

Appendix 1:

Lighting Fixture, Ballast, and Lamp Cut Sheets

Recessed

Armstrong® TechZone™ Compatible

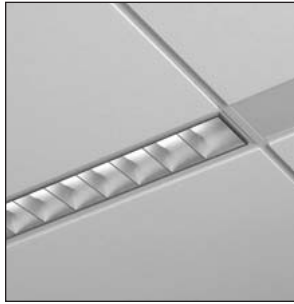
Fluorescent

One or Two Lamp 28W/35W T5 or 54W/80W T5 HO
One or Two Lamp 32W/40W T8

Recessed Bivergence®

6" x 4"
6" x 5"

online Find it Fast 288



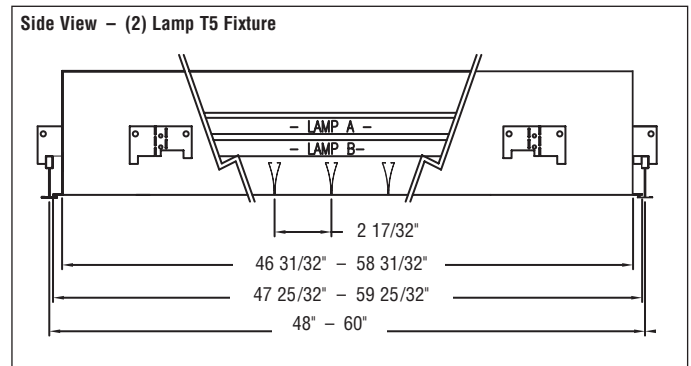
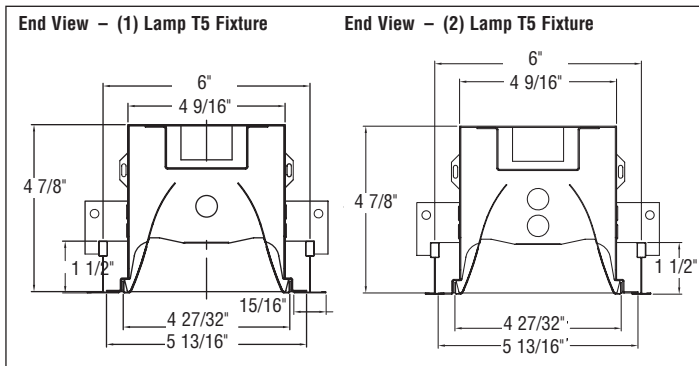
Applications: The Bivergence fixture is a high performance recessed mounted fixture guaranteeing photometric accuracy and high efficiency. The superior louver design provides maximum visual comfort through perfect control of glare and veiling reflections. The Bivergence range provides high performance lighting for such critical environments as VDT intensive office space, upgraded retail space, laboratories and open plan offices.

Meets RP-1-04 for intensive (1285) and normal (1545, 2285 and 2545) VDT-use offices

FIXTURE A5D
RB-L-64-1545-DE-2

ORDERING NOTE: Specify louver, length, lamping, voltage and options.

Fixtue	Ceiling Type	Louver	Length	Lamping	Voltage	Options
RB	I					
RB Recessed Bivergence	I Lay-In	C Matte DX Specular	64 6" x 4' 65 6" x 5'	1285 (1) 28W T5 1545 (1) 54W T5 HO 2285 (2) 28W T5 2545 (2) 54W T5 HO 1328 (1) 32W T8 2328 (2) 32W T8 1355 (1) 35W T5 2355 (2) 35W T5 1805 (1) 80W T5 HO 2805 (2) 80W T5 HO 1408 (1) 40W T8 2408 (2) 40W T8	U Universal 120/277V 347 347V (consult factory for availability; not available with EM, dimming) DA_* Dimming, Analog (0-10V) DD_* Dimming, DAHI (consult factory) DE_* Dimming, Lutron ECO-10 DH_* Dimming, Lutron Hi-Lume	WF Whip Flex 3/8" x 6' 14/3 AWG WN Whip Flex 3/8" x 6' 14/3 AWG (NYC) EM1 Stand-by Battery Pack for 1 Lamp Operation SS Separate Switching (Consult Factory) F Fusing AR Air Return
* Indicate 120V (1) or 277V (2). Consult factory for 32W/40W T8 dimming. Lutron Hi-Lume not available for 28W/35W T5 or 80W T5 HO.						



IBEW Union Made

1. Housing - 20 gauge cold-rolled steel. Fixtures are painted white.

2. Sockets - Bi-pin. Twist lock lamp installation.

3. Lamping - One or two 28W (4') or 35W (5') T5, or one or two 54W (4') or 80W (5') T5 HO, or one or two 32W (4') or 40W (5') T8 fluorescent lamps, supplied by others. Access to lamps is from below the fixture after the removal of the louver.

4. Ballast - Electronic ballast mounted in housing of luminaire.

5. Louvers - Matte silver or highly specular anodized aluminum. Louver blades are 1 7/16" deep and 2 1/2" on center. The 4' unit has a total of 18 cells. Louver is held by internal spring clips and can be suspended from one side for maintenance.

6. Mounting - Fixtures for mounting in lay-in ceilings. Depth of housing is 4 7/8". Electrical access plate in housing top. Fixtures can mounted in continuous run.

7. Stand-by Battery Pack - Integral stand-by battery pack with integral test switch. For remote test switch, consult factory.

8. Weight - 16.0 lbs.

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 affect the function of the product. Technical specification sheets that appear on www.zumtobel.us are the most recent version and supersede all other versions that exist in any other printed or electronic form.

Photometric Data

RB C 64 1545 (1) 54W T5 HO

6" x 4' RECESSED BIVERGENCE, MATTE SILVER LOUVER

LTL 09928

Total Luminaire Efficiency 65%

0% Uplight 100% Downlight

Spacing Criteria

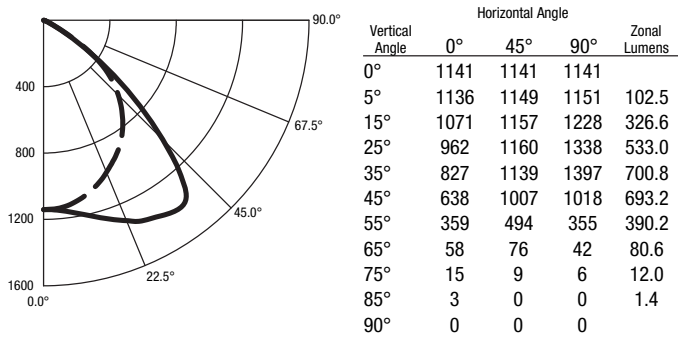
Lateral Plane 0° 90°

1.2 1.7

TOTAL LAMP LUMENS = 4400

INPUT WATTS = 63

Candela Distribution



Luminance Data in Candela / Sq. Meter

Angle in Vertical°	Average 0°	Average 45°	Average 90°
45°	6800	10733	10850
55°	4717	6491	4665
65°	1034	1355	749
75°	437	262	175
85°	259	0	0

Coefficients of Utilization

Effective Floor Cavity Reflectance = 20%

pcc	0.8				0.7				0.5			0.3		
	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1
pw														
0	77	77	77	77	75	75	75	75	72	72	72	69	69	69
1	72	70	68	66	71	69	67	65	66	64	63	63	62	61
2	67	63	59	57	66	62	59	56	60	57	55	58	55	53
3	62	57	52	49	61	56	52	48	54	50	47	52	49	47
4	57	51	46	42	56	50	46	42	49	45	42	47	44	41
5	53	46	41	37	52	45	40	37	44	40	37	43	39	36
6	49	42	36	33	48	41	36	33	40	36	32	39	35	32
7	46	38	33	29	45	37	32	29	36	32	29	36	32	29
8	43	35	30	26	42	34	29	26	33	29	26	33	29	26
9	40	32	27	23	39	31	27	23	31	26	23	30	26	23



GE Consumer & Industrial
Lighting

LAMP A5D

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46761 – F54W/T5/841/ECO

GE Ecolux® Starcoat® T5

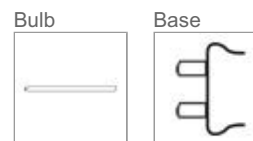


- Passes TCLP, which can lower disposal costs.

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



[View Larger](#)

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	5000
Mean Lumens	4600
Nominal Initial Lumens per Watt	92
Color Temperature	4100 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.7

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
Lamp Current	460 mA
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)

ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

Brochures

Product Brochures

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

Application/Segment Brochures

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

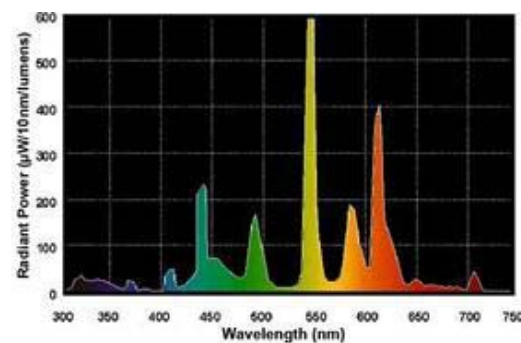
Fluorescent

- [Starcoat® T5 Linear Fluorescent Lamps](#)

[Disposal Policies & Recycling Information](#)

GRAPHS & CHARTS

Spectral Power Distribution



Lamp Mortality

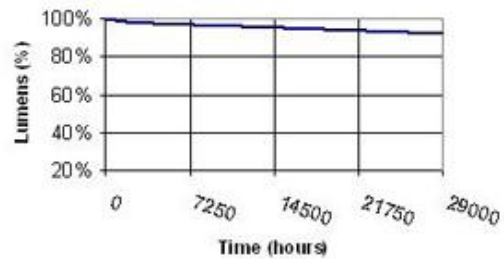
Face to End of Opposing Pin (B) (MIN)	45.420 in (1153.6 mm)
Face to End of Opposing Pin (B) (MAX)	45.520 in (1156.2 mm)

PRODUCT INFORMATION

Product Code	46761
Description	F54W/T5/841/ECO
Standard Package	Case
Standard Package GTIN	10043168467619
Standard Package Quantity	40
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	40
UPC	043168467612



Lumen Maintenance



COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
29717	GE454MVPSN1-B	1	99.0	1.0
87666	GE-254-MV-PS-NLB	1	99.0	1.02
47542	B254PUNV-DGE1C	1	99.0	1.02
87636	B254PUNV-DL	1	98.0	1.1
87651	GE-454-MV-PS-NLB	1	99.0	1.0
87621	GE-454-MV-PS-NL	1	99.0	1.0
29726	GE454MVPSN1	1	99.0	1.0

⚠ CAUTIONS & WARNINGS

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

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Eco-10 Overview

Eco-10 lighting management electronic dimming ballasts are designed to maximize the benefits of a lighting management system. Eco-10 offers 100% to 10% dimming, and is ideal for use in any space where saving energy is the primary goal of the design.

Features

- Continuous, flicker-free dimming from 100% to 10%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models available for T5 and T5-HO linear, T8 linear and U-bent, and T5 twin-tube lamps
- Programmed rapid start design preheats 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 eliminates circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry (for T5 and T5-HO linear models) ensures safe operation throughout entire lamp life cycle
- For linear lamps, ballasts maintain consistent light output for different lamp lengths, ensuring uniformity
- Ultra-quiet operation
- Protected from miswires of any input power to control lead
- 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

BALLAST A5D



Eco-10, case type C

1.18”w (30mm) x 1.00”h (25mm) x 18.00”l (457mm)



Eco-10, case type D

1.58”w (40mm) x 1.00”h (25mm) x 9.50”l (241mm)



Eco-10, case type F

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

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

Specifications

Performance



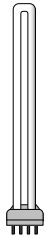
- Dimming Range: 100% to 10% measured relative light output
- Lamp Starting: programmed rapid start
- Minimum Lamp Starting Temperature: 10°C (50°F)
- Ambient Temperature Operating Range: 10°C (50°F) to 60°C (140°F)
- Relative Humidity: maximum 90% non-condensing
- Operating Voltage: 120V or 277V at 60Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output Variation: 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 .85 for T8 and T5 twin-tube lamps, equal to 1.0 for T5 lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 20%
- 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 requirements for EMI/RFI emissions
- Meets ANSI C62.41 Category A surge protection standards up to and including 4kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001.2000

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Job Number: <input type="text"/>	<input type="text"/>	<input type="text"/>


Eco-10 Ballast Models

Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (amps)	Eco-10 Model Number	Ballast Current (amps)	Eco-10 Model Number
 5/8" diameter T5 linear	14W (22")	1	C	.17	E 3 T514 C 120 1	.08	E 3 T514 C 277 1
		2	C	.32	E 3 T514 C 120 2	.14	E 3 T514 C 277 2
	21W (34")	1	C	.25	E 3 T521 C 120 1	.11	E 3 T521 C 277 1
		2	C	.43	E 3 T521 C 120 2	.19	E 3 T521 C 277 2
	28W (45.3")	1	C	.30	ECO-T528-120-1	.14	ECO-T528-277-1
		2	C	.55	ECO-T528-120-2	.25	ECO-T528-277-2
 5/8" diameter T5-HO linear high output	24W (21.5")	1	C	.26	ECO-T524-120-1	.13	ECO-T524-277-1
		2	C	.45	ECO-T524-120-2	.20	ECO-T524-277-2
	39W (33.4")	1	C	.38	ECO-T5H39-120-1	.17	ECO-T5H39-277-1
		2	C	.76	ECO-T5H39-120-2	.31	ECO-T5H39-277-2
	54W (45.3")	1	C	.58	ECO-T554-120-1	.25	ECO-T554-277-1
		2	C	1.1	ECO-T554-120-2	.45	ECO-T554-277-2
 5/8" diameter T5 Twin-Tube	36/39W (16")	1	F	.33	ECO-T539-120-1	.14	ECO-T539-277-1
		2	F	.58	ECO-T539-120-2	.25	ECO-T539-277-2
		3	F	.85	ECO-T539-120-3	.35	ECO-T539-277-3
	40W (22")	1	F	.33	ECO-T540-120-1	.14	ECO-T540-277-1
		2	F	.61	ECO-T540-120-2	.25	ECO-T540-277-2
		3	F	.88	ECO-T540-120-3	.38	ECO-T540-277-3
	50W (22")	1	F	.38	ECO-T550-120-1	.17	ECO-T550-277-1
		2	F	.69	ECO-T550-120-2	.32	ECO-T550-277-2



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Eco-10 Ballast Models continued ...

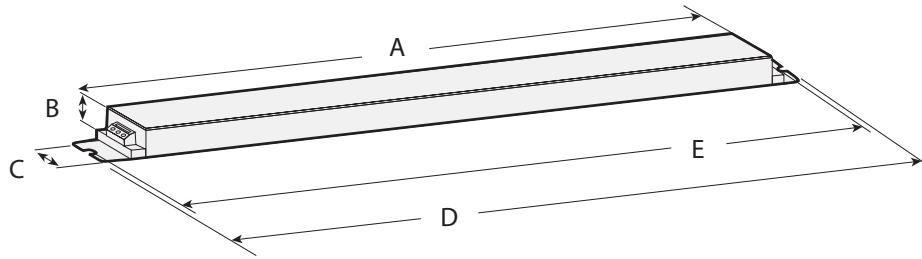
Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (amps)	Eco-10 Model Number	Ballast Current (amps)	Eco-10 Model Number
T8 linear and U-bent  1" diameter	17W (24")	1	F	.19	ECO-T817-120-1	.08	ECO-T817-277-1
		2	F	.31	ECO-T817-120-2	.15	ECO-T817-277-2
		3	F	.43	ECO-T817-120-3	.20	ECO-T817-277-3
	25W (36")	1	F	.24	ECO-T825-120-1	.12	ECO-T825-277-1
		2	F	.43	ECO-T825-120-2	.19	ECO-T825-277-2
	32W (48")	1	C	--	--	.14	E 3 T832 C 277 1
		1	D	.34	ECO-T832-120-1-L	.14	ECO-T832-277-1-L
		1	D	.34	ECO-T832-120-1-T	.14	ECO-T832-277-1-T
		1	F	--	--	.15	ECO-T832-277-1
		2	C	--	--	.23	E 3 T832 C 277 2
2		D	.53	ECO-T832-120-2-L	.23	ECO-T832-277-2-L	
2		D	.53	ECO-T832-120-2-T	.23	ECO-T832-277-2-T	
2	F	--	--	.22	ECO-T832-277-2		
	3	F	.82	ECO-T832-120-3	.35	ECO-T832-277-3	



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Job Number: <input type="text"/>	<input type="text"/>	<input type="text"/>

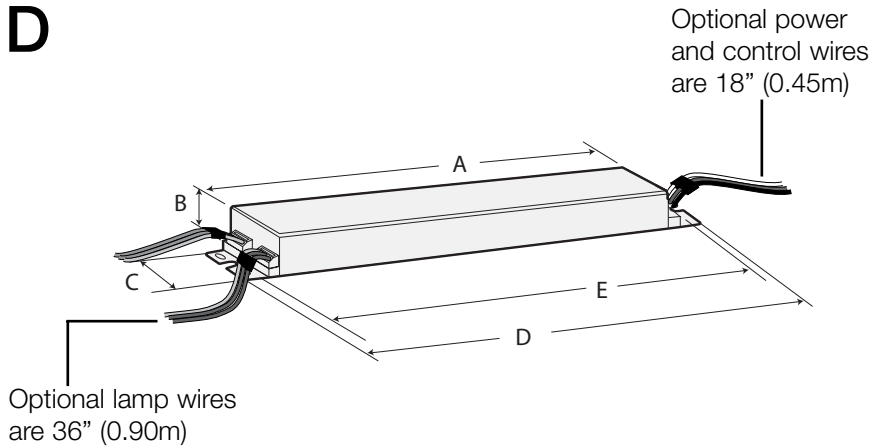
Eco-10 Case Dimensions

C



A	16.12"	(409 mm)
B	1.00"	(25 mm)
C	1.18"	(30 mm)
D	18.00"	(457 mm)
E	17.70"	(450 mm)
		(mounting centers)

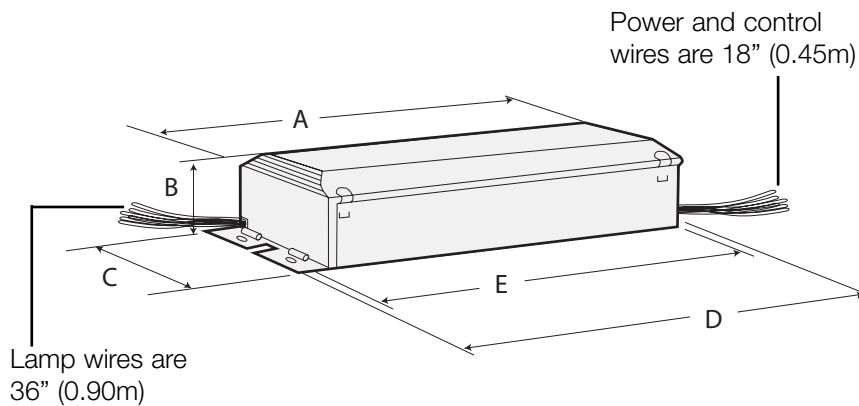
D



A	7.13"	(181 mm)
B	1.00"	(25 mm)
C	1.58"	(40 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

If using four hole mount, mounting centers are 9.00" (229 mm) x 1.06" (27 mm).

F



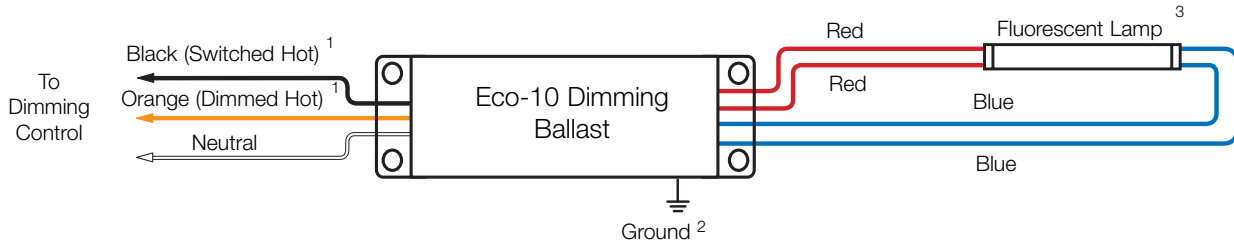
A	8.30"	(211 mm)
B	1.50"	(38 mm)
C	2.38"	(60 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

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

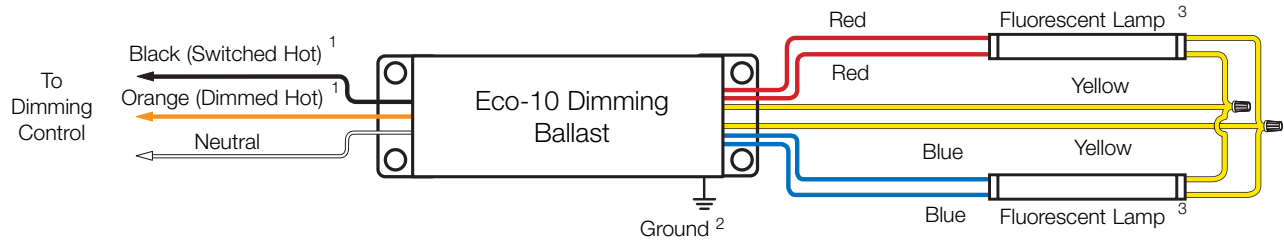
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Eco-10 Wiring Diagrams

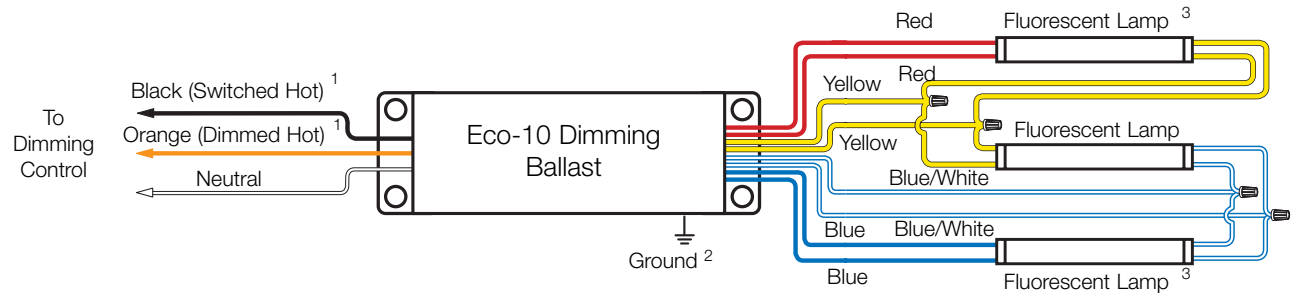
One T5 or T8 lamp



Two T5 or T8 lamps



Three T8 lamps



¹ 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.

² Ballast and lighting fixture must be effectively grounded.

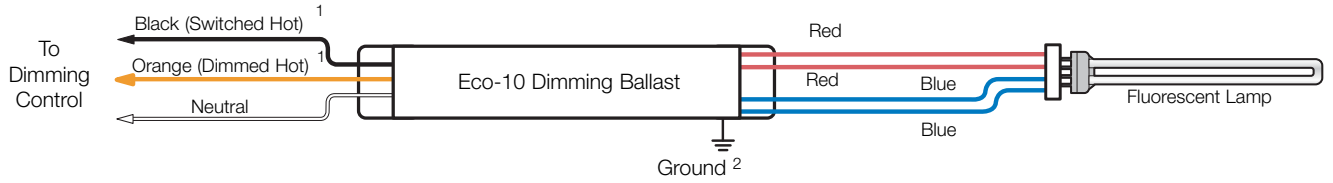
³ Includes 6" T8 U-bent lamps

Note: For T5 and T8 lamps, maximum lamp-to-ballast wire length is 7 feet (2m).

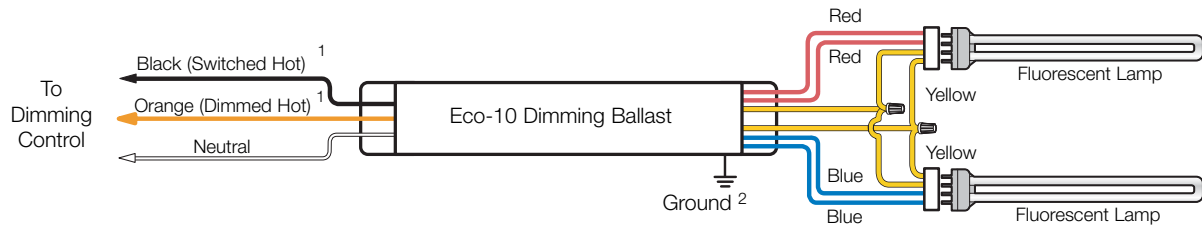
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Job Number: <input type="text"/>	<input type="text"/>	<input type="text"/>

Eco-10 Wiring Diagrams continued

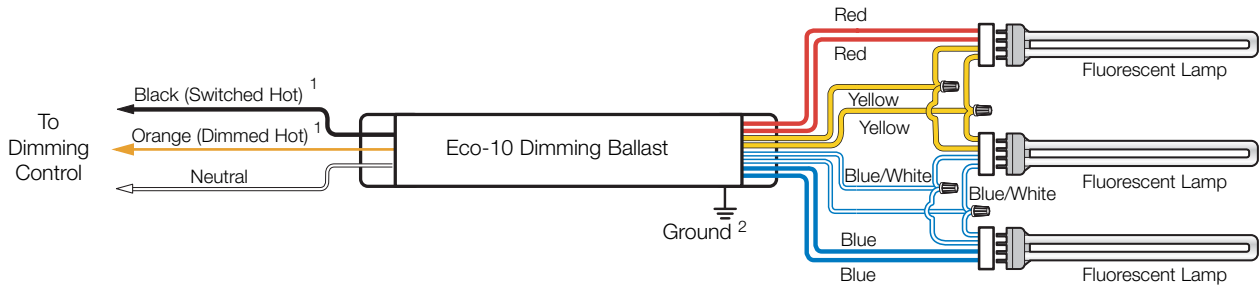
One T5 twin-tube lamp



Two T5 twin-tube lamps



Three T5 twin-tube lamps



¹ 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.

² Ballast and lighting fixture must be effectively grounded.

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

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



ATTENTION ELECTRICIANS AND CONTRACTORS

Ballast/Socket Leads

Lead lengths from ballast to socket must not exceed 7' (2m) for T5 and T8 lamps, and 3' (1m) for T5 twin-tube lamps.

Lamp Sockets

Quality lamp sockets are required to ensure positive lamp-pin to socket contact. T5 linear lamps require rotary locking sockets. T8 lamps require knife-edge sockets. U-bent lamps require locking sockets and proper lamp support to hold lamp pins in full contact with the socket. 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 and T8

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 get the outside edge of the lamp to be 1/2" ± 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. Having a fluorescent lamp too far away from the grounded metal will make the lamp flicker or not turn on at all.

Lamp Mounting for T5

Keep lamp at least 3/8" ± 1/8" away from the grounded metal surface. Having a lamp too close to the grounded metal will not reduce lamp life but may cause a visible difference in brightness along the length of the lamp.

Wiring and Grounding

All wiring from the dimming control to the Eco-10 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.

Ballast Operating Temperature

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

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.



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 there are questions.

Further Information

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

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

FEATURES

OPTICAL SYSTEM

- Reflector - Self-flanged, specular clear or semi-diffuse reflector. Fluted vertical upper section works in conjunction with Bounding Ray Optical Principle™ to provide lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional.
- Baffle/cone - Specular clear upper reflector. Microgroove baffle with white painted flange or specular black cone with flange that matches cone finish.

MECHANICAL SYSTEM

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

ELECTRICAL SYSTEM

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

LISTING

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

ENERGY

LER.DOL	Annual Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
34.43	\$6.97	2/26DTT	3600	.98	54

Calculated in accordance with NEMA standard LE-5.

ORDERING INFORMATION

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

AF

Series	Wattage/Lamp	Reflector Type	Finish	Ballast ⁵	Options
AF	1/13TT¹ One 13W twin-tube	8AR Clear	(blank) Specular	(blank) Electromagnetic ballast.	WLP With 35K lamp (shipped separately).
	2/13TT¹ Two 13W twin-tube	8PR Pewter	low iridescent	GEB10 Electronic ballast.	TRW White painted flange. (Standard with 6MB, WB, WR.)
	1/13DTT One 13W double twin-tube	8UBR Umber	LD Semi-diffuse	DMHL Lutron Hi-lume® electronic dimming ballast (120V or 277V; 18DTT & 26DTT).	LRC⁶ Provides compatibility with Lithonia Reloc System.
	2/13DTT Two 13W double twin-tube	8WTR Wheat	low iridescent	ADEZ Advance Mark X electronic dimming ballast (120V or 277V; 26DTT).	GMF⁷ Single slow-blow fuse.
	1/18DTT One 18W double twin-tube	8CR² Champagne Gold	LS Highly specular	ADZT Advance Mark VII® electronic 0-10 VDC dimming ballast (120V or 277V; 26DTT.)	GLR⁷ Single fast-blow fuse.
	2/18DTT Two 18W double twin-tube	8GR² Gold			RIF Radio interference filter.
	1/26DTT One 26W double twin-tube	8GR² Gold			ELR⁸ Emergency battery pack. Remote test switch provided.
	2/26DTT Two 26W double twin-tube	8WR³ White Reflector			EL^{8,9} Emergency battery pack. Integral test switch provided.
		8BC³ Black Cone			QDS¹⁰ Quick disconnect for easy ballast replacement.
		8MB³ Black Micro-groove Baffle			DS Dual switching.
	8WB³ White Baffle			GSKT 1/8" x 3/8" foam gasketing.	
				CP¹⁰ Chicago Plenum.	

NOTES

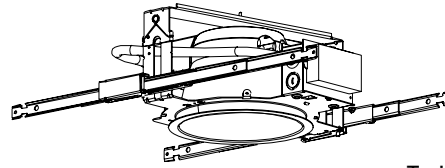
- 1 Available with electromagnetic ballast only.
- 2 Not recommended for use with compact fluorescent lamps; consult factory.
- 3 Not available with finishes.
- 4 Available with GEB10 only.
- 5 Refer to options and accessories tab for additional ballast types.
- 6 For compatible Reloc systems, refer to options and accessories tab.
- 7 Not available with MVOLT.
- 8 For dimensional changes, refer to options and accessories tab.
- 9 Available with electronic ballast only.
- 10 Not available with ELR or EL option.

Type

Catalog number

FIXTURE C1

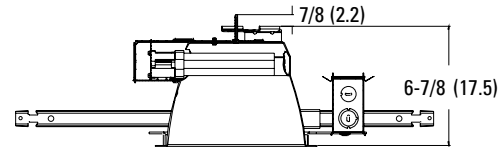
AFZ-2/26DTT-84A-277-GEB



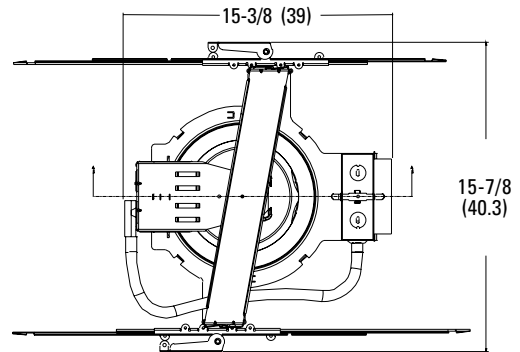
8" AF

Open Reflector

Horizontal Lamp
Twin-Tube, Double Twin-Tube



Aperture: 8 (20.3)
Ceiling opening: 8-7/16 (21.4)
Overlap trim: 9-1/4 (23.4)



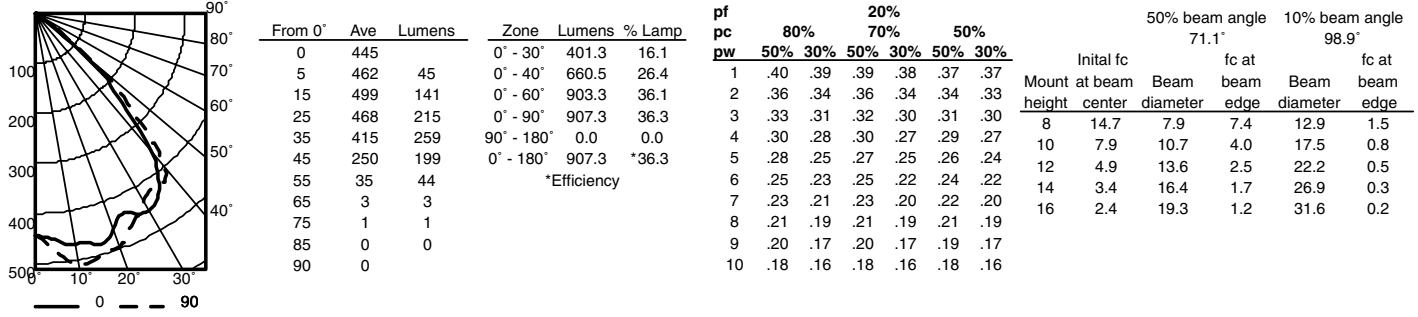
All dimensions are inches (centimeters).
Maximum dimension for two ballast configuration. Actual configuration may vary.

Example: **AF 2/26DTT 8AR 120 GEB10 WLP**

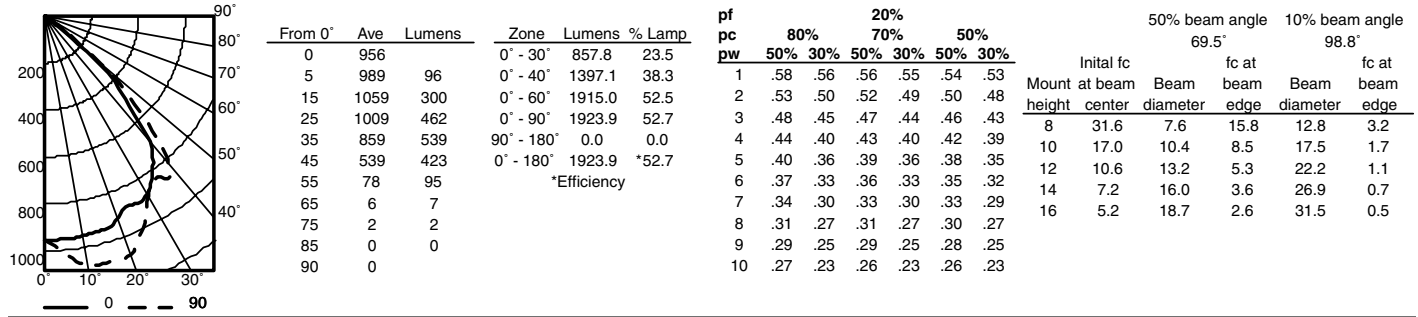
8" AF Open Reflector

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

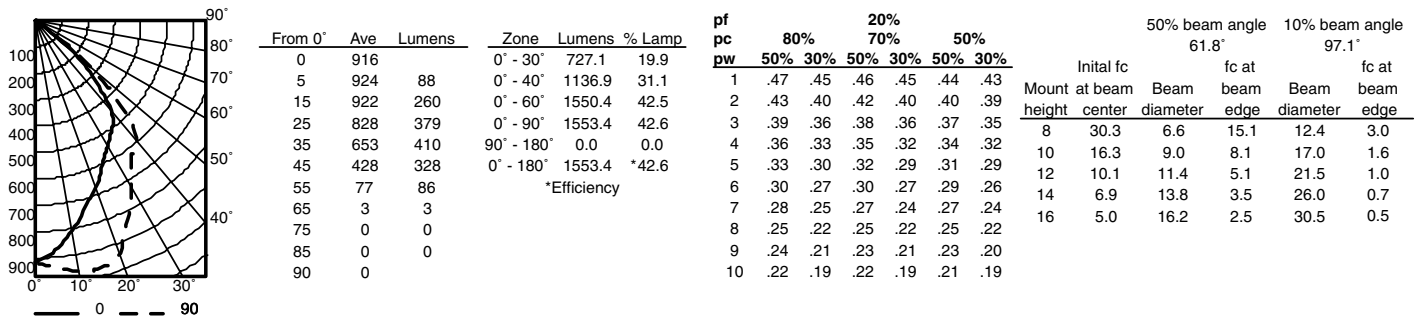
AF 2/18DTT 8AR, (2) CF18DD/E/835 lamp, 1250 total rated lumens, test no. LTL10614



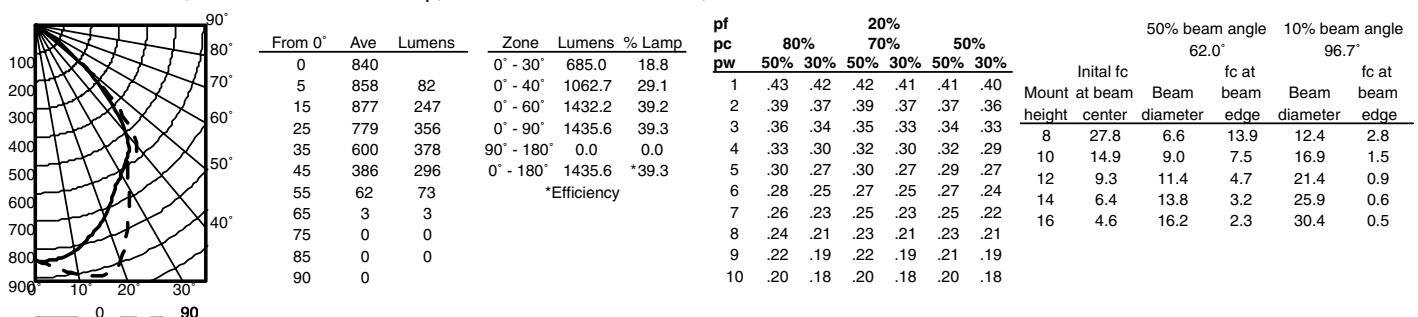
AF 2/26DTT 8AR, (2) CF26/DD/E/835 lamp, 1825 total rated lumens, test no. LTL10615



AF 2/26DTT 8BC, (2) CF26DD/E/835 lamp, 1825 total rated lumens, test no. LTL10946



AF 2/26DTT 8MB, (2) CF26DD/E/835 lamp, 1825 total rated lumens, test no. LTL10982



NOTES:

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

DCF-220

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DCF-220.p65

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LAMP C1

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97609 – F26DBX/841/ECO

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

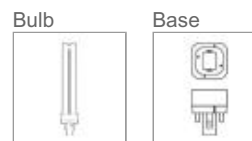


High Color Rendering
Energy Savings



GENERAL CHARACTERISTICS

Lamp type	Compact Fluorescent - Plug-In
Bulb	T4
Base	G24d-3
Wattage	26
Voltage	105
Rated Life	10000 hrs
Starting Temperature (MIN)	-9 °C (16 °F)
Cathode Resistance	2.700 Ohm
Additional Info	TCLP compliant
Primary Application	Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse



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PHOTOMETRIC CHARACTERISTICS

Initial Lumens	1710
Mean Lumens	1460
Nominal Initial Lumens per Watt	65
Color Temperature	4100 K
Color Rendering Index (CRI)	82

ELECTRICAL CHARACTERISTICS

Open Circuit Voltage Across Starter (MIN)	198 V
Lamp Current	0.325 A
Current Crest Factor (MAX)	1.7
Supply Current Frequency	60 Hz

DIMENSIONS

Maximum Overall Length (MOL)	6.6700 in (169.4 mm)
Nominal Length	6.700 in (170.1 mm)
Base Face to Top of Lamp	5.790 in (147.0 mm)

PRODUCT INFORMATION

Product Code	97609
Description	F26DBX/841/ECO

ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

Brochures

Product Brochures

- [Ecolux](#)

[Disposal Policies & Recycling Information](#)

ANSI Code	60901-IEC-0526-2
Standard Package	BUNDLE
Standard Package Quantity	50
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	50
UPC	043168976091

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
87700	GEM2CF24PH277	2	97.0	0.9

 CAUTIONS & WARNINGS

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

NOTES

- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life

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BALLAST C1

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47509 – C242UNVSE-IP

GE CFL Electronic Program / Rapid Start Ballast

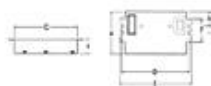


- Electronic compact fluorescent ballasts for all general fluorescent applications

- Low profile case

GENERAL CHARACTERISTICS

Application	2- 42 / 36 / 32 / 26 / 24 watt CFL UNV Side Exit
Category	Compact Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Series
Line Voltage Regulation (+/-)	10 %
Ambient Temperature (MAX)	122 °F (50 °C)
Case Temperature (MAX)	75 °C (167 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Additional Info	Auto-restart, Thermally protected, Universal voltage


[View Larger](#)

DIMENSIONS

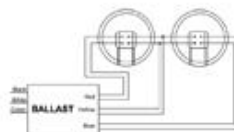
Case dimensions	
Length (L)	4 1/4 in (107.95 mm)
Width (W)	2.9 in (75.69 mm)
Height (H)	1 in (25.40 mm)
Mounting dimensions	
Bracket Length (BL)	4.9 in (125.47 mm)
Mount Length (M)	4.6 in (117.09 mm)
Mount Width (X or F)	1.5 in (39.37 mm)
Weight	0.90 lbs
Exit Type	Side
Remote mounting distance to lamp	12 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60
--------------------------	----------

PRODUCT INFORMATION

Product Code	47509
Description	C242UNVSE-IP
Standard Package	Master
Standard Package GTIN	30043168475090
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168475099








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SPECIFICATIONS BY LAMP & WATTAGE

Min.

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor % (>=)	Crest Factor (<=)	THD% (<=)	Starting Temp (°F/°C)	
FT55W/4P	1	120	46	0.38 A	0.83	1.80	99	1.7	10	0 / -18	System specs
	1	277	46	0.17 A	0.83	1.80	95	1.7	10	0 / -18	System specs
FT36W/4P	2	120	64	0.43 A	0.83	1.29	99	1.7	10	0 / -18	System specs
	2	277	64	0.19 A	0.83	1.29	97	1.7	10	0 / -18	System specs
FT24W/4P	2	120	51	0.43 A	1.02	2.0	95	1.7	10	0 / -18	System specs
	2	277	50	0.19 A	1.02	2.04	95	1.7	10	0 / -18	System specs
FC9T5-22W/4P	1	120	66	0.54 A	0.98	1.48	97	1.7	10	0 / -18	
	1	277	64	0.24 A	0.98	1.53	97	1.7	10	0 / -18	
	2	120	50	0.42 A	1.05	2.1	95	1.7	10	0 / -18	
	2	277	50	0.19 A	1.05	2.1	95	1.7	10	0 / -18	
FC12T5-55W/4P	1	120	44	0.36 A	0.83	1.88	99	1.7	10	0 / -18	
	1	277	43	0.17 A	0.83	1.93	93	1.7	10	0 / -18	
FC12T5-40W/4P	1	120	66	0.54 A	0.98	1.48	97	1.7	10	0 / -18	
	1	277	64	0.24 A	0.98	1.53	97	1.7	10	0 / -18	
	2	120	80	0.65 A	0.98	1.22	98	1.6	10	0 / -18	
	2	277	79	0.29 A	0.98	1.24	98	1.6	10	0 / -18	
CFTR70W/4P	1	120	73	0.61 A	1	1.36	98	1.6	10	0 / -18	System specs
	1	277	72	0.27 A	1	1.38	95	1.6	10	0 / -18	System specs
CFTR57W/4P	1	120	58	0.52 A	1	1.72	98	1.6	10	0 / -18	System specs
	1	277	57	0.20 A	1	1.75	98	1.6	10	0 / -18	System specs
CFTR42W/4P	1	120	45	0.4 A	1	2.22	93	1.6	10	0 / -18	System specs
	1	277	45	0.18 A	1	2.22	93	1.6	10	0 / -18	System specs
	2	120	91	0.76 A	0.98	1.07	98	1.6	10	0 / -18	System specs
	2	277	90	0.32 A	0.98	1.08	98	1.6	10	0 / -18	System specs
CFTR32W/4P	2	120	69	0.58 A	1	1.44	98	1.6	10	0 / -18	System specs
	2	277	67	0.26 A	1	1.49	98	1.6	10	0 / -18	System specs
CFTR26W/4P	2	120	56	0.46 A	1.02	1.82	95	1.6	10	0 / -18	System specs
	2	277	55	0.2 A	1.02	1.85	95	1.6	10	0 / -18	System specs
CFS28W/4P	2	120	64	0.54 A	1	1.56	97	1.6	10	0 / -18	System specs
	2	277	63	0.24 A	1	1.58	97	1.6	10	0 / -18	System specs
CFM36W/4P	1	120	33	0.28 A	0.98	2.96	99	1.7	15	0 / -18	
	1	277	33	0.14 A	0.98	2.96	90	1.7	15	0 / -18	
	2	120	68	0.57 A	0.9	1.32	95	1.7	10	0 / -18	
	2	277	67	0.24 A	0.9	1.34	95	1.7	10	0 / -18	

Safety & Performance

-  UL Type 1 Outdoor
-  UL Type HL
- FCC - CLASS A Non-Consumer
-  UL Class P
-  UL Type CC
-  UL Listed
-  CSA

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

NOTES

- 42W applications also operate on 125VDC input, (+)L (-)N

WARRANTY INFORMATION

GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.

[Download full warranty](#)

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

Application/Segment Brochures

- [Healthcare Lighting](#)
- [Office Lighting](#)
- [Retail Lighting](#)

Product Brochures

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

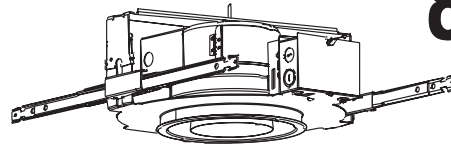
- Fixtures are UL listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

Type

Catalog number

FIXTURE C9

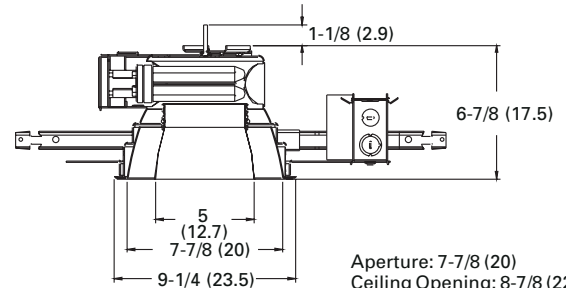
PDGF-1/32TRT-8AR-WHT-277



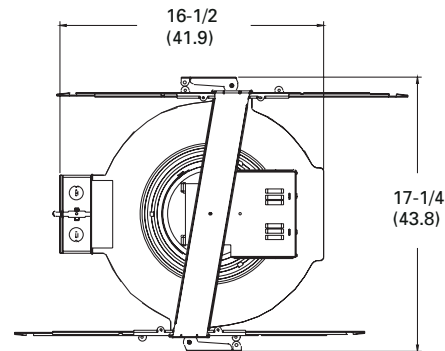
8 PDGF

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 ³	Options			
PDGF	1/18TRT	8AR Clear	(blank) Specular low iridescent	WHT Snow	MVOLT²	(blank) GEB10 standard. Electronic ballast.	WLP With 35°K lamp (shipped separately).			
	1/26TRT						GRN Sea	120	DMHL Lutron Hi-Lume electronic dimming ballast.	LRC⁴ Provides compatibility with Lithonia Reloc System.
	1/32TRT						LD Semi-diffuse low iridescent	BLU Sky		277
	1/42TRT							TAN Sand	347	ADEZ Advance Mark X electronic dimming ballast.
	1/57TRT¹		RIF Radio Interference Filter.							
	2/18TRT		ELR^{5,6} Emergency battery pack. Remote test switch provided.							
	2/26TRT		QDS Quick Disconnect for easy ballast replacement. Not available with ELR option.							
	2/32TRT		DS Dual switching.							
2/42TRT	GSKT 1/8" X 3/8" foam gasketing.									
	CSA Listed and labeled to comply with Canadian Standards.									
	CP⁶ Chicago Plenum.									
	CAL Clear acrylic lens. Covers opening of inner cone for use where an enclosed fixture is required.									

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.



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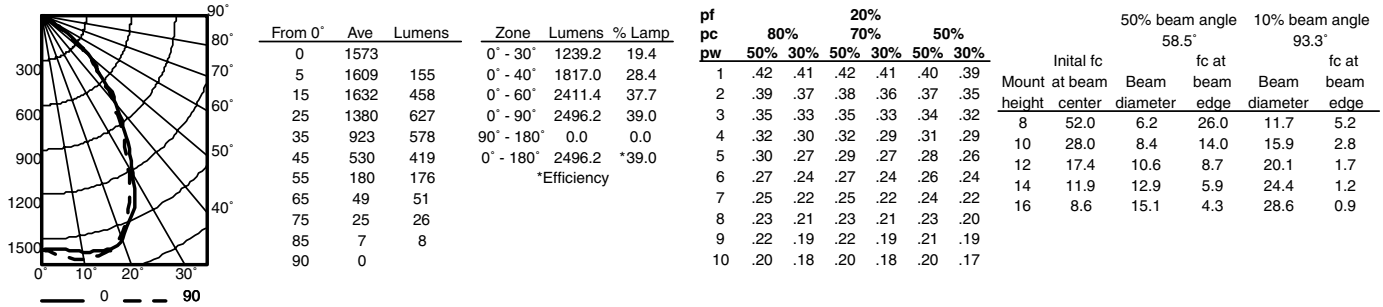
PDGF 8

DLCF-110

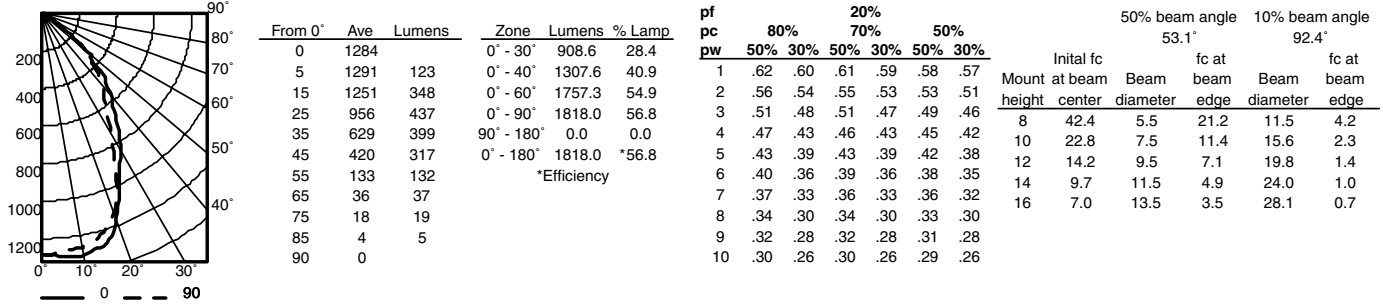
8" PDGF Open Reflector

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

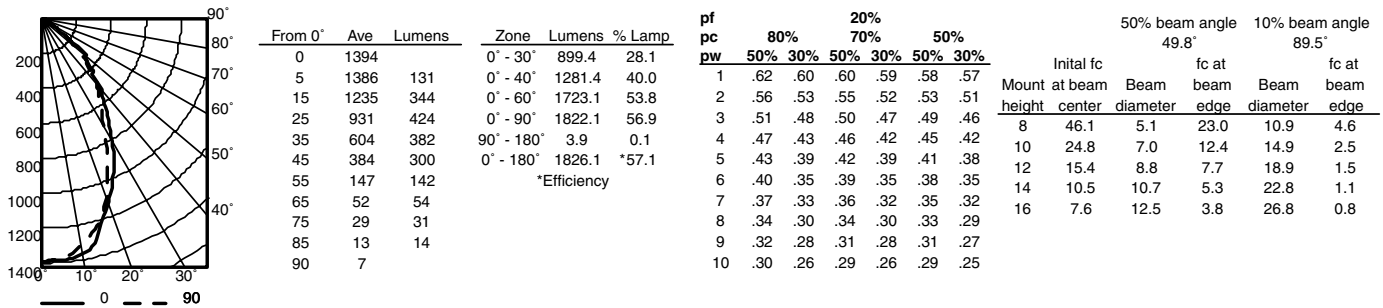
PDGF 2/42TRT 8AR WHT "CANDEO" CLEAR LENS, (2) CF42DT/E/IN/835, 3200 lumens per lamp, pos #1 (flush), test no. LTL11452



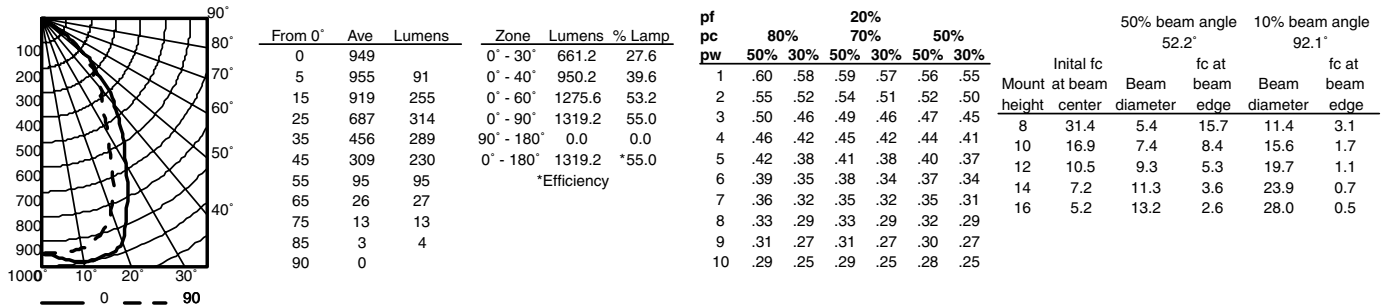
PDGF 1/42TRT 8AR WHT "CANDEO" CLEAR LENS, (1) CF42DT/E/IN/835, 3200 lumens per lamp, pos #1 (flush), test no. LTL11461



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:

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

DLCF-110

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LAMP C9

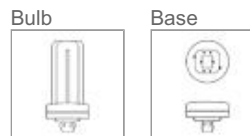

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97632 – F32TBX/841/A/ECO

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



High Color Rendering
Energy Savings


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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

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

Product Brochures

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

Sell Sheets

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

Disposal Policies & Recycling Information

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2200
Mean Lumens	1850
Nominal Initial Lumens per Watt	68
Color Temperature	4100 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

DIMENSIONS

Maximum Overall Length (MOL)	5.5000 in (139.7 mm)
Nominal Length	5.500 in (139.7 mm)
Base Face to Top of Lamp	4.900 in (124.4 mm)

PRODUCT INFORMATION

Product Code	97632
Description	F32TBX/841/A/ECO
ANSI Code	60901-IEC-7432-2
Standard Package	Case
Standard Package GTIN	10043168976326
Standard Package Quantity	10
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168976329

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
80689	C2642UNVSE-IP	1	98.0	1.0
47506	C242UNVBES-IP	2	98.0	1.0
80685	C2642UNVBE-IP	1	98.0	1.0
80687	C2642UNVBES-IP	1	98.0	1.0
47509	C242UNVSE-IP	2	98.0	1.0

⚠ CAUTIONS & WARNINGS

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

NOTES

- 4-Pin lamp minimum starting temperature is a function of the ballast. Most ballasts are rated with a minimum starting temperature of 50 degrees F (10 C). Ballasts are also available that provide reliable starting to 0 degrees F (-18C) and -20 F (-29C).
- Amalgam product experience stable brightness over a wider temperature range and in various operating positions.
- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life

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BALLAST C9

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80685 – C2642UNVBE-IP

GE CFL Electronic Program / Rapid Start Ballast

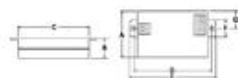


- Electronic compact fluorescent ballasts for all general fluorescent applications

- Low profile case

GENERAL CHARACTERISTICS

Application	2 or 1- CF 26 42w PS UNV
Category	Compact Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Series
Line Voltage Regulation (+/-)	10 %
Ambient Temperature (MAX)	122 °F (50 °C)
Case Temperature (MAX)	75 °C (167 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Additional Info	Auto-restart, Thermally protected, Universal voltage


[View Larger](#)

DIMENSIONS

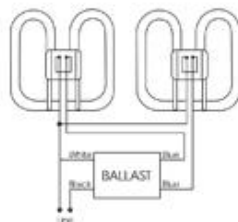
Case dimensions	
Length (L)	4 1/4 in (107.95 mm)
Width (W)	2.3 in (58.67 mm)
Height (H)	1 in (25.40 mm)
Mounting dimensions	
Bracket Length (BL)	4.9 in (125.47 mm)
Mount Length (M)	4.6 in (117.09 mm)
Mount Width (X or F)	0.9 in (24.89 mm)
Weight	0.57 lbs
Exit Type	Bottom
Remote mounting distance to lamp	12 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60
--------------------------	----------

PRODUCT INFORMATION

Product Code	80685
Description	C2642UNVBE-IP
Standard Package	Master
Standard Package GTIN	30043168806856
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168806855








[View Larger](#)

SPECIFICATIONS BY LAMP & WATTAGE

	Nom.	System Ballast	Power Crest	Min. Starting

Lamp	# of Lamps	Line Volts	System Watts	Line Current	Ballast Factor	Efficacy Factor	Factor % (>=)	Factor (<=)	THD% (<=)	Temp (°F/°C)	
FT24W/4P	1	120	30	0.26 A	0.9	3.0	95	1.6	10	0 / -18	System specs
	1	277	30	0.11 A	0.9	3.0	95	1.6	10	0 / -18	System specs
	2	120	52	0.45 A	0.85	1.63	95	1.6	10	0 / -18	System specs
	2	277	52	0.2 A	0.85	1.63	95	1.6	10	0 / -18	System specs
FC9T5-22W/4P	1	120	25	0.21 A	1	4.0	98	1.5	10	0 / -18	
	1	277	25	0.1 A	1	4.0	98	1.5	10	0 / -18	
FC12T5-40W/4P	1	120	42	0.35 A	0.98	2.33	98	1.5	10	0 / -18	
	1	277	42	0.16 A	0.98	2.33	98	1.5	10	0 / -18	
CFTR42W/4P	1	120	48	0.41 A	0.98	2.04	98	1.5	10	0 / -18	System specs
	1	277	48	0.18 A	0.98	2.04	98	1.5	10	0 / -18	System specs
CFTR32W/4P	1	120	36	0.3 A	1	2.77	98	1.5	10	0 / -18	System specs
	1	277	36	0.13 A	1	2.77	98	1.5	10	0 / -18	System specs
CFTR26W/4P	1	120	28	0.25 A	1.02	3.64	98	1.5	10	0 / -18	System specs
	1	277	28	0.11 A	1.02	3.64	98	1.5	10	0 / -18	System specs
	2	120	56	0.47 A	0.98	1.75	98	1.5	10	0 / -18	System specs
	2	277	56	0.21 A	0.98	1.75	98	1.5	10	0 / -18	System specs
CFS38W/4P	1	120	33	0.27 A	0.8	2.42	95	1.6	10	0 / -18	System specs
	1	277	33	0.12 A	0.8	2.42	95	1.6	10	0 / -18	System specs
CFS28W/4P	1	120	31	0.27 A	0.95	3.06	95	1.6	10	0 / -18	System specs
	1	277	31	0.12 A	0.95	3.06	95	1.6	10	0 / -18	System specs
CFM36W/4P	1	120	32	0.27 A	0.98	3.06	98	1.7	10	0 / -18	
	1	277	32	0.12 A	0.98	3.06	98	1.7	10	0 / -18	

Safety & Performance

-  UL Type 1 Outdoor
-  UL Type HL
- FCC - CLASS A Non-Consumer
-  UL Class P
-  UL Type CC
-  UL Listed
-  CSA

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

NOTES

- Also operates on 125VDC input, (+)L (-)N
- Suitable for use in air handling spaces when NEC wiring guidelines are followed

WARRANTY INFORMATION

GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.

[Download full warranty](#)

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

Application/Segment Brochures

- [Healthcare Lighting](#)
- [Office Lighting](#)
- [Retail Lighting](#)

Product Brochures

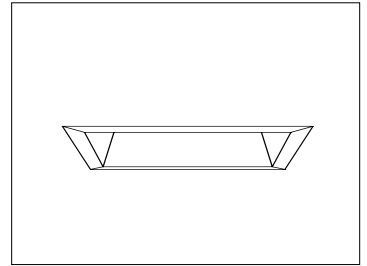
- [Industrial Lighting](#)

[Disposal Policies & Recycling Information](#)

Photos are representational only. Sizes, shapes and labels of ballast may vary.

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Open Appearance Rectangle



Features

Lamp

- Designed for one 4-pin triple/four tube amalgam compact fluorescent lamp: 57W triple/four tube.

Ballast: Multi-Voltage

- Electronic high power factor, thermally protected. For lower wattages: Option -43.
- 120-277 multi-volt; 50/60 Hz.
- ClickQuick connectors for easy service.
- Cold weather -22°F (-30°C).
- End of lamp life protection circuit. RFI filter. THD less than 10%.
- Internally fused. Also see Option -FS.

Reflectors

- Upper: Specular Alzak® aluminum.
- Lower: Clear SofTex aluminum, self-flanged.
- See Options for other finishes.
- MicroLux tempered microprismatic lens mounted above trim.

Aluminum Housing

- Acrylic enameled. Rustproof: Exceeds 1000 hour ASTM 5% salt spray test.
- Lightweight: Minimizes ceiling load.
- Cool operation: Extends component life.
- Entire luminaire serviced through aperture.
- Built-in plaster frame.

Outlet Box

- Prewired 14 GA (NEC) galvanized steel, UL listed. 1/2" and 3/4" knockouts.

Installation

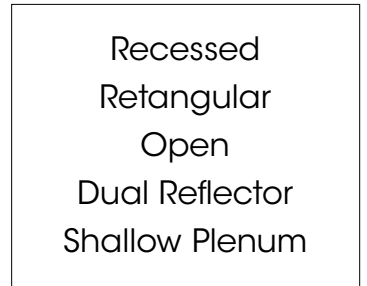
- 27" galvanized hanger bars with adjustable mounting brackets (2) supplied.
- Recesses indoor or outdoor in covered locations.

UL, C-UL (Canada) Listings

- Wet, damp or dry locations, covered ceilings.
- Through-branch conductors (6 #12).

Three Year Limited Warranty

- Complete standard fixture and ballast.

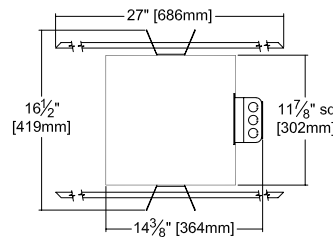
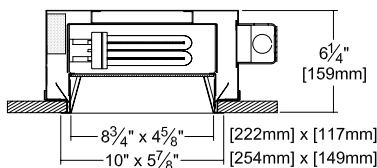


Selected Optional Trims:

- All White Option -30
- SofTex Titanium Option -57
- SofTex Dune Option -71
- SofTex Pewter Option -77
- SofTex Wheat Option -91
- Corrugated Option -CG

Performance at a Glance

FRT-04092



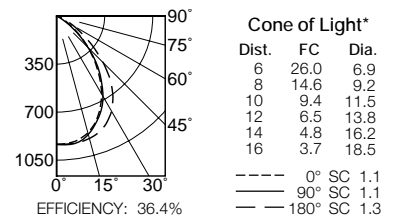
Ceiling Cut-out
5 1/4" x 9 1/2"

Cone of Light Key

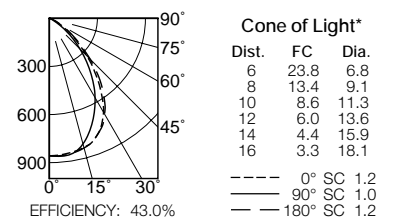
- Ft. Distance from fixture
- FC Footcandles (average)
- Dia. Circle of light at 50% of FC

* Dia. (in ft.) shown is where FC value is half the FC at nadir.

FRT-04092 (1 Triple 57W)



FRT-04092-43 (1 Triple 42W)



THE KIRLIN COMPANY

3401 EAST JEFFERSON AVENUE • DETROIT, MICHIGAN 48207-4232
(313) 259-6400 • Fax: (313) 259-9409 OR (313) 259-3121 • www.kirlinlighting.com

RENAISSANCE SERIES
COMPACT FLUORESCENT LIGHTING

MAXIMUM WATTAGE

1 Triple 57

CATALOG NUMBER

FRT-04092

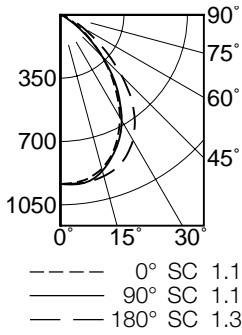
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Alzak® is a registered trademark of ALCOA.

Detailed Photometry - Installed Fixture

Photometry from I.T.L., Boulder, CO

FRT-04092 (1 Triple 57)



EFFICIENCY : 36.4%

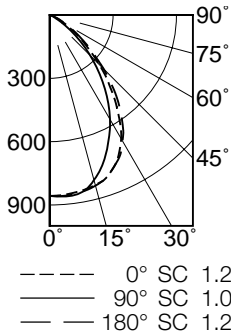
CANDLEPOWER DISTRIBUTION					
	0.0	45.0	90.0	135.0	180.0
0	935	935	935	935	935
5	930	937	941	941	936
15	881	903	892	923	923
25	747	779	764	829	860
35	545	572	563	661	715
45	327	316	323	408	480
55	142	115	116	162	233
65	44	27	23	38	78
75	10	6	5	8	8
85	3	2	1	2	2
90	0	0	0	0	0

COEFFICIENTS OF UTILIZATION							
RF	20						
RC	80			50			
RW	70	50	30	10	50	30	10
1	41	40	39	38	37	37	36
2	38	36	34	33	34	33	32
3	36	33	30	29	31	29	28
4	33	30	27	25	29	26	25
5	31	27	25	23	26	24	22
6	29	25	22	20	24	22	20
7	27	23	20	18	22	20	18
8	25	21	19	17	21	18	17
9	24	20	17	15	19	17	15
10	23	18	16	14	18	16	14

ITL TEST #55735 *LER=25.8 •AEC=\$9.29

* LER = Luminaires Efficiency Rating
LER = Luminaire Effic. x Total Lamp Lumens x Ballast Factor
Input Watts

FRT-04092-43 (1 Triple 42)



EFFICIENCY : 43.0%

CANDLEPOWER DISTRIBUTION					
	0.0	45.0	90.0	135.0	180.0
0	857	857	857	857	857
5	854	858	863	864	859
15	833	837	809	842	837
25	757	737	660	729	761
35	564	547	470	532	594
45	332	303	273	296	362
55	147	113	103	108	161
65	45	27	19	28	50
75	9	6	5	6	9
85	2	2	2	2	2
90	0	0	0	0	0

COEFFICIENTS OF UTILIZATION							
RF	20						
RC	80			50			
RW	70	50	30	10	50	30	10
1	48	47	45	44	44	43	42
2	45	43	40	39	40	39	37
3	42	39	36	34	37	35	33
4	39	35	32	30	34	32	30
5	37	32	29	27	31	29	27
6	34	30	27	24	29	26	24
7	32	27	24	22	27	24	22
8	30	25	22	20	25	22	20
9	29	24	21	19	23	20	18
10	27	22	19	17	21	19	17

ITL TEST #55734 *LER=31.9 •AEC=\$7.52

* AEC = Annual Energy Cost per
1000 lumens (based on 3000
hours use @ \$0.08 KW/H).

Options

Ballast, Wattage and Voltage

- 39 Installed electronic dimming ballast. Indoor use only. 10°C (50°F) minimum start. Please specify wattage and voltage; consult factory to request brand.
- 43 Lower wattage. For 4-pin 42/32/26W triple or 26W quad (multi-wattage/voltage). Specify wattage.
- 75 Remote emergency battery pack with test switch and indicator light. Damp location. Ambient temp. limits: 0° to 50°C (32° to 122°F). Specify voltage. Also see -CE.
- 97 Specify other voltage. Consult factory.

- 98 347 volt, 50/60 Hz. input. Consult factory.
- CE Cold weather remote emergency battery pack with test switch and indicator light. Damp location. Ambient temp. limits: -20° to 55°C (-4° to 131°F). Specify voltage.

Lenses and Trims

- 30 All white lower trim. (CP x .95)
- 31 White acrylic enameled lower trim flange.
- 32 White oversize trim extender. Specify size.
- 45 Gasket between ceiling and trim flange.
- 57 SoftTex Titanium lower trim. (CP x .80)
- 71 SoftTex Dune lower trim. (CP x .88)
- 77 SoftTex Pewter lower trim. (CP x .85)

- 79 Extension collar for ceilings up to 2" thick.
- 90 SoftTex Champagne Gold lower trim. (CP x .91)
- 91 SoftTex Wheat lower trim. (CP x .87)
- 94 Custom color/finish. Specify. Consult factory.
- CG Corrugated SoftTex Clear lower trim.

Other

- 99 Special modification. Consult factory.
- FS Additional in-line fuse.
- LE With 4-pin electronic lamp. 3500°K standard. 82 CRI and 12,000 hour life. Specify wattage, style and color temperature.

SUBMITTAL DATA

APPROVAL STAMP

JOB NAME _____
 TYPE _____
 WATTAGE _____ VOLTAGE _____
 CATALOG NUMBER _____

LIMITED WARRANTY: CATALOGED KIRLIN FIXTURES ARE WARRANTED FREE OF DEFECTS IN WORKMANSHIP OR MATERIAL FOR THREE YEARS FROM DATE OF PURCHASE. INSTALLLED TO N.E.C. IN NORMAL USE. Manufacturer at its option will replace or repair such fixture or refund the purchase price on presentation of proof of purchase and defective fixture at the offices of manufacturer within three years of original shipment. Liability of manufacturer is limited to the foregoing, and manufacturer shall not be liable for any other damages, direct or indirect, sustained or suffered by purchaser or any person. This warranty is applied to the buyer in place of all other warranties, expressed or implied. Seller does not warrant as to merchantability or fitness for a particular use, nor will any oral statement constitute a warranty or amend this specific warranty. Abnormal use, abuse of the fixture, improper installation, or repair, or modification of the fixture without prior written authorization from the manufacturer will void the warranty. 10/01

LAMP C10D

GE Consumer & Industrial
Lighting

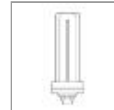
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97636 – F42TBX/841/A/ECO

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

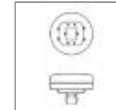


High Color Rendering
Energy Savings

Bulb



Base



[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

ADDITIONAL RESOURCES**Catalogs****Testimonials****Brochures**

Product Brochures

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

Sell Sheets

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

Disposal Policies & Recycling Information**PHOTOMETRIC CHARACTERISTICS**

Initial Lumens	3200
Mean Lumens	2690
Nominal Initial Lumens per Watt	76
Color Temperature	4100 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

DIMENSIONS

Maximum Overall Length (MOL)	6.4000 in (162.5 mm)
Nominal Length	6.400 in (162.5 mm)
Base Face to Top of Lamp	5.770 in (146.5 mm)

PRODUCT INFORMATION

Product Code	97636
Description	F42TBX/841/A/ECO
ANSI Code	60901-IEC-7442-2
Standard Package	Case
Standard Package GTIN	10043168976364
Standard Package Quantity	10
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168976367

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
80689	C2642UNVSE-IP	1	98.0	0.98
47506	C242UNVBES-IP	1	93.0	1.0
80685	C2642UNVBE-IP	1	98.0	0.98
80687	C2642UNVBES-IP	1	98.0	0.98
47509	C242UNVSE-IP	1	93.0	1.0

⚠ CAUTIONS & WARNINGS

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

NOTES

- 4-Pin lamp minimum starting temperature is a function of the ballast. Most ballasts are rated with a minimum starting temperature of 50 degrees F (10 C). Ballasts are also available that provide reliable starting to 0 degrees F (-18C) and -20 F (-29C).
- Amalgam product experience stable brightness over a wider temperature range and in various operating positions.
- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life

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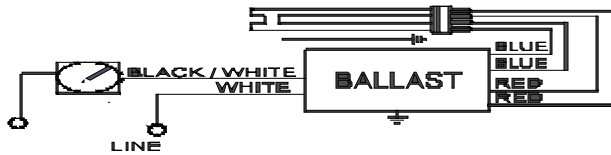
BALLAST C10D

REZ-1T42-M2-BS	
Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
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)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
CFQ26W/G24Q	1	26	50/10	0.26	08/31	0.05/1.00	10	0.98	1.6	3.23
CFTR26W/GX24Q	1	26	50/10	0.26	08/31	0.05/1.00	10	0.98	1.6	3.23
CFTR32W/GX24Q	1	32	50/10	0.32	09/38	0.05/1.00	10	0.98	1.6	2.63
* CFTR42W/GX24Q	1	42	50/10	0.41	10/49	0.05/1.00	10	0.99	1.6	2.04

Wiring Diagram

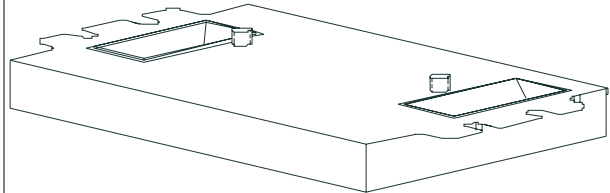


Diag. 134

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

Standard Lead Length (inches)

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	3.00 "	1.29 "	2.00 "
4 49/50	3	1 29/100	2
12.6 cm	7.6 cm	3.3 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.

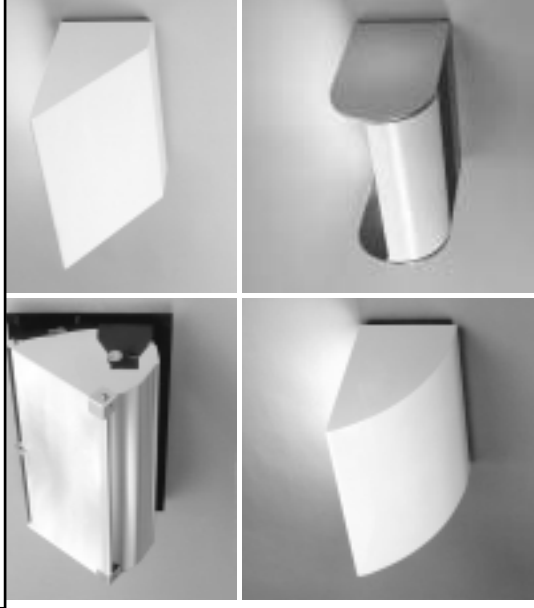
ADVANCE

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

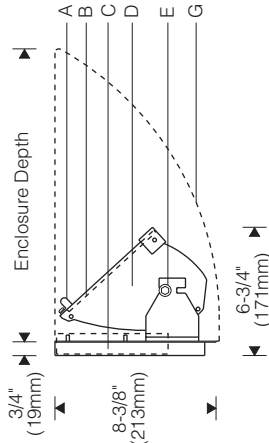
FIXTURE D2

F-406-H242W-00-2-00-0

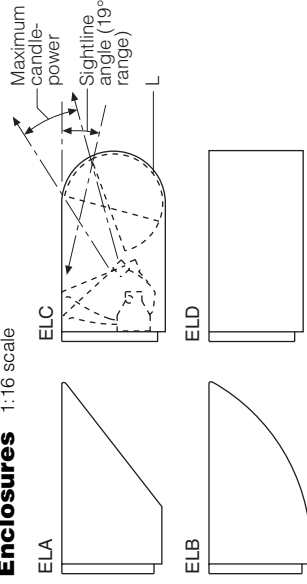
ELA*-000



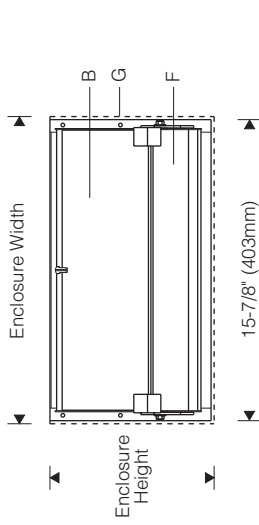
Base Unit 1:10 scale



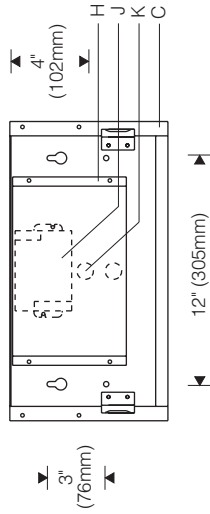
Enclosures 1:16 scale



For enclosure dimensions, see ordering information on reverse side.



Mounting Plate



Specifications

- A** Lens retainer clip
- D** Stamped specular aluminum end plates
- B** Lay-in micro-prismatic tempered glass lens
- E** Beveled spring washers
- C** Formed aluminum yoke/mounting plate (forms reveal at wall)
- F** Specular extruded aluminum reflector

- G** Seam welded CRS sconce enclosure (ordered separately)
- J** Integral electronic ballast
- H** Aluminum ballast/wire splice cover
- K** 7/8" dia. conduit entry (2) (ordered separately)
- L** Rotating semi-cylindrical front (allows sightline and aiming angles to vary)

Finish:

Bright clear anodized aluminum reflector and end plates; black yoke/mounting plate and ballast cover. (Enclosure finish specified separately.)

Painted surfaces - 6 stage pretreatment and electrostatically applied thermoset powdercoat for stable, long lasting and corrosion resistant finish.

Reflector and internal end plates - extruded high purity aluminum with clear anodized specular finish. All luminaire hardware - stainless steel.

Mounting:

Mounting plate fastens to suitable structure, and supports enclosure (ordered separately). For pendant mounting, mounting plate attaches to accessory pendant assembly (ordered separately).

Standard:

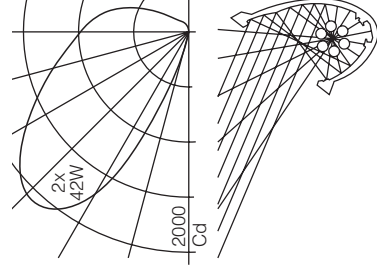
UL listed or CSA certified for damp locations. (Style F152 painted model with gasketed lens recommended for damp location use; see Outdoor Section.) Suitable for upright orientation only.

Features

- Compact fluorescent uplights scaled for 8' to 12' ceilings
- Integral electronic ballast - ideal low energy, great color, long life incandescent substitute; dimming optional
- Choice of crisp geometric enclosures or design your own
- Adjustable - beveled spring washers secure aiming
- Unique ELC sconce - adjustable shielding and aiming

Performance

Two parabolic reflector sections drive light across the ceiling from one edge. An elliptical section shields the lamp from normal viewing angles and redirects its light to a parabola. Glare is minimized and asymmetry of the beam is maximized resulting in high beam efficiency and superior surface uniformity.



For complete photometrics, see www.elliptipar.com

elliptipar



To Order

To form a Catalog Number

F 4 0 6 - [] - W - 0 0 - [] - [] - [] - [] - [] - []

1 Source

F = Hex tube compact fluorescent

2 Style

406 = Large **Ensonce**® base unit, integral ballast

3 Lamp

Lamp Code	Wattage	Lamp Number
Hex Tube Compact Fluorescent		
H132	1x32W	FM32W/GX24q-3
H232	2x32W	(2) FM32W/GX24q-3
H142	1x42W	FM42W/GX24q-4
H242	2x42W	(2) FM42W/GX24q-4

For complete lamp and ballast information, see Accessories Section. Standard hex tube lamp color is 3000K / 80+ CRI.

4 Mounting

W = Wall mounting plate

5 Finish

00 = Bright clear anodized reflector and end plates. Black mounting plate.

Note: Specify enclosure finish separately.

6 Voltage/Ballast

Electronic

Dimming
 T = 120V
 V = 277V
 3 = 347V (Canada)

7 Option

(see Accessories Section for specifications)
 00 = No options
 0E = Remote emergency battery pack. Maximum distance from battery pack to fixture is 8' (2.4m).
 Note: Not for use with dimming (voltage codes T or V).

Project:

8 Standard

0 = UL, Underwriters Laboratories
 J = CSA, Canadian Standards Association

Example

F406 - H242 - W - 00 - 1 - 000

Large **Ensonce**® base unit with two 42W hex tube compact fluorescent lamps (3000K lamps included). Wall mounting plate. Bright anodized reflector and end plates, black mounting plate. Integral 120V electronic ballast. UL. (Order enclosure separately.)

Accessories

Order separately. See Accessories Section for specifications.

EPL02 - [] - [] - [] = Large pendant assembly

0 = UL

J = CSA

36 = 36" length

60 = 60" length

S = Surface mounting frame

C = Concealed mounting frame

1 = 1 light/2 stem

2 = 2 light/2 stem

3 = 3 light/4 stem

4 = 4 light/4 stem

EQL [] - 4S [] = Large 4-way single-stem pendant assembly

0 = UL

J = CSA

36 = 36" length

60 = 60" length

01 = Brushed anodized stem

02 = Semi-gloss white stem

Ensonce® Style 406

Type:

Enclosures

Order separately. See Accessories Section for specifications.

ELA [] 000 A

16" width x
 8-9/16" height x
 15-1/4" depth*

ELB [] 000 A

16" width x
 8-9/16" height x
 15-1/4" depth*

ELC [] 000 A

16-1/2" width x
 8-3/4" height x
 15" depth*

ELD [] 000 A

16" width x
 8-9/16" height x
 15-1/4" depth*

*Add 3/4" (19mm) for reveal at wall.

A Enclosure Finish

02 = Semi-gloss white

06 = Dark bronze*

07 = Silver*

08 = Semi-gloss black*

12 = Green*

99 = Custom RAL or computer matched color to be specified, consult sales representative.

* Non-white enclosures supplied with white finished interior surfaces.

APG00020 = Wire paper guard

(not available for Style ELC enclosure)

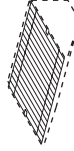
ABA08020 = Enclosure backslash shield

includes sawtooth baffle

and black interior finish to

minimize light on wall behind

(not available for Style ELC enclosure)



elliptipar

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 Voice 203.931.4455 • Fax 203.931.4464 • www.elliptipar.com

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LAMP D2

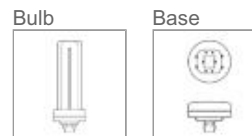
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97636 – F42TBX/841/A/ECO

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	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

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

Product Brochures

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

Sell Sheets

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

Disposal Policies & Recycling Information

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	3200
Mean Lumens	2690
Nominal Initial Lumens per Watt	76
Color Temperature	4100 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

DIMENSIONS

Maximum Overall Length (MOL)	6.4000 in (162.5 mm)
Nominal Length	6.400 in (162.5 mm)
Base Face to Top of Lamp	5.770 in (146.5 mm)

PRODUCT INFORMATION

Product Code	97636
Description	F42TBX/841/A/ECO
ANSI Code	60901-IEC-7442-2
Standard Package	Case
Standard Package GTIN	10043168976364
Standard Package Quantity	10
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168976367

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
80689	C2642UNVSE-IP	1	98.0	0.98
47506	C242UNVBES-IP	1	93.0	1.0
80685	C2642UNVBE-IP	1	98.0	0.98
80687	C2642UNVBES-IP	1	98.0	0.98
47509	C242UNVSE-IP	1	93.0	1.0

⚠ CAUTIONS & WARNINGS

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

NOTES

- 4-Pin lamp minimum starting temperature is a function of the ballast. Most ballasts are rated with a minimum starting temperature of 50 degrees F (10 C). Ballasts are also available that provide reliable starting to 0 degrees F (-18C) and -20 F (-29C).
- Amalgam product experience stable brightness over a wider temperature range and in various operating positions.
- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life

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BALLAST D2

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47506 – C242UNVBES-IP

GE CFL Electronic Program / Rapid Start Ballast

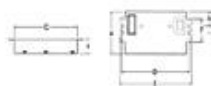


- Electronic compact fluorescent ballasts for all general fluorescent applications

- Low profile case

GENERAL CHARACTERISTICS

Application	2- 42 / 36 / 32 / 26 / 24 watt CFL UNV Bottom Exit w Studs
Category	Compact Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Series
Line Voltage Regulation (+/-)	10 %
Ambient Temperature (MAX)	122 °F (50 °C)
Case Temperature (MAX)	75 °C (167 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Additional Info	Auto-restart, Thermally protected, Universal voltage


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DIMENSIONS

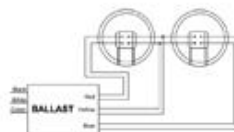
Case dimensions	
Length (L)	4 1/4 in (107.95 mm)
Width (W)	2.9 in (75.69 mm)
Height (H)	1 in (25.40 mm)
Mounting dimensions	
Bracket Length (BL)	4.9 in (125.47 mm)
Mount Length (M)	4.6 in (117.09 mm)
Mount Width (X or F)	1.5 in (39.37 mm)
Weight	0.90 lbs
Exit Type	Bottom
Remote mounting distance to lamp	12 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60
--------------------------	----------

PRODUCT INFORMATION

Product Code	47506
Description	C242UNVBES-IP
Standard Package	Master
Standard Package GTIN	30043168475069
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168475068








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SPECIFICATIONS BY LAMP & WATTAGE

	Nom.	System Ballast	Power Crest	Min. Starting

Lamp	# of Lamps	Line Volts	System Watts	Line Current	Ballast Factor	Efficacy Factor	Factor % (>=)	Factor (<=)	THD% (<=)	Temp (°F/°C)	
FT55W/4P	1	120	46	0.38 A	0.83	1.80	99	1.7	10	0 / -18	System specs
	1	277	46	0.17 A	0.83	1.80	95	1.7	10	0 / -18	System specs
FT36W/4P	2	120	64	0.43 A	0.83	1.29	99	1.7	10	0 / -18	System specs
	2	277	64	0.19 A	0.83	1.29	97	1.7	10	0 / -18	System specs
FT24W/4P	2	120	51	0.43 A	1.02	2.0	95	1.7	10	0 / -18	System specs
	2	277	50	0.19 A	1.02	2.04	95	1.7	10	0 / -18	System specs
FC9T5-22W/4P	1	120	66	0.54 A	0.98	1.48	97	1.7	10	0 / -18	
	1	277	64	0.24 A	0.98	1.53	97	1.7	10	0 / -18	
	2	120	50	0.42 A	1.05	2.1	95	1.7	10	0 / -18	
	2	277	50	0.19 A	1.05	2.1	95	1.7	10	0 / -18	
FC12T5-55W/4P	1	120	44	0.36 A	0.83	1.88	99	1.7	10	0 / -18	
	1	277	43	0.17 A	0.83	1.93	93	1.7	10	0 / -18	
FC12T5-40W/4P	1	120	66	0.54 A	0.98	1.48	97	1.7	10	0 / -18	
	1	277	64	0.24 A	0.98	1.53	97	1.7	10	0 / -18	
	2	120	80	0.65 A	0.98	1.22	98	1.6	10	0 / -18	
	2	277	79	0.29 A	0.98	1.24	98	1.6	10	0 / -18	
CFTR70W/4P	1	120	73	0.61 A	1	1.36	98	1.6	10	0 / -18	System specs
	1	277	72	0.27 A	1	1.38	95	1.6	10	0 / -18	System specs
CFTR57W/4P	1	120	58	0.52 A	1	1.72	98	1.6	10	0 / -18	System specs
	1	277	57	0.20 A	1	1.75	98	1.6	10	0 / -18	System specs
CFTR42W/4P	1	120	45	0.4 A	1	2.22	93	1.6	10	0 / -18	System specs
	1	277	45	0.18 A	1	2.22	93	1.6	10	0 / -18	System specs
	2	120	91	0.76 A	0.98	1.07	98	1.6	10	0 / -18	System specs
	2	277	90	0.32 A	0.98	1.08	98	1.6	10	0 / -18	System specs
CFTR32W/4P	2	120	69	0.58 A	1	1.44	98	1.6	10	0 / -18	System specs
	2	277	67	0.26 A	1	1.49	98	1.6	10	0 / -18	System specs
CFTR26W/4P	2	120	56	0.46 A	1.02	1.82	95	1.6	10	0 / -18	System specs
	2	277	55	0.2 A	1.02	1.85	95	1.6	10	0 / -18	System specs
CFS28W/4P	2	120	64	0.54 A	1	1.56	97	1.6	10	0 / -18	System specs
	2	277	63	0.24 A	1	1.58	97	1.6	10	0 / -18	System specs
CFM36W/4P	1	120	33	0.28 A	0.98	2.96	99	1.7	15	0 / -18	
	1	277	33	0.14 A	0.98	2.96	90	1.7	15	0 / -18	
	2	120	68	0.57 A	0.9	1.32	95	1.7	10	0 / -18	
	2	277	67	0.24 A	0.9	1.34	95	1.7	10	0 / -18	

Safety & Performance

-  UL Type 1 Outdoor
-  UL Type HL
- FCC - CLASS A Non-Consumer
-  UL Class P
-  UL Type CC
-  UL Listed
-  CSA

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

NOTES

- 42W applications also operate on 125VDC input, (+)L (-)N

WARRANTY INFORMATION

GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.

[Download full warranty](#)

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

- Application/Segment Brochures
 - [Healthcare Lighting](#)
 - [Office Lighting](#)
 - [Retail Lighting](#)
- Product Brochures
 - [Industrial Lighting](#)

RECESSED PAR30 TRIMLESS

fixture H1
CO1800ISTR-WH-DG



COMBOLIGHT® CO Series

FOUR (4) Light Recessed
Trimless Multi-Lamp Luminaire
PAR30 Line Voltage
New Construction

DESCRIPTION:

An adjustable PAR30 fixture suitable for multiple downlighting applications with one point of electrical entry. Powder coat finish on housing & lamp assembly.

CONSTRUCTION:

Housing, Plaster Frame & Trim Assembly: 18 gauge CRS. J-Box Assembly: 16 gauge CRS (galvanized). Perforated mesh plaster frame adheres to ceiling compound for seamless trimless mounting. Beveled fixture opening provides easy mudding compound application. Can accommodate 0.50" to 1.25" ceiling thickness.

LAMP ASSEMBLY:

4 - PAR30 lamps mounted in adjustable bezels. Each lamp can accept up to two optical accessories. 380° x 45° locking adjustment. Provides 45° visual cut-off.

SYSTEM PROTECTION:

Thermal protection provided to guard against overheating, and misuse of insulation over and around fixture. Vent holes in housing provide cooler operation

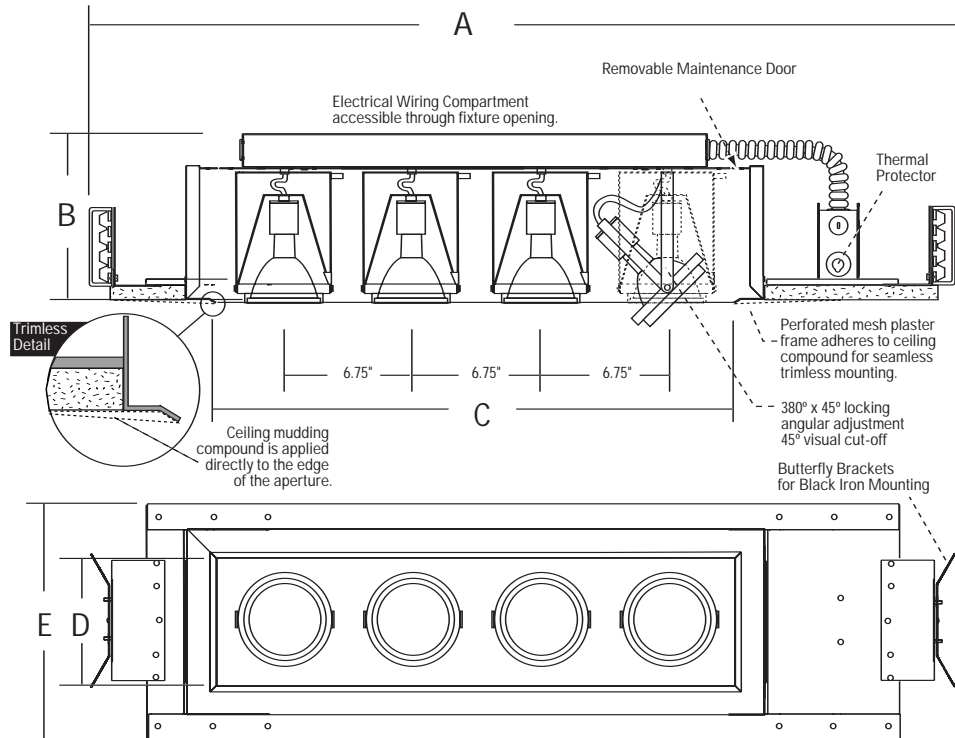
ELECTRICAL:

Junction box is UL listed for through branch wiring. (access above ceiling not required) for 8 #12, 90°C supply conductors or 60°C for end of run. J-Box and wiring accessible through ceiling opening via access doors at either end of the fixture.

All ComboLight CO Trimless fixtures are New York Calendar Numbered.

ALL RSA COMBOLIGHT PRODUCTS
ARE MADE IN THE U.S.A.

Dimensions	A	B	C	D	E	Ceiling Cut-Out
	Overall Length	Overall Height	Aperture Length	Aperture Width	Overall Width	
	44.69"	7.26"	27.89"	6.50"	12.13"	31.19" x 9.76"



Not for use with "Long Neck"
PAR30 lamps



Other Address
CC - Two Circuit
CP - Chicago Plenum

ORDERING EXAMPLE: **CO1800ISTR BK YK**

= Four Light Recessed PAR30 Trimless - Black Interior - Regular Yoke Lamp Holder

Optional Accessories - Details on Other Side

Baffle	Snoots	Louvers	Lenses

Cat. # / Description	Interior Finish	Lamp Holder
CO1800ISTR : 4 Light Recessed Trimless Combo PAR30 120V	BK - Black	YK - Regular Yoke (Standard)
	WH - White	RT - Retractable Yoke
	S - Silver	DG - Double Gimbal
	PT - Custom (Specify)	

SPECIFY -

CO1800ISTR



GE Consumer & Industrial
Lighting

LAMP H1 PAR30 50WFL

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19903 – 50PAR30/HIR/FL35

GE PAR30



Energy Savings

GENERAL CHARACTERISTICS

Lamp type	Halogen - PAR
Bulb	PAR30
Base	Medium NP
Filament	CC-8
Wattage	50/46
Voltage	130/120
Rated Life	3000 hrs/6000
Primary Application	Ceiling Fan

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	825/320
Center Beam Candlepower (CBCP)	2700
Color Temperature	2810 K
Nominal Initial Lumens per Watt	16

DIMENSIONS

Maximum Overall Length (MOL)	3.6200 in (91.9 mm)
Bulb Diameter (DIA)	3.750 in (95.2 mm)

PRODUCT INFORMATION

Product Code	19903
Description	50PAR30/HIR/FL35
Standard Package	Case
Standard Package GTIN	00043168199032
Standard Package Quantity	15
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	15
UPC	043168970495

CAUTIONS & WARNINGS

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



Bulb



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ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

Brochures

Product Brochures

- [Halogen Lamps](#)

[IES/Photometric Download](#)

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

[Disposal Policies & Recycling Information](#)

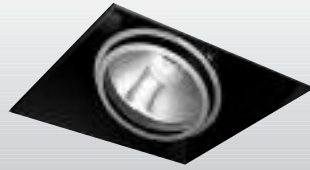
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RECESSED PAR38 TRIMLESS

FIXTURE H2 CO3810ISTR-WH-DG

COMBOLIGHT® CO Series

ONE (1) Light Recessed Trimless Luminaire
PAR38 Line Voltage
New Construction



DESCRIPTION:

An adjustable PAR38 fixture suitable for multiple downlighting applications with one point of electrical entry. Powder coat finish on housing lamp assembly.

CONSTRUCTION:

Housing Plaster frame Trim Assembly 8 gauge CR . -Box Assembly 6 gauge CR galvanized. Perforated mesh plaster frame adheres to ceiling compound for seamless trimless mounting. Beveled fixture opening provides easy mudding compound application. Can accommodate 0.50 to .5 ceiling thickness.

LAMP ASSEMBLY:

- PAR38 lamp mounted in adjustable bevel. Lamp can accept up to two optical accessories. 380° x 45° locking adjustment. Provides 45° visual cut-off.

SYSTEM PROTECTION:

Thermal protection provided to guard against overheating and misuse of insulation over and around fixture. Vent holes in housing provide cooler operation.

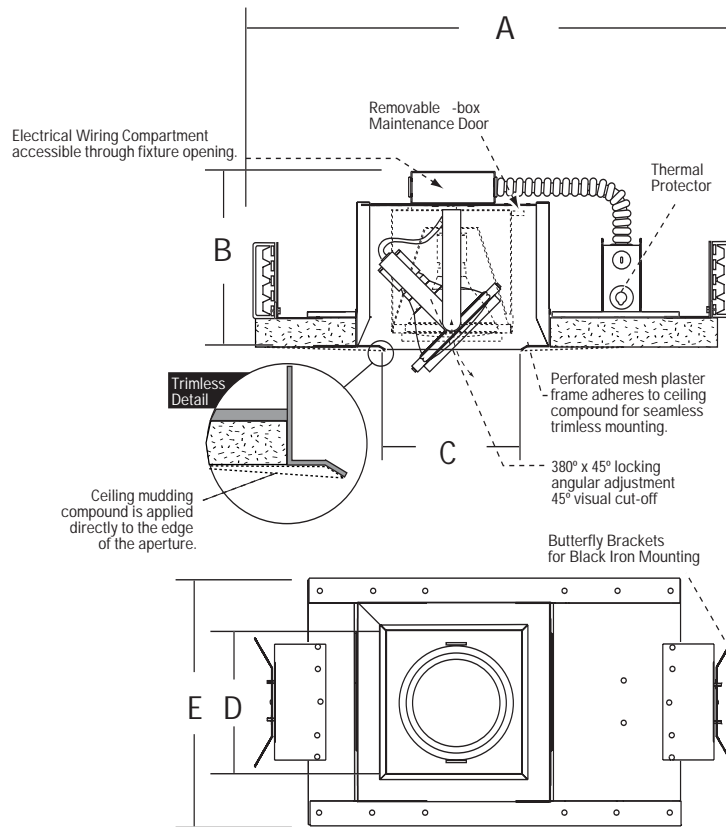
ELECTRICAL:

Conduction box is listed for through branch wiring access above ceiling not required for 80°C supply conductors or 60°C for end of run. -Box and wiring accessible through ceiling opening via access doors at either end of the fixture.

All Combo Light C Trimless fixtures are eork Calendar numbered.

ALL RSA COMBOLIGHT PRODUCTS ARE MADE IN THE U.S.A.

Dimensions	A	B	C	D	E	Ceiling Cut-Out
	overall length	overall height	Aperture length	Aperture Width	overall Width	
	25.22"	8.97"	8.65"	8.50"	13.91"	11.72" x 11.54"



Other Adders
CC - T o Circuit
CP - Chicago Plenum

ORDERING EXAMPLE: **CO3810ISTR BK YK**

one light Recessed PAR38 Trimless - Black Interior - Regular oke lamp older

Optional Accessories - Details on Other Side			
Baffle	Snoots	Louvers	Lenses

Cat. # / Description	Interior Finish	Lamp Holder
CO3810ISTR : light Recessed Trimless Combo PAR38 0	BK - Black	YK - Regular oke standard
	WH - White	RT - Retractable oke
	S - ilver	DG - Double imbal
	PT - Custom pecify	

SPECIFY - **CO3810ISTR** _____



GE Consumer & Industrial
Lighting

LAMP H2

PAR30 75W SP

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18056 – 75PAR30/H/SP10

GE PAR30



- Standard Halogen - Crisp, white light

Energy Savings

GENERAL CHARACTERISTICS

Lamp type	Halogen - PAR
Bulb	PAR30
Base	Medium NP
Filament	CC-8
Wattage	75/66
Voltage	130/120
Rated Life	3000 hrs/6000

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	1030/790
Center Beam Candlepower (CBCP)	13000
Color Temperature	2830 K
Nominal Initial Lumens per Watt	13

DIMENSIONS

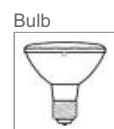
Maximum Overall Length (MOL)	3.6200 in (91.9 mm)
Bulb Diameter (DIA)	3.750 in (95.2 mm)

PRODUCT INFORMATION

Product Code	18056
Description	75PAR30/H/SP10
Standard Package	Case
Standard Package GTIN	00043168180566
Standard Package Quantity	15
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	15
UPC	043168970198

⚠ CAUTIONS & WARNINGS

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



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ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

- Product Brochures
 - [Halogen Lamps](#)

IES/Photometric Download

MSDS (Material Safety Data Sheets)

Disposal Policies & Recycling Information

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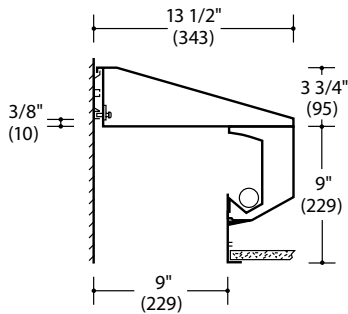
FIXTURE J1 20-1-*-T8-CWM- ELB-PR-277



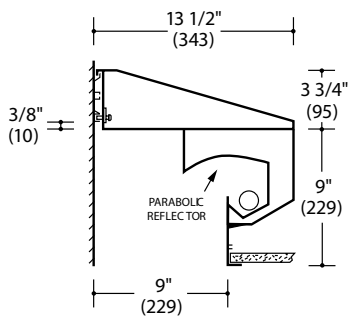
Type:
Project:

Wall/Slot®-2000
Wall/Slot®-2000PR
2000 or 2000PR
Recessed Perimeter

Specifications



Wall/Slot-2000



Wall/Slot-2000PR

FIXTURE SUPPORT RAIL. Extruded white aluminum, wall-mounted rail provides continuous support and true alignment of fixtures and components. Rail is designed to provide a reveal at the wall to compensate for irregularities in wall construction. Galvanized splines are included for continuous alignment.

FIXTURE HOUSING. Die-formed and welded steel. Plenum cover/wall bracket is a one-piece assembly of 20-gauge steel and heavy-gauge steel brackets with leveling screws to provide adjustment. Brackets are spaced approximately every two feet for 2-, 4-, and 8-foot fixtures, and 1 1/2 feet for 3-foot and 6-foot fixtures. Plenum cover has a continuous hook-and-lock feature for quick installation.


REFLECTOR. 2000 curved reflector is die-formed specular hammertone aluminum, precisely shaped for maximum downward light projection. Straight reflector portions are steel, finished in high-reflectance white for uniform light distribution. **2000PR** uses a larger parabolic reflector (**PR**), die-formed, hammertone, low-iridescence semi-specular aluminum, precisely shaped for maximum downward light projection. It is shielded from all viewing angles from 0° to 60° below horizontal. Straight reflector portions are steel, finished in high-reflectance white for uniform light distribution.

CEILING TRIM/LUMINANCE CONTROL DEFLECTOR. Extruded aluminum with internal aligner splines. **LCD** shields lamps from direct view and eliminates socket shadows on wall. Paint finish is Matte White (**CWM**) baked enamel.

LAMPING. Available in one-lamp T5, T5HO, or T8, or one-lamp twin-tube compact fluorescent.

BALLAST. Electronic Ballast (**ELB** - for T8 or BX lamping) or Low-profile Electronic Ballast (**LP/ELB** - for T5 or T5HO lamping), high power factor, thermally protected Class P, Sound Rated A, 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.

CEILING TYPE. Compatible with most types of ceiling systems, including grid and plaster. Fixture system must be installed prior to installation of ceiling. Finish of wall should extend 13" above finished ceiling height. See Wall/Slot-2000 Pre-Installation Manual for specific ceiling type details.

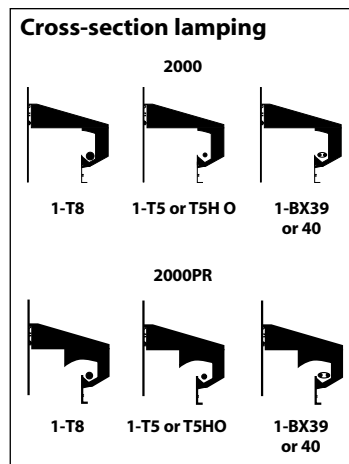
CERTIFICATION. Fixture and electrical components shall be UL and/or CUL Listed and shall bear the I.B.E.W., A.F. of L. label. 

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

Ordering guide

Product, lamping, & length			
20	1	4	T8 -
Series	Lamp Count	Nominal Length(ft)	Lamp Type
20	1 →	2,3,4 →	T8
	2 →	6,8 →	
	1 →	3,4 →	T5HO
	2 →	6,8 →	T5
	1 →	2 →	BX40
	2 →	4 →	
	4 →	8 →	
	2 →	3 →	BX39
	4 →	6 →	
		see notes	

Options			
CWM -	ELB -	PR -	120
Finish	Ballast	Other options	Volts
CWM (Matte White) is standard	ELB is std. for T8 or BX LP/ELB is std. for T5 or T5HO	EF F PR SDS see Other options	120 277
	DA/ELB HEL/ELB ECO/ELB see Ballast options		

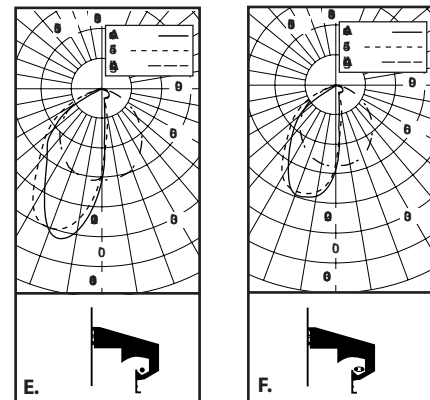
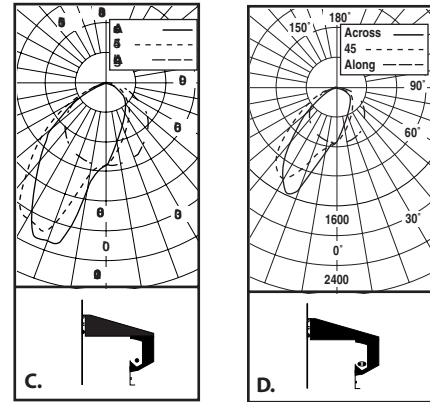
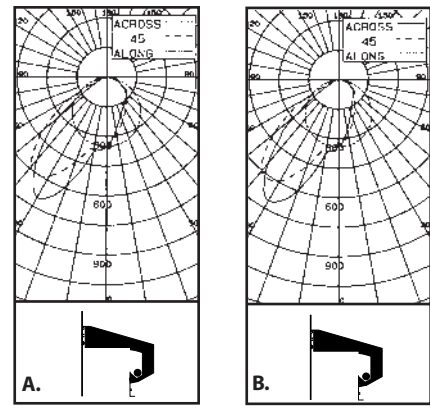


2014T8-CWM-ELB-1CWQ-PR-120 is a typical catalog number for a 1-lamp (1 lamp in cross-section), 4-foot long T8 fixture, Matte White finish, electronic ballast, pre-wired with single-circuit branch-wiring, parabolic reflector, 120 volts.

Questions to Ask

1. 120 or 277 volt?
2. Row information, including desired fixture lengths?
3. Verify ceiling type?
4. Other options?

Photometric data



A. 2014T8 70% wall reflectance
Litecontrol Certified Test Report #14711001

B. 2014T8 50% wall reflectance
Litecontrol Certified Test Report #14711000

C. 2014T5HO 50% wall reflectance
Litecontrol Certified Test Report #14716000

D. 2024BX40 50% wall reflectance
Litecontrol Certified Test Report #14720000

E. 2014T5HO-PR 50% wall reflectance
Litecontrol Certified Test Report #24316000

F. 2024BX40-PR 50% wall reflectance
Litecontrol Certified Test Report #24320000

For complete photometric information,
see website.

Click on
Quick Find 20



litecontrol.com

Ballast options

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

- DA/ELB** Advance Mark VII Dimming Ballast.
- HEL/ELB** Osram Sylvania Helios Dimming Ballast.
- ECO/ELB** Lutron ECO-10 Dimming Ballast.

Other options

- EF** Emergency Fluorescent Ballast. Battery-powered ballast from a UL Listed manufacturer will operate one T8 lamp for 1 1/2 hours.
- F** Fuse. Slow or fast blow, determined by Litecontrol.
- PR** Parabolic Reflector. Larger specular hammertone aluminum reflector for additional downward light projection.
- SDS** Special Depth Shield. A shallow-depth fixture of 10 1/2" height is available for areas where obstructions occur. Contact factory.

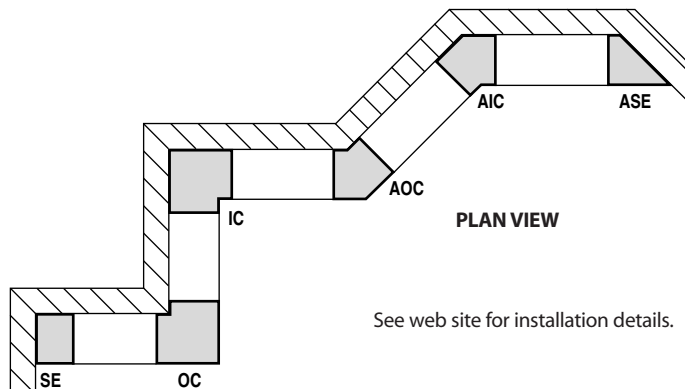
System connectors

Catalog Number

Series	Connector	Finish	Description (Minimum-Maximum along wall in parenthesis)
2000	EC	CWM	End Cap
2000	SE	CWM	Straight Extension (2"-12")
2000	IC	CWM	Inside Corner - 90° (14"-21")
2000	OC	CWM	Outside Corner - 90° (2"-11")
2000	ASE	CWM	Angular Straight Extension - 135° (2"-11")
2000	AIC	CWM	Angular Inside Corner - 135° (6"-15")
2000	AOC	CWM	Angular Outside Corner - 135° (2"-11")

2000-AOC-CWM is a typical catalog number for an angular outside corner connector. Corners, extensions, and end caps, when added to fixtures, permit continuous wall-to-wall installation. Lengths are field cut.
Finish: CWM (Matte White)

NOTE: Parabolic reflector is positioned above lamps only, and does not extend through system connectors.



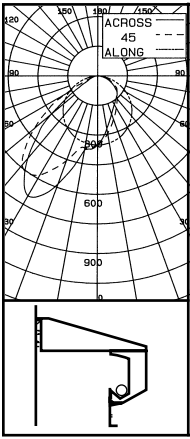
LITECONTROL ... an employee owned company

100 Hawks Avenue Hanson MA 02341 781 294 0100 FAX 781 293 2849

info@litecontrol.com

litecontrol.com

PHOTOMETRIC DATA: Wall/Slot-2000



CANDLEPOWER SUMMARY

ANGLE	0	45	90	135	180	OUTPUT LUMENS
90	0	0	1	1	1	
85	6	7	14	15	13	14
80	16	16	41	29	27	
75	25	29	71	46	41	49
70	36	43	103	64	57	
65	49	87	133	82	73	103
60	85	187	164	102	90	
55	166	305	193	118	108	176
50	301	413	220	129	127	
45	424	511	245	142	139	228
40	543	589	267	155	147	
35	642	604	287	170	156	225
30	701	580	303	189	169	
25	667	520	318	212	185	169
20	582	457	330	235	207	
15	482	390	339	265	236	97
10	383	370	345	297	272	
5	372	368	349	328	315	33
0	349	349	349	349	349	

2014T8-120 70% wall reflectance
Litecontrol Certified Test Report #14711001

RCC RW	80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10		
RCR																						
0	.45	.45	.45	.45	.44	.44	.44	.44	.42	.42	.42	.40	.40	.40	.38	.38	.38	.38	.38	.38	.38	.38
1	.42	.40	.39	.37	.41	.39	.38	.37	.38	.37	.36	.36	.35	.35	.35	.34	.34	.33	.33	.33	.33	.33
2	.38	.36	.33	.31	.37	.35	.33	.31	.33	.32	.30	.32	.31	.30	.31	.30	.29	.28	.28	.28	.28	.28
3	.35	.32	.29	.27	.34	.31	.29	.27	.30	.28	.26	.29	.27	.26	.28	.27	.25	.24	.24	.24	.24	.24
4	.32	.28	.25	.23	.32	.28	.25	.23	.27	.24	.22	.26	.24	.22	.25	.23	.22	.21	.21	.21	.21	.21
5	.30	.25	.22	.19	.29	.25	.22	.19	.24	.21	.19	.23	.21	.19	.22	.20	.19	.18	.18	.18	.18	.18
6	.27	.22	.19	.17	.27	.22	.19	.17	.21	.19	.17	.21	.18	.17	.20	.18	.16	.16	.16	.16	.16	.16
7	.25	.20	.17	.15	.24	.20	.17	.15	.19	.16	.15	.19	.16	.14	.18	.16	.14	.14	.14	.14	.14	.14
8	.23	.18	.15	.13	.22	.18	.15	.13	.17	.14	.12	.17	.14	.12	.16	.14	.12	.12	.12	.12	.12	.12
9	.21	.16	.13	.11	.21	.16	.13	.11	.15	.13	.11	.15	.12	.11	.15	.12	.10	.10	.10	.10	.10	.10
10	.19	.15	.11	.09	.19	.14	.11	.09	.14	.11	.09	.14	.11	.09	.13	.11	.09	.09	.09	.09	.09	.09

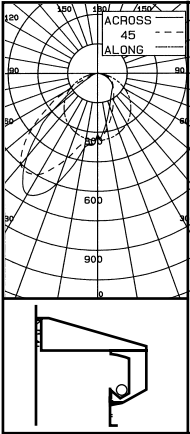
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	0.0	0.0
90-0°	1090	37.61	100
180-0°	1090	37.61	100

LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	630	759	362	210	206
55°	304	559	353	216	198
65°	123	216	330	205	183
75°	103	118	289	186	167
85°	69	80	174	181	151



CANDLEPOWER SUMMARY

ANGLE	0	45	90	135	180	OUTPUT LUMENS
90	0	1	1	2	1	
85	4	5	13	12	10	12
80	13	14	38	24	21	
75	21	24	68	39	33	44
70	30	36	98	56	47	
65	41	79	129	70	61	95
60	73	182	159	84	75	
55	150	304	187	93	88	166
50	286	423	214	102	101	
45	418	528	237	113	108	221
40	551	602	260	126	114	
35	656	615	279	143	124	220
30	709	593	296	163	137	
25	676	532	310	187	156	165
20	595	466	321	215	181	
15	490	393	330	248	214	95
10	385	365	336	283	256	
5	367	361	340	319	305	32
0	308	308	308	308	308	

2014T8-120 50% wall reflectance
Litecontrol Certified Test Report #14711000

RCC RW	80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10		
RCR																						
0	.43	.43	.43	.43	.42	.42	.42	.42	.40	.40	.40	.38	.38	.38	.37	.37	.37	.36	.36	.36	.36	.36
1	.40	.38	.37	.36	.39	.38	.36	.35	.36	.35	.34	.35	.34	.33	.33	.33	.32	.32	.32	.32	.32	.32
2	.37	.34	.32	.30	.36	.34	.32	.30	.32	.31	.29	.31	.30	.29	.30	.29	.28	.27	.27	.27	.27	.27
3	.34	.30	.28	.26	.33	.30	.28	.26	.29	.27	.25	.28	.26	.25	.27	.26	.24	.24	.24	.24	.24	.24
4	.31	.27	.24	.22	.30	.27	.24	.22	.26	.24	.22	.25	.23	.21	.24	.23	.21	.20	.20	.20	.20	.20
5	.29	.24	.21	.19	.28	.24	.21	.19	.23	.21	.19	.22	.20	.18	.22	.20	.18	.18	.18	.18	.18	.18
6	.26	.22	.19	.16	.26	.21	.18	.16	.21	.18	.16	.20	.18	.16	.20	.17	.16	.15	.15	.15	.15	.15
7	.24	.19	.16	.14	.24	.19	.16	.14	.19	.16	.14	.18	.16	.14	.18	.15	.14	.13	.13	.13	.13	.13
8	.22	.17	.14	.12	.22	.17	.14	.12	.17	.14	.12	.16	.14	.12	.16	.14	.12	.12	.12	.12	.12	.12
9	.20	.16	.13	.10	.20	.15	.12	.10	.15	.12	.10	.14	.12	.10	.14	.12	.10	.10	.10	.10	.10	.10
10	.19	.14	.11	.09	.18	.14	.11	.09	.13	.11	.09	.13	.11	.09	.13	.11	.09	.09	.09	.09	.09	.09

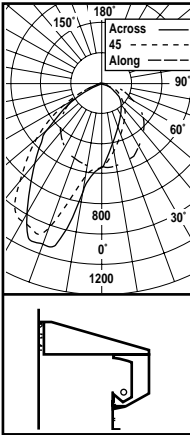
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	0.0	0.0
90-0°	1045	36.05	100
180-0°	1045	36.05	100

LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	622	785	351	167	160
55°	275	558	342	171	162
65°	102	196	319	174	151
75°	83	97	274	160	135
85°	51	61	160	144	126



CANDLEPOWER SUMMARY

ANGLE	0	45	90	135	180	OUTPUT LUMENS
90	0	2	1	0	0	
85	7	12	20	11	7	16
80	25	28	64	25	22	
75	39	44	109	48	38	70
70	57	94	162	76	59	
65	81	174	210	99	82	158
60	176	349	259	131	105	
55	283	447	307	159	130	270
50	479	573	352	181	154	
45	568	706	392	205	182	340
40	698	863	428	228	201	
35	841	1015	459	252	220	352
30	1019	1038	486	283	242	
25	1139	1075	507	314	265	288
20	1128	968	522	352	300	
15	1033	722	539	394	345	166
10	679	620	545	439	397	
5	578	578	551	491	462	52
0	546	546	546	546	546	

2014T5HO 50% wall reflectance
Litecontrol Certified Test Report #14716000

RCC RW	80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10		
RCR																						
0	.41	.41	.41	.41	.40	.40	.40	.40	.38	.38	.38	.36	.36	.36	.35	.35	.35	.34	.34	.34	.34	.34
1	.38	.36	.35	.34	.37	.36	.35	.34	.34	.33	.32	.33	.32	.31	.32	.31	.31	.30	.30	.30	.30	.30
2	.35	.32	.30	.29	.34	.32	.30	.28	.31	.29	.28	.30	.28	.27	.29	.28	.27	.26	.26	.26	.26	.26
3	.32	.29	.27	.25	.31	.28	.26	.24	.27	.26	.24	.27	.25	.24	.26	.24	.23	.22	.22	.22	.22	.22
4	.30	.26	.23	.21	.29	.25	.23	.21	.25	.22	.21	.24	.22	.20	.23	.22	.20	.20	.20	.20	.20	.20
5	.27	.23	.20	.18	.26	.23	.20	.18	.22	.20	.18	.21	.19	.18	.21	.19	.17	.17	.17	.17	.17	.17
6	.25	.21	.18	.16	.24	.20	.18	.16	.20	.17	.16	.19	.17	.15	.19	.17	.15	.15	.15	.15	.15	.15
7	.23	.19	.16	.14	.22	.18	.16	.14	.18	.15	.14	.17	.15	.13	.17	.15	.13	.13	.13	.13	.13	.13
8	.21	.17	.14	.12	.21	.16	.14	.12	.16	.13	.12	.16	.13	.12	.15	.13	.12	.12	.12	.12	.12	.12
9	.19	.15	.12	.10	.19	.15	.12	.10	.14	.12	.10	.14	.12	.10	.14	.11	.10	.10	.10	.10	.10	.10
10	.18	.13	.11	.09	.18	.13	.11	.09	.13	.11	.09	.13	.10	.09	.12	.10	.09	.09	.09	.09	.09	.09

Floor Cavity Reflectance .20

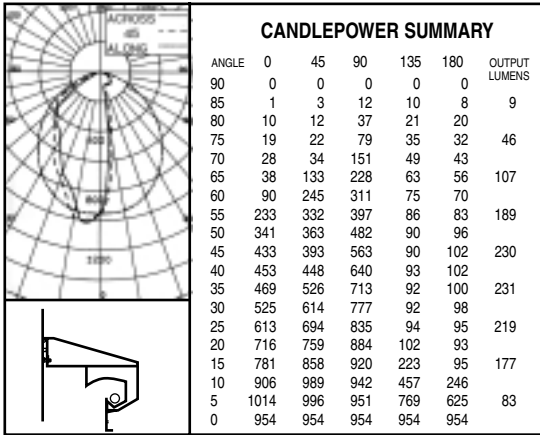
ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	0.0	0.0
90-0°	1706	34.14	100.00
180-0°	1706	34.14	100.00

LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	845	1050	580	304	270
55°	519	819	560	291	238
65°	200	434	520	246	205
75°					

PHOTOMETRIC DATA: Wall/Slot-2000PR



2014T8-PR 70% wall reflectance
Litecontrol Certified Test Report #24311001

RCC RW	80				70				50				30				10				0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR 0	.53	.53	.53	.53	.52	.52	.52	.52	.49	.49	.49	.47	.47	.47	.45	.45	.45	.44			
1	.49	.48	.46	.45	.48	.47	.45	.44	.45	.44	.43	.43	.42	.41	.42	.41	.40	.39			
2	.46	.43	.40	.38	.45	.42	.40	.38	.40	.39	.37	.39	.38	.36	.38	.37	.35	.35			
3	.42	.39	.36	.33	.41	.38	.35	.33	.37	.34	.32	.36	.34	.32	.34	.33	.31	.30			
4	.39	.35	.32	.29	.38	.34	.31	.29	.33	.31	.28	.32	.30	.28	.31	.29	.28	.27			
5	.36	.31	.28	.25	.35	.31	.27	.25	.30	.27	.25	.29	.27	.25	.28	.26	.24	.23			
6	.34	.28	.25	.22	.33	.28	.25	.22	.27	.24	.22	.27	.24	.22	.26	.23	.22	.21			
7	.31	.26	.22	.20	.31	.25	.22	.20	.25	.22	.20	.24	.21	.19	.24	.21	.19	.19			
8	.29	.23	.20	.18	.28	.23	.20	.17	.23	.20	.17	.22	.19	.17	.22	.19	.17	.16			
9	.27	.21	.18	.16	.26	.21	.18	.16	.21	.18	.15	.20	.17	.15	.20	.17	.15	.14			
10	.25	.20	.16	.14	.25	.19	.16	.14	.19	.16	.14	.18	.16	.14	.18	.16	.14	.13			

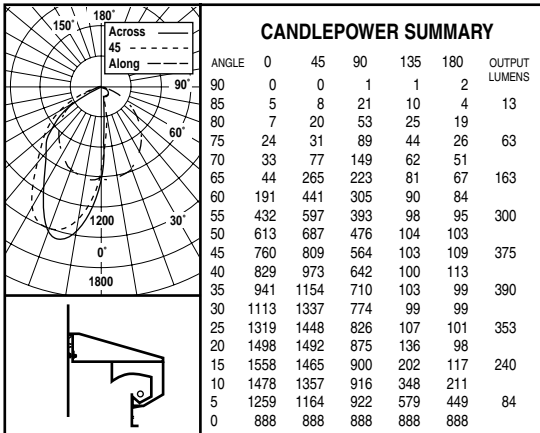
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	.00	.00
90-0°	1286	44.35	100
180-0°	1286	44.35	100

LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	644	584	834	134	151
55°	428	608	724	157	151
65°	94	331	564	158	138
75°	76	90	320	140	130
85°	16	38	149	117	101



2014T5HO-PR 50% wall reflectance
Litecontrol Certified Test Report #24316000

RCC RW	80				70				50				30				10				0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR 0	.47	.47	.47	.47	.46	.46	.46	.46	.44	.44	.44	.42	.42	.42	.40	.40	.40	.40			
1	.44	.42	.41	.40	.43	.42	.40	.39	.40	.39	.38	.38	.38	.37	.37	.36	.36	.35			
2	.41	.38	.36	.34	.40	.37	.35	.34	.36	.34	.33	.35	.33	.32	.34	.32	.31	.31			
3	.38	.34	.31	.29	.37	.34	.31	.29	.33	.30	.29	.31	.30	.28	.31	.29	.28	.27			
4	.35	.31	.28	.25	.34	.30	.28	.25	.29	.27	.25	.28	.26	.25	.28	.26	.24	.24			
5	.32	.28	.24	.22	.31	.27	.24	.22	.26	.24	.22	.26	.23	.21	.25	.23	.21	.20			
6	.30	.25	.22	.19	.29	.24	.21	.19	.24	.21	.19	.23	.21	.19	.23	.20	.19	.18			
7	.27	.22	.19	.17	.27	.22	.19	.17	.22	.19	.17	.21	.19	.17	.21	.18	.17	.16			
8	.25	.20	.17	.15	.25	.20	.17	.15	.19	.17	.15	.19	.16	.15	.19	.16	.15	.14			
9	.23	.18	.15	.13	.23	.18	.15	.13	.18	.15	.13	.17	.15	.13	.17	.14	.13	.12			
10	.22	.17	.14	.12	.21	.16	.14	.12	.16	.13	.11	.16	.13	.11	.15	.13	.11	.11			

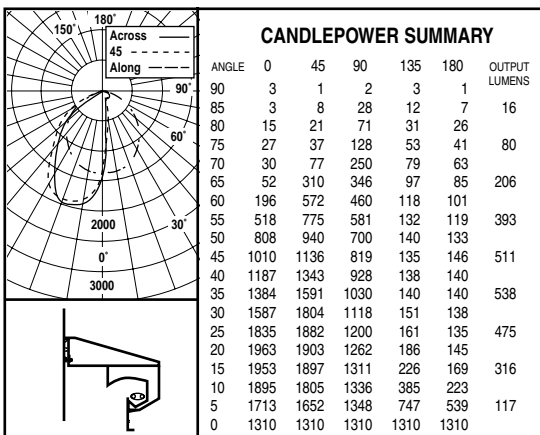
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	.00	.00
90-0°	1977	39.55	100.00
180-0°	1977	39.55	100.00

LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	1130	1203	835	152	163
55°	792	1094	717	179	174
65°	109	658	553	200	166
75°	96	126	360	179	107
85°	63	97	249	119	43



2024BX40-PR 50% wall reflectance
Litecontrol Certified Test Report #24320000

RCC RW	80				70				50				30				10				0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR 0	.50	.50	.50	.50	.49	.49	.49	.49	.47	.47	.47	.45	.45	.45	.43	.43	.43	.42			
1	.47	.45	.44	.43	.46	.44	.43	.42	.42	.41	.41	.41	.40	.39	.39	.39	.38	.37			
2	.43	.41	.39	.37	.43	.40	.38	.36	.39	.37	.35	.37	.36	.35	.36	.35	.34	.33			
3	.40	.37	.34	.32	.39	.36	.34	.31	.35	.33	.31	.34	.32	.30	.33	.31	.30	.29			
4	.37	.33	.30	.28	.37	.33	.30	.28	.32	.29	.27	.31	.29	.27	.30	.28	.27	.26			
5	.35	.30	.27	.24	.34	.30	.27	.24	.29	.26	.24	.28	.26	.24	.27	.25	.24	.23			
6	.32	.27	.24	.22	.31	.27	.24	.22	.26	.23	.21	.25	.23	.21	.25	.23	.21	.20			
7	.30	.25	.21	.19	.29	.24	.21	.19	.24	.21	.19	.23	.20	.19	.23	.20	.18	.18			
8	.28	.22	.19	.17	.27	.22	.19	.17	.22	.19	.17	.21	.19	.17	.21	.18	.17	.16			
9	.26	.20	.17	.15	.25	.20	.17	.15	.20	.17	.15	.19	.17	.15	.19	.16	.15	.14			
10	.24	.19	.16	.13	.23	.18	.16	.13	.18	.15	.13	.18	.15	.13	.17	.15	.13	.13			

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	0	.00	.00
90-0	2647	42.02	100.00
180-0	2647	42.02	100.00

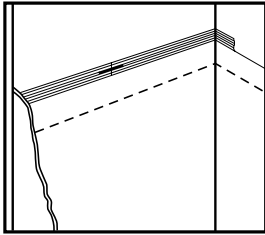
LUMINANCE SUMMARY (fL)

ANGLE	0°	45°	90°	135°	180°
45°	1502	1689	1212	201	218
55	948	1420	1062	242	218
65	130	770	857	242	211
75	108	150	520	216	166
85	34	98	333	142	81

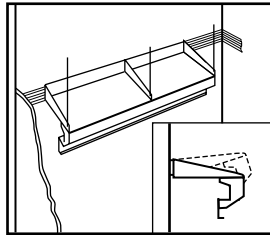
PLANNING FOR INSTALLATION

Finished wall should extend 13" above ceiling. Locate bottom of Fixture Support Rail 9 3/8" up from bottom of ceiling for Lay-in Grid T-bar ceilings. Extruded trim of fixtures supports ceiling tiles at perimeter; elsewhere ceiling construction must be supported independently of the lighting system.

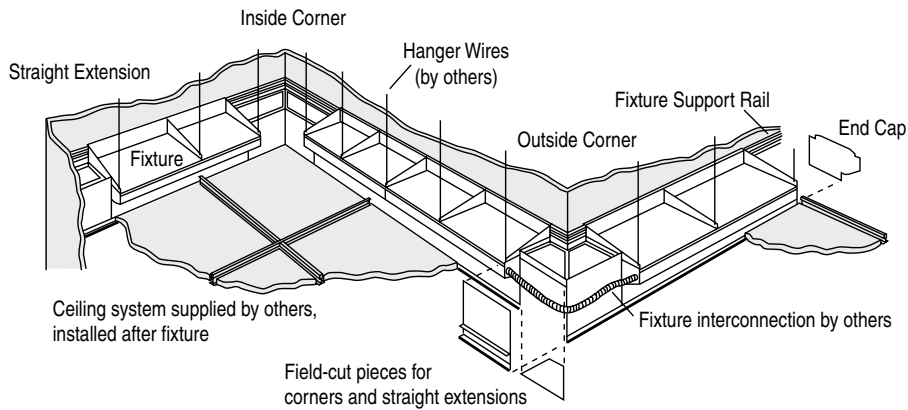
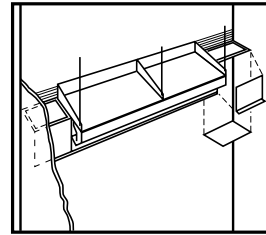
1. Install Fixture Support Rails on wall.



2. Hook fixtures on rail and slide into position. Attach hanger wires.



3. Install extensions and corners.



QUESTIONS TO ASK

1. 120 or 277 volt?
2. Row information, including desired fixture lengths?
3. Verify ceiling type?
4. Other options?



GE Consumer & Industrial
Lighting

LAMP J1

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40812 – F32T8SP41ECO/CVG

GE Ecolux® covRguard® Starcoat® T8 - Shatter-Resistant



- A shatter resistant lamp encased in a 15 ml Lexan sleeve. Complies with FDA food code 6-202 and 21CFR 110.20. NSF and UL certified. Sleeve will last the rated life of the lamp. Sleeve will not crack, peel or turn yellow. Blocks UV lamp emissions from 380 to 180 nm.

- Passes TCLP, which can lower disposal costs.



Reduced Wattage

High Color Rendering

NOM NOM

Meets Federal Minimum Efficiency Standards

GENERAL CHARACTERISTICS

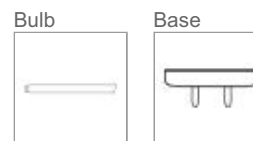
Lamp type	Linear Fluorescent - Straight Linear
Bulb	T8
Base	Medium Bi-Pin (G13)
Wattage	32
Voltage	137
Rated Life	20000 hrs
Rated Life (instant start) @ Time	24000 h @ 12 h 20000 h @ 3 h
Rated Life (rapid start) @ Time	24000 h @ 12 h
Bulb Material	Soda lime
Starting Temperature (MIN)	10 °C (50 °F)
Additional Info	TCLP compliant
Primary Application	Shatter-Resistant

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2715
Nominal Initial Lumens per Watt	84
Color Temperature	4100 K
Color Rendering Index (CRI)	78
S/P Ratio (Scotopic/Photopic Ratio)	1.6

ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (rapid start) Min @ Temperature	315 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



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ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

Brochures

Specialty

- [Avonmore West](#)
- [Nonpariel](#)

Application/Segment Brochures

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

Product Brochures

- [covRguard® and Germicidal UV Lamps for Biotech Industries](#)
- [covRguard® and Germicidal UV Lamps for Correctional Facilities](#)
- [covRguard® and Germicidal UV Lamps for the Food Industry](#)
- [covRguard® for Schools and Public Facilities](#)
- [covRguard® for UV Light Protection](#)
- [covRguard®](#)
- [Ecolux](#)
- [Ecolux \(Environmental\)](#)
- [Industrial Lighting](#)

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

[Disposal Policies & Recycling Information](#)

GRAPHS & CHARTS

[Spectral Power Distribution](#)

DIMENSIONS

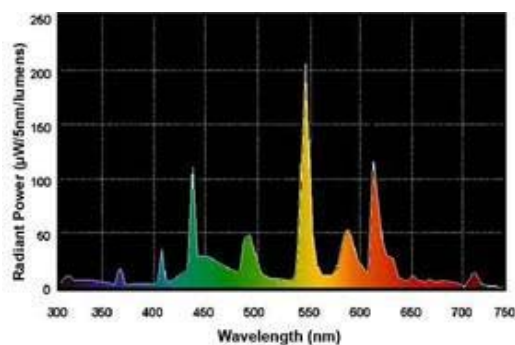
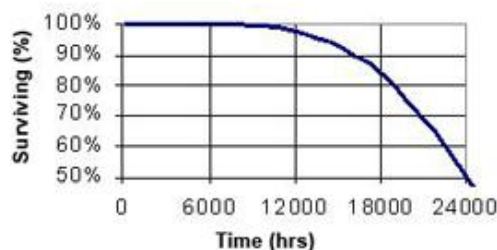
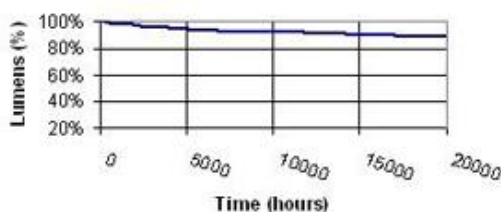
Maximum Overall Length (MOL)	47.7800 in (1213.6 mm)
Minimum Overall Length	47.6700 in (1210.8 mm)
Nominal Length	48.000 in (1219.2 mm)
Bulb Diameter (DIA)	1.000 in (25.4 mm)
Bulb Diameter (DIA) (MIN)	0.940 in (23.8 mm)
Bulb Diameter (DIA) (MAX)	1.100 in (27.9 mm)
Max Base Face to Base Face (A)	47.220 in (1199.3 mm)
Face to End of Opposing Pin (B) (MIN)	47.400 in (1203.9 mm)
Face to End of Opposing Pin (B) (MAX)	47.500 in (1206.5 mm)
End of Base Pin to End of Opposite Pin End (C)	47.670 in (1210.8 mm)

PRODUCT INFORMATION

Product Code	40812
Description	F32T8SP41ECO/CVG
ANSI Code	1005-2
Standard Package	Case
Standard Package GTIN	10043168408124
Standard Package Quantity	36
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	36
UPC	043168408127

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
49772	GE232MAX-N/ULTRA	1	99.0	0.87
80353	B132R120V5	1	90.0	0.05
49774	GE432MAX-N/ULTRA	3	99.0	0.87
49709	GE432MAX-L/ULTRA	3	99.0	0.77
49776	GE332MAX-H/ULTRA	2	99.0	1.15
97656	GE232MAX-N/CTR	1	99.0	0.87
97709	GE-232MV-N-DIY	1	99.0	1.02
80358	B332SR277V5	3	90.0	0.05
97711	GE-432MV-N-DIY	3	99.0	0.93
80356	B232SR277V5	2		0.05
30198	GE-232-MV-H	1	99.0	1.34
30192	GE-332-MV-N	2	99.0	0.96
29656	GE-332-MV-PS-H-T	2	98.0	1.28
29666	GE-332-MVPS-XL-T	2	98.0	0.64
30189	GE-132-MV-N	1	99.0	0.87
29632	GE-232-277PS-N-T	1	95.0	1.03

**Lamp Mortality****Lumen Maintenance**

29672	GE-332-MVPS-XL	2	98.0	0.64
29676	GE-332-MVPS-H	2	98.0	1.28
29625	GE-432-120-PS-N	3	99.0	0.96
29623	GE-332-120-PS-N	2	99.0	1.0
49707	GE232MAX-L/ULTRA	1	99.0	0.77
24161	GE-132-120-N-84T	1	99.0	0.87
24163	GE-232-120-N-84T	1	99.0	0.94
23675	GE-432-120-N	3	0.94	0.94
23673	GE-332-120-N	2	99.0	0.94
24165	GE-332-120-N-84T	2	99.0	0.94
23680	GE-132-120-N	1	99.0	0.87
29621	GE-232-120-PS-N	1	99.0	1.03
24167	GE-432-120-N-84T	3	99.0	0.94
23939	GE132MAX-N-DIY	1	99.0	0.87
23941	GE332MAX-N-DIY	2	99.0	0.87
31052	GE232MAX-N-42T	1	99.0	0.87
30296	GE-332-MV-H-42T	2	99.0	1.27
30309	GE-332-MV-L-42T	2	99.0	0.87
47550	GE432MAX-H-42T	3	99.0	1.15
47548	GE232MAX-H-42T	1	99.0	1.15
30271	GE-432-MV-N-42T	3	99.0	0.93
47546	GE232MAX-L-42T	1	99.0	0.77
31054	GE432MAX-N-42T	3	99.0	0.87
30269	GE-232-MV-N-42T	1	99.0	1.02
30262	GE-432-MV-L	3	99.0	0.87
30219	GE-432-MV-H	3	99.0	1.24
23671	GE-232-120-N	1	99.0	0.94
30255	GE-332-MV-L	2	99.0	0.87
23940	GE232MAX-N-DIY	1	99.0	0.87
23674	GE-332-277-N	2	99.0	0.94
23681	GE-132-277-N	1	99.0	0.87
23676	GE-432-277-N	3		0.94
31055	GE332MAX-L-42T	2	99.0	0.77
47549	GE332MAX-H-42T	2	99.0	1.15
23942	GE432MAX-N-DIY	3	99.0	
47547	GE432MAX-L-42T	3	99.0	0.77
49706	GE132MAX-L/ULTRA	1	99.0	0.77
31053	GE332MAX-N-42T	2	99.0	0.87
30310	GE-432-MV-L-42T	3	99.0	0.87
97658	GE432MAX-	3	99.0	0.87

	N/CTR			
30268	GE-132-MV-N-42T	1	99.0	0.87
24164	GE-232-277-N-84T	1	99.0	0.94
24162	GE-132-277-N-84T	1	99.0	0.87
30270	GE-332-MV-N-42T	2	99.0	0.96
24166	GE-332-277-N-84T	2	99.0	0.94
30303	GE-432-MV-H-42T	3	99.0	1.24
30275	GE-232-MV-H-42T	1	99.0	1.34
24168	GE-432-277-N-84T	3	99.0	0.94
29622	GE-232-277-PS-N	1	95.0	1.03
49708	GE332MAX-L/ULTRA	2	99.0	0.77
29671	GE-232-MVPS-XL	1	98.0	0.7
29657	GE-432-MV-PS-H-T	3	98.0	1.26
30193	GE-432-MV-N	3	99.0	0.93
30199	GE-332-MV-H	2	99.0	1.27
29650	GE-432-277PS-N-T	3	98.0	0.96
30191	GE-232-MV-N	1	99.0	1.02
29624	GE-332-277-PS-N	2	97.0	1.0
29627	GE-432-277-PS-N	3	98.0	0.96
29678	GE-432-MVPS-H	3	98.0	1.26
30247	GE-232-MV-L	1	99.0	0.94
29675	GE-232-MVPS-H	1	98.0	1.37
80362	B232SR277S50	2	90.0	0.48
80357	B332SR120V5	3	90.0	0.05
49771	GE132MAX-N/ULTRA	1	99.0	0.87
23672	GE-232-277-N	1	99.0	0.94
49773	GE332MAX-N/ULTRA	2	99.0	0.87
49775	GE232MAX-H/ULTRA	1	99.0	1.15
80355	B232SR120V5	2	90.0	0.05
49777	GE432MAX-H/ULTRA	3	99.0	1.15
97710	GE-332MV-N-DIY	2	99.0	0.96
97713	GE332MAX-HSL84T	2	99.0	1.15
97657	GE332MAX-N/CTR	2	99.0	0.87
87130	GEM232T8RS277	2	98.0	0.98
87125	GEM232T8RS120	2	98.0	0.94

CAUTIONS & WARNINGS

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

[Return To Top](#)



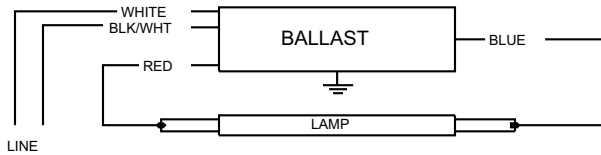
BALLAST J1

VCN-132-MC	
Brand Name	CENTIUM MICRO CAN
Ballast Type	Electronic
Starting Method	Instant 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 (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
F21T5	1	21	50/10	0.10	27	1.10	10	0.98	1.7	4.07
F25T8	1	25	0/-18	0.09	25	0.98	10	0.98	1.7	3.92
F28T5	1	28	50/10	0.11	30	0.98	10	0.99	1.7	3.27
* F32T8	1	32	0/-18	0.11	30	0.98	10	0.98	1.7	3.27
F32T8/ES (30W)	1	30	60/16	0.10	28	0.98	10	0.98	1.7	3.50

Wiring Diagram



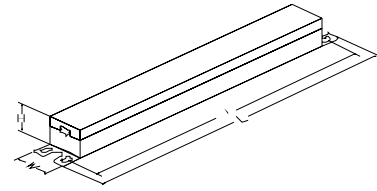
Diag. 63

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	Yellow/Blue		0
White	25L	63.5	Blue/White		0
Blue	31R	78.7	Brown		0
Red	37L	94	Orange		0
Yellow		0	Orange/Black		0
Gray		0	Black/White	25L	63.5
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.08 "	1.05 "	8.91 "
9 1/2	1 2/25	1 1/20	8 91/100
24.1 cm	2.7 cm	2.7 cm	22.6 cm

Revised 07/23/2004

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

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 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071
 Corporate Offices: Phone: 800-322-2086



VCN-132-MC	
Brand Name	CENTIUM MICRO CAN
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	60 HZ
Status	Active

Electrical Specifications

Notes:

Section I - Physical Characteristics

- 1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
- 1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Instant Start.
- 2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.3 Ballast shall operate from 50/60 Hz input source of 120V or 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast. IntelliVolt models shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast.
- 2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
- 2.5 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.6 Ballast shall have a minimum ballast factor for primary lamp application as follows: 0.75 for Low Watt, 0.85 for Normal Light Output, and 1.20 for High Light.
- 2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less in accordance with lamp manufacturer recommendations.
- 2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 20% for Standard models and THD of less than 10% for Centium models when operated at nominal line voltage with primary lamp.
- 2.9 Ballast shall have a Class A sound rating.
- 2.10 Ballast shall have a minimum starting temperature of -18C (0F) for standard T8 lamps and 16C (60F) for energy-saving T8 lamps.
- 2.11 Ballast shall provide Lamp EOL Protection Circuit.
- 2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions without damage.

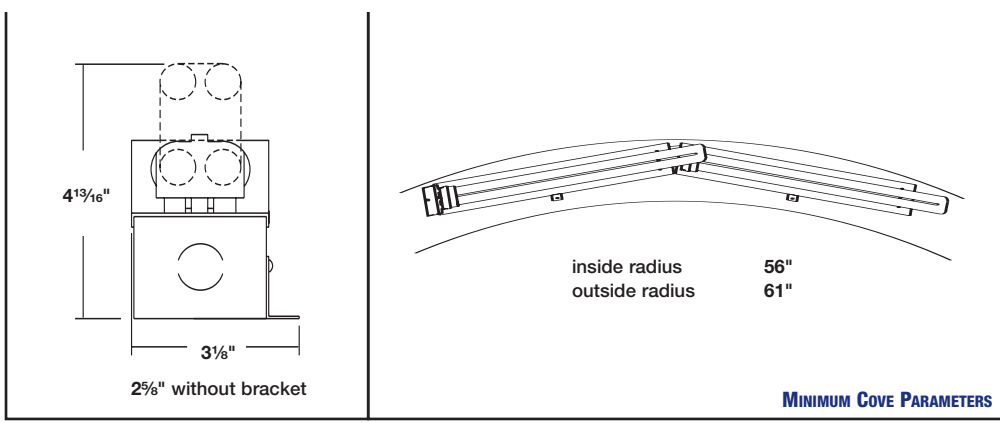
Section III - Regulatory Requirements

- 3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.
- 3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.4 Ballast shall comply with ANSI C82.11 where applicable.
- 3.5 Ballast shall comply with the requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).

Section IV - Other

- 4.1 Ballast shall be manufactured in a factory certified to ISO 9002 Quality System Standards.
- 4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.
- 4.3 Manufacturer shall have a fifteen-year history of producing electronic ballasts for the North American market.
- 4.4 Ballast shall be Advance part # _____ or approved equal.

NOTE: The use of Optanium 2.0 (IOP) models is recommended to reduce striations in energy-saving T8 lamps (25W, 28W or 30W). Remote or tandem wiring of energy-saving T8 lamps (25W, 28W or 30W) is only recommended for Optanium 2.0 (IOP) models.



FIXTURE J2D
2855FX2S392E-*

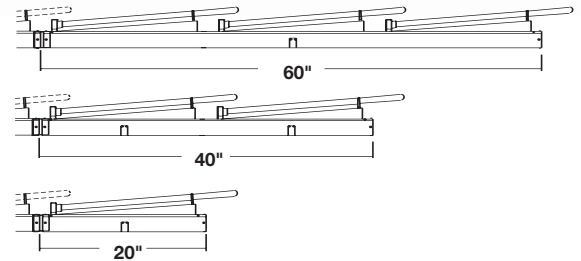
2855 NX2™ & FX2™ Ramp®

RAMP® 40 WATT SEAMLESS STRAIGHT AND FIELD CURVABLE SYSTEM

- Overlapping Lamps Prevent Socket Shadows
- Linkable Seamless Straight and Field Curvable Lengths
- Constructed of Formed Satin Anodized Aluminum
- Continuous Ground Plane Assures Proper Lamp Operation, Dimming and Maximum Lamp Life
- 40 watt (2G11) High Performance Compact Fluorescent Lamp (refer to page 8-33)
- Voltage Options:
 - 120 volt
 - 277 volt
- Ballasts Options (refer to page III)
 - High Power Factor
 - Electronic
 - Dimming*Emergency Ballasts are available. Please consult factory.*
- 20" On Center Spacing
- Lengths Through Wired for Easy Installation
- Exterior Mounting Clips for Quick, Easy Anchoring
- Custom Reflectors can be manufactured to your specifications. (refer to page 8-34)
- UL and CUL Listed Damp Location



**2855 FX2 40 WATT
LAMPS FACING UP**



Allow 4" for lamp overhang and removal

Ordering Format for 2855 NX2 & FX2

Choose one from each category

SERIES	LAMP CONFIGURATION	LAMP	VOLTAGE	BALLAST	LENGTH
2855 linear fixture	NX2 seamless straight lamp up or down	40 40 watt compact fluorescent	1 120 volt	H high power factor (40" and 20" only)	60 60" length (3 lamps)
			2 277 volt		
	FX2 field curvable lamp up or down			E electronic	40 40" length (2 lamps)
				D dimming	20 20" length (1 lamp)

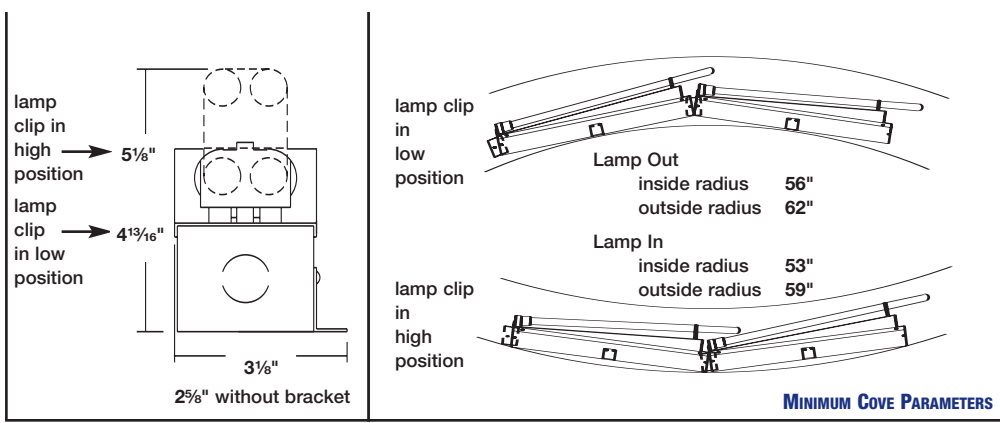


NOTE:

2850 installations where the lamp is in the down position require an auxiliary lamp clip. Please order:
 P-2013-01-00 ea Auxiliary Lamp Clip (one required per lamp)

These products protected by one or more of the following U.S. Patent Numbers 5,448,460, 5,221,139 & 5,452,187. Other patents pending. Modifications and custom configurations are available. Please contact our Sales Department.

BELFER LIGHTING FOR ARCHITECTURE



2855 NX2S™ & FX2S™ Ramp®

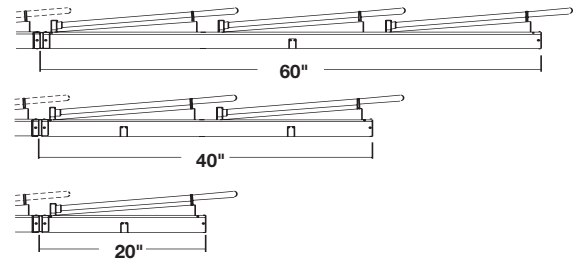
RAMP® 40 WATT SEAMLESS STRAIGHT AND FIELD CURVABLE SYSTEM

- Overlapping Lamps Prevent Socket Shadows
- Linkable Seamless Straight and Field Curvable Lengths
- Constructed of Formed Satin Anodized Aluminum
- Continuous Ground Plane Assures Proper Lamp Operation, Dimming and Maximum Lamp Life
- 40 watt (2G11) High Performance Compact Fluorescent Lamp (refer to page 8-33)
- Voltage Options:
 - 120 volt
 - 277 volt
- Ballasts Options (refer to page III)
 - High Power Factor
 - Electronic
 - Dimming

Emergency Ballasts are available. Please consult factory.
- 20" On Center Spacing
- Lengths Through Wired for Easy Installation
- Exterior Mounting Clips for Quick, Easy Anchoring
- Custom Reflectors can be manufactured to your specifications. (refer to page 8-34)
- UL and CUL Listed Damp Location



2855 FX2S 40 WATT
LAMPS FACING OUT



Allow 4" for lamp overhang and removal

Ordering Format for 2855 NX2S & FX2S

Choose one from each category

SERIES	LAMP CONFIGURATION	LAMP	VOLTAGE	BALLAST	LENGTH
2855 linear fixture	NX2S seamless straight lamp in or out	40 40 watt compact fluorescent	1 120 volt	H high power factor (40" and 20" only)	60 60" length (3 lamps)
			2 277 volt		40 40" length (2 lamps)
	FX2S field curvable lamp in or out			E electronic	20 20" length (1 lamp)
				D dimming	



These products protected by one or more of the following U.S. Patent Numbers 5,448,460, 5,221,139 & 5,452,187. Other patents pending. Modifications and custom configurations are available. Please contact our Sales Department.

BELFER LIGHTING FOR ARCHITECTURE

TEL: (732) 493-2666 . FAX: (732) 493-2941 . www.belfer.com

Product Code	U/M	Description
2801 SERIES		
<input type="checkbox"/> CF9/35K	ea	9 watt Twin G23 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF13/35K	ea	13 watt Twin GX23 base Compact Fluorescent 3500°K
2850 SERIES		
<input type="checkbox"/> CF18/35K/RS	ea	18 watt Twin 2G11 base Compact Fluorescent 3500°K Rapid Start
<input type="checkbox"/> CF39/35K	ea	39 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF40/35K	ea	40 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF50/35K	ea	50 watt Twin 2G11 base Compact Fluorescent 3500°K
2855 SERIES		
<input type="checkbox"/> CF9/35K	ea	9 watt Twin G23 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF13/35K	ea	13 watt Twin GX23 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF18/35K/RS	ea	18 watt Twin 2G11 base Compact Fluorescent 3500°K Rapid Start
<input type="checkbox"/> CF39/35K	ea	39 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF40/35K	ea	40 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF50/35K	ea	50 watt Twin 2G11 base Compact Fluorescent 3500°K
2862 SERIES		
<input type="checkbox"/> CF9/35K	ea	9 watt Twin G23 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF13/35K	ea	13 watt Twin GX23 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF18/35K/RS	ea	18 watt Twin 2G11 base Compact Fluorescent 3500°K Rapid Start
<input type="checkbox"/> CF39/35K	ea	39 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF40/35K	ea	40 watt Twin 2G11 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF50/35K	ea	50 watt Twin 2G11 base Compact Fluorescent 3500°K
2880 SERIES		
<input type="checkbox"/> CF18Q/35K/4	ea	18 watt Quad G24q-2 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF26Q/35K/4	ea	26 watt Quad G24q-3 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF32H/35K/4	ea	32 watt Triple GX24q-3 base Compact Fluorescent 3500°K
<input type="checkbox"/> CF42H/35K/4	ea	42 watt Triple GX24q-4 base Compact Fluorescent 3500°K



2850 and 2855 installations where the lamp is in the down position may require an auxiliary lamp clip that snaps over standard lamp clip. Please order P-2013-01-00 (one required per lamp)



GE Consumer & Industrial
Lighting

LAMP J2D

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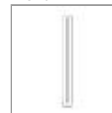
16952 – F39BXSPX41RS10PK

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

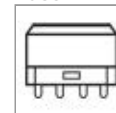


High Color Rendering
Energy Savings

Bulb



Base



[View Larger](#)

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

ADDITIONAL RESOURCES

[Catalogs](#)

[Testimonials](#)

[Sell Sheets](#)

• [High Lumen Biax®](#)

[Disposal Policies & Recycling Information](#)

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2850
Mean Lumens	2510
Nominal Initial Lumens per Watt	73
Color Temperature	4100 K
Color Rendering Index (CRI)	82

ELECTRICAL CHARACTERISTICS

Lamp Current	0.428 A
Current Crest Factor (MAX)	1.7

DIMENSIONS

Maximum Overall Length (MOL)	16.5000 in (419.1 mm)
Nominal Length	16.500 in (419.1 mm)

PRODUCT INFORMATION

Product Code	16952
Description	F39BXSPX41RS10PK
ANSI Code	60901-IEC-4236-1
Standard Package	Master
Standard Package GTIN	10043168169520
Standard Package Quantity	40
Sales Unit	Unit

No Of Items Per
Sales Unit 1

No Of Items Per
Standard Package 40

UPC 043168169523

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
47542	B254PUNV-DGE1C	1	99.0	1.22
47506	C242UNVBES-IP	2	99.0	0.83
47534	B224PUNV-COG1C	1	95.0	0.98
47509	C242UNVSE-IP	2	99.0	0.83
87666	GE-254-MV-PS-NLB	1	99.0	1.22
87623	GEM2FT36RS120	2	93.0	0.96

CAUTIONS & WARNINGS

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

NOTES

- 4-Pin lamp minimum starting temperature is a function of the ballast. Most ballasts are rated with a minimum starting temperature of 50 degrees F (10 C). Ballasts are also available that provide reliable starting to 0 degrees F (-18C) and -20 F (-29C).
- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life
- Life ratings for the F18BX preheat lamps are based on operating the lamp at 3 hrs per start on a preheat type circuit. Operation on rapid start and instant start ballasts is not recommended. Life ratings for all lamps are based on operating the lamp at 3 hrs per start on a rapid start type ballast. Life rating on a preheat or instant start ballast is 25% lower than other Rapid Start High Lumen Biax.

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Eco-10 Overview

BALLAST J2D

Eco-10 lighting management electronic dimming ballasts are designed to maximize the benefits of a lighting management system. Eco-10 offers 100% to 10% dimming, and is ideal for use in any space where saving energy is the primary goal of the design.



Eco-10, case type C

1.18”w (30mm) x 1.00”h (25mm) x 18.00”l (457mm)



Eco-10, case type D

1.58”w (40mm) x 1.00”h (25mm) x 9.50”l (241mm)



Eco-10, 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 10%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models available for T5 and T5-HO linear, T8 linear and U-bent, and T5 twin-tube lamps
- Programmed rapid start design preheats 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 eliminates circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry (for T5 and T5-HO linear models) ensures safe operation throughout entire lamp life cycle
- For linear lamps, ballasts maintain consistent light output for different lamp lengths, ensuring uniformity
- Ultra-quiet operation
- Protected from miswires of any input power to control lead
- 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

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

Specifications

Performance



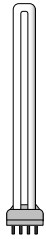
- Dimming Range: 100% to 10% measured relative light output
- Lamp Starting: programmed rapid start
- Minimum Lamp Starting Temperature: 10°C (50°F)
- Ambient Temperature Operating Range: 10°C (50°F) to 60°C (140°F)
- Relative Humidity: maximum 90% non-condensing
- Operating Voltage: 120V or 277V at 60Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output Variation: 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 .85 for T8 and T5 twin-tube lamps, equal to 1.0 for T5 lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 20%
- 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 requirements for EMI/RFI emissions
- Meets ANSI C62.41 Category A surge protection standards up to and including 4kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001.2000

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


Eco-10 Ballast Models

Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (amps)	Eco-10 Model Number	Ballast Current (amps)	Eco-10 Model Number
T5 linear  5/8" diameter	14W (22")	1	C	.17	E 3 T514 C 120 1	.08	E 3 T514 C 277 1
		2	C	.32	E 3 T514 C 120 2	.14	E 3 T514 C 277 2
	21W (34")	1	C	.25	E 3 T521 C 120 1	.11	E 3 T521 C 277 1
		2	C	.43	E 3 T521 C 120 2	.19	E 3 T521 C 277 2
	28W (45.3")	1	C	.30	ECO-T528-120-1	.14	ECO-T528-277-1
		2	C	.55	ECO-T528-120-2	.25	ECO-T528-277-2
T5-HO linear high output  5/8" diameter	24W (21.5")	1	C	.26	ECO-T524-120-1	.13	ECO-T524-277-1
		2	C	.45	ECO-T524-120-2	.20	ECO-T524-277-2
	39W (33.4")	1	C	.38	ECO-T5H39-120-1	.17	ECO-T5H39-277-1
		2	C	.76	ECO-T5H39-120-2	.31	ECO-T5H39-277-2
	54W (45.3")	1	C	.58	ECO-T554-120-1	.25	ECO-T554-277-1
		2	C	1.1	ECO-T554-120-2	.45	ECO-T554-277-2
T5 Twin-Tube  5/8" diameter	36/39W (16")	1	F	.33	ECO-T539-120-1	.14	ECO-T539-277-1
		2	F	.58	ECO-T539-120-2	.25	ECO-T539-277-2
		3	F	.85	ECO-T539-120-3	.35	ECO-T539-277-3
	40W (22")	1	F	.33	ECO-T540-120-1	.14	ECO-T540-277-1
		2	F	.61	ECO-T540-120-2	.25	ECO-T540-277-2
		3	F	.88	ECO-T540-120-3	.38	ECO-T540-277-3
	50W (22")	1	F	.38	ECO-T550-120-1	.17	ECO-T550-277-1
		2	F	.69	ECO-T550-120-2	.32	ECO-T550-277-2



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Eco-10 Ballast Models continued ...

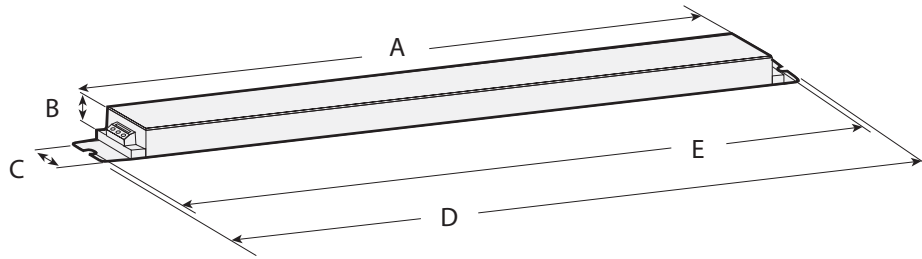
Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (amps)	Eco-10 Model Number	Ballast Current (amps)	Eco-10 Model Number
T8 linear and U-bent  1" diameter	17W (24")	1	F	.19	ECO-T817-120-1	.08	ECO-T817-277-1
		2	F	.31	ECO-T817-120-2	.15	ECO-T817-277-2
		3	F	.43	ECO-T817-120-3	.20	ECO-T817-277-3
	25W (36")	1	F	.24	ECO-T825-120-1	.12	ECO-T825-277-1
		2	F	.43	ECO-T825-120-2	.19	ECO-T825-277-2
	32W (48")	1	C	--	--	.14	E 3 T832 C 277 1
		1	D	.34	ECO-T832-120-1-L	.14	ECO-T832-277-1-L
		1	D	.34	ECO-T832-120-1-T	.14	ECO-T832-277-1-T
		1	F	--	--	.15	ECO-T832-277-1
		2	C	--	--	.23	E 3 T832 C 277 2
2		D	.53	ECO-T832-120-2-L	.23	ECO-T832-277-2-L	
2		D	.53	ECO-T832-120-2-T	.23	ECO-T832-277-2-T	
2	F	--	--	.22	ECO-T832-277-2		
	3	F	.82	ECO-T832-120-3	.35	ECO-T832-277-3	



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

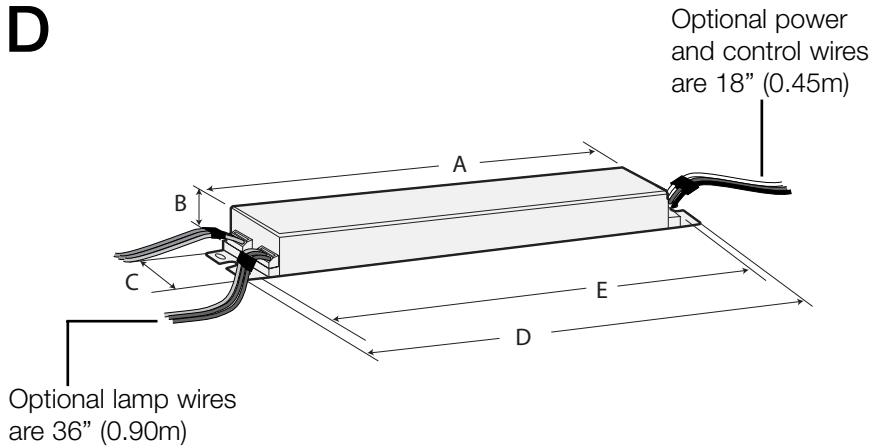
Eco-10 Case Dimensions

C



A	16.12"	(409 mm)
B	1.00"	(25 mm)
C	1.18"	(30 mm)
D	18.00"	(457 mm)
E	17.70"	(450 mm)
		(mounting centers)

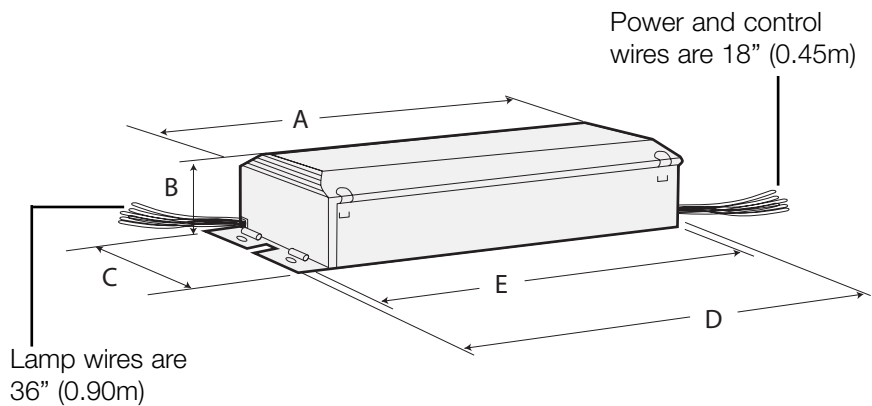
D



A	7.13"	(181 mm)
B	1.00"	(25 mm)
C	1.58"	(40 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

If using four hole mount, mounting centers are 9.00" (229 mm) x 1.06" (27 mm).

F



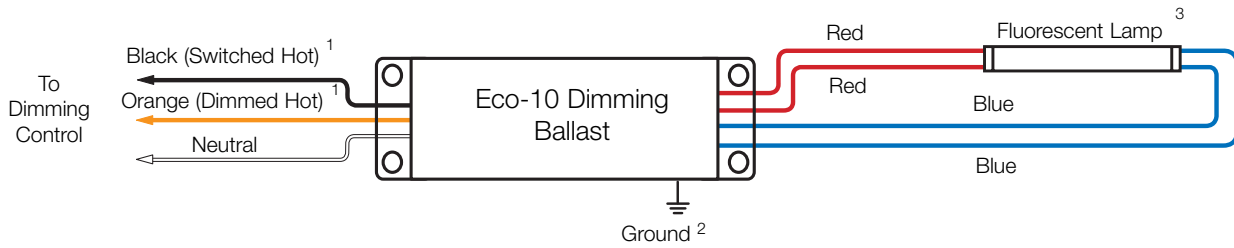
A	8.30"	(211 mm)
B	1.50"	(38 mm)
C	2.38"	(60 mm)
D	9.50"	(241 mm)
E	8.91"	(226 mm)
		(slot mounting centers)

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

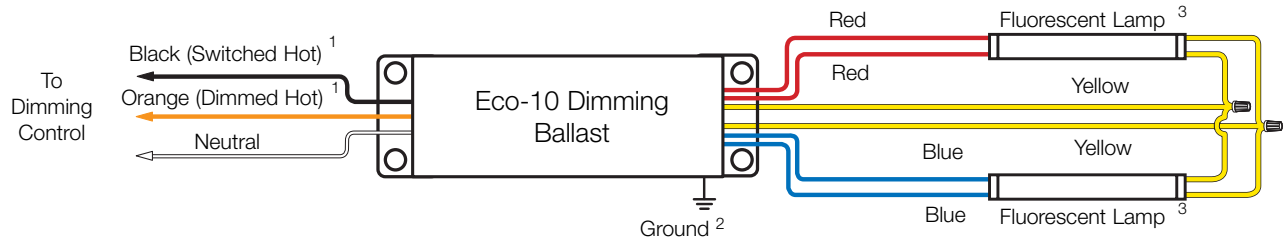
Job Name:	Model Numbers:	
<input type="text"/>	<input type="text"/>	<input type="text"/>
Job Number:	<input type="text"/>	<input type="text"/>

Eco-10 Wiring Diagrams

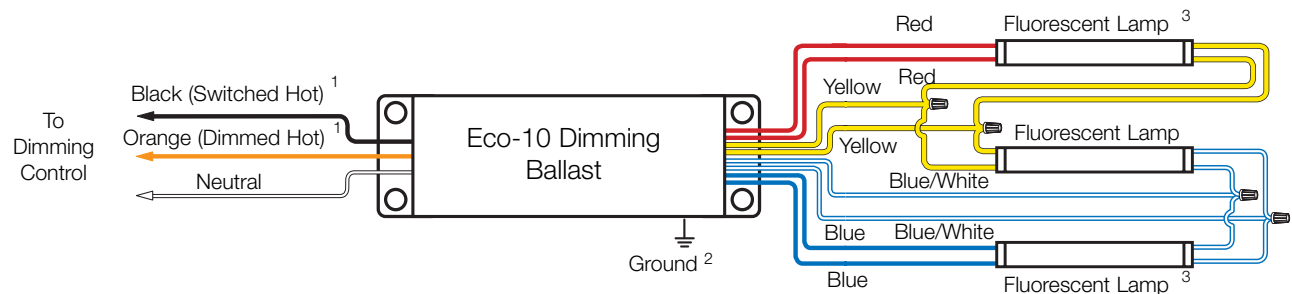
One T5 or T8 lamp



Two T5 or T8 lamps



Three T8 lamps



¹ 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.

² Ballast and lighting fixture must be effectively grounded.

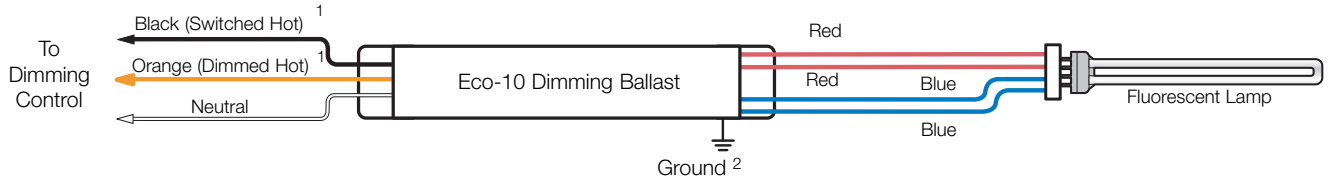
³ Includes 6" T8 U-bent lamps

Note: For T5 and T8 lamps, maximum lamp-to-ballast wire length is 7 feet (2m).

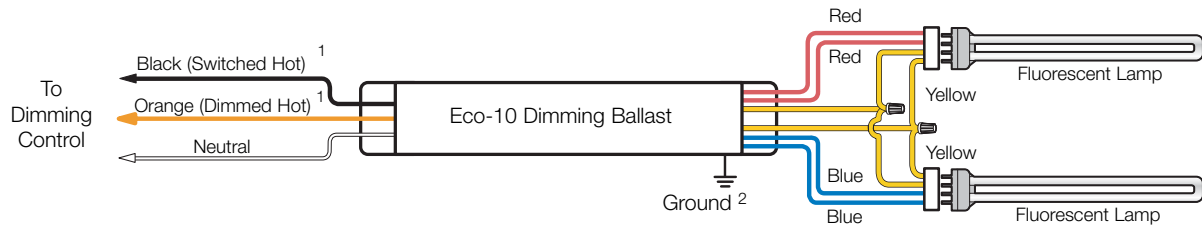
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Job Number: <input type="text"/>	<input type="text"/>	<input type="text"/>

Eco-10 Wiring Diagrams continued

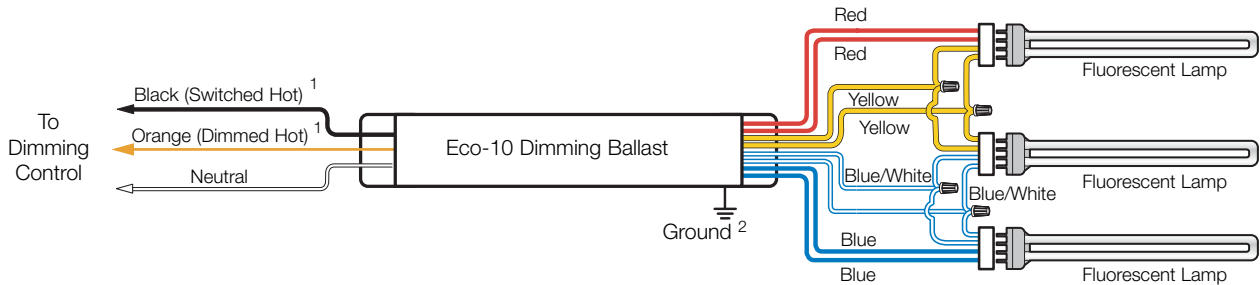
One T5 twin-tube lamp



Two T5 twin-tube lamps



Three T5 twin-tube lamps



¹ 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.

² Ballast and lighting fixture must be effectively grounded.

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

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



ATTENTION ELECTRICIANS AND CONTRACTORS

Ballast/Socket Leads

Lead lengths from ballast to socket must not exceed 7' (2m) for T5 and T8 lamps, and 3' (1m) for T5 twin-tube lamps.

Lamp Sockets

Quality lamp sockets are required to ensure positive lamp-pin to socket contact. T5 linear lamps require rotary locking sockets. T8 lamps require knife-edge sockets. U-bent lamps require locking sockets and proper lamp support to hold lamp pins in full contact with the socket. 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 and T8

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 get the outside edge of the lamp to be 1/2" ± 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. Having a fluorescent lamp too far away from the grounded metal will make the lamp flicker or not turn on at all.

Lamp Mounting for T5

Keep lamp at least 3/8" ± 1/8" away from the grounded metal surface. Having a lamp too close to the grounded metal will not reduce lamp life but may cause a visible difference in brightness along the length of the lamp.

Wiring and Grounding

All wiring from the dimming control to the Eco-10 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.

Ballast Operating Temperature

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

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.



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 there are questions.

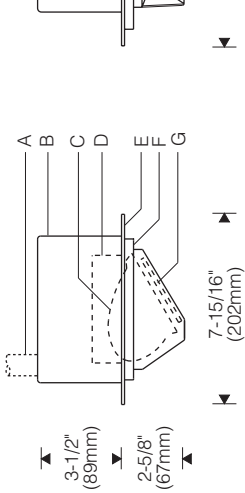
Further Information

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

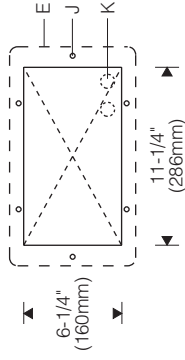
Job Name: <input type="text"/>	Model Numbers: <input type="text"/>	
Job Number: <input type="text"/>	<input type="text"/>	<input type="text"/>

FIXTURE K1/K1E

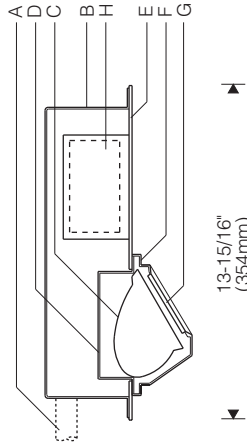
M-251-070GT*-2-0H-0



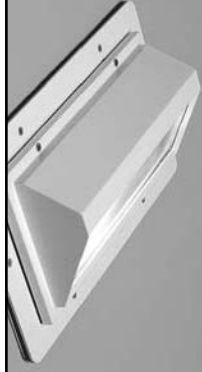
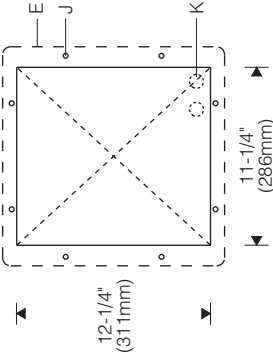
Style 251 (Halogen, metal halide remote) 1:8 Scale



Style 253 (Metal halide integral) 1:8 Scale



Style 253 (Style 253)



Specifications

- A** Conduit (by others)
- D** Aluminum back box
- B** Seam welded stainless steel recessed housing
- E** 1/8" aluminum faceplate
- C** Specular extruded aluminum reflector
- F** Die-cast aluminum hood

- G** Micro-prismatic, thermal and impact resistant tempered glass lens
- H** Integral ballast compartment (Style 253)
- J** Threaded inserts for attaching recessed housing to concrete form (hardware provided)
- K** 7/8" dia. conduit entries (2 on top, 2 on side)

Finish:

Exterior surfaces - 6 stage pretreatment and electrostatically applied thermoset polyester powder coating for a durable abrasion, fade and corrosion resistant finish. Choice of semi-gloss colors (see ordering information).

Reflector - extruded high purity aluminum with clear anodized specular finish. All hardware and components - non corrosive stainless steel or aluminum. Faceplate and hood secured with tamper-resistant (Torx) screws. Hood screws are captive.

Mounting:

Fixture installs into poured concrete ceiling. Recessed housing mounts to concrete form prior to pouring concrete. Full size template provided. Threaded rod and hardware included for attachment to concrete form. Recessed housing can be ordered separately for installation prior to reflector and ballast assembly, specify **0T** option code.

For mounting in framed ceiling construction in damp locations, see Style 201/205 in Lighting the Wall Section.

Electrical:

Use 90°C wire for supply connections. Recessed housing supplied with four 7/8" dia. conduit entries (two on top of housing, two on side).

Tungsten halogen - DC bayonet lampholder retained with patented clamping supports for maximum heat dissipation.

Metal halide - G12 lampholder for use with single ended lamp. HPF high reactance autotransformer (HX-HPF) ballast rated for -20°F/-29°C starting. Optional electronic ballast with automatic shut-off to eliminate end-of-life cycling.

Style 251 - remote encapsulated ballast for indoor dry location. For remote wet location ballast, consult local sales representative.

Style 253 - integral ballast.

For complete ballast specifications, see Accessories Section.

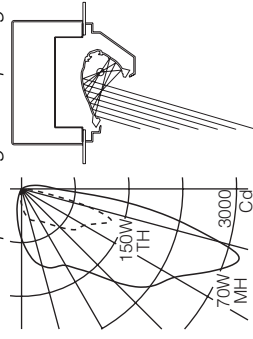
Standard: UL listed or CSA certified for wet locations. For installation in poured concrete only.

Features

- Low profile focuses attention on luminous wall, not luminaire
- Evenly lights entire wall - reflector aperture is shielded
- Shallow recessed depth - ideal for poured concrete ceilings
- Built to last - all aluminum and stainless steel components
- Durable, secure - 1/8" aluminum faceplate, die-cast hood, thermal and impact resistant lens; tamper-resistant screws

Performance

Two parabolic reflector sections drive light down the vertical plane from one edge. An elliptical section redirects its light to a parabola and shields the lamp. Asymmetry is maximized resulting in high beam efficiency and superior surface uniformity. The fast "runback" minimizes glare and spill light. Wide lateral distribution permits greater spacings.



For complete photometrics, visit www.elliptipar.com.

To Order

To form a Catalog Number

1 Source

M = Metal halide
T = Tungsten halogen

2 Style

251 = Small outdoor semi-recessed, **remote** ballast

Note: Available for tungsten halogen (no ballast) and metal halide. Remote ballast is suitable for dry indoor location. For wet location ballast, consult local sales representative.

253 = Small outdoor semi-recessed, **integral** ballast
Note: Available for metal halide only.

3 Lamp

Lamp Code	Wattage	Lamp Number	Voltage(s)	Ballast	Distance
Ceramic Metal Halide*					
035G	35	CMH35/T6/G12	A, B	HX-HPF	15'(4.5m)
			1, 2	Electr.	15'(4.5m)
070G	70	CMH70/T6/G12	A, B, H	HX-HPF	10'(3m)
			1, 2	Electr.	15'(4.5m)
150G	150	CMH150/T6/G12	A, B, H	HX-HPF	10'(3m)
			1, 2	Electr.	15'(4.5m)

Tungsten Halogen

0100	100	Q100DC	A
0150	150	Q150DC	A

For complete lamp and ballast information, see Accessories Section.
 * Metal halide lamps using ceramic arc tubes yield higher light output than lamps with quartz arc tubes. They offer improved lamp-to-lamp color consistency and a more stable color temperature over their life (±200K). Standard lamp color is 3000K / 80+ CRI.

4 Mounting

T = Recessed housing for use in poured concrete ceiling with overlapping trim/faceplate

Note: For mounting in framed ceiling construction in damp locations, see Style 201/205 in Lighting the Wall Section.

5 Finish

02 = Semi-gloss white
06 = Dark bronze
07 = Silver
08 = Semi-gloss black
12 = Green
99 = Custom RAL or computer matched color to be specified, consult sales representative.

REV: 4/04

elliptipar

Project:

6 Voltage/Ballast

Magnetic
A = 120V
B = 277V
H = 347V (Canada)*
Electronic
1 = 120V
2 = 277V

* Not available for 35W metal halide

7 Option (See Accessories Section for specifications)

00 = No options
0H = Style 251 long distance remote metal halide ballast for dry indoor location,
 35W: 15' min. up to 50' max. (4.5m - 15m),
 70W: up to 50' max. (15m),
 150W: up to 50' max. (15m)
0T = Luminaire supplied less recessed housing (includes reflector, ballast and faceplate assembly).
Note: Requires previous installation of recessed housing kit in poured concrete (order separately, see Accessories).
XX = For modification not listed, include detailed description. Consult factory prior to specification.

8 Standard

0 = UL listed, Underwriters Laboratories
J = CSA certified, Canadian Standards Association

Example

M253 - 070G - T - 07 - B - 000

Small outdoor semi-recessed with hood for use with 70W metal halide lamp. Recessed housing for use in poured concrete. Overlapping trim/faceplate. Silver powder coat finish. Integral 277V ballast. UL.

Style 251 / 253

Type:

Accessories

Order separately. See Accessories Page for specifications.

AFK000X = Ballast fuse kit

0 = UL
J = CSA

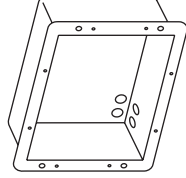
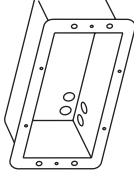


VRH

0 = Recessed housing kit with hardware, for installation in poured concrete.

Note: Required only when installing recessed housing in advance of electrical and finish components. Order reflector, ballast and faceplate assembly separately, specify **0T** option code.

T251 = tungsten halogen
M251 = metal halide remote
M253 = metal halide integral



The external shapes of the asymmetric reflectors are trademarks of elliptipar. Certain products illustrated may be covered by applicable patents and patents pending. For a list of patents, see Contents pages. These specifications supersede all prior publications and are subject to change without notice. ©2004 elliptipar.



LAMP K1/K1E

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20016 – CMH70TU/830/G12

GE ConstantColor® PulseArc® CMH® Ceramic Metal Halide T6



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

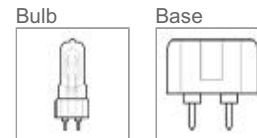
Burn Position	Universal burning position
Warm Up Time to 90% (MAX)	2 min/3
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

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


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- Product Brochures
 - [Ceramic Metal Halide](#)
- Application/Segment Brochures
 - [Contractor Lighting](#)

MSDS (Material Safety Data Sheets)

Disposal Policies & Recycling Information

Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	12
UPC	043168200165

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
87531	GEMH70-MSF-120	1	99.0	1.0
87546	GEMH70-SLJ-MV	1	99.0	1.0
86847	M70MLTLC3M500K	1	90.0	1.0
86576	11210277CTC000C		90.0	1.0
86578	11210506CTC000C	1	90.0	1.0
86839	M7048TLC3M500K	1	90.0	1.0

⚠ CAUTIONS & WARNINGS

R- WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. Visit the FDA website for more information: <http://www.fda.gov/cdrh/radh1th/urburns.html>

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

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e-Vision® Electronic Ballast for Metal Halide Lamps

BALLAST K1/K1E

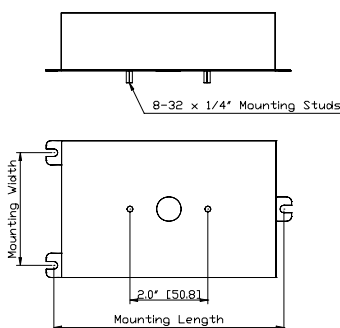
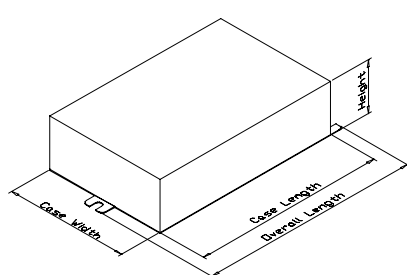
DIMENSIONS AND DATA

Lamp Data		Input Volts	Catalog Number*	Line Current (Amps)	Input Power (W)	Ballast Factor	Max THD (%)	Min Power Factor	Wiring Dia	Figure	Weight (lb)	Max Distance to Lamp (ft)
Number	Watts											

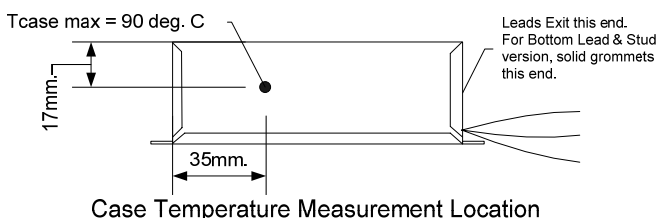
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F

1	70	120	IMH-70-A-xxx-ID	0.72	86	1.0	18%	0.9	8	A	1.5	5
		277		0.31	84							

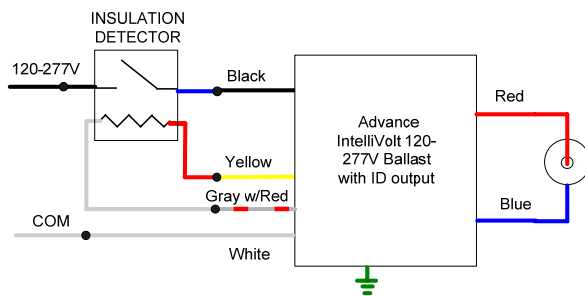
Figure A



CASE LENGTH = 4.72" [120mm]
 MOUNTING LENGTH = 5.20" [132mm]
 MOUNTING WIDTH = 2.87" [73mm]
 OVERALL LENGTH = 5.51" [140mm]
 CASE WIDTH = 3.62" [92mm]
 HEIGHT = 1.50" [38mm]



Case Temperature Measurement Location



Wiring Diagram 8

Ballast Case must be Grounded

Ballast will not operate if Insulation Detector is Absent, Shorted or Failed Open



INSTALLATION & APPLICATION NOTES:

1. Use with any Thermal Protector having equivalent resistive value 5k to 25k ohm (4 wire versions only)
2. Open Circuit voltage across ID output approx 270VDC
3. Maximum allowable case temperature is 90°C. See figure above for measurement location
4. Ignition pulse is 4 kV max
5. All leads are 12 inches long
6. Ballast output will shutdown after 20 minutes if lamp fails to ignite
7. Power must be cycled off – then on, after replacing lamp

*Ordering Information

Order Suffix	Description
-BLS	Ballast with bottom exit leads and mounting studs

Data is based on 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 • 10275 West Higgins Road • Rosemont, Illinois 60018-5603 • (847) 390-5000 • fax: 847-390-5109 • www.advancetransformer.com

A DIVISION OF PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

Pole mounted high performance floodlighting luminaires utilizing Ceramic Metal Halide lamps

High output pole mounted luminaires for illuminating large horizontal or vertical surfaces, roadways and parking areas. Asymmetrical forward throw distribution. Luminaires meet full cut off definition in straight down position.

Housing/fitter: Heavy one piece die cast aluminum (minimum .125" thick) with swivel arm and internal full semi-specular anodized aluminum forward throw optical system. Swivel arm allows for horizontal to vertical aiming positions. Slip fitter and arm extensions are die cast aluminum secured by six (6) socket head stainless steel set screws threaded into stainless steel inserts. Pole extension is extruded aluminum with a die cast aluminum cap.

Enclosure: Tempered clear glass, $\frac{3}{16}$ " thick, retained by one piece die cast aluminum frame, secured by four (4) captive socket head stainless steel screws threaded into stainless steel inserts. Fully gasketed for weather tight operation in any mounting orientation using a molded silicone rubber O-ring.

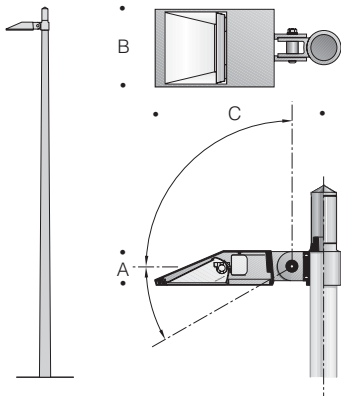
Electrical: Lampholders: Single ended porcelain G12, bi-pin with nickel plated contacts supplied with 250°C high temperature leads, rated 600V, pulse rated 5KV.

Ballasts are located in the base of the selected BEGA pole and are available in 120V or 277V, HPF - specify.

Finish: These luminaires are available in five standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV); Eurocoat™ (URO). To specify, add appropriate suffix to catalog number. For complete description of BEGA finishing process, refer to technical information section at end of catalog. Custom colors supplied on special order. U.L. listed, suitable for wet locations. Protection class: IP 65.

Type:
 BEGA Product #:
 Project:
 Voltage:
 Color:
 Options:
 Modified:

FIXTURE M5
8141MH



Pole top luminaires with asymmetrical light distribution. Internal optical system. Clear tempered glass lens. Die cast aluminum trim with captive socket head stainless steel screws. Slip fits 3" O.D. pole top - pole extension included with luminaire. U.L. listed, suitable for wet locations. IP 65. Color: Standard BEGA finishes.



	Lamp	Lumen	A	B	C
8141MH	Single 1 70W T6 G12 MH	6600	4 $\frac{3}{8}$	8 $\frac{7}{8}$	21 $\frac{1}{2}$
Poles - See Page 316 of catalog 3" O.D. pole top					



LAMP M5

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20016 – CMH70TU/830/G12

GE ConstantColor® PulseArc® CMH® Ceramic Metal Halide T6



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

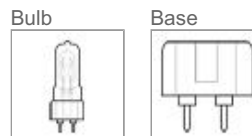
Burn Position	Universal burning position
Warm Up Time to 90% (MAX)	2 min/3
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

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


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 - [Ceramic Metal Halide](#)
- Application/Segment Brochures
 - [Contractor Lighting](#)

MSDS (Material Safety Data Sheets)

Disposal Policies & Recycling Information

Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	12
UPC	043168200165

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
87531	GEMH70-MSF-120	1	99.0	1.0
87546	GEMH70-SLJ-MV	1	99.0	1.0
86847	M70MLTLC3M500K	1	90.0	1.0
86576	11210277CTC000C		90.0	1.0
86578	11210506CTC000C	1	90.0	1.0
86839	M7048TLC3M500K	1	90.0	1.0

⚠ CAUTIONS & WARNINGS

R- WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. Visit the FDA website for more information: <http://www.fda.gov/cdrh/radhth/urburns.html>

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e-Vision[®] Electronic Ballast for Metal Halide Lamps

BALLAST M5

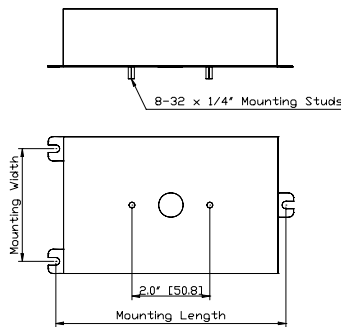
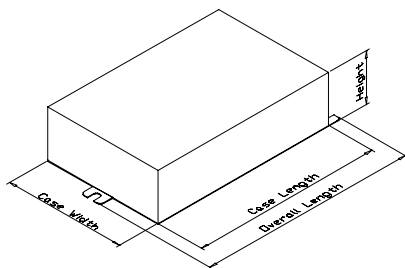
DIMENSIONS AND DATA

Lamp Data		Input Volts	Catalog Number*	Line Current (Amps)	Input Power (W)	Ballast Factor	Max THD (%)	Min Power Factor	Wiring Dia	Figure	Weight (lb)	Max Distance to Lamp (ft)
Number	Watts											

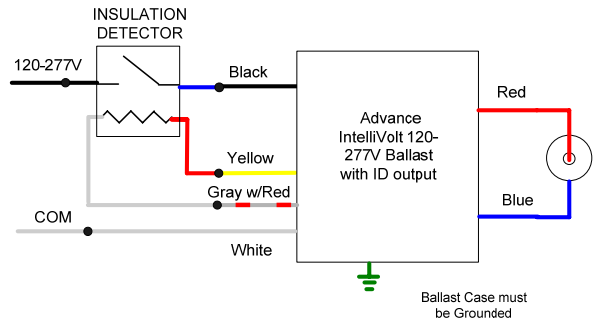
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F

1	70	120	IMH-70-A-xxx-ID	0.72	86	1.0	18%	0.9	8	A	1.5	5
		277		0.31	84							

Figure A

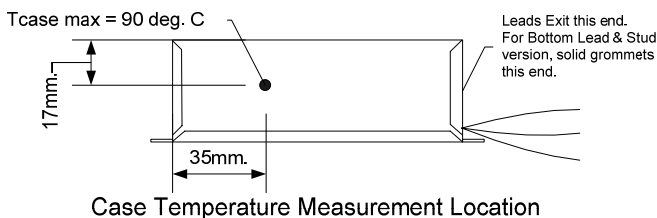


CASE LENGTH = 4.72" [120mm]
 MOUNTING LENGTH = 5.20" [132mm]
 MOUNTING WIDTH = 2.87" [73mm]
 OVERALL LENGTH = 5.51" [140mm]
 CASE WIDTH = 3.62" [92mm]
 HEIGHT = 1.50" [38mm]



Wiring Diagram 8

Ballast will not operate if Insulation Detector is Absent, Shorted or Failed Open



INSTALLATION & APPLICATION NOTES:

1. Use with any Thermal Protector having equivalent resistive value 5k to 25k ohm (4 wire versions only)
2. Open Circuit voltage across ID output approx 270VDC
3. Maximum allowable case temperature is 90°C. See figure above for measurement location
4. Ignition pulse is 4 kV max
5. All leads are 12 inches long
6. Ballast output will shutdown after 20 minutes if lamp fails to ignite
7. Power must be cycled off – then on, after replacing lamp

***Ordering Information**

Order Suffix	Description
-BLS	Ballast with bottom exit leads and mounting studs

Data is based on 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.

Wall mounted downlight luminaires with shielded light sources

Housing: One piece die cast aluminum with integral arm and canopy supplied with a universal mounting bracket for direct attachment to a 3½" or 4" octagonal wiring box. A die cast aluminum round "rotation" plate allows the housing to be precisely leveled (or rotated) after installation.

Enclosure: Clear tempered glass with twin main beam specular anodized aluminum reflector held by a die cast aluminum hinged door secured with captive stainless steel fasteners threaded into stainless steel inserts. Fully gasketed for weather tight operation using a molded silicone rubber "U-channel".

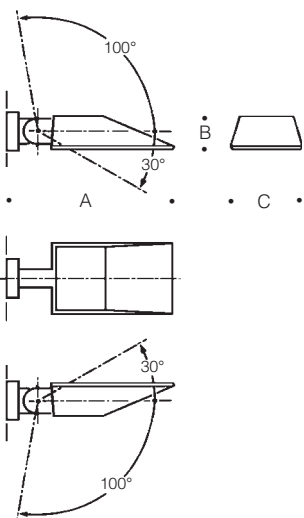
Electrical: Lampholders: H.I.D. are single ended G12 base bi-pin with nickel plated contacts supplied with 180°C leads. Ballasts: H.I.D. are electronic, universal voltage - 120V through 277V.

Finish: These luminaires are available in five standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV); Eurocoat™ (URO).

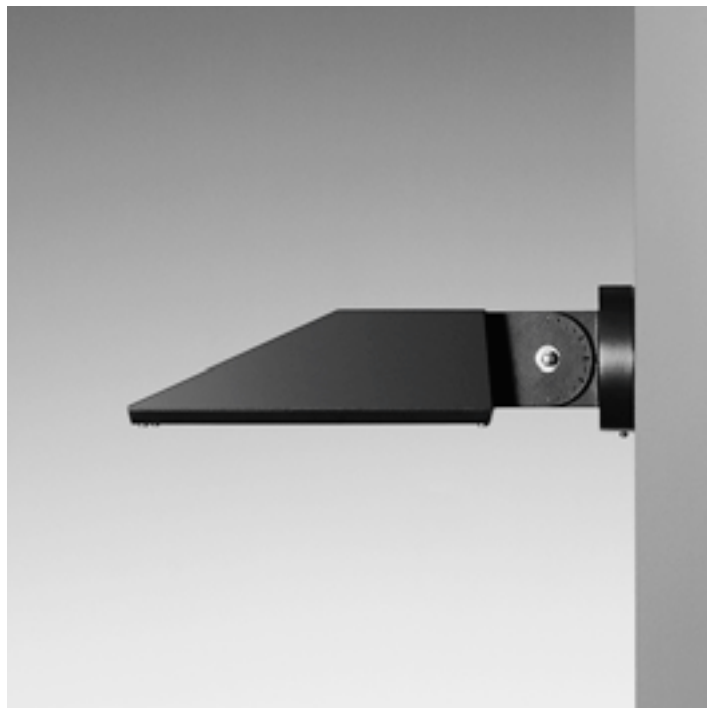
To specify, add appropriate suffix to catalog number. For complete description of BEGA finishing process, refer to technical information section at end of catalog. Custom colors supplied on special order.

U.L. listed, suitable for wet locations. Protection class: IP 65.

Type: **FIXTURE M6/M6E**
 BEGA Product #: **7475MH**
 Project:
 Voltage:
 Color:
 Options:
 Modified:



Surface mounted luminaires with forward throw floodlighting distribution.
 Any mounting orientation.
 U.L. listed, suitable for wet locations. IP 65.
 Color: Standard BEGA finishes.



Lamp	Lumen	A	B	C
7475MH Surface washer	1	70W T6 G12 MH	6600	19 4 8 7/8



LAMP M6/M6E

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20016 – CMH70TU/830/G12

GE ConstantColor® PulseArc® CMH® Ceramic Metal Halide T6



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

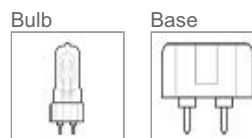
Burn Position	Universal burning position
Warm Up Time to 90% (MAX)	2 min/3
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

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


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MSDS (Material Safety Data Sheets)

Disposal Policies & Recycling Information

Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	12
UPC	043168200165

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
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87546	GEMH70-SLJ-MV	1	99.0	1.0
86847	M70MLTLC3M500K	1	90.0	1.0
86576	11210277CTC000C		90.0	1.0
86578	11210506CTC000C	1	90.0	1.0
86839	M7048TLC3M500K	1	90.0	1.0

⚠ CAUTIONS & WARNINGS

R- WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. Visit the FDA website for more information: <http://www.fda.gov/cdrh/radhth/urburns.html>

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e-Vision[®] Electronic Ballast for Metal Halide Lamps

BALLAST M6/M6E

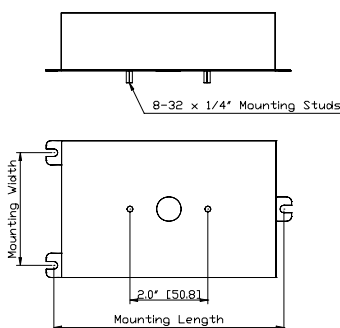
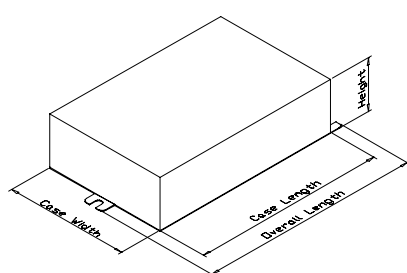
DIMENSIONS AND DATA

Lamp Data		Input Volts	Catalog Number*	Line Current (Amps)	Input Power (W)	Ballast Factor	Max THD (%)	Min Power Factor	Wiring Dia	Figure	Weight (lb)	Max Distance to Lamp (ft)
Number	Watts											

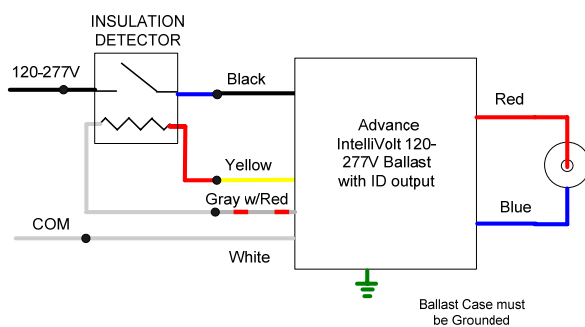
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F

1	70	120	IMH-70-A-xxx-ID	0.72	86	1.0	18%	0.9	8	A	1.5	5
		277		0.31	84							

Figure A

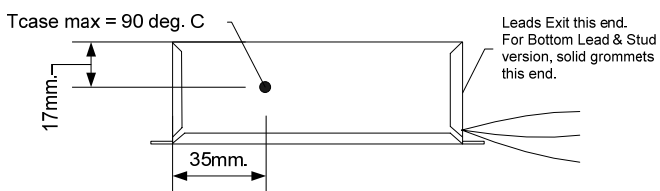


CASE LENGTH = 4.72" [120mm]
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 MOUNTING WIDTH = 2.87" [73mm]
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Wiring Diagram 8

Ballast will not operate if Insulation Detector is Absent, Shorted or Failed Open



Case Temperature Measurement Location



INSTALLATION & APPLICATION NOTES:

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2. Open Circuit voltage across ID output approx 270VDC
3. Maximum allowable case temperature is 90°C. See figure above for measurement location
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7. Power must be cycled off – then on, after replacing lamp

*Ordering Information

Order Suffix	Description
-BLS	Ballast with bottom exit leads and mounting studs

Data is based on 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 • 10275 West Higgins Road • Rosemont, Illinois 60018-5603 • (847) 390-5000 • fax: 847-390-5109 • www.advancetransformer.com

A DIVISION OF PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

GREENLEE HYPERION SERIES

FIXTURE N2

HYPR-70MH-OPTX-*-*H42

LAMP TYPE: Standard or Ceramic Metal Halide

HOUSING: One-piece, heavy-walled, extruded aluminum, .322" thick for vandal resistance.

CROWN ASSEMBLY: Flat or domed, heavy cast aluminum. For added security against vandals, crown attaches to lower housing with four captive, concealed 1/4" x 20 Allen-head screws.

LENS: One-piece, heavy-walled borosilicate lens is recessed .764" and protected by three cast ribs for vandal resistance. Exposed portion of the lens is only .671" tall.

OPTICS: Patented OptX™ optical assembly uses Constructive Occlusion™ technology. A precisely positioned clear lamp in a Cavity and Fan™ assembly projects radiant energy into selective zones. Proprietary coating on the cavity is 96% reflective.

BALLAST: High Power Factor, multi-tap ballast designed for -20°F operation is standard. Universal electronic ballast for 120-277V, 50 or 60 HZ operation is available.

LAMPHOLDER: Matched to lamp. Glazed porcelain, medium base, 4KV pulse rated with spring center contact.

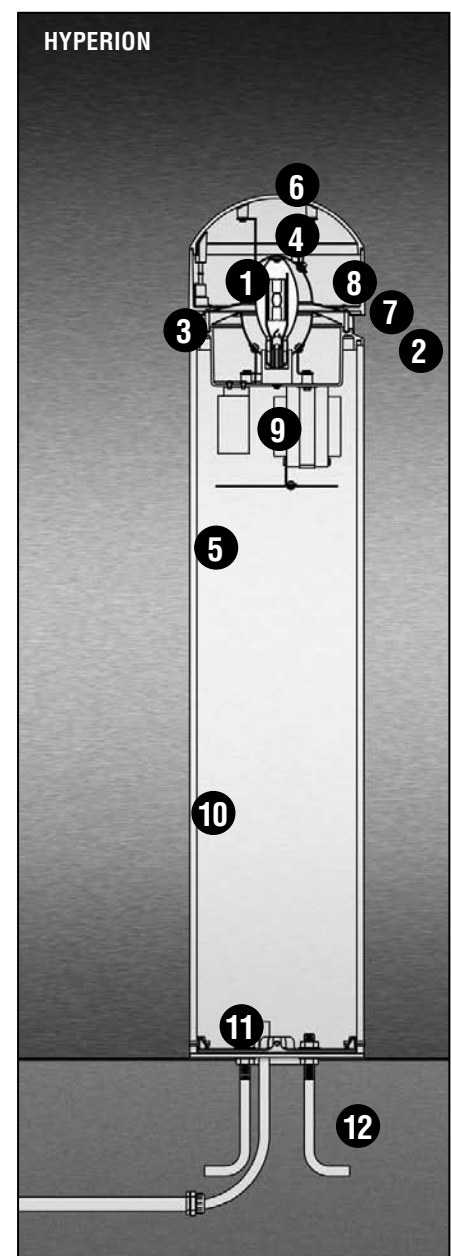
ANCHOR BOLTS: Anchor bolts are 3/8" x 10" heavy-duty galvanized steel. Four (4) are furnished.

FINISH: Available in metallic silver, satin verde green, black, bronze, white, and buff.

EXTRA VALUE FEATURES:

- Unique OptX™ optical assembly
- Tailored, uniform distribution over greater distances.
- Increased spacing between luminaires
- Vandal Resistant Aperture
- Heavy Duty Construction
- Premium Materials

Bollards are subjected to extreme environments – from severe weather to pedestrian wear-and-tear, and senseless vandalism. The Hyperion Bollard Series was designed with this harsh reality in mind, and that's why its materials are of the highest quality, ruggedly durable, and feature superior vandal resistant construction.



- 1 OPTICS** – OptX optics are the heart of this luminaire. A clear lamp is precisely positioned in a highly engineered, and patented, Cavity and Fan assembly that functions like an integrating sphere. Known as Constructive Occlusion technology, this sphere uses a proprietary internal coating that realizes 96% reflectance. The lamp's radiant energy is distributed by this finely tuned, reflective surface to desired zones.
- 2 VANDAL RESISTANT APERTURE** – Hyperion features the narrowest aperture of any bollard on the market, a mere 1.167" wide, which gives the luminaire a sleek and elegant appearance while minimizing the target area available to vandals.
- 3 VANDAL RESISTANT LENS** – The one-piece, heavy-walled borosilicate lens is recessed a full .764" and protected by three cast ribs. The exposed portion of the lens is only .671" tall. These design features and premium materials provide superior vandal resistance.
- 4 LAMPS** – Standard and Ceramic Metal Halide
- 5 HEAVY-WALL HOUSING** – One-piece, heavy-wall extruded aluminum, .322" thick for vandal resistance.
- 6 CROWN** – Flat or domed heavy-wall cast aluminum. One-piece castings provide for greater impact strength.
- 7 CONCEALED ACCESS** – Added security against vandals, crown attaches to lower housing with four captive, concealed 1/4" x 20 Allen-head screws.
- 8 SEALING AND GASKETS** – Silicone gaskets and seals ensure Hyperion is as dependable as it is rugged.
- 9 BALLASTS** – Standard ballast is high power factor, designed for -20° operation. Universal electronic ballast available.
- 10 FINISHES** – Metallic Silver, Satin Verde Green, Black, Bronze, White or Platinum Plus polyester powder coating.
- 11 MOUNTING BASE** – Extra thick, 1/2" cast aluminum (chromate converted and powder coat finished in black standard).
- 12 ANCHOR BOLTS** – 3/8" x 10" heavy-duty galvanized steel; four (4) furnished.



GREENLEE HYPERION SERIES

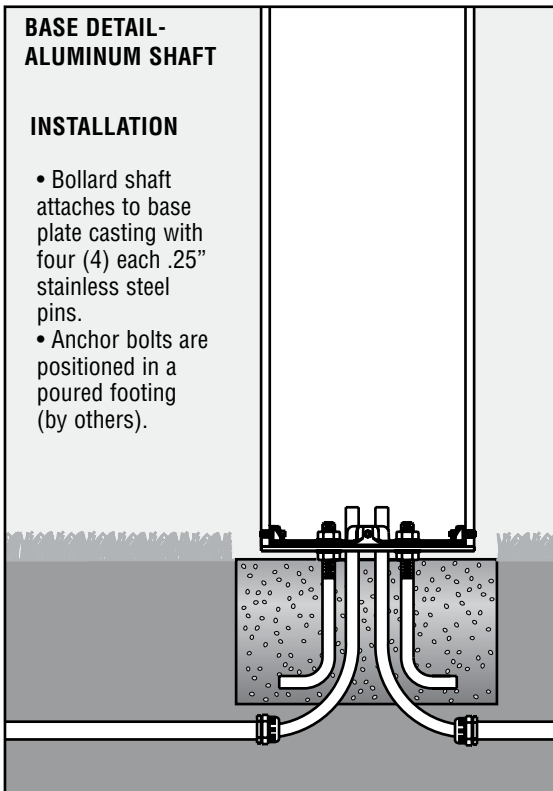
Series	Wattage/Lamp Type	Voltage	Optics	Finish	Top	Height ³	Options								
HYPR	50, 70, 100 MH E-17 Medium Base Metal Halide Quartz Arc Tube	MT – Multi-Tap ¹ 120, 208, 240, 277	OptX [®]	MSV – Metallic Silver SVG – Satin Verde Green BUF – Buff WHT – White BLK – Black BRZ – Bronze GPT – Graphite	FT – Flat Top DT – Dome Top	H42	PC120 – 120 Volt Photocell PCHV – 208- 277V Photocell PC347 – 347V Photocell GFR – Ground-Fault Receptacle LPC - BLK Lens Protector casting painted black LL - Less Lamp LAB - Less Anchor Bolts								
	50, 70, 100 CMH/Med E-17 Medium Base Metal Halide Ceramic Arc Tube	TT – Tri-Tap 120, 277, 347, 480 ²													
	39, 70 CMH/T6 T-6 Ceramic Metal Halide with G12 Bi-pin base	UE – Universal Electronic 120-277 V 50 or 60 HZ													
Accessories															
HSS - House Side Shield ⁴															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">HYPR</td> <td style="padding: 5px;">100MH</td> <td style="padding: 5px;">MT</td> <td style="padding: 5px;">OptX[®]</td> <td style="padding: 5px;">MSV</td> <td style="padding: 5px;">FT</td> <td style="padding: 5px;">H42</td> <td style="padding: 5px;">PC120</td> </tr> </table>								HYPR	100MH	MT	OptX [®]	MSV	FT	H42	PC120
HYPR	100MH	MT	OptX [®]	MSV	FT	H42	PC120								

FOOTNOTES

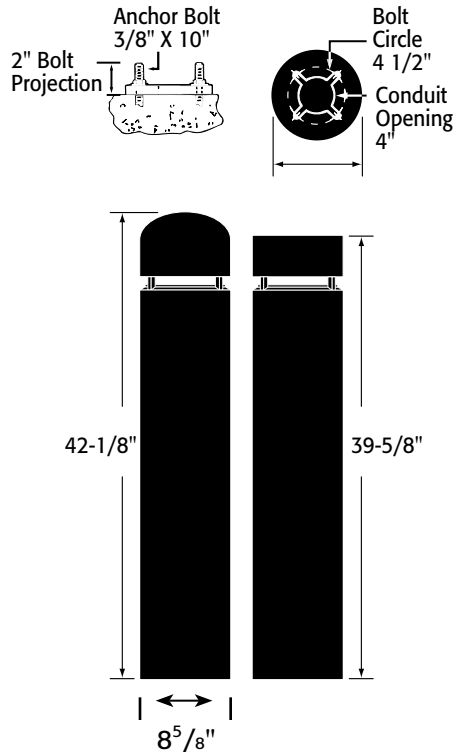
1. Multi-tap wired for highest voltage. Alternate voltages will require rewiring in the field.
2. 480 volt Magnetic Ballast is available for 70 and 100 Watt Metal Halide only.
3. Nominal standard height if 42". Non-Standard heights are available in 6" increments. Minimum height is 18"
4. House Side Shield provides 180o shielding. Maximum fixture rating with HSS is 70 watts. HSS is NOT available for 100 watt fixtures.

HYPERION BOLLARDS

All Hyperion Bollards are shipped with lamps installed and 38" leads to facilitate wiring.



DIMENSIONS



FINISHES

Each Hyperion Bollard has a tough polyester powder coat finish, which is guaranteed for two years and is available in six standard colors: metallic silver, satin verde green, black, bronze, white, graphite, and buff.





LAMP N2

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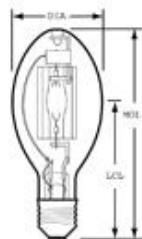
12577 – MXR70/C/U/MED/O

GE Protected Multi-Vapor® PulseArc® Quartz Metal Halide ED17



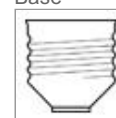
GENERAL CHARACTERISTICS

Lamp type	High Intensity Discharge - Quartz Metal Halide
Bulb	ED17
Base	Medium Screw (E26)
Bulb Finish	Coated
Wattage	70
Voltage	85
Rated Life	15000 hrs
Bulb Material	Hard glass
Lamp Enclosure Type (LET)	Open or enclosed fixtures



Bulb

Base



[View Larger](#)

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	5300
Mean Lumens	3300
Nominal Initial Lumens per Watt	75
Color Temperature	3200 K
Color Rendering Index (CRI)	70

ELECTRICAL CHARACTERISTICS

Burn Position	Universal burning position
Open Circuit Voltage (peak lead ballast) (MIN)	332 V
Open Circuit Voltage (RMS lag ballast) (MIN)	235 V
Warm Up Time to 90% (MIN)	2 min
Warm Up Time to 90% (MAX)	5 min
Hot Restart Time to 90% (MIN)	10 min
Hot Restart Time to 90% (MAX)	15 min

DIMENSIONS

Maximum Overall Length (MOL)	5.4300 in (137.9 mm)
Nominal Length	5.430 in (137.9 mm)
Bulb Diameter (DIA)	2.125 in (53.9 mm)
Light Center Length (LCL)	3.430 in (87.1 mm)

ADDITIONAL RESOURCES

Catalogs

Testimonials

Brochures

Application/Segment Brochures

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

Product Brochures

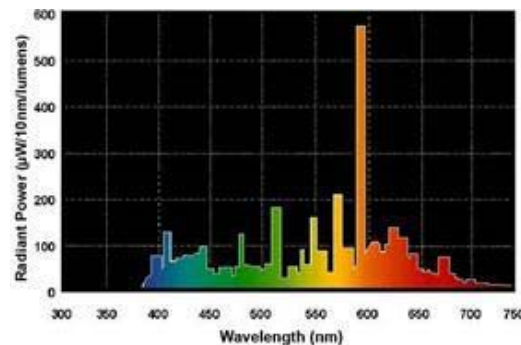
- [HID Lamps](#)
- [Industrial Lighting](#)

MSDS (Material Safety Data Sheets)

Disposal Policies & Recycling Information

GRAPHS & CHARTS

Spectral Power Distribution



PRODUCT INFORMATION

Product Code	12577
Description	MXR70/C/U/MED/O
ANSI Code	M98
Standard Package	Case
Standard Package GTIN	10043168125779
Standard Package Quantity	6
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	6
UPC	043168125772

COMPATIBLE GE BALLASTS

Product Code	Description	# of Bulbs	Power Factor	Ballast Factor
87546	GEMH70-SLJ-MV	1	99.0	1.0
87531	GEMH70-MSF-120	1	99.0	1.0
86847	M70MLTLC3M500K	1	90.0	1.0
86578	11210506CTC000C	1	90.0	1.0
86839	M7048TLC3M500K	1	90.0	1.0

▲ CAUTIONS & WARNINGS

R- WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available. Visit the FDA website for more information: <http://www.fda.gov/cdrh/radhth/urburns.html>

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

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e-Vision[®] Electronic Ballast for Metal Halide Lamps

BALLAST N2

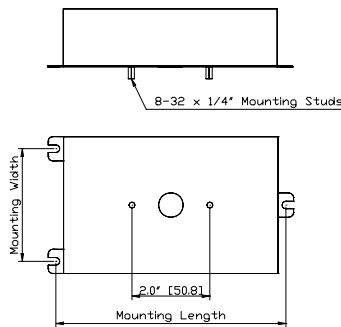
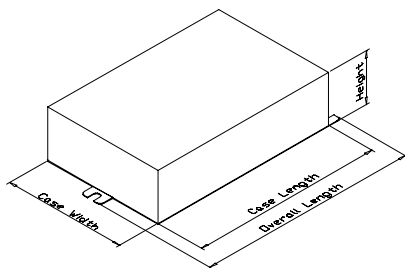
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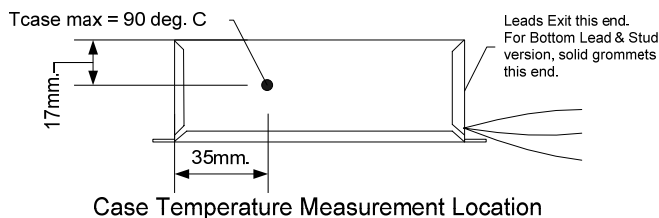
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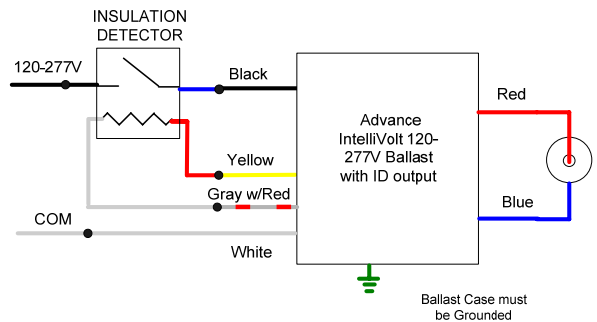
Figure A



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Wiring Diagram 8

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