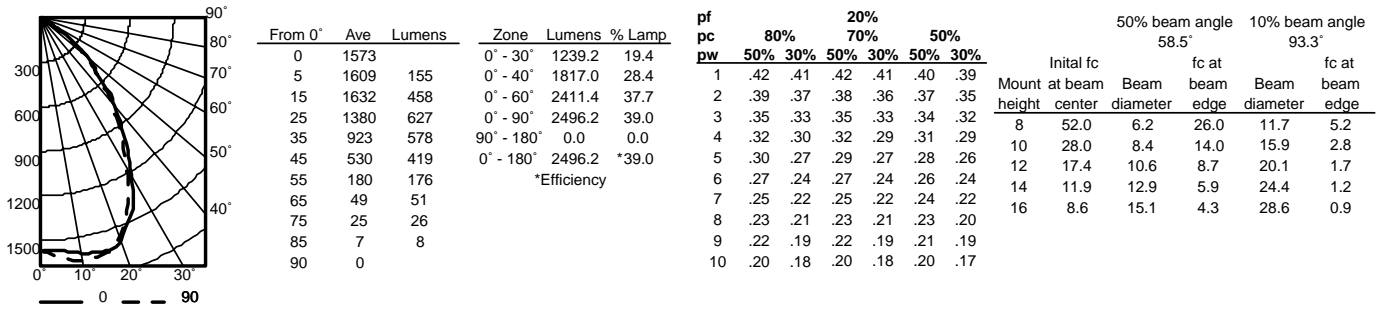
Series	Lamp/Wattage	Reflector Type	Finish	Color	Voltage	Ballast <sup>3</sup>	Options							
PDGF	1/18TRT	8AR Clear	(blank) Specular low iridescent	WHT Snow	MVOLT <sup>2</sup>	(blank) GEB10 standard. Electronic ballast.	WLP With 35°K lamp (shipped separately).							
	1/26TRT							LD Semi-diffuse low iridescent	GRN Sea	120	DMHL Lutron Hi-Lume electronic dimming ballast.	LRC <sup>6</sup> Provides compatibility with Lithonia Reloc System.		
	1/32TRT		2/18TRT	2/26TRT	2/32TRT	2/42TRT	ADEZ Advance Mark X electronic dimming ballast.	GMF Single, slow-blow fuse (not available with MVOLT).						
	1/42TRT								BLU Sky	277	GLR Single, fast-blow fuse (not available with MVOLT).			
	1/57TRT <sup>1</sup>								TAN Sand	347		RIF Radio Interference Filter.		
	2/18TRT								ELR <sup>5,6</sup> Emergency battery pack. Remote test switch provided.	QDS Quick Disconnect for easy ballast replacement. Not available with ELR option.	DS Dual switching.			
	2/26TRT											GSKT 1/8" X 3/8" foam gasketing.		
	2/32TRT												CSA Listed and labeled to comply with Canadian Standards.	
	2/42TRT													CP <sup>6</sup> Chicago Plenum.

### NOTES:

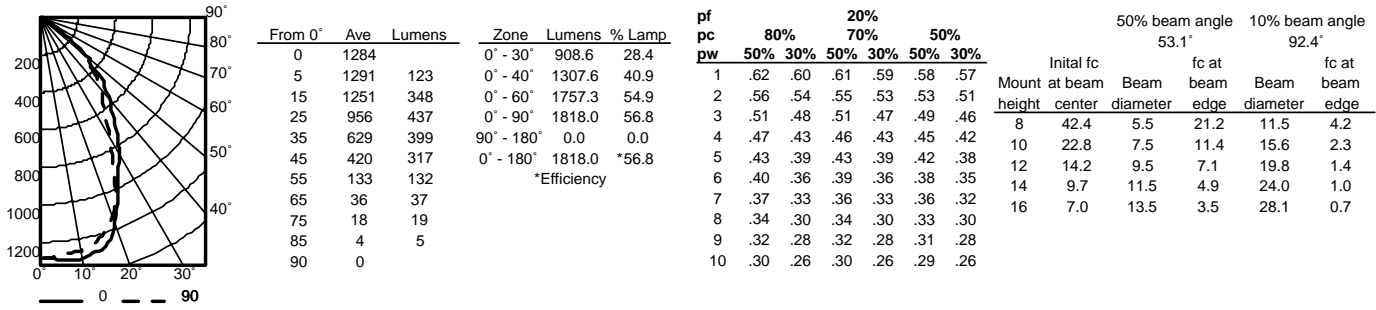
- 1 Available with Osram Sylvania lamp only.
- 2 Multi-volt electronic ballast capable of operating on any line voltage from 120 through 277V, 50 or 60 HZ.
- 3 Consult factory for specific availability.
- 4 For compatible reloc systems, refer to Technical Bulletins tab.
- 5 For dimensional changes, refer to Technical Bulletins tab.
- 6 CP & ELR not available in combination.

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

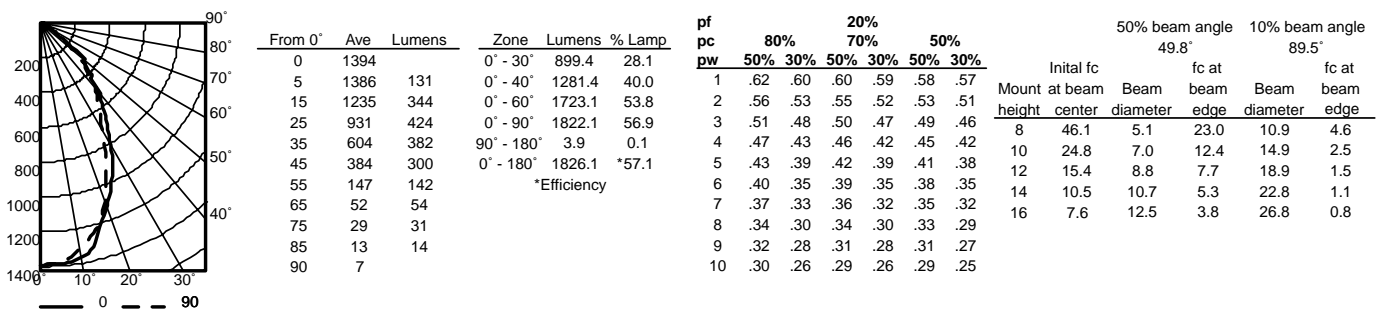
PDGF 2/42TRT 8AR WHT "CANDEO" CLEAR LENS, (2) CF42DT/E/IN/835, 3200 lumens per lamp, pos #1 (flush), test no. LTL11452



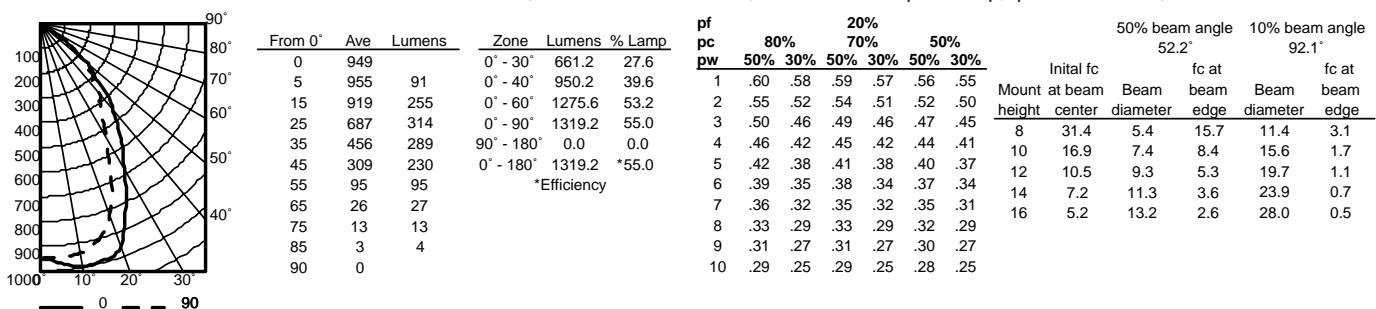
PDGF 1/42TRT 8AR WHT "CANDEO" CLEAR LENS, (1) CF42DT/E/IN/835, 3200 lumens per lamp, pos #1 (flush), test no. LTL11461



PDGF 1/42TRT 8AR WHT "CANDEO" CLEAR LENS, (1) CF42DT/E/IN/835, 3200 lumens per lamp, pos #3 (drop), test no. LTL11462



PDGF 1/32TRT 8AR WHT "CANDEO" CLEAR LENS, (1) CF42DT/E/IN/835, 2400 lumens per lamp, pos #1 (flush), test no. LTL11473



To calculate colored lens efficiencies, multiply the standard white efficiency by these factors:

- Sky (BLU) .709
- Sea (GRN) .720
- Sand (TAN) .864

NOTES:


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



# 97631 – F32TBX/835/A/ECO

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

# F9

-  High Color Rendering
- Energy Savings

## GENERAL CHARACTERISTICS

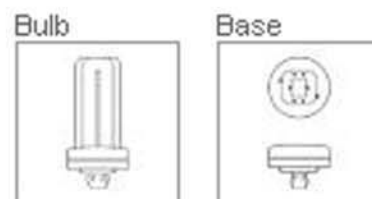
Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	GX24q-3
Wattage	32
Voltage	120/100
Rated Life	12000 hrs
Starting Temperature (MIN)	0 °C (32 °F)
Cathode Resistance	2.700 Ohm
Rated Life (rapid start) @ Time	12000 h @ 3 h 20000 h @ 12 h
Additional Info	Dimmable with appropriate dimming ballast., End of Life Protection (EOL), TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2200
Mean Lumens	1850
Nominal Initial Lumens per Watt	68
Color Temperature	3500 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Current (max)	5.2500 A
Open Circuit Voltage (after preheating) (MAX)	265 V
Open Circuit Voltage (MIN)	515 V
Lamp Current	0.320 A
Preheat Voltage (MIN)	4 V
Current Crest Factor (MAX)	1.7
Supply Current Frequency	20000 Hz



 [View Larger](#)

## ADDITIONAL RESOURCES

### [Catalogs](#)

### [Testimonials](#)

### Brochures

Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

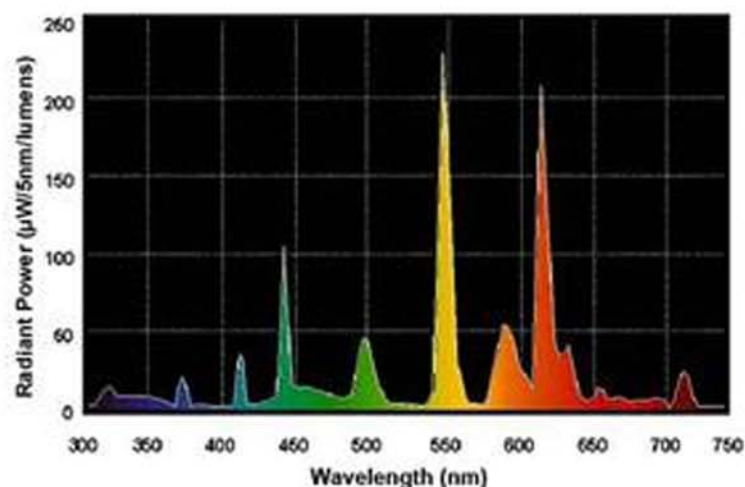
### Sell Sheets

- [Fast Warming](#)
- [Biax® T/E 32W with Amalgam](#)

### [Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

### Spectral Power Distribution



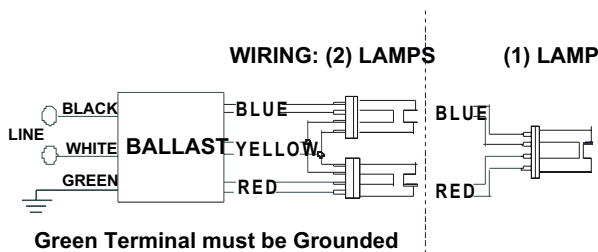


<b>ICF-2S26-H1-LD@120</b>	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM26W/GX24Q	1	26	0/-18	0.24	29	1.10	10	0.98	1.5	3.79
CFM26W/GX24q	2	26	0/-18	0.45	54	1.00	10	0.99	1.5	1.85
* CFM32W/GX24q	1	32	0/-18	0.31	36	0.98	10	0.98	1.5	2.72
CFM42W/GX24q	1	42	0/-18	0.38	46	0.98	10	0.98	1.5	2.13
CFQ26W/G24q	1	26	0/-18	0.23	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24q	2	26	0/-18	0.43	51	1.00	10	0.99	1.5	1.96
CFS21W/GR10q	2	21	0/-18	0.42	51	1.12	10	0.99	1.5	2.20
FT24W/2G11	2	24	0/-18	0.41	48	0.93	10	0.99	1.5	1.94

### Wiring Diagram

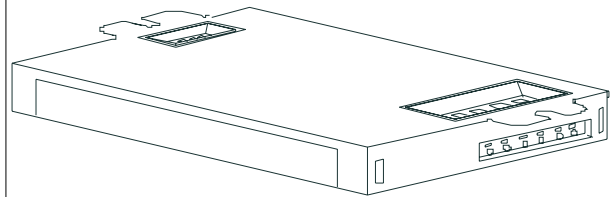


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0.0		Yellow/Blue		
White	0.0		Blue/White		
Blue	0.0		Brown		
Red	0.0		Orange		
Yellow	0		Orange/Black		
Gray			Black/White		
Violet			Red/White		

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/02/2004



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

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086

# FEATURES

## OPTICAL SYSTEM

- Reflector System - Self-flanged, highly reflective/diffuse white painted cone. Outside of inner reflector is white with semi-specular or matte-diffuse inner surface finish. Patented Bounding Ray™ Optical design provides exceptional glare control for visual comfort.
- A patent-pending dual reflector optical system allows effective general illumination with a compact fluorescent source to function independently from a color-changing LED source.
- Inner reflector is field adjustable, allowing the designer to reveal subtle color (inner cone flush with ceiling) or enhance the color effect by revealing 3/8" or 3/4" of the inner reflector below the ceiling.
- An array of Red-Green-Blue LEDs provides up to 16.6 million vibrant color options. LEDs are visually shielded to prevent a direct line of sight to the source.

## MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame accommodates up to 1-1/2" thick ceiling standard.
- 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

- Solid state LED driver provides 99 timing cycle modes (5 seconds to 24 hours), nine pre-programmed color change modes and nine static colors - controlled by integral switches or an optional remote digital wallstation (12 timing cycle modes). DMX512 compatible control (by others) expands control options, allowing sophisticated theatrical programs.
- Compact fluorescent and LED sources are independently wired from the factory enhancing visual and control flexibility.
- Rugged aluminum lampholder housing designed for positive lamp positioning.
- Vertically-mounted, positive-latch thermoplastic socket.
- Class P, thermally-protected, high power factor electronic ballast mounted to the junction box.

## LISTING

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

Type

Catalog number

F10

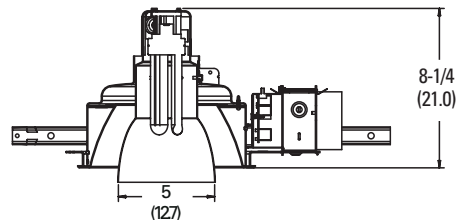
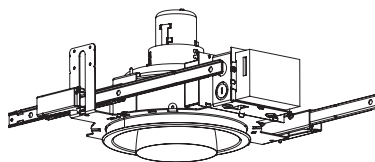
## Compact Fluorescent Downlights

# 8" PDLFV

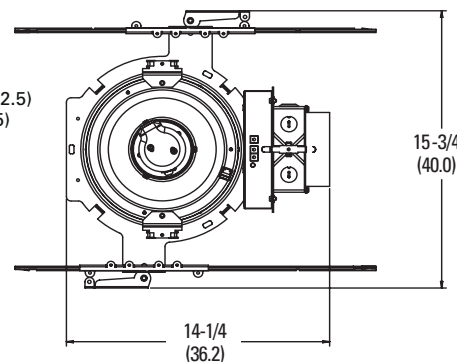
Candéo® LED

Open Reflector

Vertical Triple-Tube Lamp



Aperture: 7-7/8 (20)  
Ceiling Opening: 8-7/8 (22.5)  
Overlap Trim: 9-1/4 (23.5)



All dimensions are inches (centimeters).

# ORDERING INFORMATION

Example: **PDLFV 18TRT 8AR MVOLT**

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

## PDLFV

Series	Wattage/Lamp	Aperture/Trim Color	Finish	Voltage	Ballast <sup>2</sup>	Options
<b>PDLFV</b>	<b>18TRT</b> <b>26TRT</b> <b>32TRT</b>	<b>8AR</b> Clear	(blank) Semi-specular <b>LD</b> Matte-diffuse	<b>MVOLT<sup>1</sup></b> <b>120</b> <b>277</b>	(blank) Electronic ballast (standard) <b>ADEZ<sup>3</sup></b> Advance Mark 10® electronic dimming ballast <b>ADZT</b> Advance Mark 7® electronic dimming ballast <b>DMHL<sup>3</sup></b> Lutron Compact SE™ electronic dimming ballast <b>DMHL3<sup>3,4</sup></b> Lutron Hi-Lume® 1% electronic dimming ballast	<b>ELR<sup>5</sup></b> Emergency battery pack. Remote test switch provided <b>GMF</b> Single, slow blow fuse (not available with MVOLT) <b>GLR</b> Single, fast blow fuse (not available with MVOLT) <b>WLP</b> Lamp (shipped separately) <b>LRC<sup>6</sup></b> Provides compatibility with Lithonia Reloc System®. Lithonia Reloc System can be installed less this option with connectors provided by others. Access above ceiling required

## NOTES:

- 1 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 HZ.
- 2 Ships with two separate circuits.
- 3 120V or 277V only.
- 4 Available in 26W and 32W only.
- 5 For dimensional changes, refer to Technical Bulletins tab.
- 6 For compatible Reloc Systems, refer to Technical Bulletins tab.

This product is protected by U.S. Patent Nos. 5,800,050 & 7,014,341. Other patents pending.

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

**PDLFV 26TRT 8AR (Blue LED), CF26DT/E/IN/835, 1800 Rated lumens, Pos. #1 (flush), Test No. LTL15156**

	Distribution data			Output data			Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire				
	From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf pc	80%		20%		50%		50% beam angle	10% beam angle		
								50%	30%	50%	30%	50%	30%				

**PDLFV 32TRT 8AR (Blue LED), CF32DT/E/IN/835, 2400 Rated lumens, Pos. #1 (flush), Test No. LTL15159**

	Distribution data			Output data			Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire				
	From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf pc	80%		20%		50%		50% beam angle	10% beam angle		
								50%	30%	50%	30%	50%	30%				

**PDLFV 26TRT 8AR (No LED), CF26DT/E/IN/835, 1800 Rated lumens, Pos. #1 (flush), Test No. LTL15154**

	Distribution data			Output data			Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire				
	From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf pc	80%		20%		50%		50% beam angle	10% beam angle		
								50%	30%	50%	30%	50%	30%				

**PDLFV 32TRT 8AR (No LED), CF32DT/E/IN/835, 2400 Rated lumens, Pos. #1 (flush), Test No. LTL15157**

	Distribution data			Output data			Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire				
	From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf pc	80%		20%		50%		50% beam angle	10% beam angle		
								50%	30%	50%	30%	50%	30%				

**NOTES:**

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

# FEATURES

## FUNCTIONAL

- Push button switches are preset to provide nine color change modes, nine static colors and 12 timing cycle modes.
- LED indicates load status.

## ELECTRICAL

- Pilot current draw: 5ma at 24VDC.
- Operating voltages: 24VDC, low-voltage Class 2.
- Network wiring connections: CAT5, (RJ45) ethernet cable approved.

## MECHANICAL

- Mounts to Lithonia SYRS 1GR or Steel City 52C13 one gang plaster ring attached to a ground 4" square, 2-1/2" deep outlet box or to a grounded Lithonia SQRS 1 GB or Steel City GW-125-G one gang masonry box (1-7/8" minimum inside width, 2-1/2" inside depth). Use of tile rings, shallow, narrow or ungrounded boxes can damage system.
- Faceplate held to frame by magnetic strips.

Type

Catalog number

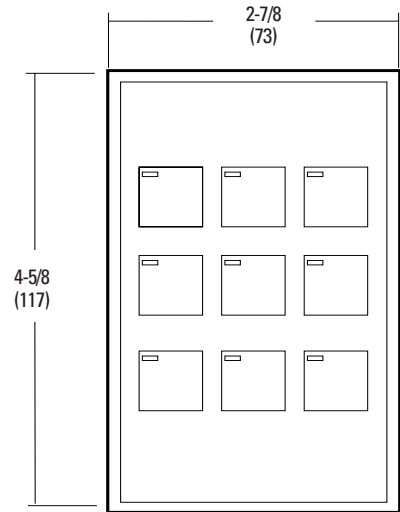
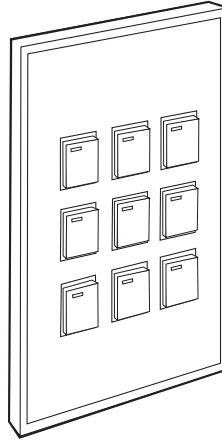
F10

.....  
 .....

### System Accessories

# LFVRS

## Digital Remote Station



All dimensions are inches (millimeters).

# ORDERING INFORMATION

Example: **LFVRS BJ4**

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

### LFVRS

Series	Finish
<b>LFVRS</b>	<b>BJ4</b> Brushed stainless, black frame and buttons
	<b>BA4</b> Brushed aluminum, black frame and buttons
	<b>BL4</b> Painted black, black frame and buttons
	<b>WC2</b> Painted white, white frame and buttons
	<b>IE3</b> Painted ivory, ivory frame and buttons

### Accessories


Order as separate catalog numbers.

- SYRS 1GR** Plaster ring, mounts to 4" box (by others)
- LSA CAT5** Plenum rated network cable. Length must be specified (25ft or 50ft). Ex: LSA CAT5 25FT

# 97631 – F32TBX/835/A/ECO

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

# F10

-  High Color Rendering
- Energy Savings

## GENERAL CHARACTERISTICS

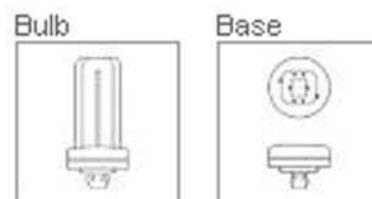
Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	GX24q-3
Wattage	32
Voltage	120/100
Rated Life	12000 hrs
Starting Temperature (MIN)	0 °C (32 °F)
Cathode Resistance	2.700 Ohm
Rated Life (rapid start) @ Time	12000 h @ 3 h 20000 h @ 12 h
Additional Info	Dimmable with appropriate dimming ballast., End of Life Protection (EOL), TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2200
Mean Lumens	1850
Nominal Initial Lumens per Watt	68
Color Temperature	3500 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Current (max)	5.2500 A
Open Circuit Voltage (after preheating) (MAX)	265 V
Open Circuit Voltage (MIN)	515 V
Lamp Current	0.320 A
Preheat Voltage (MIN)	4 V
Current Crest Factor (MAX)	1.7
Supply Current Frequency	20000 Hz



 [View Larger](#)

## ADDITIONAL RESOURCES

### [Catalogs](#)

### [Testimonials](#)

### Brochures

Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

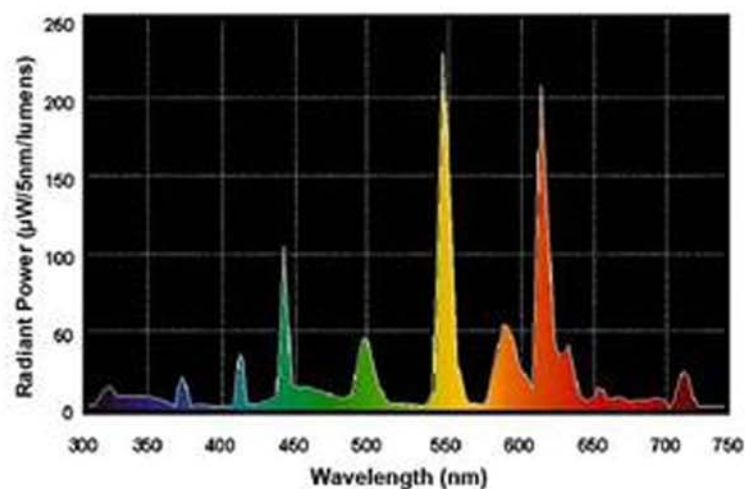
### Sell Sheets

- [Fast Warming](#)
- [Biax® T/E 32W with Amalgam](#)

### [Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

### Spectral Power Distribution



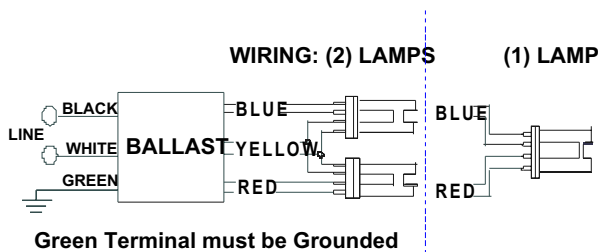


<b>ICF-2S26-H1-LD@120</b>	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM26W/GX24Q	1	26	0/-18	0.24	29	1.10	10	0.98	1.5	3.79
CFM26W/GX24q	2	26	0/-18	0.45	54	1.00	10	0.99	1.5	1.85
* CFM32W/GX24q	1	32	0/-18	0.31	36	0.98	10	0.98	1.5	2.72
CFM42W/GX24q	1	42	0/-18	0.38	46	0.98	10	0.98	1.5	2.13
CFQ26W/G24q	1	26	0/-18	0.23	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24q	2	26	0/-18	0.43	51	1.00	10	0.99	1.5	1.96
CFS21W/GR10q	2	21	0/-18	0.42	51	1.12	10	0.99	1.5	2.20
FT24W/2G11	2	24	0/-18	0.41	48	0.93	10	0.99	1.5	1.94

### Wiring Diagram

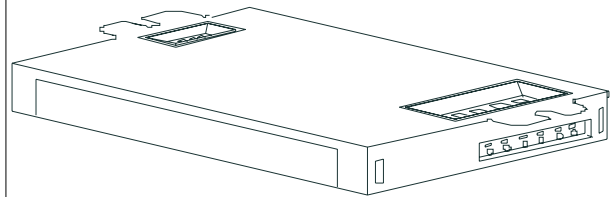


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0.0		Yellow/Blue		
White	0.0		Blue/White		
Blue	0.0		Brown		
Red	0.0		Orange		
Yellow	0		Orange/Black		
Gray			Black/White		
Violet			Red/White		

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/02/2004



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

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086

# FEATURES

## OPTICAL SYSTEM

- Reflector System - Self-flanged, highly reflective/diffuse white painted cone. Outside of inner reflector is white with semi-specular or matte-diffuse inner surface finish. Patented Bounding Ray™ Optical design provides exceptional glare control for visual comfort.
- A patent-pending dual reflector optical system allows effective general illumination with a compact fluorescent source to function independently from a color-changing LED source.
- Inner reflector is field adjustable, allowing the designer to reveal subtle color (inner cone flush with ceiling) or enhance the color effect by revealing 3/8" or 3/4" of the inner reflector below the ceiling.
- An array of Red-Green-Blue LEDs provides up to 16.6 million vibrant color options. LEDs are visually shielded to prevent a direct line of sight to the source.

## MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame accommodates up to 1-1/2" thick ceiling standard.
- 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

- Solid state LED driver provides 99 timing cycle modes (5 seconds to 24 hours), nine pre-programmed color change modes and nine static colors - controlled by integral switches or an optional remote digital wallstation (12 timing cycle modes). DMX512 compatible control (by others) expands control options, allowing sophisticated theatrical programs.
- Compact fluorescent and LED sources are independently wired from the factory enhancing visual and control flexibility.
- Rugged aluminum lampholder housing designed for positive lamp positioning.
- Vertically-mounted, positive-latch thermoplastic socket.
- Class P, thermally-protected, high power factor electronic ballast mounted to the junction box.

## LISTING

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

Type

Catalog number

F10a

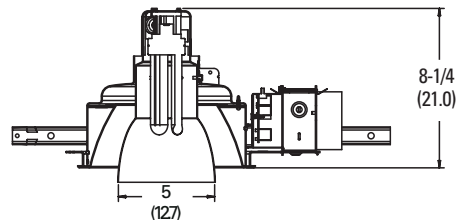
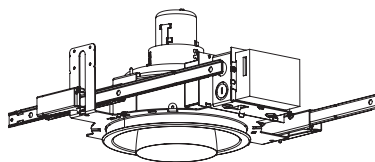
## Compact Fluorescent Downlights

# 8" PDLFV

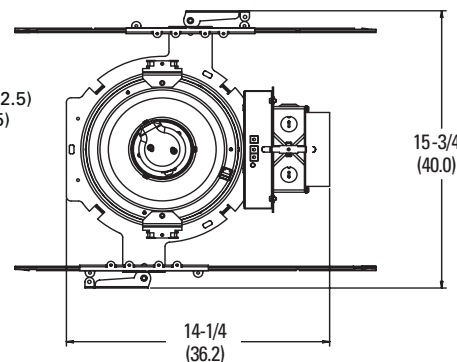
Candéo® LED

Open Reflector

Vertical Triple-Tube Lamp



Aperture: 7-7/8 (20)  
Ceiling Opening: 8-7/8 (22.5)  
Overlap Trim: 9-1/4 (23.5)



All dimensions are inches (centimeters).

# ORDERING INFORMATION

Example: **PDLFV 18TRT 8AR MVOLT**

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

## PDLFV

Series	Wattage/Lamp	Aperture/Trim Color	Finish	Voltage	Ballast <sup>2</sup>	Options
<b>PDLFV</b>	<b>18TRT</b> <b>26TRT</b> <b>32TRT</b>	<b>8AR</b> Clear	(blank) Semi-specular <b>LD</b> Matte-diffuse	<b>MVOLT<sup>1</sup></b> <b>120</b> <b>277</b>	(blank) Electronic ballast (standard) <b>ADEZ<sup>3</sup></b> Advance Mark 10 <sup>®</sup> electronic dimming ballast <b>ADZT</b> Advance Mark 7 <sup>®</sup> electronic dimming ballast <b>DMHL<sup>3</sup></b> Lutron Compact SE™ electronic dimming ballast <b>DMHL3<sup>3,4</sup></b> Lutron Hi-Lume <sup>®</sup> 1% electronic dimming ballast	<b>ELR<sup>5</sup></b> Emergency battery pack. Remote test switch provided <b>GMF</b> Single, slow blow fuse (not available with MVOLT) <b>GLR</b> Single, fast blow fuse (not available with MVOLT) <b>WLP</b> Lamp (shipped separately) <b>LRC<sup>6</sup></b> Provides compatibility with Lithonia Reloc System <sup>®</sup> . Lithonia Reloc System can be installed less this option with connectors provided by others. Access above ceiling required

## NOTES:

- 1 Multi-volt electronic ballast capable of operating on any line voltage from 120V through 277V, 50 or 60 HZ.
- 2 Ships with two separate circuits.
- 3 120V or 277V only.
- 4 Available in 26W and 32W only.
- 5 For dimensional changes, refer to Technical Bulletins tab.
- 6 For compatible Reloc Systems, refer to Technical Bulletins tab.

This product is protected by U.S. Patent Nos. 5,800,050 & 7,014,341. Other patents pending.



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

**PDLFV 26TRT 8AR (Blue LED), CF26DT/E/IN/835, 1800 Rated lumens, Pos. #1 (flush), Test No. LTL15156**

From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf	Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire					
							80%		20%		50%		50° beam angle		10° beam angle			
							50%	30%	50%	30%	50%	30%	Initial fc	fc at	fc at	fc at	fc at	
0	829		0° - 30°	512.5	28.3	pw	50%	30%	50%	30%	50%	30%	Mount height	at beam center	Beam diameter	beam edge	Beam diameter	beam edge
5	845	79	0° - 40°	708.0	39.1	1	.49	.47	.48	.47	.46	.45	8	27.4	4.8	13.7	9.5	2.7
15	717	200	0° - 60°	789.3	43.6	2	.45	.43	.44	.43	.43	.41	10	14.7	6.6	7.4	12.9	1.5
25	509	233	0° - 90°	795.0	43.9	3	.42	.40	.41	.39	.40	.38	12	9.2	8.3	4.6	16.4	0.9
35	321	196	90° - 180°	0.0	0.0	4	.39	.36	.38	.36	.37	.35	14	6.3	10.1	3.1	19.8	0.6
45	90	74	0° - 180°	795.0	*43.9	5	.36	.34	.36	.33	.35	.33	16	4.5	11.8	2.3	23.3	0.5
55	7	8																
65	3	3																
75	2	2																
85	0	0																
90	0	0																

**PDLFV 32TRT 8AR (Blue LED), CF32DT/E/IN/835, 2400 Rated lumens, Pos. #1 (flush), Test No. LTL15159**

From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf	Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire					
							80%		20%		50%		50° beam angle		10° beam angle			
							50%	30%	50%	30%	50%	30%	Initial fc	fc at	fc at	fc at	fc at	
0	909		0° - 30°	606.1	25.2	pw	50%	30%	50%	30%	50%	30%	Mount height	at beam center	Beam diameter	beam edge	Beam diameter	beam edge
5	930	88	0° - 40°	886.9	36.8	1	.49	.47	.48	.47	.46	.45	8	30.0	5.3	15.0	10.6	3.0
15	811	228	0° - 60°	1058.9	44.0	2	.45	.43	.44	.42	.43	.41	10	16.2	7.2	8.1	14.5	1.6
25	636	291	0° - 90°	1065.6	44.2	3	.41	.39	.41	.39	.40	.38	12	10.1	9.1	5.0	18.4	1.0
35	453	281	90° - 180°	0.0	0.0	4	.38	.36	.38	.35	.37	.35	14	6.9	11.1	3.4	22.3	0.7
45	216	158	0° - 180°	1065.6	*44.2	5	.35	.33	.35	.32	.34	.32	16	5.0	13.0	2.5	26.1	0.5
55	12	14																
65	4	4																
75	2	2																
85	0	0																
90	0	0																

**PDLFV 26TRT 8AR (No LED), CF26DT/E/IN/835, 1800 Rated lumens, Pos. #1 (flush), Test No. LTL15154**

From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf	Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire					
							80%		20%		50%		50° beam angle		10° beam angle			
							50%	30%	50%	30%	50%	30%	Initial fc	fc at	fc at	fc at	fc at	
0	835		0° - 30°	514.0	28.6	pw	50%	30%	50%	30%	50%	30%	Mount height	at beam center	Beam diameter	beam edge	Beam diameter	beam edge
5	846	79	0° - 40°	710.3	39.5	1	.49	.48	.48	.47	.46	.45	8	27.6	4.8	13.8	9.5	2.8
15	718	200	0° - 60°	791.4	44.0	2	.45	.43	.45	.43	.43	.42	10	14.8	6.5	7.4	12.9	1.5
25	512	234	0° - 90°	796.8	44.3	3	.42	.40	.41	.39	.40	.39	12	9.3	8.3	4.6	16.4	0.9
35	322	196	90° - 180°	0.0	0.0	4	.39	.37	.39	.36	.38	.36	14	6.3	10.0	3.2	19.8	0.6
45	90	74	0° - 180°	796.8	*44.3	5	.37	.34	.36	.34	.35	.33	16	4.6	11.8	2.3	23.2	0.5
55	7	7																
65	3	3																
75	2	2																
85	0	0																
90	0	0																

**PDLFV 32TRT 8AR (No LED), CF32DT/E/IN/835, 2400 Rated lumens, Pos. #1 (flush), Test No. LTL15157**

From 0°	Ave	Lumens	Zone	Lumens	% Lamp	pf	Coefficient of utilization						Illuminance Data at 30" Above Floor for a Single Luminaire					
							80%		20%		50%		50° beam angle		10° beam angle			
							50%	30%	50%	30%	50%	30%	Initial fc	fc at	fc at	fc at	fc at	
0	912		0° - 30°	608.0	25.3	pw	50%	30%	50%	30%	50%	30%	Mount height	at beam center	Beam diameter	beam edge	Beam diameter	beam edge
5	933	88	0° - 40°	889.5	37.1	1	.49	.48	.48	.47	.46	.45	8	30.1	5.3	15.1	10.7	3.0
15	814	229	0° - 60°	1062.2	44.3	2	.45	.43	.44	.43	.43	.41	10	16.2	7.2	8.1	14.5	1.6
25	638	291	0° - 90°	1068.9	44.5	3	.42	.39	.41	.39	.40	.38	12	10.1	9.1	5.1	18.4	1.0
35	454	281	90° - 180°	0.0	0.0	4	.39	.36	.38	.36	.37	.35	14	6.9	11.1	3.4	22.3	0.7
45	217	158	0° - 180°	1068.9	*44.5	5	.36	.33	.35	.33	.34	.32	16	5.0	13.0	2.5	26.1	0.5
55	12	14																
65	4	4																
75	2	2																
85	0	0																
90	0	0																

NOTES:

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

# FEATURES

## FUNCTIONAL

- Push button switches are preset to provide nine color change modes, nine static colors and 12 timing cycle modes.
- LED indicates load status.

## ELECTRICAL

- Pilot current draw: 5ma at 24VDC.
- Operating voltages: 24VDC, low-voltage Class 2.
- Network wiring connections: CAT5, (RJ45) ethernet cable approved.

## MECHANICAL

- Mounts to Lithonia SYRS 1GR or Steel City 52C13 one gang plaster ring attached to a ground 4" square, 2-1/2" deep outlet box or to a grounded Lithonia SQRS 1 GB or Steel City GW-125-G one gang masonry box (1-7/8" minimum inside width, 2-1/2" inside depth). Use of tile rings, shallow, narrow or ungrounded boxes can damage system.
- Faceplate held to frame by magnetic strips.

Type

Catalog number

F10a

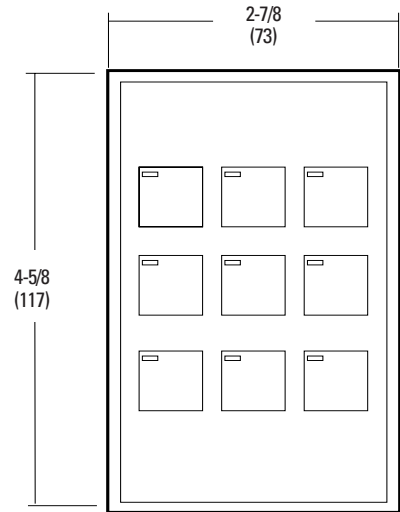
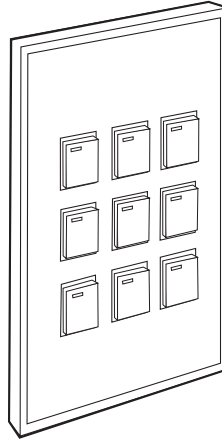
.....

.....

## System Accessories

# LFVRS

## Digital Remote Station



All dimensions are inches (millimeters).

# ORDERING INFORMATION

Example: **LFVRS BJ4**

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

## LFVRS

Series	Finish
<b>LFVRS</b>	<b>BJ4</b> Brushed stainless, black frame and buttons
	<b>BA4</b> Brushed aluminum, black frame and buttons
	<b>BL4</b> Painted black, black frame and buttons
	<b>WC2</b> Painted white, white frame and buttons
	<b>IE3</b> Painted ivory, ivory frame and buttons

## Accessories


Order as separate catalog numbers.

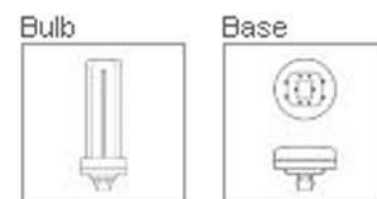
- SYRS 1GR** Plaster ring, mounts to 4" box (by others)
- LSA CAT5** Plenum rated network cable. Length must be specified (25ft or 50ft). Ex: LSA CAT5 25FT

# 97635 – F42TBX/835/A/ECO

GE Ecolux® Biax® T4 - Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

# F10a

 High Color Rendering  
Energy Savings



 [View Larger](#)

## GENERAL CHARACTERISTICS

Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	GX24-q4
Wattage	42
Voltage	135
Rated Life	12000 hrs
Starting Temperature (MIN)	-18 °C (-0 °F)
Cathode Resistance	2.700 Ohm
Rated Life (rapid start) @ Time	12000 h @ 3 h 20000 h @ 12 h
Additional Info	Dimmable with appropriate dimming ballast., End of Life Protection (EOL), TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	3200
Mean Lumens	2690
Nominal Initial Lumens per Watt	76
Color Temperature	3500 K
Color Rendering Index (CRI)	82

## ELECTRICAL CHARACTERISTICS

Current (max)	5.2500 A
Open Circuit Voltage (after preheating) (MAX)	265 V
Open Circuit Voltage (MIN)	515 V
Lamp Current	0.320 A
Preheat Voltage (MIN)	4 V
Current Crest Factor (MAX)	1.7
Supply Current Frequency	20000 Hz

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

**Brochures**

Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

**Sell Sheets**

- [Fast Warming](#)
- [Biax® T/E 42W](#)

[Disposal Policies & Recycling Information](#)

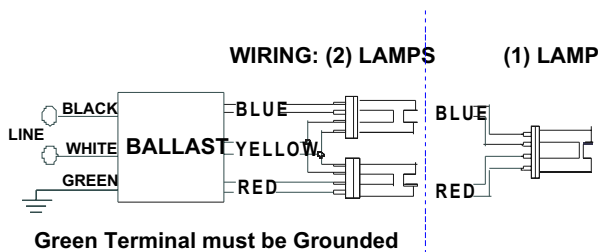


<b>ICF-2S26-H1-LD@120</b>	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

## Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM26W/GX24Q	1	26	0/-18	0.24	29	1.10	10	0.98	1.5	3.79
CFM26W/GX24q	2	26	0/-18	0.45	54	1.00	10	0.99	1.5	1.85
CFM32W/GX24q	1	32	0/-18	0.31	36	0.98	10	0.98	1.5	2.72
* CFM42W/GX24q	1	42	0/-18	0.38	46	0.98	10	0.98	1.5	2.13
CFQ26W/G24q	1	26	0/-18	0.23	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24q	2	26	0/-18	0.43	51	1.00	10	0.99	1.5	1.96
CFS21W/GR10q	2	21	0/-18	0.42	51	1.12	10	0.99	1.5	2.20
FT24W/2G11	2	24	0/-18	0.41	48	0.93	10	0.99	1.5	1.94

## Wiring Diagram

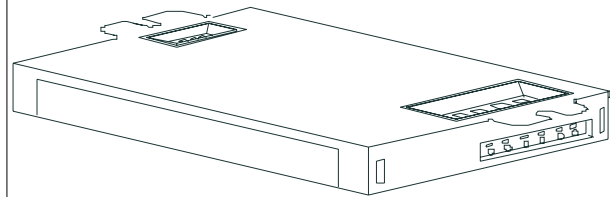


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

## Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0.0		Yellow/Blue		
White	0.0		Blue/White		
Blue	0.0		Brown		
Red	0.0		Orange		
Yellow	0		Orange/Black		
Gray			Black/White		
Violet			Red/White		

## Enclosure



## Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/02/2004

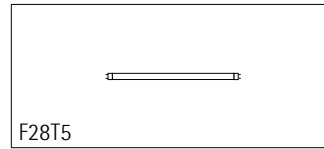
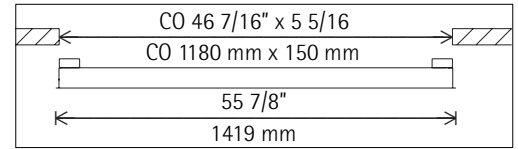
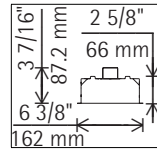


Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

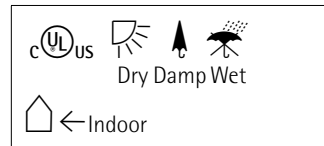
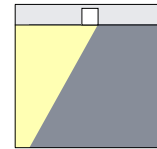
## ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086

for fluorescent lamps



F28T5



65040.023 Reflector silver  
F28T5 28W Min. Bipin 2900lm  
ECG

**Product description**

Housing: sheet metal, white (RAL9002) powder-coated. Screw-fastened end plates. Arrangement as continuous band of light possible. Mounting brackets with screw fixing: metal.  
2 cable entries, through-wiring possible. 3-pole terminal block.  
Electronic control gear 120V/277V, 60Hz, class P inside cast housing.  
Wallwasher reflector: aluminum, satin matt anodized. Hinged cover for lamp replacement.  
Type Non IC luminaire.  
Insulation materials must be kept away from the luminaire by a minimum of 3". Suitable for damp location.  
Max. ceiling thickness 3/4".  
Weight 17.64lbs / 8.00kg

ERCO Lighting, Inc.  
160 Raritan Center Parkway  
Suite 10  
Edison, NJ 08837  
USA  
Tel.: +1 732 225 8856  
Fax: +1 732 225 8857  
info.us@erco.com

Technical Region: 120V/277V, 60Hz  
Edition: 11.15.2006  
Please download latest version from  
[www.erco.com/65040.023](http://www.erco.com/65040.023)

Planning Data

**Illuminance (fc)**

Specifications:

Number of luminaires n > 5

Light loss factor 0.80

Without indirect component

Without peripheral area

Wall height (ft) 10

F28T5 28W Min. Bipin 2900lm

Offset from wall (ft)	3		3		4		4	
Luminaire spacing (ft)	5		6		5		6	
Distance from ceiling (ft)	below the luminaire	between the luminaires	below the luminaire	between the luminaires	below the luminaire	between the luminaires	below the luminaire	between the luminaires
0.000	0	0	0	0	0	0	0	0
1.000	36	25	34	19	16	13	14	10
2.000	53	41	49	32	35	30	31	24
3.000	40	34	36	27	35	30	30	25
4.000	30	26	26	22	28	25	25	21
5.000	22	20	19	17	23	20	20	17
6.000	17	15	14	13	19	16	16	14
7.000	13	11	11	10	15	13	13	11
8.000	10	8	8	7	12	10	10	9
9.000	8	7	7	6	10	8	8	7
10.000	6	5	5	5	8	7	7	6

# 46705 – F28W/T5/835/ECO

GE Ecolux® Starcoat® T5

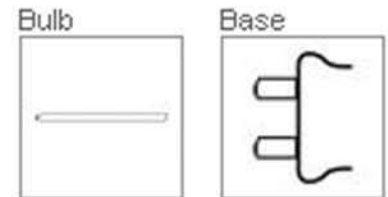
# F11

- Passes TCLP, which can lower disposal costs.

 **High Color Rendering**

## GENERAL CHARACTERISTICS

Lamp type	Linear Fluorescent - Straight Linear
Bulb	T5
Base	Miniature Bi-Pin (G5)
Wattage	28
Voltage	167
Rated Life	30000 hrs
Rated Life (rapid start) @ Time	36000 h @ 12 h 30000 h @ 3 h
Bulb Material	Soda lime
Starting Temperature (MIN)	-20 °C (-4 °F)
Additional Info	TCLP compliant



 [View Larger](#)

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2900
Mean Lumens	2660
Nominal Initial Lumens per Watt	103
Color Temperature	3500 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.5

## ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (rapid start) Min @ Temperature	425 V @ 10 °C
Cathode Resistance Ratio - Rh/Rc (MIN)	4.25
Cathode Resistance Ratio - Rh/Rc (MAX)	6.5
Current Crest Factor (MAX)	1.7

## DIMENSIONS

Maximum Overall Length (MOL)	45.8000 in (1163.3 mm)
Nominal Length	45.200 in (1148.0 mm)
Bulb Diameter (DIA)	0.625 in (15.8 mm)
Bulb Diameter (DIA) (MAX)	0.670 in (17.0 mm)
Max Base Face to Base Face (A)	45.240 in (1149.0 mm)
Face to End of Pin (B) (MIN)	45.420 in (1153.6 mm)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

### Brochures

Application/Segment Brochures

- [Contractor Lighting](#)
- [Healthcare Lighting](#)

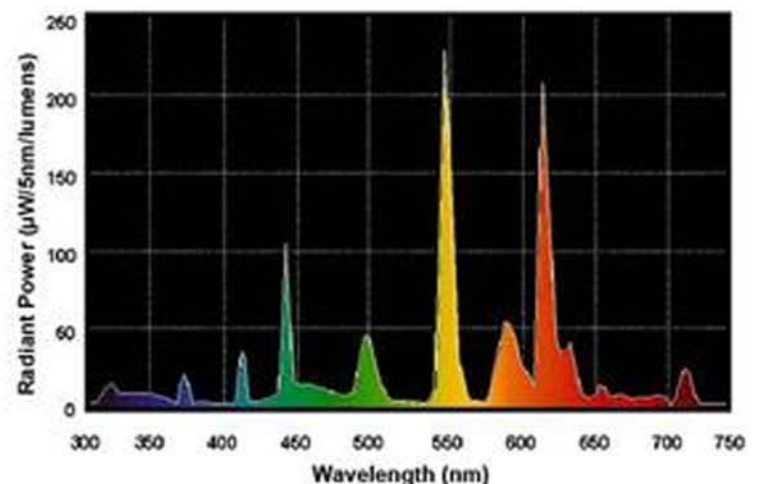
Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

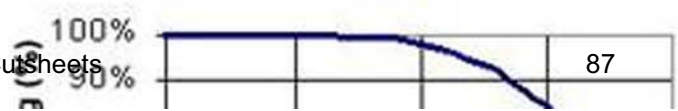
[Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

### Spectral Power Distribution



### Lamp Mortality



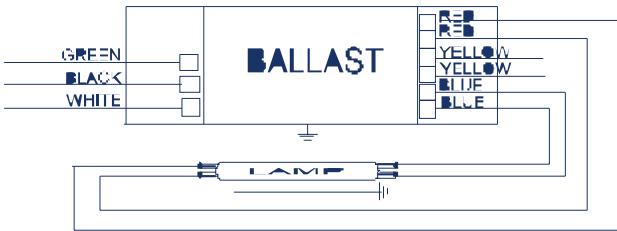


<b>ICN-2S28@277</b>	
Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
F14T5	1	14	0/-18	0.07	19	1.07	20	0.90	1.7	5.63
F14T5	2	14	0/-18	0.13	34	1.06	10	0.98	1.7	3.12
F21T5	1	21	0/-18	0.10	26	1.03	15	0.95	1.7	3.96
F21T5	2	21	0/-18	0.17	48	1.02	10	0.98	1.7	2.13
* F28T5	1	28	0/-18	0.12	33	1.04	10	0.98	1.7	3.15
F28T5	2	28	0/-18	0.23	63	1.03	10	0.99	1.7	1.63
F35T5	1	35	0/-18	0.15	41	1.01	10	0.98	1.7	2.46
F35T5	2	35	0/-18	0.28	77	1.00	10	0.99	1.7	1.30

### Wiring Diagram

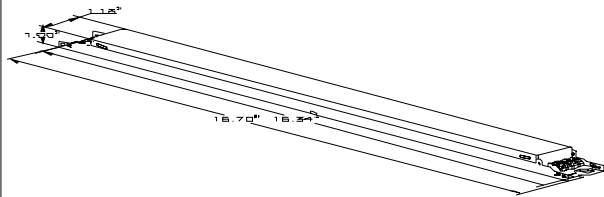


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 09/01/2004



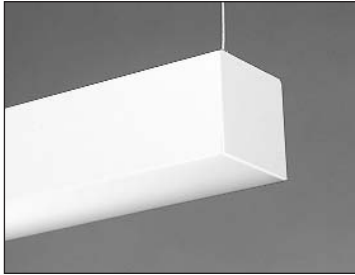
Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



# M100 Linear Fluorescent Indirect Pendant and Wall Mount



Project: \_\_\_\_\_ Type: \_\_\_\_\_ Qty: \_\_\_\_\_

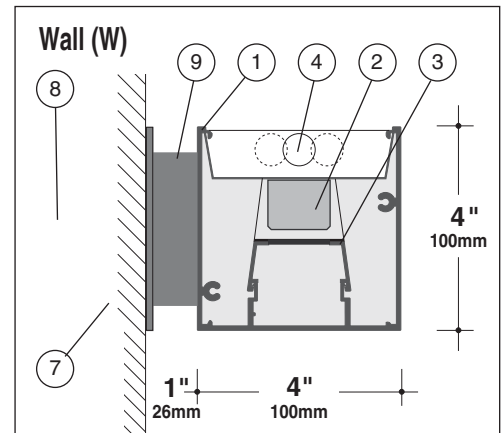
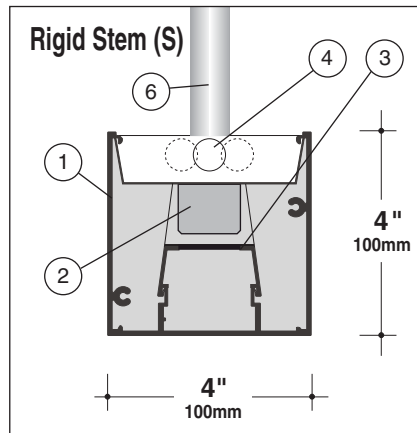
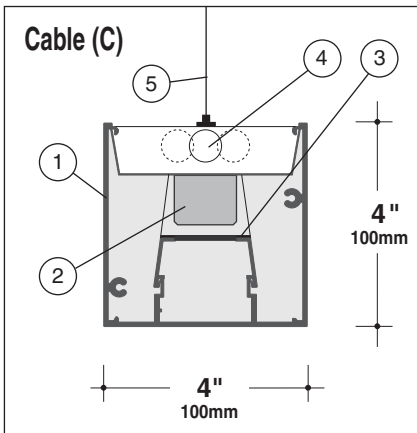
M11 - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
 Fixture Series    Lamp Type    Mounting    Linear Footage    Finish    Voltage

Options (refer to separate data sheets for ordering codes and details)

Fixture Series	Lamp Type	Mounting	Linear Footage	Finish	Voltage	Options
<b>M11</b> M100 Indirect	1T5 F28T5	C Cable	004 4 foot	WH White	120	(qty)EM Stand-by Battery Pack <sup>2</sup> (prefix quantity, i.e. - 5EM)
	2T5 (2x)F28/T5	S Swivel Stem	008 8 foot	BK Black	277	FS Single Fusing
	1T5HO F54T5HO	RS Rigid Stem	012 12 foot	SV Silver	347	DM Dimming <sup>1</sup> (specify system)
	1T8 F032/T8	W Wall Mount	For other lengths, configurations, or continuous runs, indicate nominal length rounded to the next highest foot using three digits. Factory will supply layout drawings. Individual fixtures cannot be field joined.	SP Specify RAL#		DMA Digital Addressable Dimming <sup>2</sup>
	TE Telescoping End Caps <sup>1</sup>				DL Suitable for Damp Locations	

<sup>1</sup>Refer to page 84 for Telescoping End Caps details.

<sup>2</sup>Must be low profile ballasts (1 1/2" W x 1 3/16" H); consult factory for details.



**1. Housing** - Continuous, 6063-T5 extruded aluminum profile up to 16 feet long. Joined with Connector Plus Joining System, for ease of installation, and to assure a uniform appearance.

**2. Ballast** - Electronic, high power factor, class "P", type "A" sound rating. Specify 120v, 277v, or 347v. Ballast is factory pre-wired with leads to one end of fixture. Consult factory for ballast options.

**3. Gear Tray** - Precision formed with white painted finish. Gear tray installs as complete electrical unit and is held in place with knurled dress nuts. It is fully accessible from below ceiling.

**4. Lamps** - As noted (by others). Other lamp lengths or wattages available, consult factory.

**5. 1/16" Aircraft Cable Suspension** - Supplied with chrome gripper for easy adjustment. 48" max suspension from ceiling to top of luminaire. (See p.100 for more details.)

**6. Ø5/8" Steel Swivel Stem or Rigid Stem Suspension** - Swivel Stem provides 30° swivel rotation and can be cut in field; Rigid Stem can not be cut in field. 48" max suspension from ceiling to top of luminaire. (See p. 100 for more details.)

**8. Ø 1/2" Threaded Rod and Mounting Hardware** - To anchor End Cap Support Bracket/Wall Bracket, supplied and installed by others.

**9. Wall Bracket** - Aluminum Wall Bracket provided nominally every 4'. See layout pages for details.

**Interior Luminaire Finish** - Standard interior colors are White (WH), Black (BK) and Silver (SV). RAL colors (SP) are available, please specify RAL#.

**7. Outlet box** - (4" x 4") Supplied and installed by others.

SELUX Corp. © 2006

TEL: (845) 691-7723

FAX: (845) 691-6749

www.selux.com/usa

M11-01 (v5.0)

Appendix A

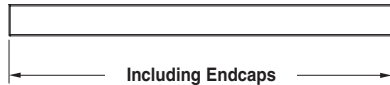


Union Made Affiliated  
with IBEW Local 363

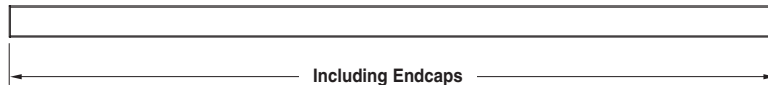
In a continuing effort to offer the best product possible, we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product. Specification sheets found at www.selux.com/usa are the most recent versions and supercede all other printed or electronic versions.

## M1I Surface / Pendant / Wall Layout Dimensions

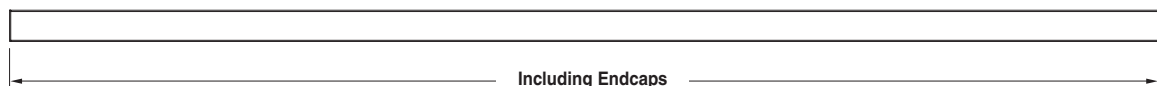
Nominal 4 foot individual - bottom view



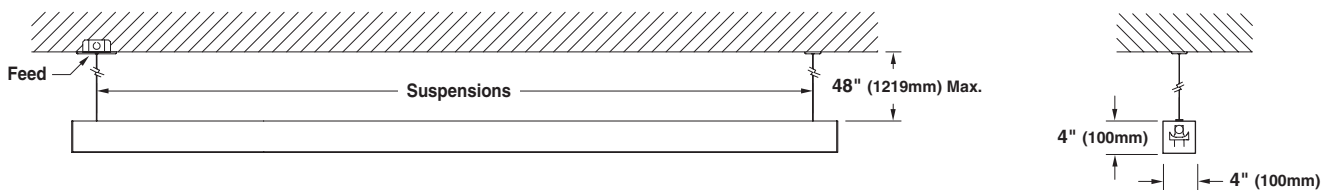
Nominal 8 foot individual - bottom view



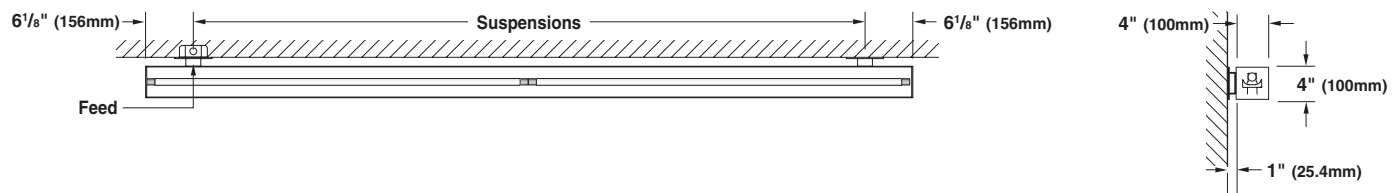
Nominal 12 foot individual - bottom view



Typical Pendant Mount - Side View



Typical Wall Mount - Top View



	T5 (1 or 2 lamp)			T8 (1 lamp)		
	Including Endplates	Pendant Suspensions	Wall Suspensions	Including Endplates	Pendant Suspensions	Wall Suspensions
<b>4 foot individual</b>	46.81" (1189mm)	49.46" (1256mm)	34.46" (876mm)	48.44" (1230mm)	42.08" (1069mm)	36.07" (916mm)
<b>8 foot individual</b>	93.22" (2368mm)	95.88" (2435mm)	80.88" (2054mm)	96.48" (2451mm)	90.12" (2289mm)	84.12" (2137mm)
<b>12 foot individual</b>	139.66" (3547mm)	142.28" (3614mm)	127.28" (3233mm)	144.52" (3671mm)	138.16" (3509mm)	132.15" (3357mm)

For other lengths, lamping, continuous runs or configurations please specify overall length (in feet), accessories desired and sketch/drawing of configuration. SELUX will detail project drawings upon order and supply submittal drawings for approval. Individual fixtures cannot be field joined. If you have any questions please contact SELUX customer service or applications engineering for assistance (1-800-SELUX-CS).

# 46760 – F54W/T5/835/ECO

GE Ecolux® Starcoat® T5

# F12

- Passes TCLP, which can lower disposal costs.

 **High Color Rendering**

## GENERAL CHARACTERISTICS

Lamp type	Linear Fluorescent - Straight Linear
Bulb	T5
Base	Miniature Bi-Pin (G5)
Wattage	54
Voltage	117
Rated Life	30000 hrs
Rated Life (rapid start) @ Time	36000 h @ 12 h 30000 h @ 3 h
Bulb Material	Soda lime
Starting Temperature (MIN)	-20 °C (-4 °F)
Additional Info	TCLP compliant

## PHOTOMETRIC CHARACTERISTICS

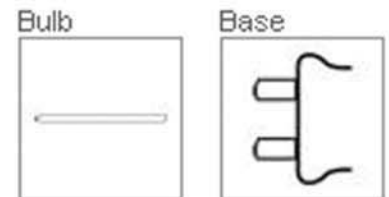
Initial Lumens	5000
Mean Lumens	4600
Nominal Initial Lumens per Watt	92
Color Temperature	3500 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.5

## ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (rapid start) Min @ Temperature	520 V @ 10 °C
Cathode Resistance Ratio - Rh/Rc (MIN)	4.25
Cathode Resistance Ratio - Rh/Rc (MAX)	6.5
Current Crest Factor (MAX)	1.7

## DIMENSIONS

Maximum Overall Length (MOL)	45.8000 in (1163.3 mm)
Nominal Length	45.200 in (1148.0 mm)
Bulb Diameter (DIA)	0.625 in (15.8 mm)
Bulb Diameter (DIA) (MAX)	0.670 in (17.0 mm)
Max Base Face to Base Face (A)	45.240 in (1149.0 mm)
Face to End of Bi-Pin (B) (MIN)	45.420 in (1153.6 mm)



 [View Larger](#)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

### Brochures

Application/Segment Brochures

- [Contractor Lighting](#)
- [Healthcare Lighting](#)

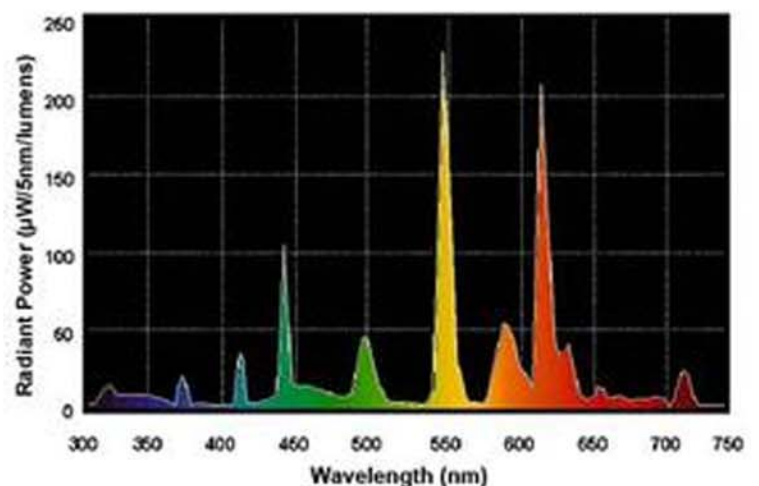
Product Brochures

- [Ecolux](#)
- [Ecolux \(Environmental\)](#)

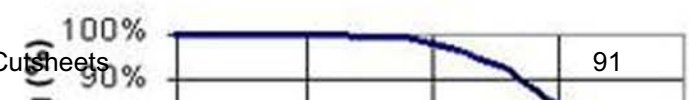
[Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

### Spectral Power Distribution



### Lamp Mortality



# Fire

## PENDANT



RED

Shown approximately 35% actual size.



AMBER



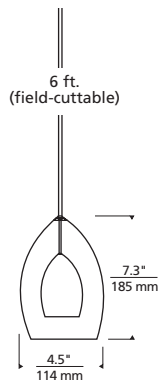
COBALT



GREEN



SMOKE



### DESCRIPTION

Rich, translucent Murano glass surrounds a small frost raindrop glass satin nickel detail. Includes six feet of field-cutttable clear stream™ cable (custom lengths available).

### SYSTEM

Available for use on Single-Circuit T~trak, Two-Circuit T~trak, Single-Circuit StraightLine and Two-Circuit StraightLine.

### COLOR

Amber, cobalt, green, red, smoke.

### FINISH

#### Single-Circuit T~trak, Two-Circuit T~trak:

Antique Bronze: antique bronze connector with antique bronze pendant.

Satin Nickel: satin nickel connector with satin nickel pendant.

White: white connector with satin nickel pendant.

#### Single-Circuit StraightLine and Two-Circuit StraightLine:

Black/Satin Nickel: black connector with satin nickel pendant.

White/Satin Nickel: white connector with satin nickel pendant.

### LAMP

Includes Halogen 120 volt, 40 watt, T4 lamp, G9 bi-pin base with tested integral glass envelope, may be used in open fixtures. Maximum lamp wattage that can be used with this fixture is 40 watts.

### ACCESSORIES AND OPTICAL CONTROLS

None.

### WEIGHT

2.15 lb./0.98 kg. ±

### ORDERING INFORMATION

700	SYSTEM	FI	COLOR	TT + TT2 FINISH
TT	SINGLE-CIRCUIT T~TRAK	A	AMBER	Z ANTIQUE BRONZE
TT2	TWO-CIRCUIT T~TRAK	B	COBALT	S SATIN NICKEL
SL	SINGLE-CIRCUIT STRAIGHTLINE	G	GREEN	W WHITE
SL2	TWO-CIRCUIT STRAIGHTLINE	R	RED	SL + SL2 CONN/FINISH
		K	SMOKE	BS BLACK/SATIN NICKEL
				WS WHITE/SATIN NICKEL

700 \_\_\_\_\_ FI \_\_\_\_\_

FIXTURE TYPE: \_\_\_\_\_

JOB NAME: \_\_\_\_\_

**T~trak™**

a brand of **TECH LIGHTING®**

7400 Linder Avenue T 847.410.4400  
Skokie, Illinois 60077 F 847.410.4500

www.ttraklighting.com

tt\_pnd\_fire\_spec.pdf

January 2007 Specifications subject to change without notice.



# 16755 – Q40G9/CD

GE Edison™ Quartzline® T4

# F13

- Edison™ halogen bulbs provide a brighter, crisper light that makes your home look its best
- That's why professionals choose Edison for exceptional results and longer bulb life.
- Showcase the beauty of your home with the highest quality of light.



## GENERAL CHARACTERISTICS

Lamp type	Halogen - Single-Ended
Bulb	T4
Base	G9
Filament	CC-8
Wattage	40
Voltage	120
Rated Life	2000 hrs

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	480
Color Temperature	2750 K
Nominal Initial Lumens per Watt	12

## DIMENSIONS

Maximum Overall Length (MOL)	1.7710 in (44.9 mm)
Light Center Length (LCL)	1.259 in (31.9 mm)

## PRODUCT INFORMATION

Product Code	16755
Description	Q40G9/CD
Standard Package	Case
Standard Package GTIN	10043168167557
Standard Package Quantity	5
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	5
UPC	043168167550

## CAUTIONS & WARNINGS

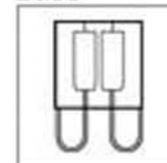
[See list of cautions & warnings.](#)

\*Two year life based on rated life at 4 hours/day.

Bulb



Base



Package



 [View Larger](#)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

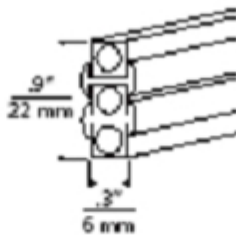
[MSDS \(Material Safety Data Sheets\)](#)

[Disposal Policies & Recycling Information](#)

# Straight Rail



SHOWN ACTUAL SIZE  
(0.90" height x 0.30" width)



**DESCRIPTION**

Low-voltage conductor of three individual conductive metal pieces fused together with plastic separators. Hand-bendable, field-cuttable Two-Circuit MonoRail is rated for 300 watts per circuit at 12 volts. Each piece of rail is shipped with conductive connectors to join rail pieces end to end. Order additional connectors if cutting and rejoining rails. Two-Circuit MonoRail bends horizontally to a radius as small as 12", and custom factory bends are available. It cannot be bent vertically in the field.

**COLOR**

Insulator is available in clear, amber, black or brown.

**FINISH**

Antique bronze, chrome, gold, satin nickel.

**WEIGHT**

- 24": 0.42 lb./0.19 kg. ±
- 48": 0.83 lb./0.37 kg. ±
- 96": 1.65 lb./0.75 kg. ±

**ORDERING INFORMATION**

700MO2A	LENGTH	INSULATOR COLOR	FINISH
	24 24" (0.6 m)	CLEAR	Z ANTIQUE BRONZE
	48 48" (1.2 m)	AM AMBER	C CHROME
	96 96" (2.4 m)	BK BLACK	G GOLD
	NO GOLD	BR BROWN	S SATIN NICKEL

700MO2A \_\_\_\_\_

FIXTURE TYPE: \_\_\_\_\_

JOB NAME: \_\_\_\_\_

me2\_straight\_rail\_spec.pdf

August 2016 Specifications subject to change without notice.



**TECH LIGHTING®**

7400 Linder Avenue T 847.410.4400  
 Skokie, Illinois 60077 F 847.410.4500  
 www.techlighting.com



# Adjustable Standoff



Shown approx. 15% actual size.

**DESCRIPTION**

The adjustable standoff's cable virtually disappears for a clean and elegant look. It is best used on fairly straight runs with a drop greater than 6". A wire grip allows you to easily shorten or lengthen the cable to size it for use. Standard with 12" of field-cuttable suspension cable; may also be specified with 30" of cable.

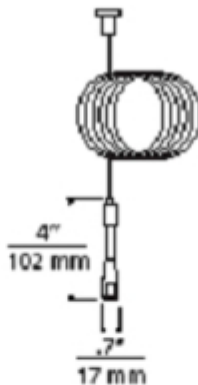
Use standoff supports every three feet of Two-Circuit MonoRail run and at corners. Standoffs can be positioned to cover points where rails are joined.

**FINISH**

Antique bronze, chrome, gold, satin nickel.

**WEIGHT**

0.25 lb./0.11 kg. ±



**ORDERING INFORMATION**

700M02SADJ	LENGTH	FINISH
	12" OF CABLE	Z ANTIQUE BRONZE
3	30" OF CABLE	C CHROME
		G GOLD
		S SATIN NICKEL



**TECH LIGHTING®**

7400 Linder Avenue T 847.410.4400  
 Skokie, Illinois 60077 F 847.410.4509  
 www.techlighting.com

700M02SADJ \_\_\_\_\_

FIXTURE TYPE: \_\_\_\_\_

JOB NAME: \_\_\_\_\_

mo2\_adjus\_standoff\_spec.pdf

August 2016 Specifications subject to change without notice.



# Two-Circuit Remote Transformer

SINGLE-FEED, 12 VOLTS 600 WATTS, ELECTRONIC



Shown approximately 15% actual size.



**DESCRIPTION**

This remote electronic transformer converts standard 120 volt line voltage to 12 volts, providing the necessary voltage for powering a Two-Circuit MonoRail low-voltage lighting system. Each transformer includes fast-acting short circuit and overload protection that will safely turn the system off should a short occur. Once the short has been removed the breakers can be reset. Transformer power lamps totaling up to 600 watts. Mounted on a plate with junction boxes.

**INSTALLATION**

This transformer must be installed in a remote but accessible location (such as above the ceiling or in a closet). To simplify installation the transformer should be located no more than 20 feet from the run or power feed. The electrician will need to supply the proper gauge conductor from the transformer to the power feed location based on distance (see voltage drop chart, below).

**DIMMING**

Transformer is equipped with two 120 volt input lines, and is dimmable with two 600 watt low-voltage electronic dimmers. Each dimmer can control up to 200 watts. Dimmers are placed on the line side of the transformer (consult dimmer manufacturer for specifics).

**REQUIRED USAGE**

12 volt output transformers require the use of 12 volt lamps. Use with a single-feed Two-Circuit canopy or other power feed option (sold separately).

**WEIGHT**

2.52 lb./1.14 kg. ±

**VOLTAGE DROP CHART**  
Use to determine the correct THHN wire size for a recommended 3 percent drop in voltage at the specified wattage. The length shown is the length of wire from the transformer to the power feed.

12 Volt	5 ft.	6-15 ft.	16-20 ft.	21-40 ft.	41-60 ft.	61-90 ft.
200 Watt	#10 GA	#6 GA	#4 GA	#1 GA	1/0	3/0

**ORDERING INFORMATION**

700AT2X300EL \_\_\_\_\_  
 INPUT  
 120 VOLT  
 P PLUG IN

700AT2X300EL \_\_\_\_\_  
 FIXTURE TYPE: \_\_\_\_\_  
 JOB NAME: \_\_\_\_\_



**TECH LIGHTING®**

7400 Linder Avenue T 847.410.4400  
 Skokie, Illinois 60077 F 847.410.4500  
 www.techlighting.com

tran\_at2x300el\_spec.pdf

August 2005 Specifications subject to change without notice.







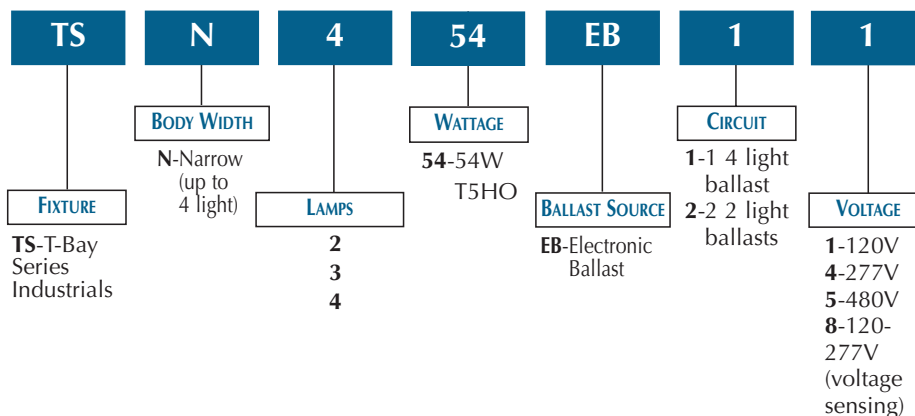
## T-BAY SERIES 2, 3, 4 LIGHT T5 HO

## F14

### ORDERING INFORMATION

CATALOG NUMBER:

Example: TSN454EB2-1



### PRODUCT SPECIFICATIONS

- Precision die-formed steel housing.
- Architectural post painted finish eliminates exposed edges for safe handling.
- Beveled Miro 4 reflector surrounds each lamp for optimum efficiency.
- Accepts surface, stem, pendant or chain mounting.
- Out performs conventional 400 watt MH technology for a fraction of the energy consumption.
- Standard with electronic ballasts for 120V, 277V, 480V or voltage sensing 120-277V applications.
- Instant-on.
- Low profile.
- Multi-level switching capability.
- Top access plate.
- Rotatable ends provide access to wiring chamber.
- Not approved for grid ceiling or surface mount installations.
- Hinged optics permit access to ballast chamber without removing lamps.

### OPTIONS/ACCESSORIES

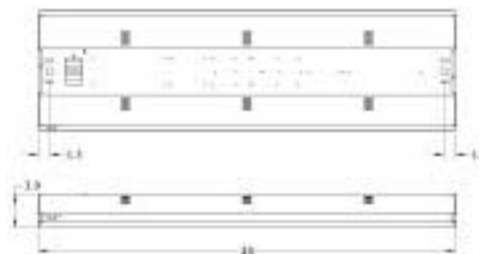
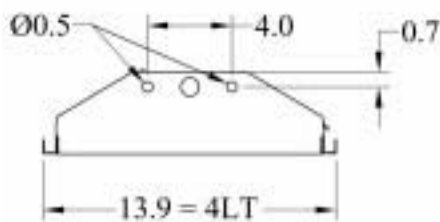
#### OPTIONS:

- 3C:** 3-foot SO cord only
- 6C:** 6-foot SO cord only
- 3F:** 3-foot SO cord and 15 amp NEMA plug
- 6F:** 6-foot SO cord and 15 amp NEMA plug
- 3T:** 3-foot SO cord and 20 amp NEMA plug
- 6T:** 6-foot SO cord and 20 amp NEMA plug
- MD:** Motion sensor installed
- JP:** Job Pack. Eliminates individual cartons
- WHR:** White Reflector. Replaces Miro4 reflector
- 6CPLH:** 6 foot cord and twist lock plug (specify 120 volt or 277 volt)
- 835:** 835K lamps installed. Must be used with JP (Job Pack) option
- 841:** 841K lamps installed. Must be used with JP (Job Pack) option
- E1:** 1-lamp emergency powerpack (450 lumen T8/700 lumen T5)
- E2:** 1-lamp emergency powerpack (1100 lumen T8/1250 lumen T5)

#### ACCESSORIES:

- TSNGUARD:** Wireguard for narrow fixtures
- TSNLENS:** Prismatic wrap lens for narrow unit
- TSNLENS-CL:** Clear wrap lens for narrow unit
- TSCHAIN:** 2 sets of heavy duty chain for hanging T5/T8 units
- TSMTG:** Universal mounting plate for use with **T5 Chain** accessory
- MD360:** 120-277 volt motion sensor with 360° field of vision
- T5CONNECTOR25PAK:** Tandem connector
- SSC:** Canopy for pendent mount
- 48STEM:** Stem for pendent mount
- 6CLH:** 6-foot cord
- 6CPLH-x:** 6-foot cord and plug 20 amp (x=voltage)
- 6CP15LH-x:** 6-foot cord and plug 15 amp (x=voltage)

### TECHNICAL INFORMATION



# 47807 – F54WT5830ECO/SLV

GE Ecolux® Starcoat® T5

- Passes TCLP, which can lower disposal costs.

 High Color Rendering

# F14

## GENERAL CHARACTERISTICS

Lamp type	Linear Fluorescent - Straight Linear
Bulb	T5
Base	Miniature Bi-Pin (G5)
Wattage	54
Voltage	117
Rated Life	30000 hrs
Rated Life (rapid start) @ Time	36000 h @ 12 h 30000 h @ 3 h
Bulb Material	Soda lime
Starting Temperature (MIN)	-20 °C (-4 °F)
Additional Info	TCLP compliant



 [View Larger](#)

## PHOTOMETRIC CHARACTERISTICS

Initial Lumens	5000
Mean Lumens	4600
Nominal Initial Lumens per Watt	92
Color Temperature	3000 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.3

## ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (rapid start) Min @ Temperature	520 V @ 10 °C
Cathode Resistance Ratio - Rh/Rc (MIN)	4.25
Cathode Resistance Ratio - Rh/Rc (MAX)	6.5
Current Crest Factor (MAX)	1.7

## DIMENSIONS

Maximum Overall Length (MOL)	45.8000 in (1163.3 mm)
Nominal Length	45.200 in (1148.0 mm)
Bulb Diameter (DIA)	0.625 in (15.8 mm)
Bulb Diameter (DIA) (MAX)	0.670 in (17.0 mm)
Max Base Face to Base Face (A)	45.240 in (1149.0 mm)
Face to End of Bi-Pin (B) (MIN)	45.420 in (1153.6 mm)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

[Brochures](#)

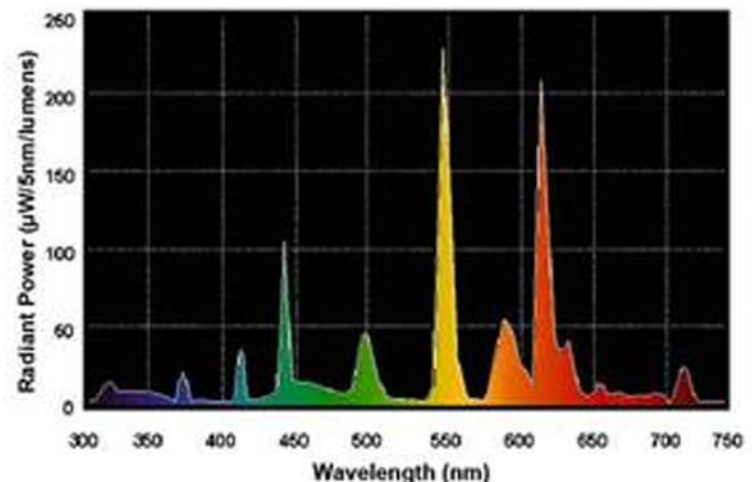
Application/Segment Brochures

- [Contractor Lighting](#)
- [Healthcare Lighting](#)

[Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

Spectral Power Distribution



Lamp Mortality





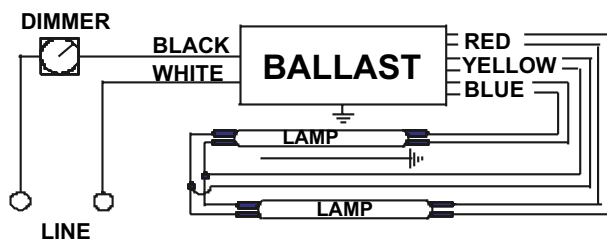
## VEZ-2S54

Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* F54T5/HO	2	54	50/10	0.45	24/125	0.03/1.00	10	0.98	1.7	0.80
FC12T5/HO	2	55	50/10	0.42	24/114	0.03/0.90	10	0.98	1.7	0.79
FT55W/2G11	2	55	50/10	0.42	24/114	0.05/0.90	10	0.98	1.7	0.79

### Wiring Diagram

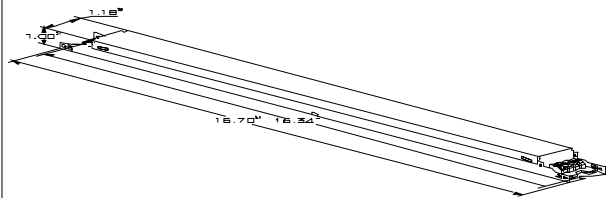


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 08/17/2006



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

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



Type:  
Project:

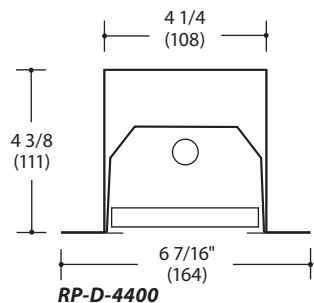
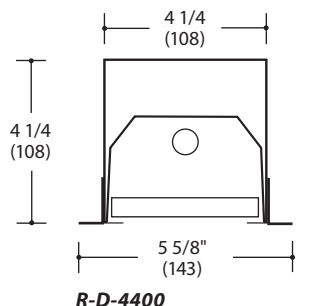
# F15

## Mod<sup>2</sup>

R-D-4400, RP-D-4400

Plaster, Drywall, Concealed Spline Ceilings  
Recessed Flanged Direct

### Specifications



**HOUSING.** Die-formed and welded steel, with 3/8" regression at housing bottom for rigidity and appearance, furnished with 6" long, steel splines for insertion at each side of housing at junction of fixtures in rows for precise alignment. End headers have clearance holes for easy row installation and are notched under lamps for more even diffuser luminance and continuous baffle appearance.

**SPACKLE TRIM.** (RP-D only) Continuous Spackle Trim with beaded edge welded to housing sides. Spackle trim allows plaster coat up to fixture edge for clean ceiling appearance.

**REFLECTOR.** Die-formed steel with high-reflectance white finish.

**END CAPS.** Steel, finished to match housing. Two mounting holes on each end cap allow tight attachment to ends of individual fixtures and ends of rows.

**BALLAST.** Electronic Ballast (**ELB** - for T8 lamping) or Low-profile Electronic Ballast (**LP/ELB** - for T5 or T5HO lamping), high power factor, thermally protected Class P, Sound Rated A, less than 10% THD, manufactured by a UL Listed manufacturer, as available, determined by Litecontrol. Ballasts with a voltage range of 120 to 277 will be used when fixture configuration and ballast availability allow. The minimum number of ballasts will be used.

**LAMPING.** Available in one-lamp T8 and one- and two-lamp T5 or T5HO in cross-section. Easy baffle removal to access/replace lamps without tools.

**TANDEM WIRING.** When selected from Ordering guide below, fixtures wired to switch in-line lamps separately, providing two (two-lamp cross-section fixtures only) levels of light.

**MOUNTING.** Two 1/4-20 threaded rods (by others) installed in the ceiling provide simple fixture attachment with a washer and 1/4-20 flange nut.

**SYSTEM CONNECTORS.** Lighted corners available. Die-formed and welded steel, with 3/8" regression at housing bottom. Baffles or diffusers furnished to match appearance of adjoining fixtures. See Field Measurement Procedures in the Litecontrol Product Guide for instructions.

**CERTIFICATION.** Fixture and electrical components shall be UL and/or CUL Listed and shall bear the I.B.E.W., A.F. of L. label. LISTED

Note: Litecontrol reserves the right to change specifications without notice for product development and improvement.

### Ordering guide

Product, lamping, & length						Options														
R -	D -	44	4	6	T5HO -	PBSS -	CWM -	TW -	LP/ELB -	2CWQ -	LP/EF -	120								
Mounting	Distribution	Series	Lamp Count	Nominal Length (ft)	Lamp Type	Diffuser	Finish	Tandem Wiring	Ballast	Pre-Wiring	Other options	Volts								
R Recessed	D Direct	44	1 →	2 →	T8	PBSS BW SGL	CWM (Matte White) is standard	-- →	ELB is std. for T8	1CWQ	LP/EF F	120 277								
			1 →	3 →				TW →		2CWQ										
1 →	4 →		ELB is std. for T5 or T5HO	DA/ELB LPD/ELB																
2 →	6 →																			
2 →	8 →		T5HO T5	see Diffusers	see Ballast options			notes: Lamp Count = total number of lamps in the fixture Tandem Wiring not available for one-lamp cross-section fixtures For Ordering guide information in shaded areas, choose selection by reading ACROSS the shaded areas for correct specifications.												
1,2 →	2 →																			
1,2 →	3 →																			
1,2 →	4 →																			
RP Recessed with spackle flange				2,4 →	6 →															
				2,4 →	8 →															
		2,4 →		6 →																
		2,4 →		8 →																
<b>Cross-section lamping</b>																				
<b>1-T8</b>				<b>1-T5HO or 1-T5</b>			<b>2-T5HO or 2-T5</b>													

R-D-4446T5HO-PBSS-CWM-TW-LP/ELB-2CWQ-LP/EF-120 is a typical catalog number for a 4-lamp (2 lamps in cross-section), 6-foot long, high-output T5 fixture with semi-specular parabolic baffle, Matte White finish, tandem-wired low-profile electronic ballast, pre-wired with two-circuit branch wiring and quick-connects, low-profile emergency fluorescent ballast, 120 volts.

#### Questions to Ask

1. 120 or 277 volt?
2. Row information, including desired fixture lengths?
3. Diffuser type?
4. Tandem wiring?
5. Other options?

## Diffusers

- PBSS** Semi-specular Aluminum Parabolic Baffle. 1 13/32" high x 2" OC, anodized aluminum.
- BW** Blade Baffle, White. 3/4" high x 3/4" OC, steel, regressed.
- SGL** Soft Glow Lens. Extruded, frosted acrylic, flush to bottom of fixture housing.

## Ballast options

Specify in place of **ELB** or **LP/ELB**, contact factory for availability/compatibility with lamping:

**DA/ELB** Advance Mark VII Dimming Ballast.

**LPD/ELB** Low-profile Dimming Ballast. Manufactured by a UL Listed manufacturer.

## Other options

**LP/EF** Low-profile Emergency Fluorescent Ballast. Battery-powered ballast from a UL Listed manufacturer will operate one lamp for 1 1/2 hours.

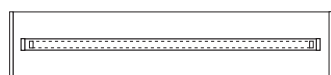
**F** Fuse. Slow or fast blow, determined by Litecontrol.

## Planning for installation

### Lamp Position



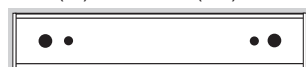
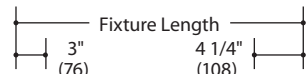
Lamp position for two-lamp T5, T5HO cross-section only.



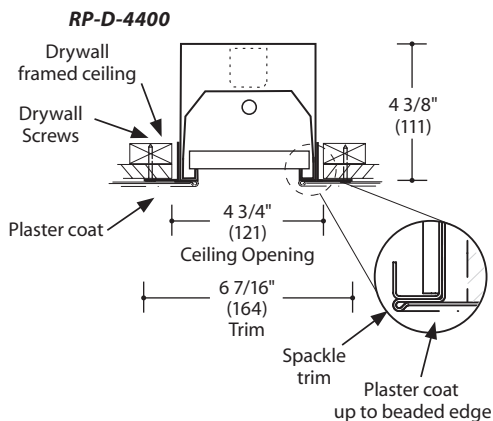
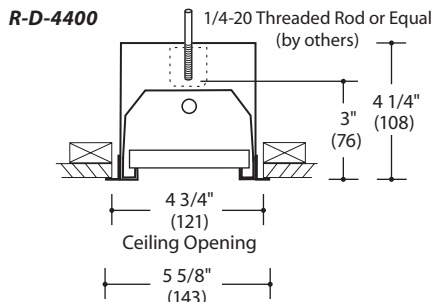
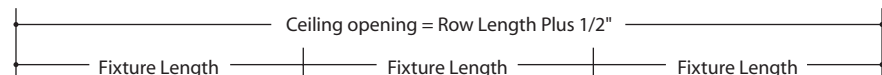
Lamp position for one-lamp T8, T5, T5HO cross-sections.

- Fixture Lengths: 2', 3', 4', 6', and 8'
- 7/8" diameter knockout, electrical feed
  - 5/8" knockout for 1/4" diameter threaded rod locations

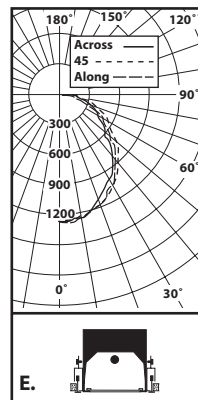
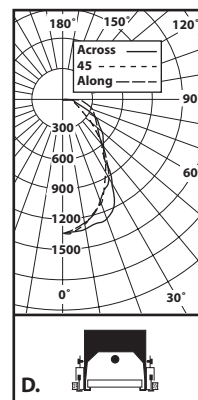
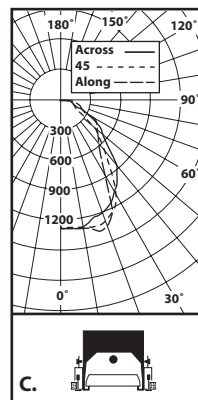
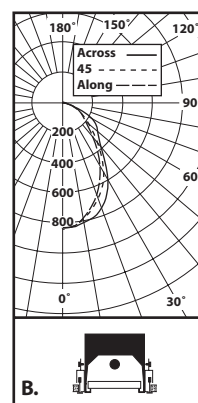
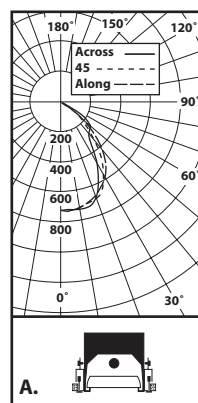
### Individual Fixture



### Row Diagram



## Photometric data



**A.** R-D-4414T8-PBSS  
39.6% Efficiency  
Litecontrol Certified  
Test Report #58011340

**B.** R-D-4414T8-BW  
47.5% Efficiency  
Litecontrol Certified  
Test Report #58011300

**C.** R-D-4414T5HO-PBSS  
45.4% Efficiency  
Litecontrol Certified  
Test Report #58016340

**D.** R-D-4414T5HO-BW  
55.2% Efficiency  
Litecontrol Certified  
Test Report #58016300

**E.** R-D-4414T5HO-SGL  
55.4% Efficiency  
Litecontrol Certified  
Test Report #58016990

For complete photometric information, see website.

## System connectors

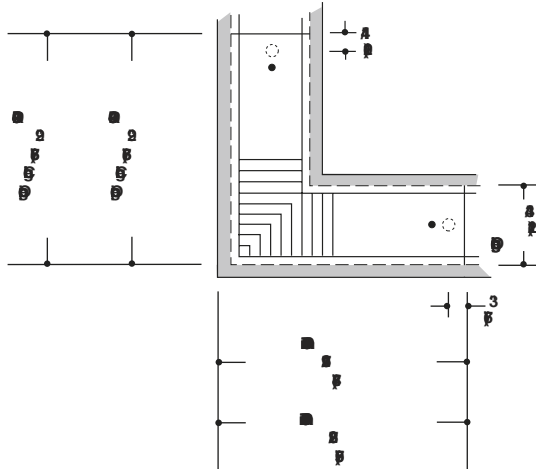
Product, lamping, & length							Options					
R -	D -	44	2	2	C90L	T5HO-	PBSS -	CWM -	TW -	LP/ELB -	2CWQ-	120
Mounting	Distribution	Series	Lamp Count	Nominal Length (ft)	Angle	Lamp Type	Diffuser	Finish	Tandem Wiring	Ballast	Pre-Wiring	Volts
R	D	44	1 →	2 →		T8	PBSS	CWM (Matte White) is standard	→		1CWQ	120
RP			1 →	2 →		T5HO	BW		TW →	ELB is std. for T8 LP/ELB is std. for T5 or T5HO	2CWQ	277
RP			2 →	2 →		T5	SGL			DA/ELB LPD/ELB		
Recessed w/ flange	Direct				C90L C135L		see Diffusers			see Ballast options		

**R-D-4422-C90L-T5HO-PBSS-CWM-TW-LP/ELB-2CWQ-120** is a typical catalog number for a 2-lamp (2 lamps in cross-section), 2-foot long high-output T5 90° lighted corner connector, with semi-specular parabolic baffle, Matte White finish, tandem-wired low-profile electronic ballast, pre-wired with two-circuit branch wiring and quick-connects, 120 volts.

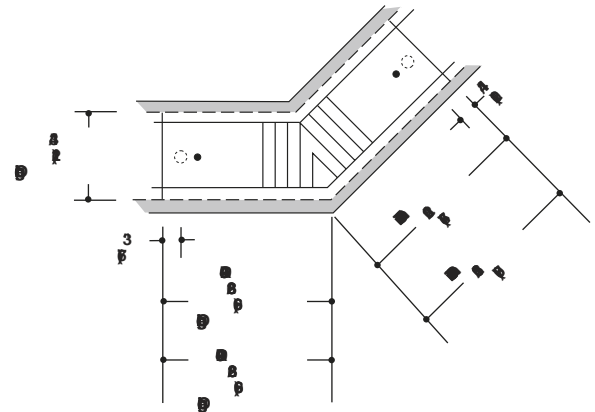
Click on **Quick Find 44rd**  
litecontrol.com

## System connectors R-D-4400 and RP-D-4400 continued

**R-D-4400 and RP-D-4400  
90° Lighted Corner  
C90L**



**R-D-4400 and RP-D-4400  
135° Lighted Corner  
C135L**



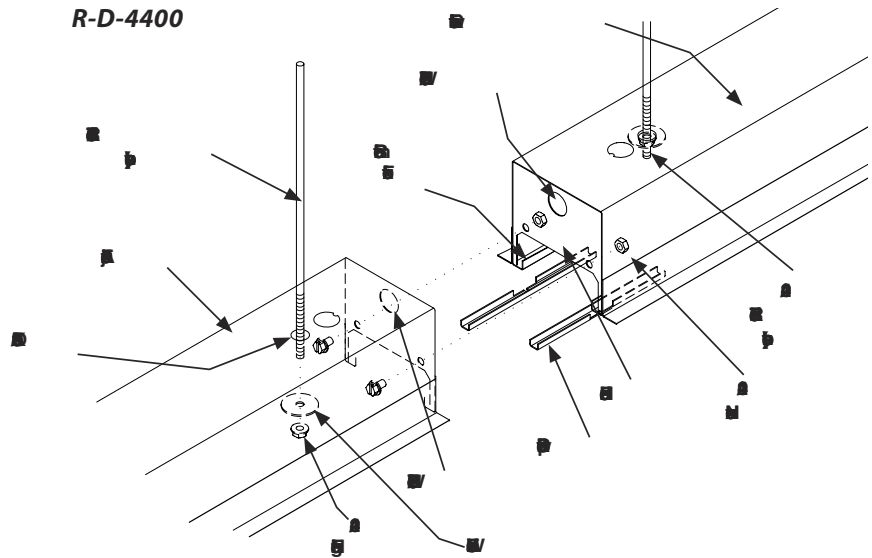
Corners are of one-piece construction, ready to install, with diffusers that match adjoining fixtures. Fixtures cannot be butted to form corners.

### General notes for specifiers and contractors

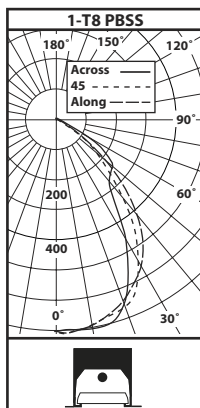
#### General notes for specifiers and contractors

1. Fixtures may be mounted in plaster, drywall, or concealed spline ceilings, individually, or in rows. Each fixture is supported by two 1/4-20 threaded rods.
2. Prior to fixture installation (2) 1/4-20 threaded rods per fixture must be located and installed in the ceiling. Note: threaded rods must end 3" above finished ceiling.
3. Electrical and ceiling contractors should both understand that this system is not a standard troffer construction (due to continuous light feature), so coordination between the two trades is essential.
4. Lighted corners (90° and 135°) are available. If lighted corners are part of the installation, corners should be installed before fixtures.
5. Installation instructions for this fixture and all Litecontrol fixtures are available from your Litecontrol representative or by contacting the factory. Instructions are also provided with every fixture shipment.

**R-D-4400**



### Photometric data - 1T8 lamps



CANDLEPOWER SUMMARY						
ANGLE	0	22.5	45	67.5	90	OUTPUT LUMENS
90	4	5	2	4	5	
85	5	5	5	5	4	5
80	4	2	2	5	5	
75	2	4	4	2	5	4
70	5	4	6	5	2	
65	7	5	4	20	29	21
60	20	20	40	85	131	
55	78	74	106	159	195	109
50	184	174	175	209	238	
45	308	297	243	245	252	207
40	414	414	331	282	271	
35	496	500	442	369	336	272
30	555	558	540	486	454	
25	602	603	617	594	563	275
20	641	642	657	663	652	
15	669	663	672	692	692	192
10	689	681	691	696	696	
5	700	696	696	697	696	67
0	699	699	699	699	699	

R-D-4414T8-PBSS 39.6% Efficiency Litecontrol Certified Test Report #11042004																								
RCC	80				70				50				30				10				0			
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	.47	.47	.47	.47	.46	.46	.46	.46	.44	.44	.44	.42	.42	.42	.40	.40	.40	.40	.40	.40	.40	.40		
1	.45	.43	.42	.41	.44	.43	.42	.41	.41	.40	.39	.39	.39	.38	.38	.37	.37	.36	.36	.36	.36	.36		
2	.42	.40	.38	.36	.41	.39	.37	.36	.38	.36	.35	.37	.35	.34	.35	.35	.34	.33	.33	.33	.33	.33		
3	.39	.36	.34	.32	.39	.36	.34	.32	.35	.33	.32	.34	.32	.31	.33	.32	.31	.30	.30	.30	.30	.30		
4	.37	.33	.31	.29	.36	.33	.31	.29	.32	.30	.28	.31	.29	.28	.30	.29	.28	.27	.27	.27	.27	.27		
5	.34	.31	.28	.26	.34	.30	.28	.26	.29	.27	.25	.29	.27	.25	.28	.26	.25	.24	.24	.24	.24	.24		
6	.32	.28	.25	.23	.32	.28	.25	.23	.27	.25	.23	.26	.24	.23	.26	.24	.23	.22	.22	.22	.22	.22		
7	.30	.26	.23	.21	.29	.25	.23	.21	.25	.22	.21	.24	.22	.20	.24	.22	.20	.18	.18	.18	.18	.18		
8	.28	.23	.21	.19	.27	.23	.20	.19	.23	.20	.18	.22	.20	.18	.22	.20	.18	.16	.16	.16	.16	.16		
9	.26	.21	.18	.16	.25	.21	.18	.16	.21	.18	.16	.20	.18	.16	.20	.18	.16	.14	.14	.14	.14	.14		
10	.24	.19	.17	.15	.24	.19	.17	.15	.19	.16	.15	.19	.16	.15	.18	.16	.15	.14	.14	.14	.14	.14		

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	.00	.00
90-0°	1148	39.59	100.00
180-0°	1148	39.59	100.00

LUMINANCE SUMMARY (fL)			
ANGLE	0°	45°	90°
45°	1278	1015	1050
55°	399	544	1001
65°	50	26	204
75°	28	42	57
85°	168	168	126

# 47807 – F54WT5830ECO/SLV

GE Ecolux® Starcoat® T5

F15

- Passes TCLP, which can lower disposal costs.

 High Color Rendering

## GENERAL CHARACTERISTICS

Lamp type	Linear Fluorescent - Straight Linear
Bulb	T5
Base	Miniature Bi-Pin (G5)
Wattage	54
Voltage	117
Rated Life	30000 hrs
Rated Life (rapid start) @ Time	36000 h @ 12 h 30000 h @ 3 h
Bulb Material	Soda lime
Starting Temperature (MIN)	-20 °C (-4 °F)
Additional Info	TCLP compliant

## PHOTOMETRIC CHARACTERISTICS

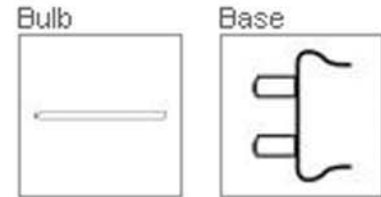
Initial Lumens	5000
Mean Lumens	4600
Nominal Initial Lumens per Watt	92
Color Temperature	3000 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.3

## ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (rapid start) Min @ Temperature	520 V @ 10 °C
Cathode Resistance Ratio - Rh/Rc (MIN)	4.25
Cathode Resistance Ratio - Rh/Rc (MAX)	6.5
Current Crest Factor (MAX)	1.7

## DIMENSIONS

Maximum Overall Length (MOL)	45.8000 in (1163.3 mm)
Nominal Length	45.200 in (1148.0 mm)
Bulb Diameter (DIA)	0.625 in (15.8 mm)
Bulb Diameter (DIA) (MAX)	0.670 in (17.0 mm)
Max Base Face to Base Face (A)	45.240 in (1149.0 mm)
Face to End of Bi-Pin (B) (MIN)	45.420 in (1153.6 mm)



 [View Larger](#)

## ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

**Brochures**

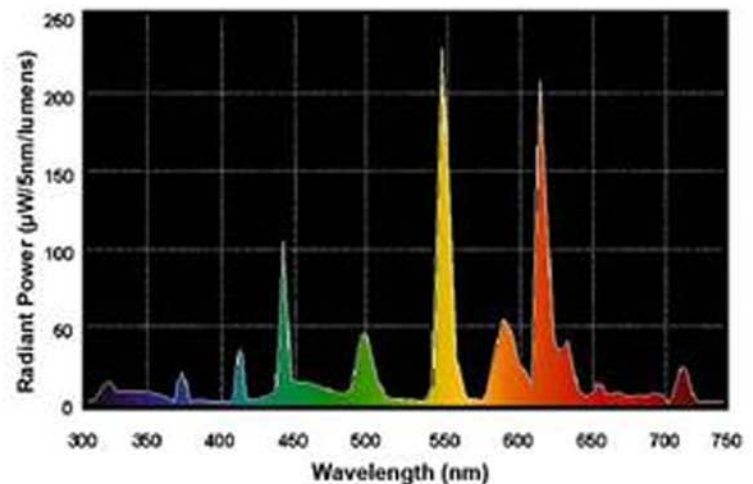
Application/Segment Brochures

- [Contractor Lighting](#)
- [Healthcare Lighting](#)

[Disposal Policies & Recycling Information](#)

## GRAPHS & CHARTS

Spectral Power Distribution



Lamp Mortality





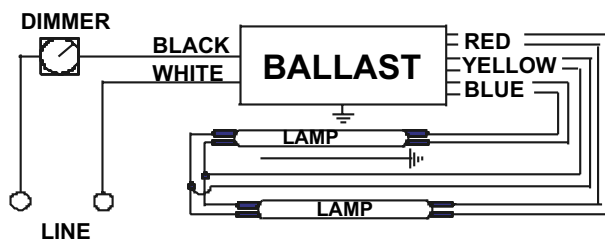
## VEZ-2S54

Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* F54T5/HO	2	54	50/10	0.45	24/125	0.03/1.00	10	0.98	1.7	0.80
FC12T5/HO	2	55	50/10	0.42	24/114	0.03/0.90	10	0.98	1.7	0.79
FT55W/2G11	2	55	50/10	0.42	24/114	0.05/0.90	10	0.98	1.7	0.79

### Wiring Diagram

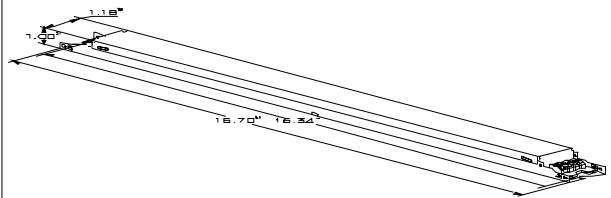


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 08/17/2006



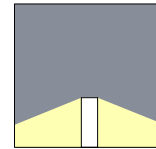
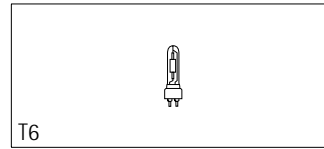
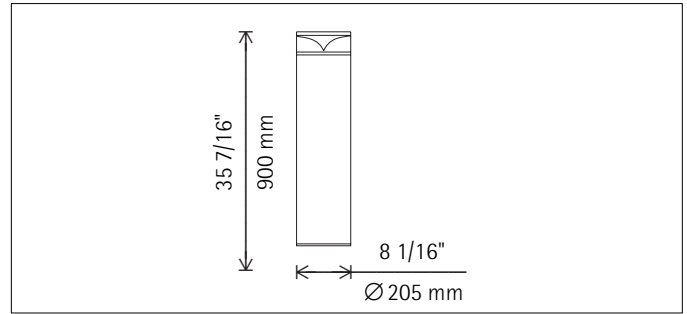
Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018  
 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086



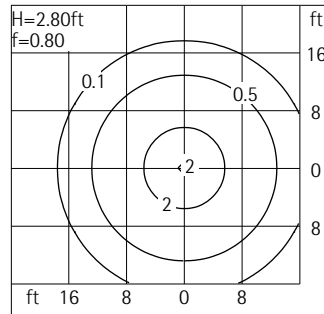
for metal halide lamps



33353.023 Graphit m  
T6 70W G12 6600lm  
ECG

**Product description**

Aluminum tube: double powder-coated.  
Upper cover: corrosion-resistant, cast aluminum, No-rinse surface treatment. Double powder-coated. Optimized surface for reduced accumulation of dirt.  
Base plate for mounting on concrete plinth or ground socket.  
1 cable entry. 5-pole terminal block. Electronic control gear 120V, 60Hz.  
Internal parabolic reflector: aluminum, silver anodized, specular.  
Cross-baffle: metal, black.  
360° conical low brightness reflector: aluminum, silver anodized, specular. Glare-free above the light aperture.  
Glass cylinder as lamp cover.  
Suitable for wet location (IP65): dust-proof and water jet-proof.  
Weight 18.96lbs / 8.60kg  
Housing temperature 137°F / 58°C  
Temperature on the cover glass 141°F / 60°C  
Maximum wind load area 2.05ft<sup>2</sup>



ERCO Lighting, Inc.  
160 Raritan Center Parkway  
Suite 10  
Edison, NJ 08837  
USA  
Tel.: +1 732 225 8856  
Fax: +1 732 225 8857  
info.us@erco.com

Technical Region: 120V/60Hz  
Edition: 11.15.2006  
Please download latest version from  
[www.erco.com/33353.023](http://www.erco.com/33353.023)

## 20016 – CMH70TU/830/G12

GE ConstantColor® PulseArc® CMH® Ceramic Metal Halide T6

# F16-A

### GENERAL CHARACTERISTICS

Lamp type	High Intensity Discharge - Ceramic Metal Halide
Bulb	T6
Base	Bi-Pin (G12)
Wattage	70
Rated Life	15000 hrs
Bulb Material	Quartz
Lamp Enclosure Type (LET)	Enclosed fixtures only
Additional Info	UV control

### PHOTOMETRIC CHARACTERISTICS

Initial Lumens	6200
Mean Lumens	4700
Nominal Initial Lumens per Watt	88
Color Temperature	3000 K
Color Rendering Index (CRI)	83

### ELECTRICAL CHARACTERISTICS

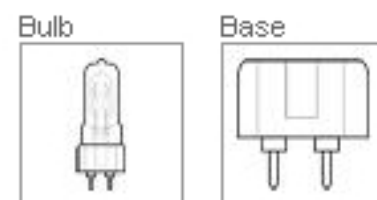
Burn Position	Universal burning position
Warm Up Time to 90% (MAX)	2 min/3
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

### DIMENSIONS

Maximum Overall Length (MOL)	3.5600 in (90.4 mm)
Light Center Length (LCL)	2.180 in (55.3 mm)

### PRODUCT INFORMATION

Product Code	20016
Description	CMH70TU/830/G12
ANSI Code	M139/M85/M98
Standard Package	Case
Standard Package GTIN	10043168200162
Standard Package Quantity	12



[View Larger](#)

### ADDITIONAL RESOURCES

#### [Catalogs](#)

#### [Testimonials](#)

#### Brochures

Product Brochures

- [Ceramic Metal Halide](#)

Application/Segment Brochures

- [Contractor Lighting](#)

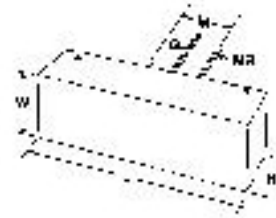
#### [MSDS \(Material Safety Data Sheets\)](#)

#### [Disposal Policies & Recycling Information](#)

# Lighting System Specifications

F16-A

## 87546 – GE HID UltraMax™ Electronic Low Frequency Ballast



Lamp Type	M98
(70 W , Ceramic Metal Halide)	
(70 W , Quartz Metal Halide)	
# of Lamps	1
Line Voltage	277
Nominal line current	0.3 A
System ballast factor	1
Ballast efficiency factor	0.90
System Watts	77
Drop out voltage	96 V
Min. starting temp	0 °F
THD %	<7.7
Crest factor	<1.4
Fuse rating	3

When the following GE lamps are combined with this ballast, you should get these results:

Product Code	Description	System Watts	System Initial Lumens	System Mean Lumens	System LPW	Color Temp	Color Rendering Index (CRI)
<a href="#">22124</a>	CMH70/CAJ/830MED	77				3000	80
<a href="#">22119</a>	CMH70/AJ/830/MED	77				3000	80
<a href="#">22162</a>	MXR70/CAJ/MED	77				3200	70
<a href="#">22158</a>	MXR70/AJ/MED	77				3200	70
<a href="#">12594</a>	MVR70/CAJ/MED	77				4000	75
<a href="#">12590</a>	MVR70/AJ/MED	77				4000	75
<a href="#">31074</a>	CMH70CU942MED/O	77				4000	90
<a href="#">31070</a>	CMH70CU830MED/O	77				3000	80
<a href="#">31069</a>	CMH70U830MED/O	77				3000	80
<a href="#">31073</a>	CMH70U942MED/O	77				4000	90
<a href="#">12377</a>	MXR70/AJ/MED/O	77				3200	70
<a href="#">12577</a>	MXR70/CAJ/MED/O	77				3200	70
<a href="#">22159</a>	CMH70PAR30L830FL	77				3000	82
<a href="#">22152</a>	CMH70PAR30L830SP	77				3000	82
<a href="#">45679</a>	CMH70PAR38WF/ECO	77				3000	82
<a href="#">45677</a>	CMH70PAR38FL/ECO	77				3000	82
<a href="#">45675</a>	CMH70PAR38SP/ECO	77				3000	82
<a href="#">29701</a>	CMH70TCU942/G8.5	77				4200	90
<a href="#">92585</a>	CMH70TCU830G8.5	77				3000	83
<a href="#">92587</a>	CMH70/TD/830RX7S	77				3000	81
<a href="#">92588</a>	CMH70/TD/942RX7S	77				4200	88
<a href="#">20023</a>	CMH70TU/942/G12	77				4200	93
<a href="#">20016</a>	CMH70TU/830/G12	77				3000	83

Notes:

Job:  
Type:

F16-B

# THE GASKINS SERIES

## GS04 TORCHIERE

The Gaskins Series is a variety of pedestrian scale luminaires for area illumination. Each Gaskins Series product consists of a soft, rectilinear "Tower" to which a luminaire is mounted. The GS04 luminaire is a torchiere-style luminaire.

### ORDERING

PREFIX	CONFIGURATION	HEIGHT	DISTRIBUTION	WATTAGE	VOLTAGE	FINISH
			5ID			

Enter the order code into the appropriate box above. Note: Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

#### PREFIX

GS04

#### CONFIGURATION

1 1 way

#### HEIGHT

8'

10'

12'

#### DISTRIBUTION

5ID Type V Indirect

#### WATTAGE

T70CMHE T6 Ceramic Metal Halide with Electronic Ballast

T150CMHE T6 Ceramic Metal Halide with Electronic Ballast

#### VOLTAGE

120

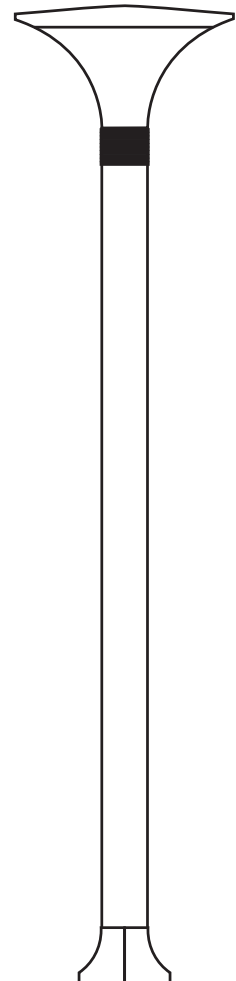
277

#### PAINTED FINISH

<b>BRP</b>	Bronze	<b>LSP</b>	Light Sandstone
<b>BLP</b>	Black	<b>DSP</b>	Dark Sandstone
<b>WP</b>	White	<b>RBP</b>	Red Brick
<b>NP</b>	Natural Aluminum	<b>LGP</b>	Light Granite
<b>BGP</b>	Beige	<b>DGP</b>	Dark Granite

**OC** Optional Color Paint  
(Specify RAL designation ex: OC-RAL7024)

**SC** Special Color Paint (Specify. Must supply color chip)



© Copyright Gardco Lighting 2004-2005. All Rights Reserved. International Copyright Secured. Gardco Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

A Genlyte Company

**Gardco Lighting**  
2661 Alvarado Street  
San Leandro, CA 94577

800/227-0758  
510/357-6900 in California  
Fax: 510/357-3088  
www.sitelighting.com



# THE GASKINS SERIES

## GS04 TORCHIERE

### SPECIFICATIONS

**GENERAL DESCRIPTION:** The Gaskins Series is a variety of pedestrian scale luminaires for area illumination. Each Gaskins Series product consists of a soft, rectilinear "Tower" to which a luminaire is mounted. The GS04 luminaire is a torchiere-style luminaire.

**TOWER ASSEMBLY:** The tower uses a 1" steel base plate with two (2) steel angle supports welded to the plate. The entire base assembly is hot-dipped galvanized. Die formed 1/8" aluminum panels interlock with two (2) 6063-T6 aluminum extrusions to create the tower. Minimum wall thickness for extrusions is 0.17". An adhesive silicone sealant is applied during assembly between the panels and the extrusions to create a permanent seal along the entire length of the tower. The sealant material is structural to enhance tower strength and rigidity.

The tower is installed using four (4) 5/8" anchor bolts on an 11" bolt circle. A 3" diameter hole is provided in the center of the base plate to allow for conduit stub-up.

A high-impact, UV resistant polymer two-piece cover protects the tower base.

**HOUSING/LENS ASSEMBLY:** A decorative and functional ribbed one-piece diecasting is attached to the top of the Tower with four (4) 5/16" bolts. This ribbed assembly encloses the optical system and supports the torchiere lens. The torchiere lens is injection molded V825-HID and DR acrylic with a minimum thickness of 1/8". The crowned top is a high impact UV resistant injection molded polymer. The top is fully sealed using an extruded silicone gasket and is hinged for lamp access.

**OPTICAL SYSTEMS:** The GS04 reflector is composed of specular, extruded and faceted Alzak® components, electropolished, anodized, and sealed. Reflector segments are set in arc tube image duplicating patterns to achieve light control.

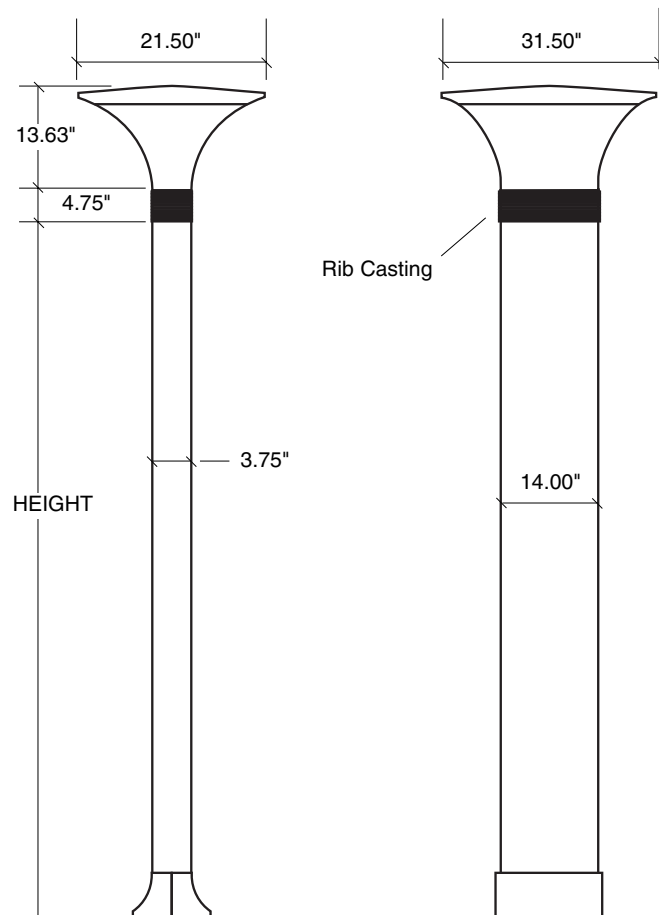
T6 lamps use a G12 base, with pulse rated porcelain lampholders.

**ELECTRICAL:** HID electronic ballasts are mounted within a diecast enclosure located in the base of the Tower assembly. Electronic ballasts operate ceramic metal halide lamps only.

**FINISH:** Each Tower assembly, as well as all other metal components, receives a fade and abrasion resistant electrostatically applied thermally cured triglycidal isocyanurate (TGIC) textured semi-gloss polyester powdercoat finish. The polymeric architectural light control structure and the tower cover (at base) receive a semi-gloss textured liquid polyurethane finish. Standard colors include Bronze (BRP), Black (BLP), White (WP), Natural Aluminum (NP), and Beige (BGP). Consult factory for specifications on custom colors.

**LABELS:** All luminaires bear U.L. or C.U.L. (where applicable) Wet Location labels.

### DIMENSIONS



**NOTE:** Factory supplied template must be used when setting anchor bolts. Gardco Lighting will not honor any claim for incorrect anchorage placement from failure to use factory supplied templates.

© Copyright Gardco Lighting 2004-2005. All Rights Reserved. International Copyright Secured. Gardco Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program. Solite is a Registered Trademark of AFG Industries.

A Genlyte Company

**Gardco Lighting**  
2661 Alvarado Street  
San Leandro, CA 94577

800/227-0758  
510/357-6900 in California  
Fax: 510/357-3088  
www.sitelighting.com



79115-137/1104

## 20016 – CMH70TU/830/G12

GE ConstantColor® PulseArc® CMH® Ceramic Metal Halide T6

# F16-B

### GENERAL CHARACTERISTICS

Lamp type	High Intensity Discharge - Ceramic Metal Halide
Bulb	T6
Base	Bi-Pin (G12)
Wattage	70
Rated Life	15000 hrs
Bulb Material	Quartz
Lamp Enclosure Type (LET)	Enclosed fixtures only
Additional Info	UV control

### PHOTOMETRIC CHARACTERISTICS

Initial Lumens	6200
Mean Lumens	4700
Nominal Initial Lumens per Watt	88
Color Temperature	3000 K
Color Rendering Index (CRI)	83

### ELECTRICAL CHARACTERISTICS

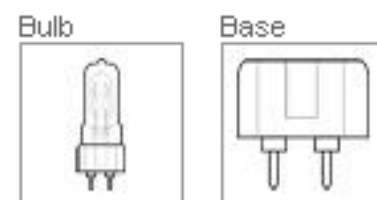
Burn Position	Universal burning position
Warm Up Time to 90% (MAX)	2 min/3
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

### DIMENSIONS

Maximum Overall Length (MOL)	3.5600 in (90.4 mm)
Light Center Length (LCL)	2.180 in (55.3 mm)

### PRODUCT INFORMATION

Product Code	20016
Description	CMH70TU/830/G12
ANSI Code	M139/M85/M98
Standard Package	Case
Standard Package GTIN	10043168200162
Standard Package Quantity	12



[View Larger](#)

### ADDITIONAL RESOURCES

#### [Catalogs](#)

#### [Testimonials](#)

#### Brochures

Product Brochures

- [Ceramic Metal Halide](#)

Application/Segment Brochures

- [Contractor Lighting](#)

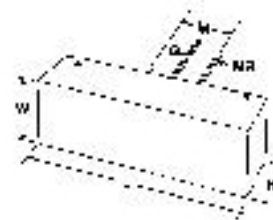
#### [MSDS \(Material Safety Data Sheets\)](#)

#### [Disposal Policies & Recycling Information](#)

# Lighting System Specifications

F16-B

## 87546 – GE HID UltraMax™ Electronic Low Frequency Ballast



Lamp Type	M98
(70 W , Ceramic Metal Halide)	
(70 W , Quartz Metal Halide)	
# of Lamps	1
Line Voltage	277
Nominal line current	0.3 A
System ballast factor	1
Ballast efficiency factor	0.90
System Watts	77
Drop out voltage	96 V
Min. starting temp	0 °F
THD %	<7.7
Crest factor	<1.4
Fuse rating	3

When the following GE lamps are combined with this ballast, you should get these results:

Product Code	Description	System Watts	System Initial Lumens	System Mean Lumens	System LPW	Color Temp	Color Rendering Index (CRI)
<a href="#">22124</a>	CMH70/CAJ/830MED	77				3000	80
<a href="#">22119</a>	CMH70/AJ/830/MED	77				3000	80
<a href="#">22162</a>	MXR70/CAJ/MED	77				3200	70
<a href="#">22158</a>	MXR70/AJ/MED	77				3200	70
<a href="#">12594</a>	MVR70/CAJ/MED	77				4000	75
<a href="#">12590</a>	MVR70/AJ/MED	77				4000	75
<a href="#">31074</a>	CMH70CU942MED/O	77				4000	90
<a href="#">31070</a>	CMH70CU830MED/O	77				3000	80
<a href="#">31069</a>	CMH70U830MED/O	77				3000	80
<a href="#">31073</a>	CMH70U942MED/O	77				4000	90
<a href="#">12377</a>	MXR70/AJ/MED/O	77				3200	70
<a href="#">12577</a>	MXR70/CAJ/MED/O	77				3200	70
<a href="#">22159</a>	CMH70PAR30L830FL	77				3000	82
<a href="#">22152</a>	CMH70PAR30L830SP	77				3000	82
<a href="#">45679</a>	CMH70PAR38WF/ECO	77				3000	82
<a href="#">45677</a>	CMH70PAR38FL/ECO	77				3000	82
<a href="#">45675</a>	CMH70PAR38SP/ECO	77				3000	82
<a href="#">29701</a>	CMH70TCU942/G8.5	77				4200	90
<a href="#">92585</a>	CMH70TCU830G8.5	77				3000	83
<a href="#">92587</a>	CMH70/TD/830RX7S	77				3000	81
<a href="#">92588</a>	CMH70/TD/942RX7S	77				4200	88
<a href="#">20023</a>	CMH70TU/942/G12	77				4200	93
<a href="#">20016</a>	CMH70TU/830/G12	77				3000	83