

Walkways
Building Entrances
Parking Lots
Shopping Malls



Specifications



- Certifications** The fixture shall be ETL and CETL listed for wet location.
- Light Distribution** The luminaire shall meet the specified light distribution and footcandle levels with an internal optical system.
- Assembly** Field assembly to pole or bracket shall be accomplished without having to remove or disassemble any components. Fixture shall be ETL listed "suitable for wet locations."
- Ballast** Ballast shall be readily accessible, removable and insulated. The fixture is to be pre-wired, completely assembled and electronically tested prior to shipment. Quick disconnects are standard.
- Optical Assembly** The optical assembly shall be of all non-ferrous components. Lens panels shall be of impact resistant acrylic, and fixture shall be fully gasketed to prevent entry of moisture, dust and insects.
- Finish** BK-BZ-WH-GR-GY-NA baked enamel standard, other colors available.
- Mounting Detail** Standard fitter is for 3" O.D. pole top. If tenon is required, specify exact tenon dimension and dimensions of round or square pole tops to ensure compatibility.

PROJECT
FIXTURE TYPE
CATALOG#

2930 South Fairview Street
 Santa Ana, CA 92704
 Phone: 714 668 3660
 Fax: 714 668 1107
 allighting@earthlink.net
 http://www.allighting.com

AA-01

Product Order Guide

Series	Size	Max Watts	Lamp Type	Lamp Voltage ¹	Optics	Finish ¹	Options
AA-01	22 (up to 175 W)	175 MH	E-17 ²	120	TOA	BZ Bronze	HSS House Side Shield
	24 (up to 175 W)	250 MH	ED-28	208	TCA	BK Black	PCB Button Photo Control
	30 (up to 250 W)	175 HPS	E-17 ²	240	OA	WH White	F Fusing
	42 (up to 250 W)	250HPS	ED-18	277	OP	GR Green	FF Double Fusing
					CLF	NA Natural Aluminum	WM Wall Mount
					CLL	GY Gray	DL Downlight ³
						CC Custom Color	UL Uplight ³

¹ Consult factory for other colors and voltages

² Lamps 175 W and below are medium base.

³ 30" head size only

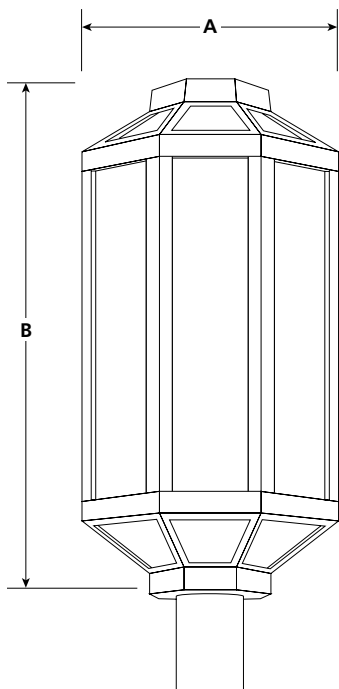
Example: AA-01-22-150HPS-E17-120-OA-BK-PCB

Optics

TOA	Textured Opal Acrylic
TCA	Textured Clear Acrylic
OA	Opal Acrylic
OP	Opal Polycarbonate
CLF	Type 5 Refractor W/Clear Lens
CLL	Louver Assembly W/Clear Lens

Luminaire Dimensions

Luminaire	A	B	Weight	EPA
AA-01-22	10-1/8"	22"	40#	2.2
AA-01-24	15"	24"	44#	2.4
AA-01-30	15"	30"	50#	2.9
AA-01-42	15"	42"	62#	4



NOTE:
 AA-01-30 Shown
 with Windows

GE Consumer & Industrial
Lighting

ConstantColor[®] CMH[®] 150 Watt Open-Rated Elliptical Lamps

GE ConstantColor CMH ceramic metal halide lamps provide lamp-to-lamp color uniformity, consistent excellent color over life... plus high operating efficiencies.

Color uniformity lamp-to-lamp

Ceilings will look clean and bright, with minimal color variation lamp-to-lamp. ConstantColor CMH provides a consistent "white look", critical for interior applications.

Consistent color over life

GE ConstantColor CMH lamps provide stable color over life. So walls, ceilings, displays and furnishings look their natural best always.

Excellent color rendering

Warm white light (3000K) and exceptional color rendering (>80 CRI) make ConstantColor CMH an ideal source for indoor applications.

Ease of use

Protective shroud allows for use of product in open-fixtures.

Highly efficient

Up to 85 lumens per watt
- 10-20% more efficient than
standard metal halide.

12,000 to 15,000 hour rated life

Fits standard metal halide sockets

No new wiring or fixtures needed.



**Uniform,
Consistent Color**



**GE - Innovative,
Energy-Saving Lighting**



imagination at work

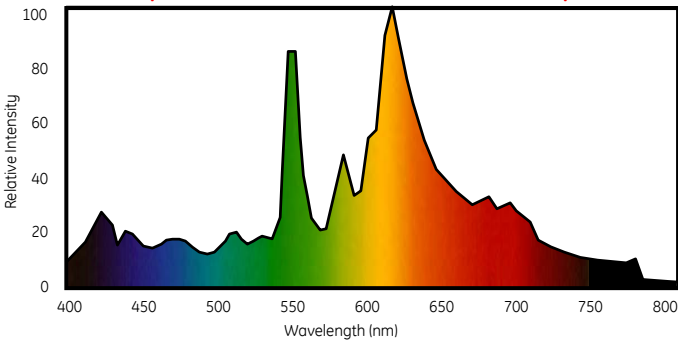
ConstantColor® CMH® 150 Watt Open-Rated Elliptical Lamps

<u>Product Information*</u>	<u>Clear 150-Watt 3K</u>	<u>Coated 150-Watt 3K</u>	<u>Clear 150-Watt 4K</u>	<u>Coated 150-Watt 4K</u>
Product Code	31065	31066	31067	31068
Refer to ANSI Code	M102	M102	M102	M102
Description	CMH150/U/MED/830/O	CMH150/C/U/MED/830/O	CMH150/U/MED/942/O	CMH150/C/U/MED/942/O
<u>Physical Characteristics</u>				
Burn Position	Universal	Universal	Universal	Universal
Bulb Designation	ED17	ED17	ED17	ED17
Bulb Material	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass
Bulb Nominal Diameter, mm (inches)	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")
Base Type	Medium Screw	Medium Screw	Medium Screw	Medium Screw
Light Center Length, mm (inches)	86 (3 3/8")	86 3 (3/8")	86 (3 3/8")	86 3 (3/8")
Max. Overall Length, mm (inches)	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")
Effective Arc Length, mm (inches)	8 (5/16")	8 (5/16")	8 (5/16")	8 (5/16")
Max. Bulb Temp C°	400	400	400	400
Max. Base Temp C°	190	190	190	190
Eccentricity: Base-to-Bulb	3°	3°	3°	3°
Eccentricity: Base-to-Arc Axis	3°	3°	3°	3°
	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture
<u>Luminaire Characteristics</u>				
<u>Electrical/Photometric Characteristics</u>				
Nominal Lamp Watts	150	150	150	150
Nominal Lamp Volts	95	95	95	95
Nominal Lamp Amps-Starting	2.4	2.4	2.4	2.4
Nominal Lamp Amps-Operating	1.8	1.8	1.8	1.8
Max. Current Crest Factor	1.8	1.8	1.8	1.8
Initial Lumens	12900	11900	12000	11000
Mean Lumens (40% Rated Life)	9545	8805	9000	8250
Rated Life (Hrs.) 10 Hrs./Start	12000	12000	15000	15000
Color Rendering Index (Ra) CRI@K	>80 3000K	>80 3000K	>90 4200K	>90 4200K
Warm-up time (Minutes) to 90%	3 Max	3 Max	5 Max	5 Max
Hot Restart Time (Minutes) to 90%	19 Max	19 Max	18 Max	18 Max
Chromaticity Coordinates: X	.438	.438	.372	.372
Chromaticity Coordinates: Y	.397	.397	.372	.372

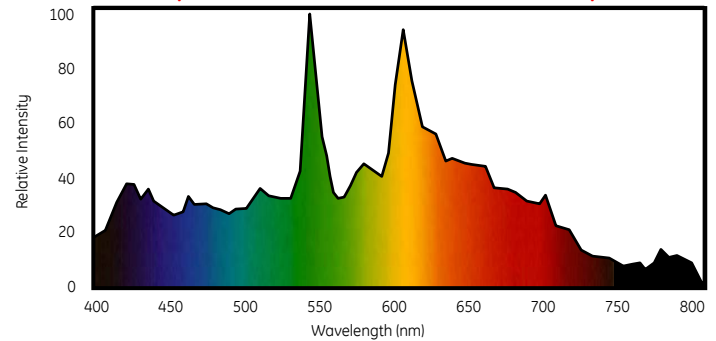
*All data are engineering estimates

WARNING - These lamps can cause serious skin burn and eye inflammation from short wave 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 from the General Electric Company. If the outer envelope breaks or is punctured and the lamp continues to operate, immediately turn power off and remove lamp after it has cooled. These lamps are certified to comply with FDA radiation performance standards, 21 CFR Subchapter J.

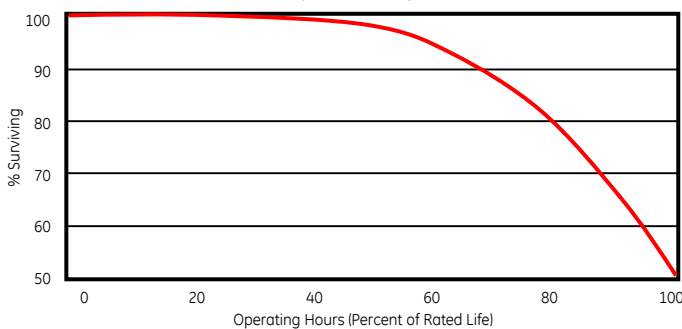
Spectral Power Distribution - 3000K Lamp



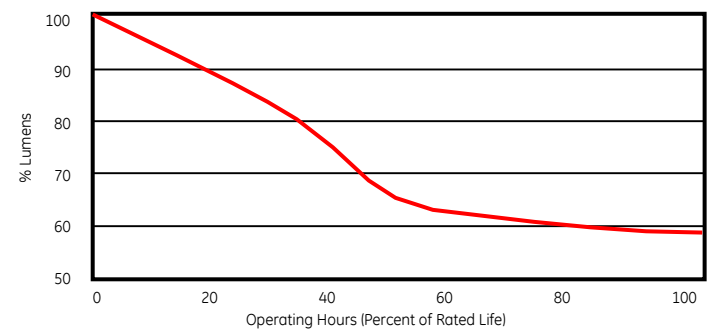
Spectral Power Distribution - 4200K Lamp



Lamp Mortality



Lumen Maintenance



Round Aluminum Straight Poles

Catalog Number	Pole Dimensions	Bolt Circle	Anchor Bolt Size	Max. EPA
RAS-4011-8	4" O.D. x 8'	7 1/2"	(4) 5/8" x 18"	6.8
RAS-4011-10	4" O.D. x 10'	7 1/2"	(4) 5/8" x 18"	4.7
RAS-4011-12	4" O.D. x 12'	7 1/2"	(4) 5/8" x 18"	3.2
RAS-4011-14	4" O.D. x 14'	7 1/2"	(4) 5/8" x 18"	1.9
RAS-5011-12	5" O.D. x 12'	8 3/8"	(4) 3/4" x 30"	8.9
RAS-5011-14	5" O.D. x 14'	8 3/8"	(4) 3/4" x 30"	6.8
RAS-5011-16	5" O.D. x 16'	8 3/8"	(4) 3/4" x 30"	5.3
RAS-5011-18	5" O.D. x 18'	8 3/8"	(4) 3/4" x 30"	2.4

Tenon Options

2-3/8" O.D.	T2
2-7/8" O.D.	T3
3-1/2" O.D.	T3.5
4" O.D.	T4

Options

GFI GFI Provision Only

Drill Mount Options

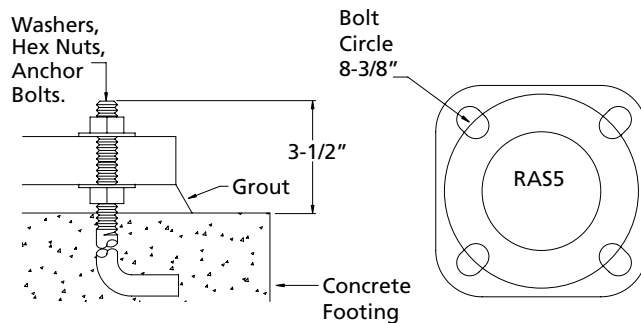
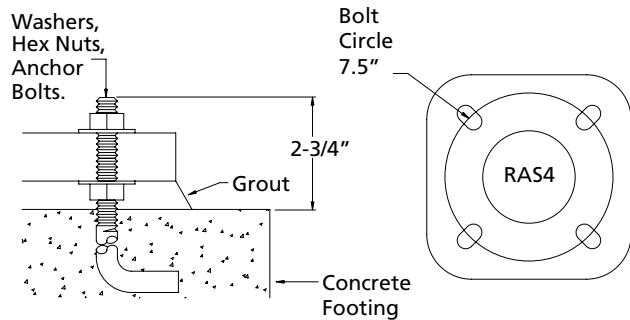
DM 10	Single
DM 2180	Double at 180 Deg
DM 2090	Double at 90 Deg
DM 3090	Triple at 90 Deg
DM 4090	Quad at 90 Deg

Hand Hole

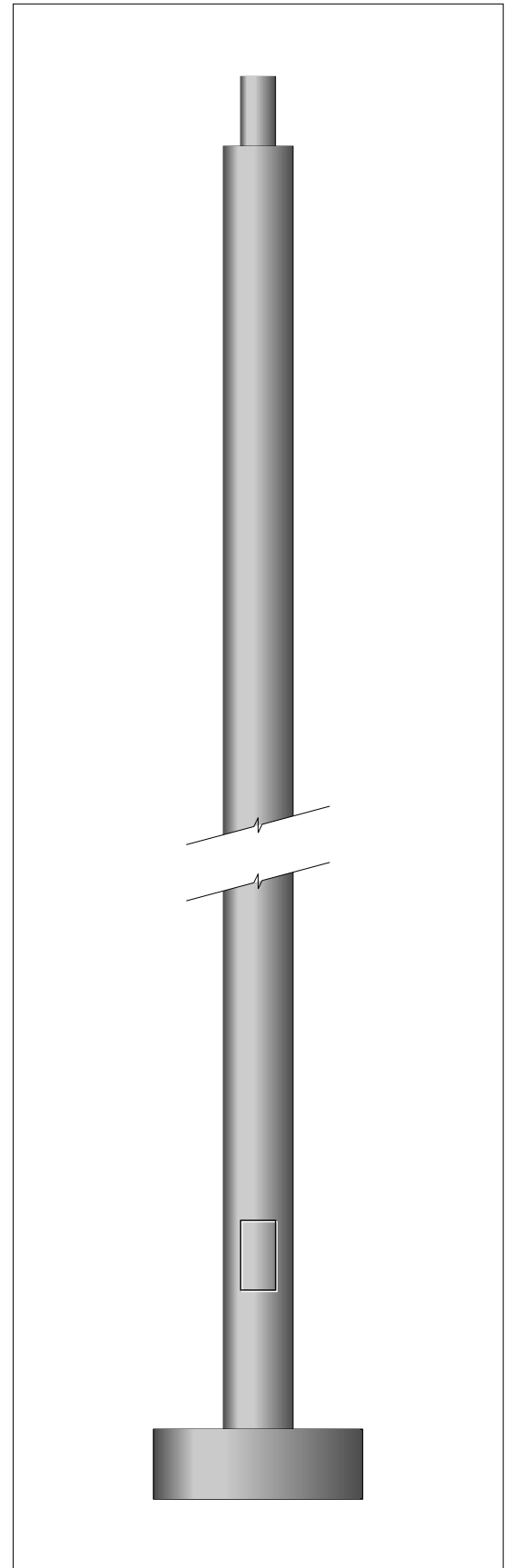
12" to center from base approx.

Note:

EPA calculation is with 100 mph wind and 1.3 gust factor. Base cover, anchor bolts, and hand hole cover included



PROJECT
FIXTURE TYPE
CATALOG#



Low Level Lighting
6" Round Aluminum Bollard
Landscape Accent
Walkways
Building Entrances
Planter Areas
Parks
Parking Lots



Specifications



- Certifications** The fixture shall be ETL and CETL listed for wet location.
- Light Distribution** The LL-02 luminaire shall meet the specified light distribution and footcandle levels with an internal optical system.
- Assembly** The fixture shall be factory pre-wired, with high temperature wire completely assembled and tested prior to shipment. Field installation to mounting base shall be accomplished without having to remove or disassemble any fixture components. Fixture shall be ETL listed "suitable for wet locations."
- Housing** The housing shall be constructed from 6" diameter one piece extruded 6063 alloy aluminum tube.
- Ballast** Ballast shall be readily accessible, removable and insulated. Quick disconnects are standard.
- Lens** Clear or opal 1/4" thick polycarbonate.
- Optical Assembly** The specified optical system shall be of all non-ferrous components, mounted and removable as a one-piece self-contained unit.
- Finish** BK-BZ-WH-GR-GY-NA baked enamel standard, other colors available. Anodized finish also available.

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FIXTURE TYPE
CATALOG#

2930 South Fairview Street
 Santa Ana, CA 92704
 Phone: 714 668 3660
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 http://www.allighting.com

LL-02

Product Order Guide

Series	Max Watts	Lamp Type	Voltage ¹	Optical System	Overall Height	Finish ¹	Options
LL-02	70 MH	E-17	120	O	30"	BZ Bronze	F Fusing
	70 HPS	E-17	208	CLF	36"	BK Black	FF Double Fusing
	26 CFQ	CFQ ²	240	CLR ³	42"	GR Green	HSS House Side Shield
	42 CFT	CFT ²	277			GY Gray	EMG Emergency Battery Backup
	13 CF	CF ²				WH White	HDBP Heavy Duty Base Plate
						CC Custom Color	
						NA Natural aluminum	
						BAA Clear Anodized	
						BZA Bronze Anodized	
						BJA Black Anodized	

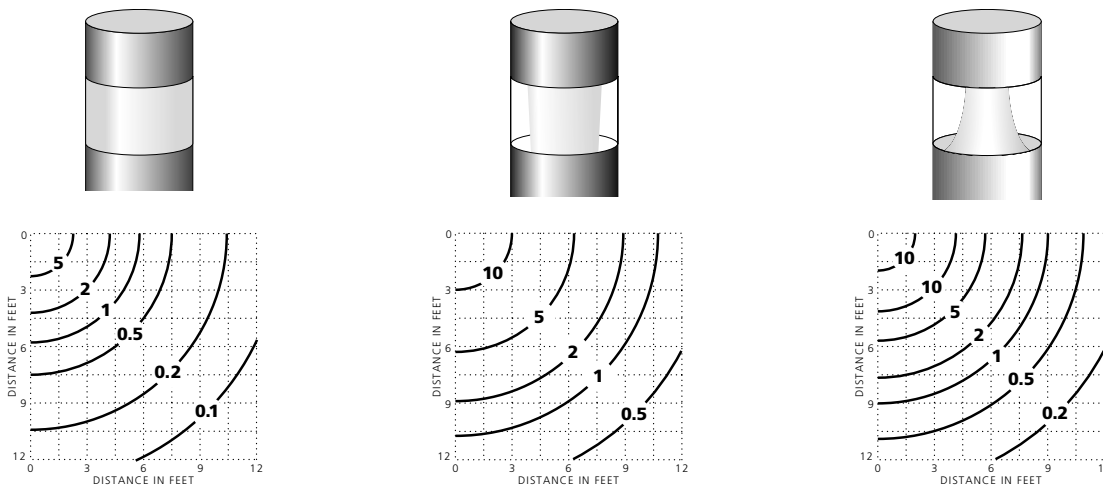
¹ Consult factory for other colors and voltages

² CF = single biax, CFQ = double biax, CFT = triple biax

³ CLR 26CFT max

Example: LL-02-70HPS-E17-120-CLR-42-BZ-PL

Photometric Data



LL-02-70HPS-O-36

Clear Lamp
 5,800 Lumens
 36" Mounting Height
 ISOLUX Curves—value in initial footcandles

LL-02-70HPS-CLF-36

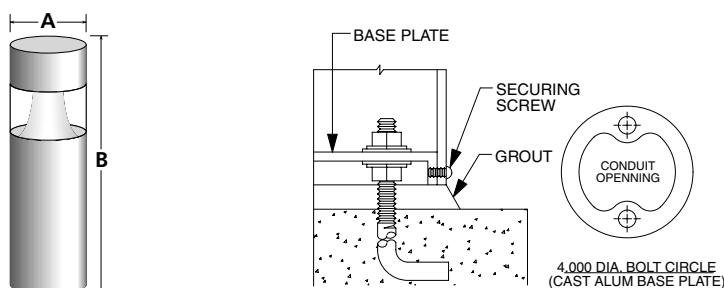
Clear Lamp
 5,800 Lumens
 36" Mounting Height
 ISOLUX Curves—value in initial footcandles

LL-02-70HPS-CLR-36

Clear Lamp
 5,800 Lumens
 36" Mounting Height
 ISOLUX Curves—value in initial footcandles

Luminaire Dimensions

Luminaire	A	B	Weight
LL-02	6"	30"	20#
	6"	36"	24#
	6"	42"	26#



Anchor Bolt Size
 (2) 1/2" x 12" x 3"



e-Vision® Electronic Ballast for Metal Halide Lamps

Catalog Number IMH-70-A-BLS-ID
 For 70W Metal Halide Lamps
 ANSI M98, M143 or M139
 120-277V 50/60Hz Electronic
 Status: Released

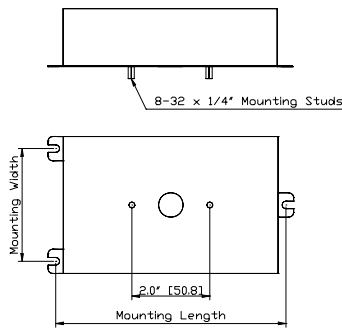
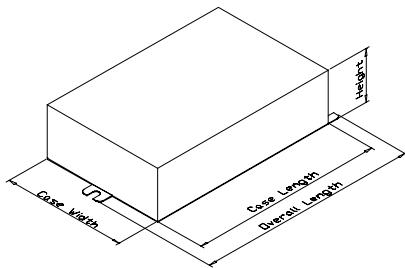
DIMENSIONS AND DATA

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											

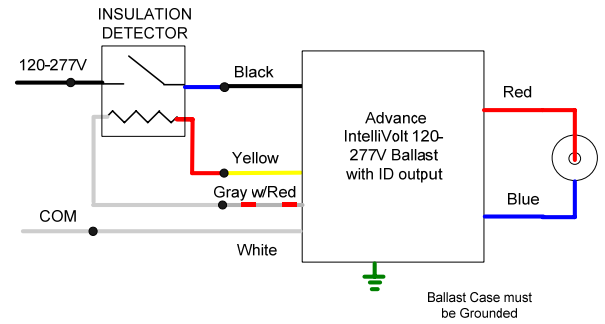
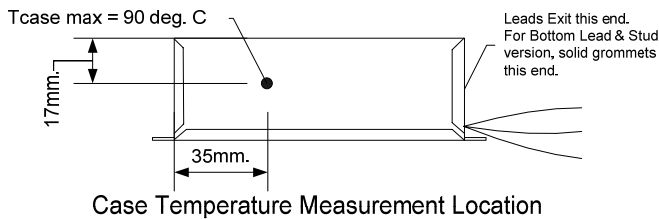
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F

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.

GE Consumer & Industrial
Lighting

ConstantColor® CMH® 70 Watt Open-Rated Elliptical Lamps

GE ConstantColor® CMH® ceramic metal halide lamps provide lamp-to-lamp color uniformity, consistent excellent color over life... plus high operating efficiencies.

Color uniformity lamp-to-lamp

Ceilings will look clean and bright, with minimal color variation lamp-to-lamp. ConstantColor® CMH® provides a consistent "white look", critical for interior applications.

Consistent color over life

GE ConstantColor® CMH® lamps provide stable color over life. So walls, ceilings, displays and furnishings look their natural best always.

Excellent color rendering

Warm white light (3000K) and exceptional color rendering (>80 CRI) make ConstantColor® CMH® an ideal source for indoor applications.

Ease of Use

Protective shroud allows for use of product in open-fixtures.

Highly efficient

Up to 75 lumens per watt
- 10-20% more efficient
than standard metal halide.

Up to 16,000 hour life

Fits standard metal halide sockets

No new wiring or fixtures need.



**Uniform,
Consistent Color**



**GE - Innovative,
Energy-Saving Lighting**



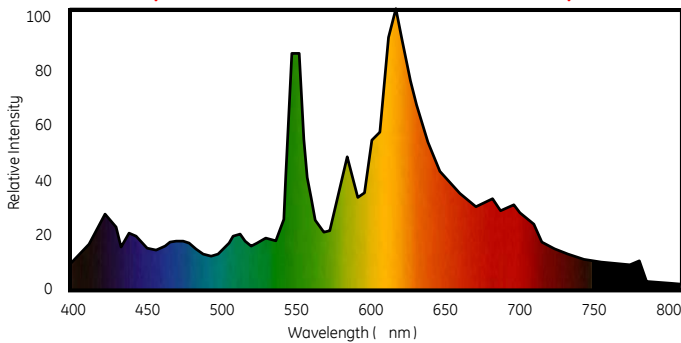
GE imagination at work

ConstantColor® CMH® 70 Watt Open-Rated Elliptical Lamps

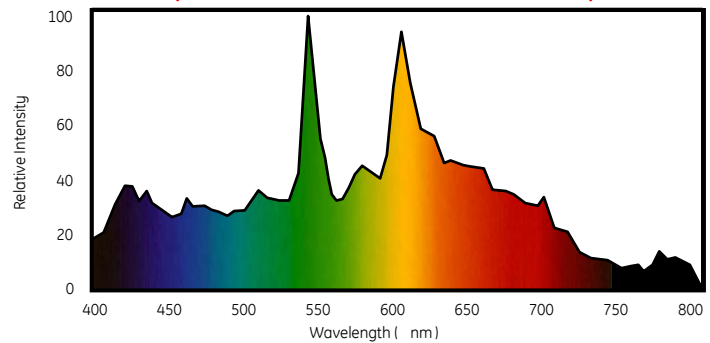
<u>Product Information*</u>	<u>Clear 70-Watt 3K</u>	<u>Coated 70-Watt 3K</u>	<u>Clear 70-Watt 4K</u>	<u>Coated 70-Watt 4K</u>
Product Code	31069	31070	31073	31074
Refer to ANSI Code	M98	M98	M98	M98
Description	CMH70/U/MED/830/O	CMH70/C/U/MED/830/O	CMH70/U/MED/942/O	CMH70/C/U/MED/942/O
<u>Physical Characteristics</u>				
Burn Position	Universal	Universal	Universal	Universal
Bulb Designation	ED17	ED17	ED17	ED17
Bulb Material	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass
Bulb Nominal Diameter, mm (inches)	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")
Base Type	Medium Screw	Medium Screw	Medium Screw	Medium Screw
Light Center Length, mm (inches)	86 (3 3/8")	86 (3 3/8")	86 (3 3/8")	86 (3 3/8")
Max. Overall Length, mm (inches)	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")
Effective Arc Length, mm (inches)	7 (9/32")	7 (9/32")	7 (9/32")	7 (9/32")
Max. Bulb Temp °C	400	400	400	400
Max Base Temp °C	190	190	190	190
Eccentricity: Base-to-Bulb	3°	3°	3°	3°
Eccentricity: Base-to-Arc Axis	3°	3°	3°	3°
	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture
<u>Luminaire Characteristics</u>				
<u>Electrical/Photometric Characteristics</u>				
Nominal Lamp Watts	70	70	70	70
Nominal Lamp Volts	90	90	90	90
Nominal Lamp Amps-Starting	1.2	1.2	1.2	1.2
Nominal Lamp Amps-Operating	.9	.9	.9	.9
Max. Current Crest Factor	1.8	1.8	1.8	1.8
Initial Lumens	5800	5300	5200	4600
Mean Lumens (40% Rated Life)	4000	3900	3700	3600
Average Rated Life (Hrs.) 10 Hrs./Start	16000	16000	16000	16000
Color Rendering Index (Ra) CRI@K	>80 3000K	>80 3000K	>90 4200K	>90 4200K
Warm-up time (Minutes) to 90%	3 Max	3 Max	3 Max	3 Max
Hot Restart Time (Minutes) to 90%	15 Max	15 Max	15 Max	15 Max
Chromaticity Coordinates: X	.438	.438	.372	.372
Chromaticity Coordinates: Y	.397	.397	.372	.372

WARNING - These lamps can cause serious skin burn and eye inflammation from short wave 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 from the General Electric Company. If the outer envelope breaks or is punctured and the lamp continues to operate, immediately turn power off and remove lamp after it has cooled. These lamps are certified to comply with FDA radiation performance standards, 21 CFR Subchapter J.

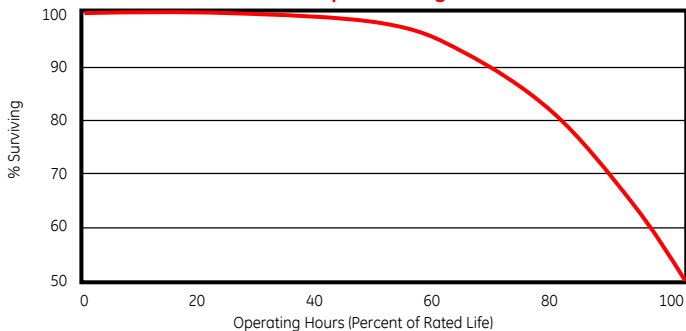
Spectral Power Distribution - 3000K Lamp



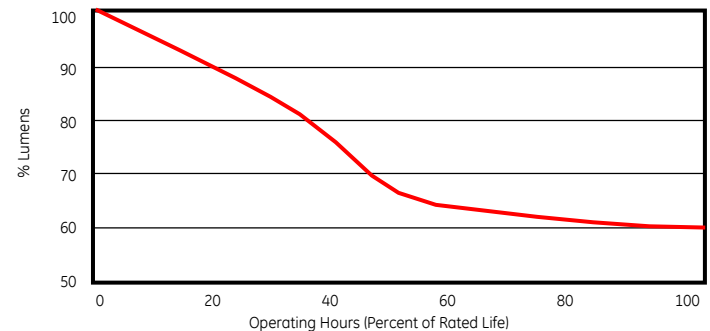
Spectral Power Distribution - 4200K Lamp



Lamp Mortality



Lumen Maintenance



For additional product and application information, please consult GE's Website: www.gelighting.com

Corridors
Walkways
Accent and
General Lighting



SP-108



SP-109



SP-110

METRIC

SP

Specifications

ETL, CETL, ADA, IP65

Certifications The fixture shall be ETL and CETL listed for wet location and concrete pour with a protection rating of IP65, dust-tight and jet-water proof. The fixture shall meet ADA requirements.

Housing The housing shall be constructed of die cast aluminum with two 1/2" NPT conduit entrances for through-wiring capability.

Ballast The ballast shall be readily accessible, removable and insulated. The fixture is to be pre-wired and electronically tested before shipment.

Lens The lens shall be prismatic frosted glass or opal polycarbonate (SP-108 and SP-109). The lens shall be clear glass (SP-110).

Hardware All exposed hardware shall be stainless steel.

Finish BK-BZ-WH-GR-GY-NA baked enamel standard, other colors available.

PROJECT
FIXTURE TYPE
CATALOG#

2930 South Fairview Street
 Santa Ana, CA 92704
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 Fax: 714 668 1107
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SP-108/109/110

Product Order Guide

Series	Max Watts	Lamp Type	Voltage ¹	Finish ¹	Option
SP-108 / SP-109	60 Halogen ³	BT15	120	BK Black	GL Prismatic Frosted Lens
	60 INC	T10	208	BZ Bronze	PL Polycarbonate Lens
	13 CF	CF ²	240	WH White	
	2(13) CF	CF ²	277	GR Green	
	26 CFQ	CFQ ²		NA Natural Aluminum	
	42 CFT	CFT ²		GY Gray	
				CC Custom Color	
SP-110	75 Halogen	T3mini			
	13 CF	CF ²			
	26 CFQ	CFQ ²			
	26 CFT	CFT ²			

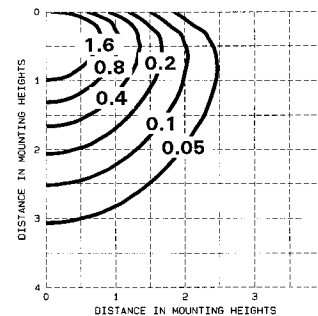
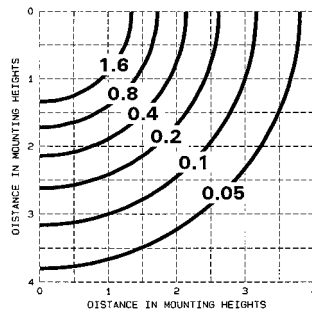
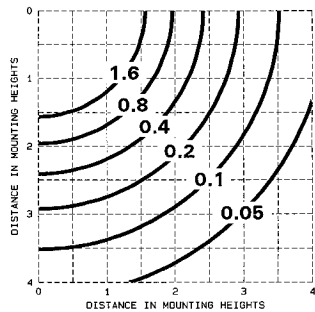
¹ Consult factory for other colors and voltages

² CF = single biax, CFQ = double biax, CFT = triple biax

³ GL option only

Example: SP-108-13CF-120-BK-PL

Photometric Data



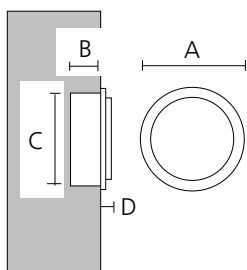
SP-108-(2)13CF-GL
 1,720 Lumens
 3.0 ft Mounting Height
 ISOLUX Curves - value in initial footcandles

SP-109-60INC-GL
 890 Lumens
 3.0 ft Mounting Height
 ISOLUX Curves - value in initial footcandles

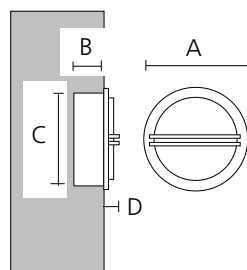
SP-110-13CF-BK
 860 Lumens
 3.0 ft Mounting Height
 ISOLUX Curves - value in initial footcandles

Luminaire Dimensions

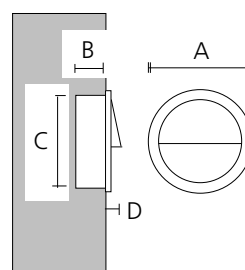
Luminaire	A		B		C		D		Weight	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	lbs.	kg
SP-108	10.63	270	3.94	100	9.72	247	1.18	30	7.1	3.2
SP-109	10.63	270	3.94	100	9.72	247	1.57	40	7.1	3.2
SP-110	10.63	270	3.94	100	9.72	247	1.97	50	6.7	3.0



SP-108



SP-109



SP-110

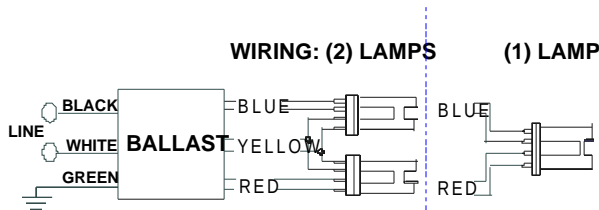


ICF-2S18-H1-LD@120	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM18W/GX24Q	1	18	0/-18	0.17	20	1.05	10	0.97	1.5	5.25
* CFM18W/GX24q	2	18	0/-18	0.33	39	1.05	10	0.99	1.5	2.69
CFQ18W/G24Q	1	18	0/-18	0.16	19	1.00	10	0.97	1.5	5.26
CFQ18W/G24q	2	18	0/-18	0.30	35	0.95	10	0.99	1.5	2.71
CFS16W/GR10q	2	16	0/-18	0.31	37	1.00	09	0.99	1.5	2.70
CFS21W/GR10Q	1	21	0/-18	0.16	20	0.90	15	0.97	1.5	4.50
CFS21W/GR10Q	2	21	0/-18	0.33	40	0.91	10	0.99	1.5	2.28

Wiring Diagram



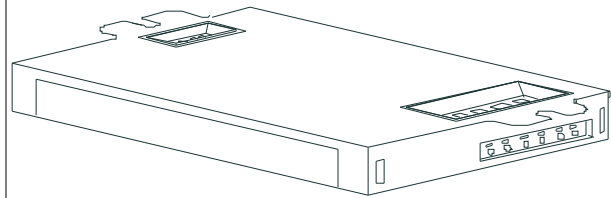
Green Terminal must be Grounded

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

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

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

Revised 08/15/2006



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



ICF-2S18-H1-LD@120	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

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 available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start except for ballasts with -QS suffix, which shall be Rapid 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 through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the IntelliVolt ballast. RCF models shall operate from 60 Hz input source of 120V 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 of 1.00 for primary lamp application.
- 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 10% 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 primary lamp. Ballasts for PL-H lamps shall have a minimum starting temperature of -30C (-20F) for primary lamp.
- 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 be Underwriters Laboratories (UL) rated for use in air-handling spaces.
- 3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.5 Ballast shall comply with ANSI C82.11 where applicable.
- 3.6 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) except for RCF models which shall be Consumer (Class B).

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 75C and three-years for a maximum case temperature of 85C (90C 3year warranty for ICF1H120-M4-XX, ICF2S42-90C-M2-XX and ICF2S70-M4-XX models).
- 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.

Revised 08/15/2006



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ADVANCE TRANSFORMER CO.
 O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
 ROSEMONT, ILLINOIS 60018
 TELEPHONE: (847) 390-5000 FAX: (847) 390-5109

Fast Warm-Up, Plug-In CFL Triple Biax[®] Lamps

GE provides faster warm-up times on the fast growing, very popular line of 4-pin plug-in CFL Triple Biax[®] Lamps

50% faster warm up

GE's new 4-pin plug-in Triple Biax lamps warm up to full brightness 50% faster and provide immediate flicker-free light.

Outstanding energy efficiencies

As much as 77% energy cost savings vs. incandescent lamps. The 42-watt delivers 3200 lumens, 12% more than a standard 150-watt incandescent bulb!

TCLP Compliant

All GE 4-pin plug-in Triple Biax lamps feature low mercury and are TCLP compliant in both the U.S. and Canada.

Long Life – 12,000 hours

GE Biax Lamps last up to 16 times longer than standard incandescent bulbs. Longer life means lower lamp replacement and maintenance costs.

Excellent Color – 82 CRI

GE's SPX color provides excellent color rendering. Available in a choice of color temperatures: 2700K, 300K, 3500K and 4100K.

Dimmable

GE 4-pin plug-in Triple Biax lamps can be operated on dimming circuits for greater application and design flexibility.



GE – bringing incandescent features to compact fluorescent lamps



**GE - Innovative,
Energy-Saving Lighting**



imagination at work

Fast Warm-Up, Plug-In CFL Triple Biax® Lamps

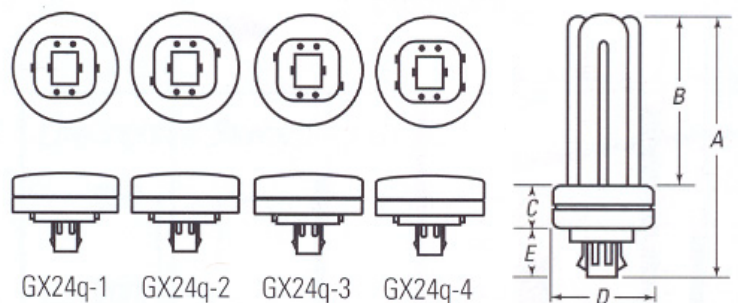
Watts	Color Temperature	Lamp Description	P/C	Initial Lumens	CRI	Rated Life	TCLP Compliant
13	2700K	F13TBX/SPX27/A/4P	34391	900	82	12,000	Yes
	3000K	F13TBX/SPX30/A/4P	34395	900	82	12,000	Yes
	3500K	F13TBX/SPX35/A/4P	34400	900	82	12,000	Yes
	4100K	F13TBX/SPX41/A/4P	34387	900	82	12,000	Yes
18	2700K	F18TBX/SPX27/A/4P	34392	1200	82	12,000	Yes
	3000K	F18TBX/SPX30/A/4P	34396	1200	82	12,000	Yes
	3500K	F18TBX/SPX35/A/4P	34405	1200	82	12,000	Yes
	4100K	F18TBX/SPX41/A/4P	34385	1200	82	12,000	Yes
26	2700K	F26TBX/SPX27/A/4P	34393	1710	82	12,000	Yes
	3000K	F26TBX/SPX30/A/4P	34397	1710	82	12,000	Yes
	3500K	F26T8X/SPX3S/A/4P	34406	1710	82	12,000	Yes
	4100K	F26TBX/SPX41/A/4P	34381	1710	82	12,000	Yes
32	2700K	F32TBX/SPX27/A/4P	39377	2200	82	12,000	Yes
	3000K	F32TBX/SPX30/A/4P	39378	2200	82	12,000	Yes
	3500K	F32TBX/SPX35/A/4P	39379	2200	82	12,000	Yes
	4100K	F32TBX/SPX41/A/4P	39380	2200	82	12,000	Yes
42	2700K	F42TBX/827/A/4P/EOL	46312	3200	82	12,000	Yes
	3000K	F42TBX/830/A/4P/EOL	46313	3200	82	12,000	Yes
	3500K	F42TBX/835/A/4P/EOL	46314	3200	82	12,000	Yes
	4100K	F42TBX/841/A/4P/EOL	46315	3200	82	12,000	Yes

Nominal Lamp Dimension - Inches (mm)

Lamp Type	A	B	C	D	E
F13TBX/08	4.25 (108)	2.60 (66)	.80 (19)	1.93 (49)	.59 (15)
F18TBX/23	4.84 (123)	3.19 (81)	.80 (19)	1.93 (49)	.59 (15)
F26TBX/33	5.24 (133)	3.58 (91)	.80 (19)	1.93 (49)	.59 (15)
F32TBX/48	5.83 (148)	4.17 (106)	.80 (19)	1.93 (49)	.59 (15)
F42TBX/54	6.06 (154)	4.37 (111)	.79 (20)	2.28 (58)	.59 (15)



For additional product and application information, please consult GE's Website:
www.gelighting.com



Landscape Areas
Building Accent
Pedestrian Areas
Tree Lighting
Low Voltage



CIELLO

TS



CA - Curved Arm



UD - Up/Down



SP - Straight Post

Specifications



Certifications ETL and CETL listed for wet location. Also meets IP55 standard.

Lamp Housing Die-cast aluminum with die cast aluminum swivel that allows a 75° vertical tilt adjustment on the Up/Down, wall mount and Spike mount housings and 165° vertical tilt adjustment on Curved pole and Straight pole housings.

Lens Ring Die cast aluminum mounted to lamp housing with three stainless steel cap screws. Clear flat tempered glass is standard.

Lampholder Porcelain 2-pin GX5.3.

Transformer Housing Transformer is integral with all versions when 120 or 277 is specified. Standard transformer is electronic with 120 or 277 volt primary and 12 volt secondary.

Options The following options are available: Wall mount curved arm (CA); Wall mount up/down dual head (UD), ground mount mini straight post (SP) and (SM) Spike mount.

Finish BK-BZ-WH-GR-GY-NA baked enamel standard, other colors available.

Safety Caution: Care should be taken when specifying fixtures for use in pedestrian areas to avoid problems that may be caused by high lens temperatures. Consult factory for more information.

PROJECT
FIXTURE TYPE
CATALOG#

Consult Ciello Application Brochure For More Options

Product Order Guide

Series	Max Watts	Lamp Type	Voltage	Finish	Options
SL-50	50LV	MR-16	12 120 ¹ 277 ¹	BK Black BZ Bronze WH White GR Green NA Natural Alum. GY Gray CC Custom Color	UD ² Up/Down Mount SP Straight Post CA ⁶ Curved Arm SA ⁶ Straight Arm CP Curved Post SP ² Straight Post JBRS ³ Surface Mount Junction Box JBRC Conduit Mount Junction Box JBRTM Tree Mount Junction Box STNM Stanchion Mount LP Low Post (Plastic) PTB ⁵ Portable 120/12v SM ⁴ Spike Mount HSL Horizontal Spread Lens VSL Vertical Spread Lens

¹ Note 120/277 uses transformer

² The U/D option requires a single gang 2" x 4" junction box.

³ The JBRS option requires a 4" octagonal junction box.

⁴ The SM option is available for LV (12V) and PTB applications only.

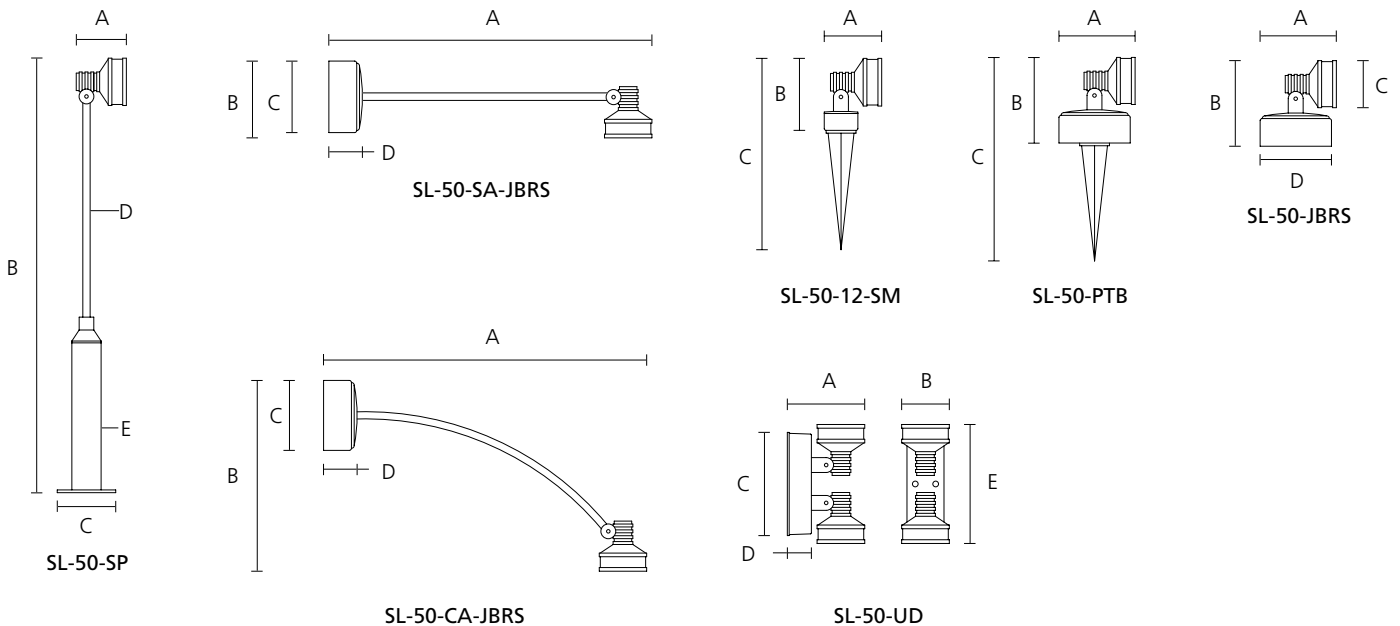
⁵ The PTB option is available for 120V portable applications only and must be connected to a GFI outlet.

⁶ Specify Junction Box Mounting or Surface Conduit Connection

Example: SL-50-120-BK-UD

Luminaire Dimensions

Luminaire	A		B		C		D		E		Weight	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	lbs	kg
SL-50-SP	3.5"	89	29.5"	750	4" SQ	102	0.5" OD	13	2" OD	51	2.5	1.1
SL-50-SA	20"	508	5.125"	130	4.750"	120	2.250"	57	n/a	n/a	2.5	1.1
SL-50-CA	22"	559	13"	330	4.750"	120	2.250"	57	n/a	n/a	2.5	1.1
SL-50-SM	3.875"	98	4.875"	124	12.875"	327	n/a	n/a	n/a	n/a	1.25	.5
SL-50-PTB	5.125"	130	5.875"	149	13.875"	352	n/a	n/a	n/a	n/a	1.75	.8
SL-50-JBRS	5.125"	130	5.875"	149	3.250"	82	4.750"	120	n/a	n/a	1.5	.7
SL-50-UD	5.250"	133	3.250"	82	7"	178	1.625"	41	8"	203	3.0	1.4





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16720 – Q50MR16/HIR/CG40

GE MR16



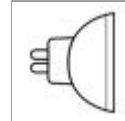
Energy Savings

GENERAL CHARACTERISTICS

Lamp type	Halogen - MR
Bulb	MR16
Base	2-Pin (GU5.3)
Filament	C-8
Wattage	50
Voltage	12
Voltage (MIN)	50
Rated Life	4000 hrs
Rated Life (Vert)	4000 hrs



Bulb



Base

[View Larger](#)**PHOTOMETRIC CHARACTERISTICS**

Initial Lumens	2600
Initial Lumens (Hor)	2600
Initial Lumens (Vert)	2600
Center Beam Candlepower (CBCP)	2600
Color Temperature	3000 K
Nominal Initial Lumens per Watt	52

DIMENSIONS

Maximum Overall Length (MOL)	1.8000 in (45.7 mm)
------------------------------	---------------------

PRODUCT INFORMATION

Product Code	16720
Description	Q50MR16/HIR/CG40
Standard Package	Case
Standard Package GTIN	10043168167205
Standard Package Quantity	20
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	20
UPC	043168167208

⚠ CAUTIONS & WARNINGS[See list of cautions & warnings.](#)**ADDITIONAL RESOURCES**[Catalogs](#)[Testimonials](#)[Sell Sheets](#)

- [Precise™ IR Energy Saving MR16 Halogen Lamp](#)

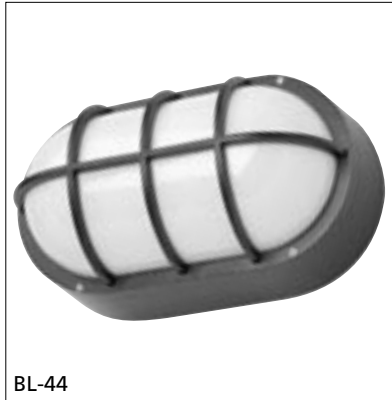
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Building Mount
Corridor
Walkways
Accent
Building Entrances



BL-44



BL-45



BL-47



BL-48



BL-49

Specifications



Certifications

The fixture shall be ETL and CETL listed for wet location. Also meets IP65 standard.

Ballast Housing

Cast aluminum with a minimum thickness of 1/8". Mounting plate welded to ballast housing for J-box mounting. Conduit mounting available, consult factory. Housing is fully gasketed with 3/16" extruded EDPM cord gasket.

Lens Frame

Cast aluminum mounted to ballast housing with 1/4-20 stainless steel allen cap screws.

Lens

Opal UV-stabilized polycarbonate (OP) is standard. Lens supplied with one-piece extruded silicone gasket.

Ballast

Maximum HID-70 watts with polycarbonate lens. Fluorescent ballast for 42CFT lamp is electronic (minus 20° C). Other fluorescent 13- through 26-watt quad tube is core & coil (0° C).

Finish

BK-BZ-WH-GR-GY-NA baked enamel standard, other colors available.

PROJECT
FIXTURE TYPE
CATALOG#

2930 South Fairview Street
 Santa Ana, CA 92704
 Phone: 714 668 3660
 Fax: 714 668 1107
 allighting@earthlink.net
 http://www.allighting.com

BL-44/45/47 48/49

Product Order Guide

Series	Max Watts	Lamp Type	Voltage ¹	Lens	Finish ¹	Options
BL-44	(2)26 CFQ	CFQ ²	120	OP Opal Polycarbonate	BK Black	EMG Emergency Battery Backup
BL-45	26 CFQ	CFQ ²	208		BZ Bronze	
BL-47	42 CFT	CFT ²	240		WH White	
BL-48	70 MH	E-17	277		GR Green	
BL-49	70 HPS	E-17			NA Natural Aluminum	
					GY Gray	
					CC Custom Color	

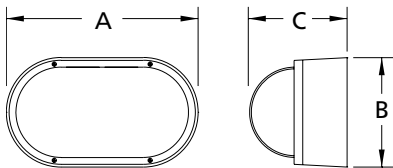
1 Consult factory for other colors and voltages

2 CF = single biax, CFQ = double biax, CFT = triple biax

Example: BL-48-70MH-E17-277-OP-WH

Luminaire Dimensions

Luminaire	A	B	C
BL-44	14"	8"	7-1/2"
BL-45	14"	8"	7-1/2"
BL-47	14"	8"	7-1/2"
BL-48	14"	8"	7-1/2"
BL-49	14"	8"	7-1/2"





e-Vision® Electronic Ballast for Metal Halide Lamps

Catalog Number IMH-70-A-BLS-ID
 For 70W Metal Halide Lamps
 ANSI M98, M143 or M139
 120-277V 50/60Hz Electronic
 Status: Released

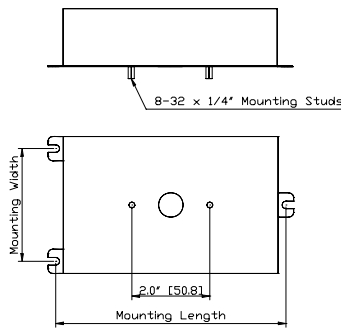
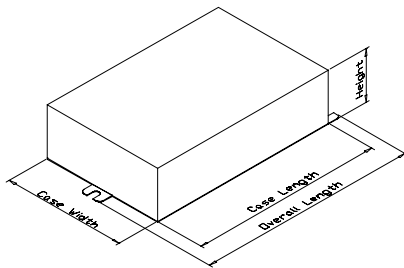
DIMENSIONS AND DATA

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											

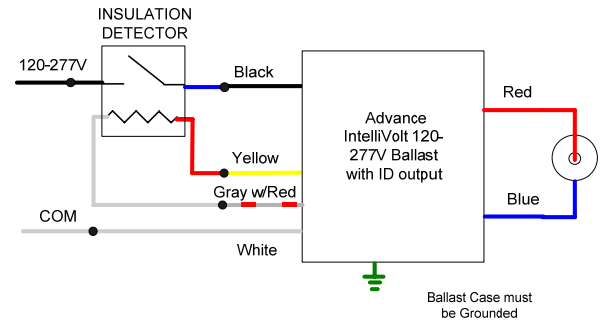
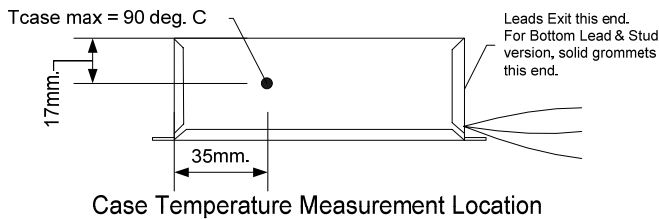
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F

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.

GE Consumer & Industrial
Lighting

ConstantColor® CMH® 70 Watt Open-Rated Elliptical Lamps

GE ConstantColor® CMH® ceramic metal halide lamps provide lamp-to-lamp color uniformity, consistent excellent color over life... plus high operating efficiencies.

Color uniformity lamp-to-lamp

Ceilings will look clean and bright, with minimal color variation lamp-to-lamp. ConstantColor® CMH® provides a consistent "white look", critical for interior applications.

Consistent color over life

GE ConstantColor® CMH® lamps provide stable color over life. So walls, ceilings, displays and furnishings look their natural best always.

Excellent color rendering

Warm white light (3000K) and exceptional color rendering (>80 CRI) make ConstantColor® CMH® an ideal source for indoor applications.

Ease of Use

Protective shroud allows for use of product in open-fixtures.

Highly efficient

Up to 75 lumens per watt
- 10-20% more efficient
than standard metal halide.

Up to 16,000 hour life

Fits standard metal halide sockets

No new wiring or fixtures need.



**Uniform,
Consistent Color**



**GE - Innovative,
Energy-Saving Lighting**



GE imagination at work

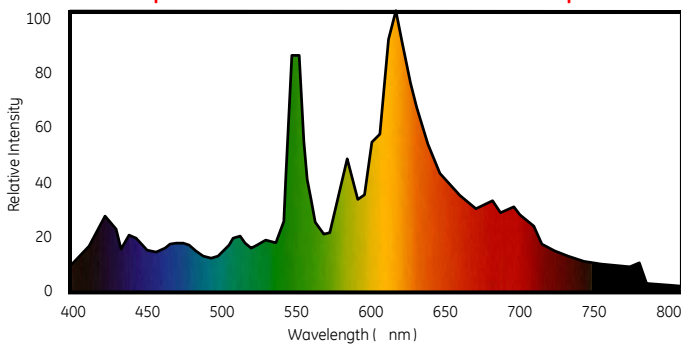
ConstantColor® CMH® 70 Watt Open-Rated Elliptical Lamps

<u>Product Information*</u>	<u>Clear 70-Watt 3K</u>	<u>Coated 70-Watt 3K</u>	<u>Clear 70-Watt 4K</u>	<u>Coated 70-Watt 4K</u>
Product Code	31069	31070	31073	31074
Refer to ANSI Code	M98	M98	M98	M98
Description	CMH70/U/MED/830/O	CMH70/C/U/MED/830/O	CMH70/U/MED/942/O	CMH70/C/U/MED/942/O
<u>Physical Characteristics</u>				
Burn Position	Universal	Universal	Universal	Universal
Bulb Designation	ED17	ED17	ED17	ED17
Bulb Material	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass	Heat Resistant Glass
Bulb Nominal Diameter, mm (inches)	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")	54 (2 1/8")
Base Type	Medium Screw	Medium Screw	Medium Screw	Medium Screw
Light Center Length, mm (inches)	86 (3 3/8")	86 (3 3/8")	86 (3 3/8")	86 (3 3/8")
Max. Overall Length, mm (inches)	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")	138 (5 7/16")
Effective Arc Length, mm (inches)	7 (9/32")	7 (9/32")	7 (9/32")	7 (9/32")
Max. Bulb Temp °C	400	400	400	400
Max Base Temp °C	190	190	190	190
Eccentricity: Base-to-Bulb	3°	3°	3°	3°
Eccentricity: Base-to-Arc Axis	3°	3°	3°	3°
<u>Luminaire Characteristics</u>	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture	Open or Enclosed Fixture
<u>Electrical/Photometric Characteristics</u>				
Nominal Lamp Watts	70	70	70	70
Nominal Lamp Volts	90	90	90	90
Nominal Lamp Amps-Starting	1.2	1.2	1.2	1.2
Nominal Lamp Amps-Operating	.9	.9	.9	.9
Max. Current Crest Factor	1.8	1.8	1.8	1.8
Initial Lumens	5800	5300	5200	4600
Mean Lumens (40% Rated Life)	4000	3900	3700	3600
Average Rated Life (Hrs.) 10 Hrs./Start	16000	16000	16000	16000
Color Rendering Index (Ra) CRI@K	>80 3000K	>80 3000K	>90 4200K	>90 4200K
Warm-up time (Minutes) to 90%	3 Max	3 Max	3 Max	3 Max
Hot Restart Time (Minutes) to 90%	15 Max	15 Max	15 Max	15 Max
Chromaticity Coordinates: X	.438	.438	.372	.372
Chromaticity Coordinates: Y	.397	.397	.372	.372

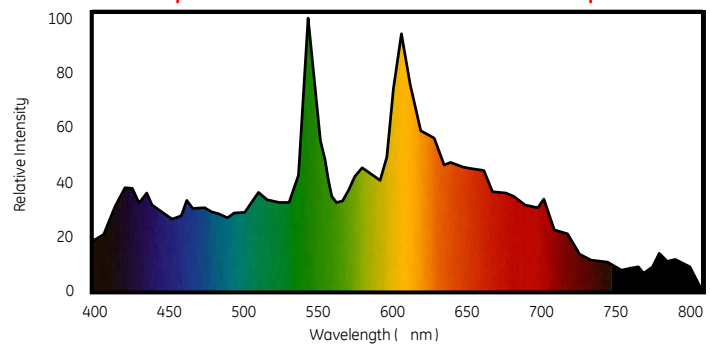
*All data are engineering estimates

WARNING - These lamps can cause serious skin burn and eye inflammation from short wave 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 from the General Electric Company. If the outer envelope breaks or is punctured and the lamp continues to operate, immediately turn power off and remove lamp after it has cooled. These lamps are certified to comply with FDA radiation performance standards, 21 CFR Subchapter J.

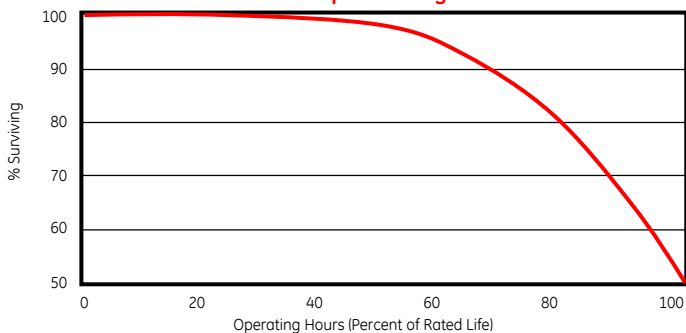
Spectral Power Distribution - 3000K Lamp



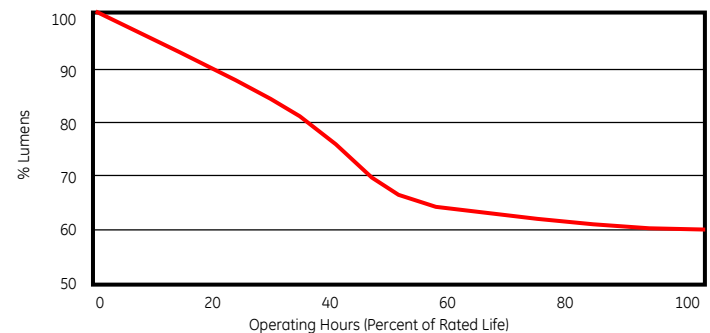
Spectral Power Distribution - 4200K Lamp



Lamp Mortality



Lumen Maintenance



For additional product and application information, please consult GE's Website: www.gelighting.com

Campbell

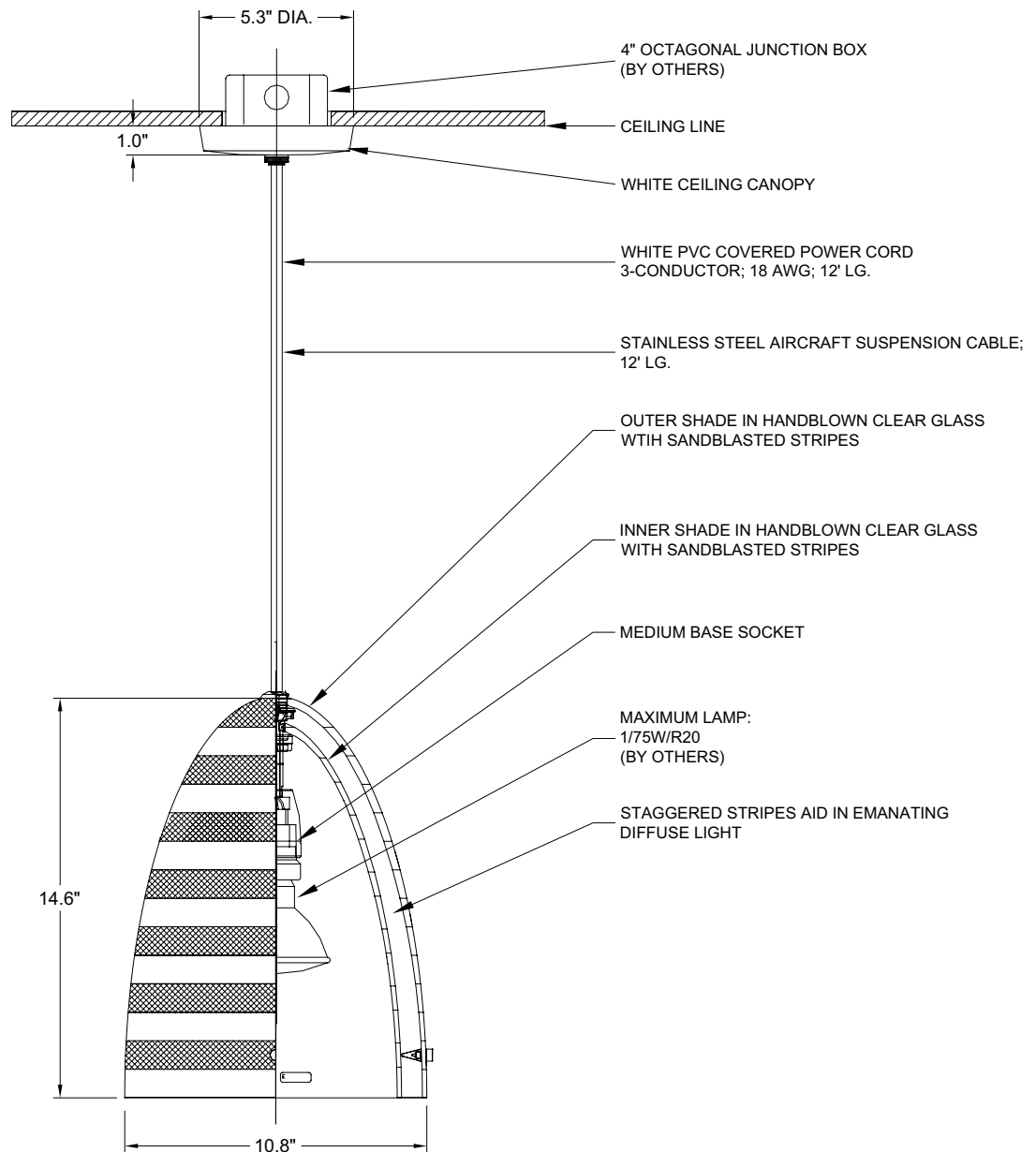
incandescent

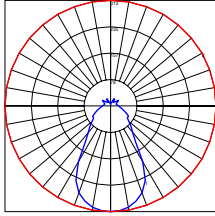
Design: Louise Campbell

Type:

Project:

Catalog Number:





Photometric Report: CAM 1/75W/R20 MEDIUM. IES
 Report No.: L5634
 Poulsen Report No.: CAM 1/75W/R20 MEDIUM. IES
 Luminaire: 1/75W/R20 medium
 Lamp: 1/75W/R20 medium
 Efficiency: 92.7 %
 Description: All data shown are per 730 lumens. This report can be used for calculation on all versions listed below. Use only actual lumen data when calculating.

Candlepower Distribution

Vertical Angle	Candela
0	313.34
5	311.34
10	304.88
25	243.57
40	102.64
55	61.15
70	43.4
85	27.53
90	24.06
120	23.69
145	13.14
180	4.58

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0-30	220.94	30.3	32.6
0-40	307.26	42.1	45.4
0-60	431.32	59.1	63.7
0-90	553.11	75.8	81.7
90-120	64	8.8	9.5
90-130	86.77	11.9	12.8
90-150	109.66	15	12.8
90-180	123.72	16.9	18.3
0-180	676.82	92.7	100

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Reflectance (%)	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	
Room Cavity Ratio																						
0	106	106	106	106	102	102	102	102	94	94	94	86	86	86	79	79	79	76				
1	97	92	88	84	92	88	85	82	81	78	76	75	73	71	69	67	66	63				
2	89	81	75	70	85	78	73	68	72	68	64	67	63	60	61	59	56	53				
3	81	72	65	60	78	70	63	58	64	59	55	60	55	52	55	52	49	46				
4	75	65	57	52	72	63	56	50	58	52	48	54	49	46	50	46	43	41				
5	70	59	51	46	67	57	50	44	53	47	43	49	44	41	46	42	39	36				
6	65	54	46	41	62	52	45	40	49	43	38	45	40	36	43	38	35	33				
7	61	49	42	37	58	48	41	36	45	39	34	42	37	33	40	35	32	30				
8	57	45	38	33	55	44	37	33	41	36	31	39	34	30	37	32	29	27				
9	53	42	35	30	51	41	34	30	39	33	29	36	31	28	34	30	27	25				
10	50	39	32	28	48	38	32	27	36	30	27	34	29	26	32	28	25	23				

Design

Louise Campbell

Concept

Campbell pendant creates direct and diffuse illumination. The design is inspired by light refraction in nature. The pendant consists of two separate layers of glass. Light passes through two separate glass shades, and the frosted stripes create a three-dimensional experience when viewing the fixture and shields from direct glare. The staggered sandblasted stripes aid in emanating diffuse light.

Finish

Clear glass with sandblasted stripes.

Material

Inner shade: Handblown clear glass with sandblasted stripes. Outer shade: Handblown clear glass with sandblasted stripes.

Mounting

Suspension type: 1x stainless steel aircraft cable. Suspension length: 12'. Canopy: White. Cord type: 3-conductor, 18 AWG white PVC power cord. Cord length: 12'.

Weight

Max. 17 lbs.

Label

cUL, Dry location. IBEW.

Product code	Light source	Voltage	Finish
CAM	1/75W/R20 medium	120V	STRIPED GLASS

Info notes:

I. The comparable EU version has the following classification: Ingress Protection Code: IP20.



DuraMax 75W Med 120V R20 FR TP 1CT

Product family description
DuraMax reflector incandescent flood light bulbs.

Features/Benefits

- Lasts 1.5 years.
- Wide beam of light is perfect for kitchens and family rooms.

Applications

- Ideal for recessed, track and downlights.

Notes

- Rated average life is the length of operation (in hours) at which point an average of 50% of the lamps will still be operational and 50% will not.

Product data	
Product Number	167635
Full product name	DuraMax 75W Med 120V R20 FR TP 1CT
Ordering Code	75R20/LL 120V TP
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677167639
EAN2US	
Case Bar Code	50046677167634
Successor Product number	
Base	Medium [Single Contact Medium Screw]
Base Information	Aluminum [Aluminum Base]
Bulb	R- 20
Bulb Finish	Frosted
Filament Shape	CC6 [Straight]
Operating Position	Universal [Any or Universal (U)]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12

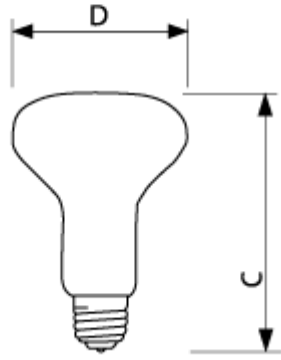
Product data	
Atmosphere	Gas
Rated Avg. Life	2500 hr
Ordering Code	75R20/LL 120V TP
Pack UPC	046677167639
Case Bar Code	50046677167634
Watts	75W
Voltage	120V
Initial Lumens	570 Lm
Max Overall Length (MOL) - C	3.94 in
Special packing	TP [Tray Pack]
Product Number	167635



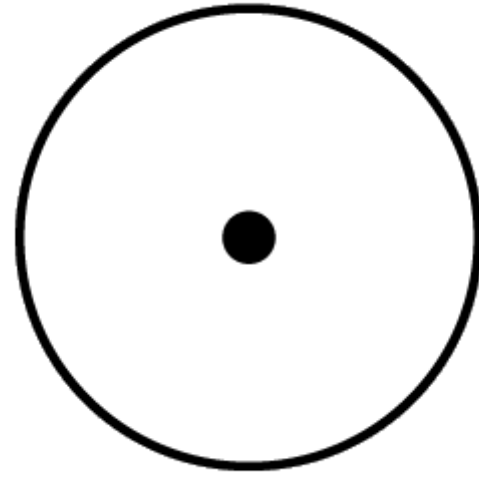
DuraMax R20 FR



Base Medium



DuraMax R20



Operating Position Universal



TRIPLES-H 226/7

recessed compact fluorescent downlight/wallwasher

COMPACT
FLUORESCENT
1-378

FEATURES

Triples-H 226/7 is an efficient 7" aperture low brightness downlight, for use with two 26-watt, 4-pin, triple tube compact fluorescent lamps by GE, Sylvania or Philips. Triples-H 226/7 provides shielding angles of 40° parallel to and 40° perpendicular to the lamps. Recess depth is only 7 1/4".

One housing allows interchangeable use of downlight and wallwash reflectors, permitting housings to be installed first and reflectors to be installed or changed at any time.

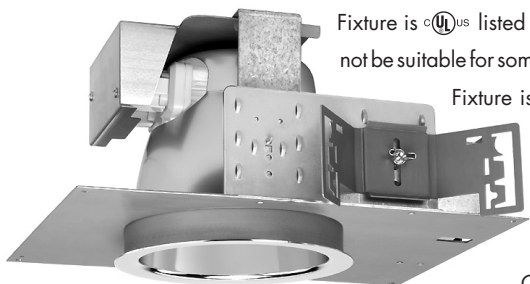
Triples-H 226/7 uses two 26-watt, 4-pin, triple tube lamps providing 3600 lumens (more than a 150-watt incandescent), a 10,000-hour life, a color rendering index (CRI) of 82, and color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).

Reflectors are available in clear, natural aluminum in three finishes: **Even-Tone**, our standard clear finish, partially diffuse, anti-iridescent and gently luminous in appearance; **OptiTone**, specular and anti-iridescent, with minimum brightness and maximum efficiency; and **EasyTone**, diffuse and luminous. Additionally, reflectors are available in champagne gold, wheat, pewter, and bronze. Wallwash (120°) and double wallwash (2x120°) reflectors are also available.

Triples-H 226/7 includes a pair of mounting bars (3/4" x 27" C channel). Specialty bars for wood joist and T-bar installations are available as accessories.

APPLICATIONS

Fixture is recommended for downlighting or wallwashing in offices, stores, banks, schools, auditoriums, hospitals and airports, as well as lobbies and public areas. The shallow recess depth allows mounting in constricted plenum situations.

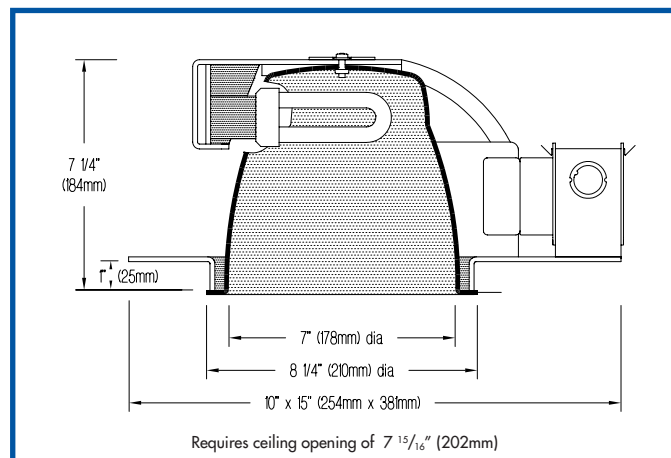


Fixture is cULus listed for Damp Location (may not be suitable for some outdoor environments).

Fixture is in compliance with the component based efficiency standards of the 1995 New York State Energy Conservation Code. Fixture is prewired

with high power factor Class P

electronic ballast, suitable for use in a fire rated ceiling and approved for eight #12 wire 75°C branch circuit pull-through wiring. Removal of the reflector allows access to the ballast and junction box.



PRODUCT CODE

For complete product code, list basic unit and select one item from each following box.

Basic Unit TRPH 226/7

Reflector Type
Downlight no suffix
Wallwash WW
Double Wallwash DWW

Voltage
120 volt service 120 277 volt service 277

Reflector and Flange Color	Overlap	Flush
EvenTone Clear	VOL	VFL
OptiTone Clear	COL	CFL
EasyTone Clear	ECOL	ECFL
Champagne Gold	GOL	GFL
Wheat	WHOL	WHFL
Pewter	POL	PFL
Bronze	ZOL	ZFL

Other reflector finishes are available on special order.

Standard reflector flange continues reflector finish. White painted flanges and custom painted flanges are available on special order. Add WF (white flange) or CCF (custom color flange).

OPTIONS

Specify by adding to the basic unit.

Dimmable 3-wire ballast; not for outdoor application - DM

Emergency battery pack operates one lamp in event of power outage. Fixture footprint increases to 10 x 17 3/4" (254 x 451 mm). Additional 1" (25mm) is required to remove EM pack through aperture. Not for outdoor application or double wallwasher (DWW) - EM

1/8" (3mm) thick **clear acrylic shield**, spring-mounted within reflector - PS

- ▶ For combinations of the Options above, contact factory or Edison Price Lighting representative.
- ▶ A modified fixture suitable for 2" maximum ceiling thickness is available on special order. Contact factory.
- ▶ A modified fixture suitable for 347-volt service is available on special order. Contact factory.
- ▶ An install-from-below version of this fixture, suitable for installation outside North America, is also available. Contact factory.
- ▶ Decorative reflector rings are available on special order. Contact factory.



TRIPLES-H 226/7

PHOTOMETRIC REPORT

Report No. 50243. Original Independent Testing Laboratories, Inc. (ITL) test report furnished upon request.

Luminaire recessed compact fluorescent downlight with spun aluminum reflector
 Lamp two Philips 26-watt triple-tube compact fluorescent, 4-pin, GX24q-3 base, 1800 lumens each
 Efficiency 50.4%
 Spacing Criteria.... 0°- 1.1, 90°-1.5, 180°-1.5
 Axis orientation.... 0° plane is parallel to lamps, opposite sockets

BALLAST INFORMATION

Voltage	120	277
Input Watts	56	56
Line Current (A)	.49	.21
Power Factor (%)	>98	>98
THD (%)	<10	<10
Min. Starting Temp* (°F)	0	0

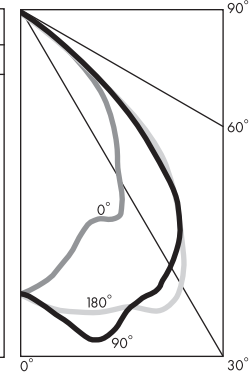
*Consult lamp manufacturers for specific temperatures.

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0 - 30°	847	23.5	46.7
0 - 40°	1384	38.5	76.3
0 - 60°	1813	50.4	99.9
0 - 90°	1815	50.4	100.0
90 -180°	0	0.0	0.0
0 -180°	1815	50.4	100.0

CANDLEPOWER DISTRIBUTION (Candela)

Vertical Angle	Horizontal Angle				
	0.0	45.0	90.0	135.0	180.0
0	957	957	957	957	957
5	914	947	1006	1016	998
15	780	928	1130	1150	1048
25	768	868	1053	1143	1112
35	570	771	925	1005	936
45	380	477	576	641	638
55	6	7	8	9	8
65	2	2	2	2	2
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0



LUMINANCE DATA (Candela/m²)

Vertical Angle	Average 0° Longitude	Average 90° Longitude	Average 180° Longitude
45	20880	31650	35057
55	406	542	542
65	184	184	184
75	0	0	0
85	0	0	0

To convert cd/m² to footlamberts, multiply by 0.2919.

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

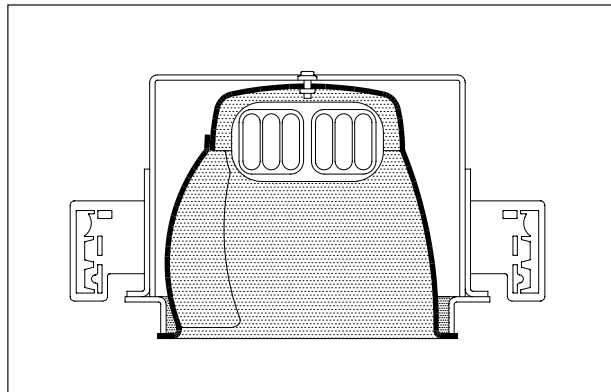
Effective Floor Cavity Reflectance 20%

Ceiling Reflectance (%)	80				70				50				30				10				0											
Wall Reflectance (%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10			
Room Cavity Ratio																																
0	60	60	60	60	59	59	59	59	56	56	56	54	54	54	51	51	51	50	50	50	48	48	47	46	46	46	44	44	43	42	42	42
1	57	55	54	53	56	54	53	52	52	51	50	50	49	49	48	48	47	46	46	45	45	44	43	42	42	41	40	40	39	38	38	38
2	53	51	48	46	52	50	48	46	48	46	45	46	45	44	45	44	43	43	42	41	42	41	40	40	39	38	38	37	36	35	35	34
3	50	46	43	41	49	46	43	41	44	42	40	43	41	39	42	40	39	40	39	38	39	37	35	34	33	32	31	31	30	29	29	28
4	47	42	39	37	46	42	39	36	41	38	36	40	37	36	39	37	35	37	35	33	36	34	32	31	30	29	28	27	26	25	25	24
5	44	39	35	33	43	38	35	33	37	35	32	37	34	32	36	34	32	35	33	31	34	32	30	29	28	27	26	26	25	24	24	23
6	41	36	32	30	40	35	32	30	35	32	29	34	31	29	33	31	29	32	30	28	31	29	27	26	25	24	23	23	22	21	21	20
7	38	33	29	27	38	33	29	27	32	29	27	31	29	27	30	28	26	29	27	25	28	26	24	23	22	21	20	20	19	18	18	17
8	36	30	27	25	35	30	27	24	30	27	24	29	26	24	28	26	24	27	25	23	26	24	22	21	20	19	18	18	17	16	16	15
9	34	28	25	22	33	28	25	22	27	24	22	27	24	22	26	24	22	25	23	21	24	22	20	19	18	17	16	16	15	14	14	13
10	32	26	23	21	31	26	23	21	26	23	20	25	22	20	24	22	20	23	21	19	22	20	18	17	16	15	14	14	13	12	12	11

TRIPLES-H 226/7 WW

WALLWASH INFORMATION

Distance From Ceiling (Feet)	3' From Wall; 3' O.C.		3'6" From Wall; 3'6" O.C.	
	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures
1	8	6	4	4
2	14	12	9	8
3	21	18	13	10
4	24	23	17	16
5	22	22	18	17
6	19	18	16	16
7	15	15	14	14
8	13	12	12	11
9	10	10	10	10
10	8	8	8	8
11	7	7	7	7
12	5	5	6	6



All vertical footcandles are initial values with no contribution from ceiling or floor reflectances. Computation performed with at least five wallwashers.



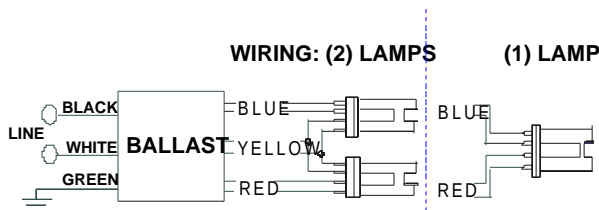
ICF-2S26-H1-LD@277

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

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM26W/GX24Q	1	26	0/-18	0.11	29	1.10	10	0.98	1.5	3.79
* CFM26W/GX24q	2	26	0/-18	0.20	54	1.00	10	0.99	1.5	1.85
CFM32W/GX24q	1	32	0/-18	0.13	36	0.98	10	0.98	1.5	2.72
CFM42W/GX24q	1	42	0/-18	0.17	46	0.98	10	0.98	1.5	2.13
CFQ26W/G24q	1	26	0/-18	0.10	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24q	2	26	0/-18	0.19	51	1.00	10	0.99	1.5	1.96
CFS21W/GR10q	2	21	0/-18	0.18	51	1.12	10	0.99	1.5	2.20
FT24W/2G11	2	24	0/-18	0.18	48	0.93	10	0.99	1.5	1.94

Wiring Diagram



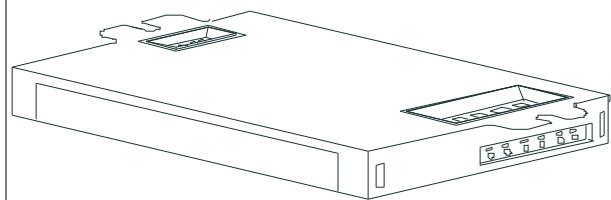
Green Terminal must be Grounded

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

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

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

Revised 09/02/2004



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

ADVANCE

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



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

Electrical Specifications

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 available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start except for ballasts with -QS suffix, which shall be Rapid 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 through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the IntelliVolt ballast. RCF models shall operate from 60 Hz input source of 120V 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 of 1.00 for primary lamp application.
- 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 10% 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 primary lamp. Ballasts for PL-H lamps shall have a minimum starting temperature of -30C (-20F) for primary lamp.
- 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 be Underwriters Laboratories (UL) rated for use in air-handling spaces.
- 3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.5 Ballast shall comply with ANSI C82.11 where applicable.
- 3.6 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) except for RCF models which shall be Consumer (Class B).

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 75C and three-years for a maximum case temperature of 85C (90C 3year warranty for ICF1H120-M4-XX, ICF2S42-90C-M2-XX and ICF2S70-M4-XX models).
- 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.

Revised 09/02/2004



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

ADVANCE TRANSFORMER CO.
 O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
 ROSEMONT, ILLINOIS 60018
 TELEPHONE: (847) 390-5000 FAX: (847) 390-5109



**PL- T 26W/830
GX24q- 3 /4P ALTO
1CT**

Product family description
PL- T Triple 4pin Fluorescent Lamp with Amalgam.

Features/Benefits

- ALTO® Lamp Technology - Passes EPA's TCLP test for non-hazardous waste.
- Utilizes amalgam technology to provide > 90% of rated lumens in ambient temperatures from 23F to 130F.
- Triple tube design available in 18, 26, 32, and 42W.
- Excellent Color Rendering - 82 Color Rendering Index (CRI).
- Broad Range of Color Temperature - Available in 2700, 3000, 3500 and 4100K.
- Dimmable - PL-T 4- pin lamps may be used with electronic dimming ballasts.
- Long Life - 12,000 hours.
- Energy Saving - Designed for use with electronic ballasts for lower operating costs and flicker-free starting.

Applications

- Ideal for downlights and medium bay multi-lamp fixtures for general lighting.

Notes

- Rated average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours. Lamp life is appreciably longer if lamps are started less frequently. (202)
- Approximate Initial Lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under standard laboratory conditions. (203)
- Design Lumens are the approximate lamp lumen output at 40% of the lamp's Rated Average Life. This output is based upon measurements obtained during lamp operation on a reference ballast under standard laboratory conditions. (208)

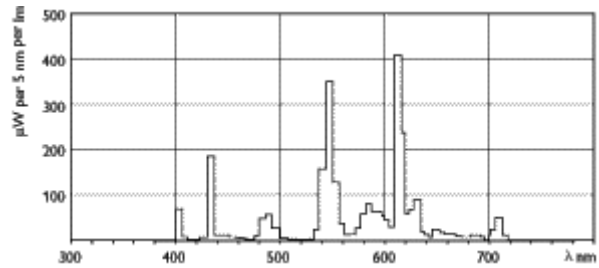
Product data	
Product Number	268235
Full product name	PL- T 26W/830 GX24q- 3 /4P ALTO 1CT
Ordering Code	PL- T 26W/830/4P/ALTO
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268237



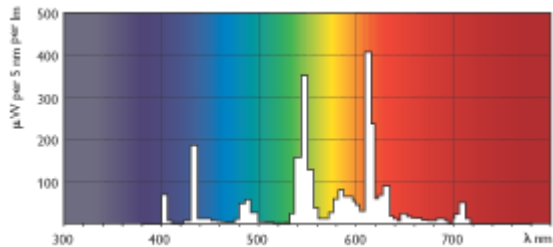
Product data	
EAN2US	
Case Bar Code	50046677268232
Successor Product number	
Base	GX24q-3
Base Information	4P
Execution	/4P [4 Pins]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12
Avg. Hrs. Life	12000 hr
Ordering Code	PL-T 26W/830/4P/ALTO
Pack UPC	046677268237
Case Bar Code	50046677268232
Watts	26W
Lamp Voltage	105 V
Dimmable	Yes
Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Description	830 Warm White
Color Temperature	3000 K
Initial Lumens	1800 Lm
Initial Lumens	1800 Lm
Overall Length C	126.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
Special packing	ALTO
Product Number	268235



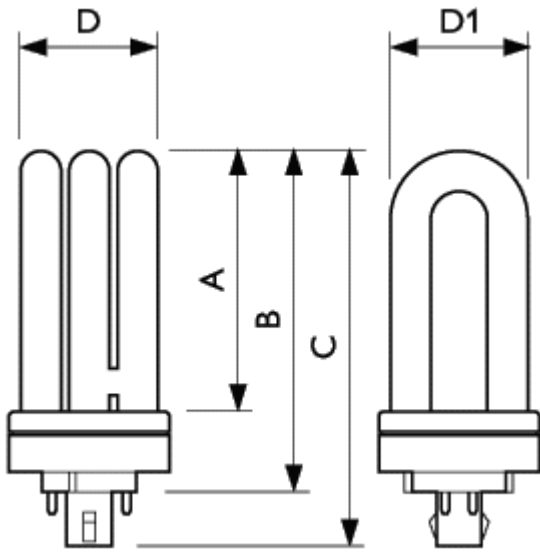
PL-T 26W



PL-T/830



PL-T/830



PL-T

	A	B	C	D	D1
Full product name	Max	Max	Max	Max	Max
PL-T 26W/ 830 GX24q -3/4P ALTO 1CT	87	111.5	126.4	39.85	39.65



Saturn Maxi Wall

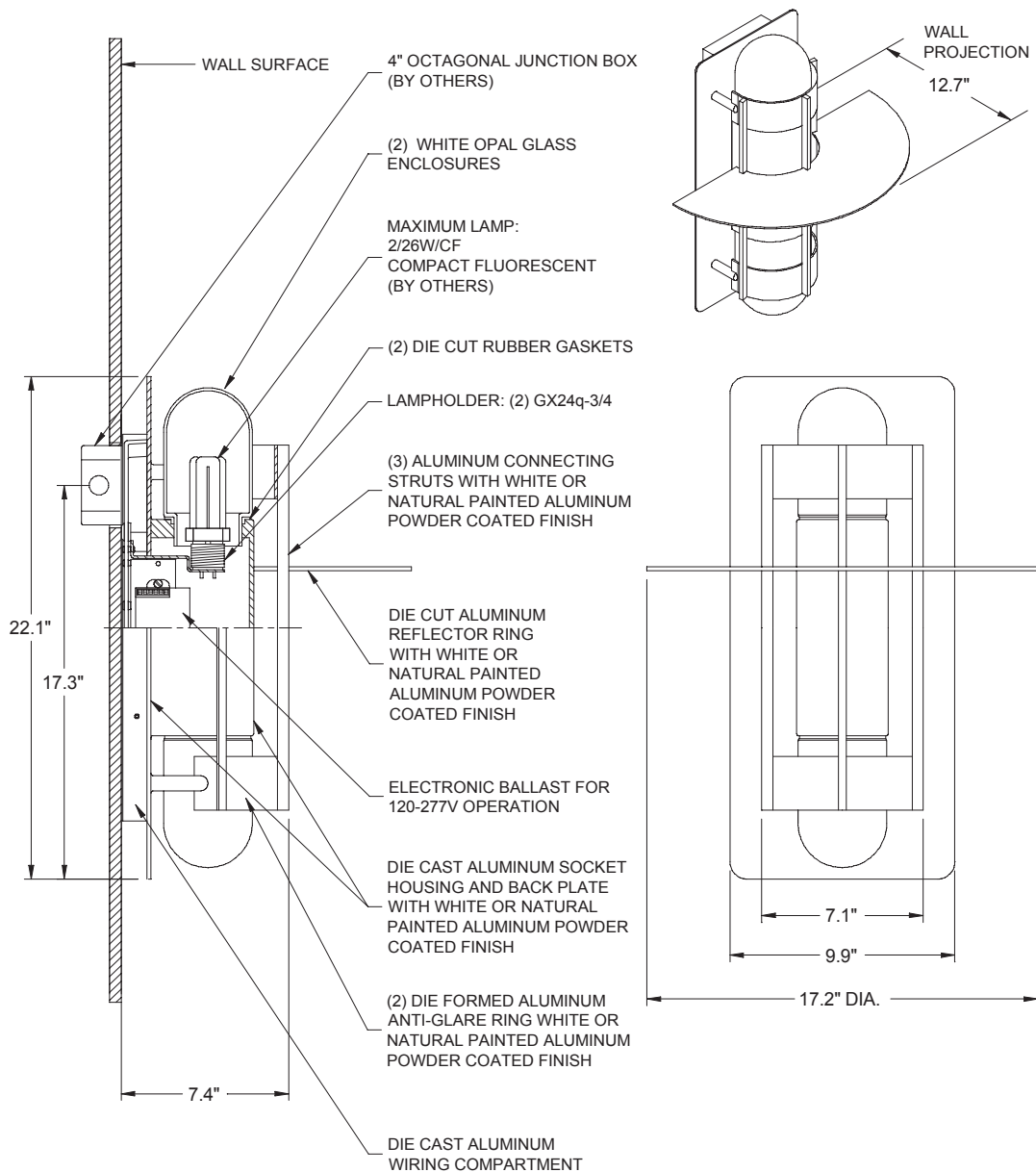
compact fluorescent

Design: Joachim Lepper

Type:

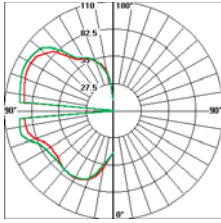
Project:

Catalog Number:



Saturn Maxi Wall

compact fluorescent



Photometric Report: SAW-MAX-2-26W-GX24q-3/4.IES
 Report No.: L5518
 Poulsen Report No.: SAW-MAX-2-26W-G X24q-3/4.IES
 Luminaire: Saturn Maxi Wall, White
 Lamp: 2/26W/GX24q-3/4
 Efficiency: 51.2%
 Description: All data shown are per 1800 lumens. This report can be used for calculation on all versions listed below. Use only actual lumen data when calculating.

Candlepower Distribution

Vertical Angle	Candela
0	98.4
5	116.4
10	138.6
25	201.2
40	196.2
55	188.4
70	225.5
85	241.7
90	239
120	268.3
150	178.2
180	28.3

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0-30	121.07	3.4	6.6
0-40	214.83	6	11.7
0-60	439.53	12.2	23.9
0-90	888.9	24.7	48.2
90-120	488.11	13.6	26.5
90-130	638.38	13.6	26.5
90-150	850.08	23.6	46.1
90-180	953.72	26.5	51.8
0-180	1842.63	51.2	100.0

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%	Ceiling Reflectance (%)																											
	80				70				50				30				10				0							
Wall Reflectance (%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10		
Room Cavity Ratio																												
0	55	55	55	55	50	50	50	50	42	42	42	35	35	35	28	28	28	25	25	25	21	21	21	19	19	19	16	16
1	48	45	42	39	44	41	38	36	34	32	30	27	26	25	21	20	19	16	16	16	14	13	12	10	10	10	8	8
2	48	38	34	30	39	35	31	28	28	26	23	23	21	19	18	16	15	12	12	12	10	9	8	7	7	7	5	5
3	38	33	28	25	35	30	26	23	25	21	19	20	17	15	15	13	12	10	10	10	8	8	8	6	6	6	4	4
4	35	29	24	20	32	26	22	19	21	18	16	17	15	13	13	11	10	8	8	8	7	7	7	5	5	5	4	4
5	32	35	20	17	29	23	19	16	19	16	13	15	13	11	12	10	8	6	6	6	5	5	5	4	4	4	3	3
6	29	22	18	15	27	21	16	13	17	14	11	14	11	9	10	9	7	5	5	5	4	4	4	3	3	3	2	2
7	27	20	16	13	25	18	14	12	15	12	10	12	10	8	9	8	6	5	5	5	4	4	4	3	3	3	2	2
8	25	18	14	11	23	17	13	10	14	11	9	11	9	7	9	7	5	4	4	4	3	3	3	2	2	2	1	1
9	23	17	12	10	21	15	11	9	13	10	8	10	8	6	8	6	5	4	4	4	3	3	3	2	2	2	1	1
10	22	15	11	9	20	14	10	8	12	9	7	9	7	5	7	6	4	3	3	3	2	2	2	1	1	1	0	0

Saturn Maxi Wall provides general as well as accent illumination. Both anti-glare rings shield the lamps from view and the Saturn ring reflects the light into the space. Depending on the glass enclosure, the illumination is either soft or distinct.

Finish

White or natural painted aluminum, powder coated.

Material

Enclosure: Clear or white opal glass.
 Saturn ring: Die cut aluminum. Anti-glare ring: Die formed aluminum.
 Back plate: Die cast aluminum.

Mounting

Surface: Mounted directly to finished surface over a recessed 4" octagonal junction box.

Weight

Max. 20 lbs.

Label

cUL, Damp location. IBEW.

specification

Ordering example:

1	2	3	4
Prod.code	Light source	Volt.	Finish
SAW-MAX	2/26W/CF Gx24q-3/4	120-277V	NAT. PAINT. ALU.

1 | **Product code**
SAW-MAX

2 | **Light source**
2/26W/CF Gx24q-3/4^{a,c}
2/150W/A-21/CL medium^{b,d}

3 | **Voltage**
120-277V
120V

4 | **Finish**
NAT. PAINT ALU.
WHT

Specification notes:

- a. CF variant is provided with white opal glass enclosure.
- b. Incandescent variant is provided with clear glass enclosure.
- c. CF variant is provided with one 120-277V integral electronic ballast.
- d. Incandescent variant is only available in 120V.

Info notes:

I. The comparable EU version has the following classification: Ingress Protection Code: IP44.

Spare parts:

- Orbiter/Saturn clear glass
- Orbiter/Saturn white opal glass



Louis Poulsen Lighting, Inc., 3260 Meridian Parkway, Fort Lauderdale, FL 33331 Telephone: (954) 349-2525 Fax: (954) 349-2550

www.louispoulsen.com



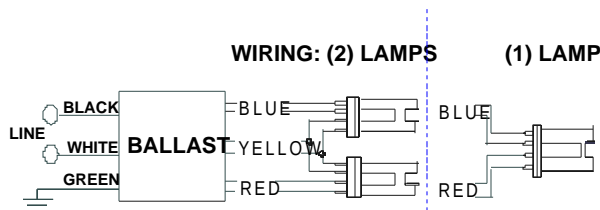
ICF-2S26-H1-LD@277

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

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFM26W/GX24Q	1	26	0/-18	0.11	29	1.10	10	0.98	1.5	3.79
* CFM26W/GX24q	2	26	0/-18	0.20	54	1.00	10	0.99	1.5	1.85
CFM32W/GX24q	1	32	0/-18	0.13	36	0.98	10	0.98	1.5	2.72
CFM42W/GX24q	1	42	0/-18	0.17	46	0.98	10	0.98	1.5	2.13
CFQ26W/G24q	1	26	0/-18	0.10	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24q	2	26	0/-18	0.19	51	1.00	10	0.99	1.5	1.96
CFS21W/GR10q	2	21	0/-18	0.18	51	1.12	10	0.99	1.5	2.20
FT24W/2G11	2	24	0/-18	0.18	48	0.93	10	0.99	1.5	1.94

Wiring Diagram



Green Terminal must be Grounded

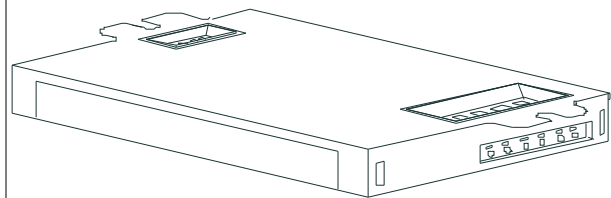
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

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

	in.	cm.
Yellow/Blue		
Blue/White		
Brown		
Orange		
Orange/Black		
Black/White		
Red/White		

Enclosure



Enclosure Dimensions

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

Revised 09/02/2004



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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



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

Electrical Specifications

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 available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start except for ballasts with -QS suffix, which shall be Rapid 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 through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the IntelliVolt ballast. RCF models shall operate from 60 Hz input source of 120V 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 of 1.00 for primary lamp application.
- 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 10% 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 primary lamp. Ballasts for PL-H lamps shall have a minimum starting temperature of -30C (-20F) for primary lamp.
- 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 be Underwriters Laboratories (UL) rated for use in air-handling spaces.
- 3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.5 Ballast shall comply with ANSI C82.11 where applicable.
- 3.6 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) except for RCF models which shall be Consumer (Class B).

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 75C and three-years for a maximum case temperature of 85C (90C 3year warranty for ICF1H120-M4-XX, ICF2S42-90C-M2-XX and ICF2S70-M4-XX models).
- 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.

Revised 09/02/2004



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**PL- T 26W/830
GX24q- 3 /4P ALTO
1CT**

Product family description
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Features/Benefits

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- Utilizes amalgam technology to provide > 90% of rated lumens in ambient temperatures from 23F to 130F.
- Triple tube design available in 18, 26, 32, and 42W.
- Excellent Color Rendering - 82 Color Rendering Index (CRI).
- Broad Range of Color Temperature - Available in 2700, 3000, 3500 and 4100K.
- Dimmable - PL-T 4- pin lamps may be used with electronic dimming ballasts.
- Long Life - 12,000 hours.
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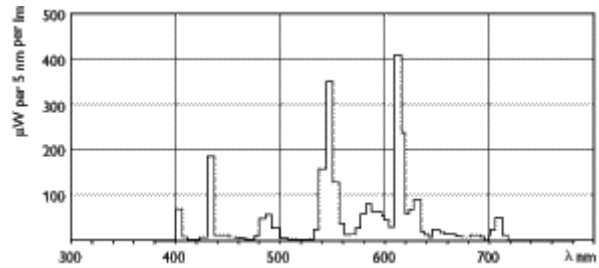
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Product Number	268235
Full product name	PL- T 26W/830 GX24q- 3 /4P ALTO 1CT
Ordering Code	PL- T 26W/830/4P/ALTO
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268237



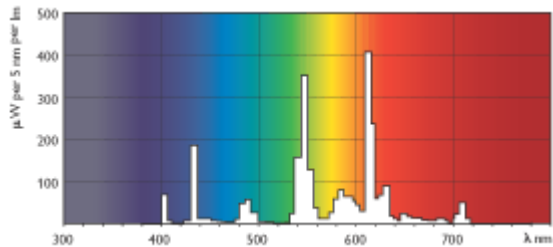
Product data	
EAN2US	
Case Bar Code	50046677268232
Successor Product number	
Base	GX24q-3
Base Information	4P
Execution	/4P [4 Pins]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12
Avg. Hrs. Life	12000 hr
Ordering Code	PL-T 26W/830/4P/ALTO
Pack UPC	046677268237
Case Bar Code	50046677268232
Watts	26W
Lamp Voltage	105 V
Dimmable	Yes
Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Description	830 Warm White
Color Temperature	3000 K
Initial Lumens	1800 Lm
Initial Lumens	1800 Lm
Overall Length C	126.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
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Product Number	268235



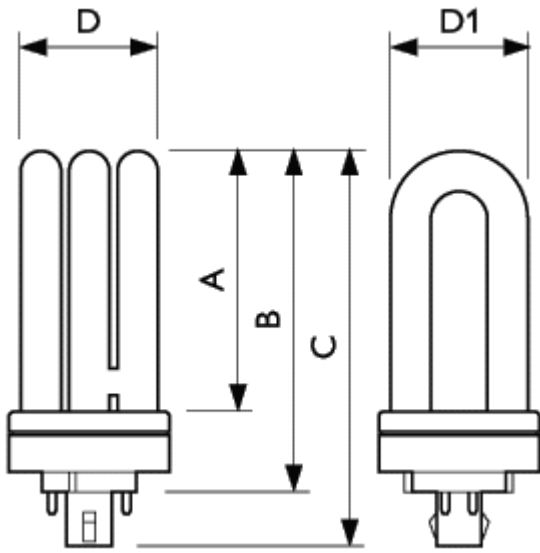
PL-T 26W



PL-T/830



PL-T/830

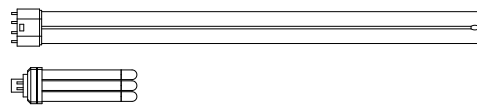


PL-T

	A	B	C	D	D1
Full product name	Max	Max	Max	Max	Max
PL-T 26W/ 830 GX24q -3/4P ALTO 1CT	87	111.5	126.4	39.85	39.65



SPECIFICATIONS



Trim: Trim ring is 20-gauge spun steel and attaches to luminous bowl with no visible hardware.

Luminous Bowl: Bowl is formed white opal acrylic standard with the option of three faux alabaster choices. Lamp housing has no open holes to minimize the collection of dust and debris in bowl. Dust cover is optional. New England style features a bell shaped bowl.

Reflector: Biaxial fluorescent reflector is a combination of high reflectance specular aluminum and high reflectance white powder coat paint. CFL reflector is high reflectance white powder coat paint.

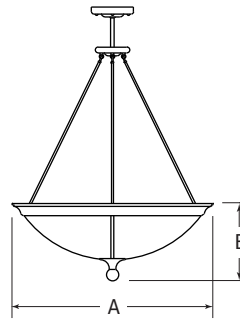
Optics: Maximum candlepower at 135 degrees or below to minimize brightness on ceiling above fixture and maximize fixture spacing. Recommended suspension is 24" or more.

Suspension: 5/8" OD stem with 30 degree swivel at canopy for single pendant units and 1" stem for chandelier units. Stem and canopy finish to be specified. Minimum suspension length for RDS option is 18". Consult factory for non-swivel flat ceiling applications.

Electrical: Fluorescent ballasts are instant start, normal light output, high power factor, and sound rated A. Ballast factor varies between 0.86 and 0.90 depending on lamp wattage, number of lamps, and voltage. Consult factory for specific ballast factor.

Finish: Standard colors are available from color chart. Plated finishes and custom colors are available. Specify finish of trim ring, and suspension with canopy.

Certification: UL and CUL listed and IBEW labeled.



DIMENSIONAL DATA TABLE

Diameter	A	B
20"	20 3/4"	8 5/8"
	527	219
29"	28 5/8"	11"
	727	279
35"	34 5/8"	12 1/4"
	879	311
41"	40 5/8"	13 1/4"
	1031	337

Note: consult factory for larger diameters.

EXAMPLE

fixture series	lamps up	lamps down	bowl style	suspension style	suspension length	trim finish	suspension finish	voltage	options
HR35	6/39	1/382D	A	SO	XX"	SGW	SGW	120	ALB/3
HR20	4/26CFL 2/27BX	N/A	HT-Traditional HC-Colonial	SO-stem only RDS-stem with fluted rods	Ceiling to top of fixture in inches	SGW-semi-gloss white (refer to color chart in Product Selection Guide for other standard colors)	SGW-semi-gloss white (refer to color chart in Product Selection Guide for other standard colors)	120 277 347 (40W only)	GLR-GLR fuse and HLR holder GMF-GMF slow blow fuse and holder DC-Dust cover ALB/#-Faux alabaster bowl (see color chart for #)
HR29	4/42CFL 3/39BX	1/282D 2/39BX 3/39BX	HN-New England	CN-stem with chains DBSO-double chandelier, stem only TRSO-triple chandelier, stem only QDSO-quad chandelier, stem only		SCH-satin chrome CH-polished chrome	SCH-satin chrome CH-polished chrome		EM1-B70A or equal EM2-B50 or equal EM3-B100 or equal EM4-B60 or equal
HR35	4/42CFL 4/39BX 6/39BX	1/382D 4/39BX		DBRDS-double chandelier, stem with fluted rods TRRDS-triple chandelier, stem with fluted rods QDRDS-quad chandelier, stem with fluted rods		BR-polished brass AB-antique brass SBN-satin brushed nickel PN-polished nickel CC-custom color	BR-polished brass AB-antique brass SBN-satin brushed nickel PN-polished nickel CC-custom color		DIM1-Advance Mark VII dimming DIM2-Advance Mark X dimming DIM3-Lutron ECO-10 dimming ballast DIM4-Lutron Hi-Lume dimming ballast DIM5-Lutron ECO-10 TVE dimming ballast
HR41	4/42CFL 4/40BX 6/40BX 4/50BX 6/50BX 4/55BX 6/55BX	1/382D 2/40BX 4/40BX 2/50BX 4/50BX 2/55BX 4/55BX		DBCN-double chandelier, stem with chains TRCN-triple chandelier, stem with chains QDCN-triple chandelier, stem with chains DBSH-double hook chandelier TRSH-triple hook chandelier QDSH-quad hook chandelier					

Due to a program of continuous improvement, LAM Lighting reserves the right to make any variation in design or construction to the equipment described.

ORDER

project name: _____ type: _____ quantity: _____

- - - - - - - - - -

HERITAGE

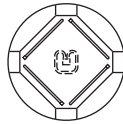
LAMP CONFIGURATIONS



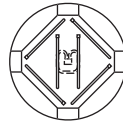
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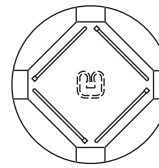
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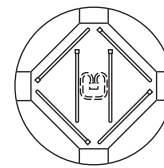
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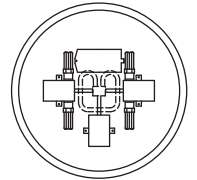
HR35-6



HR41-4

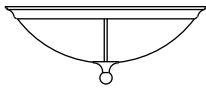


HR41-6

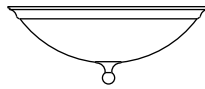


HR-CFL

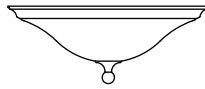
STYLES



Traditional

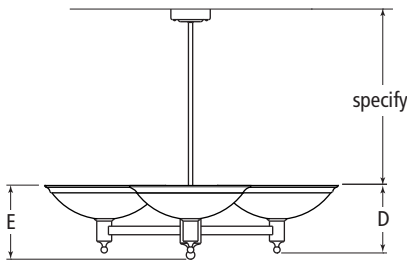
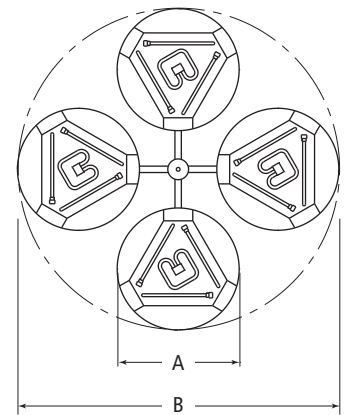
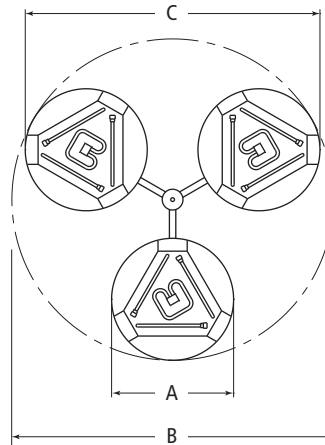
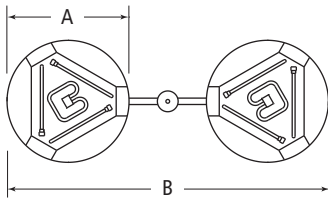


Colonial



New England

CHANDELIERS

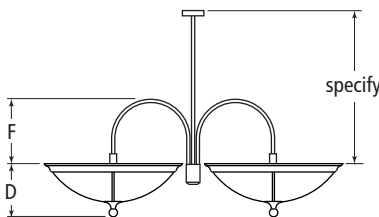


ARM CHANDELIER DIMENSION DATA

Diameter	A	B	C	D	E
20"	20 3/4"	54"	49 1/2"	14 1/8"	15 5/8"
	527	1372	1257	359	397
29"	28 5/8"	75 1/2"	69 1/4"	16"	17 1/2"
	727	1918	1759	406	445
35"	34 5/8"	91 3/8"	83 13/16"	17 3/8"	18 7/8"
	879	2321	2129	441	479
41"	40 5/8"	107 1/4"	98 5/8"	18 3/4"	20 1/4"
	1032	2724	2505	476	514

HOOK CHANDELIER DIMENSION DATA

Diameter	A	B	C	D	F
20"	20 3/4"	50 13/16"	46 13/16"	8 9/16"	18 5/8"
	527	1291	1189	217	473
29"	28 5/8"	78 7/8"	72 1/8"	11"	22"
	727	2003	1832	278	559
35"	34 5/8"	84 7/8"	78 1/8"	12 1/4"	22"
	879	2156	1984	311	559
41"	40 5/8"	90 7/8"	84 1/8"	13 1/4"	22"
	1032	2308	2139	337	559



EMERGENCY POWER

Fixture Diameter	Uplight lamps	Battery Location	Limitations
20	4/26	Remote	3-feet maximum remote distance
20	2/27	Remote	3-feet maximum remote distance
29	4/42	Integral	2 circuit (2 ballasts) uplight maximum
29	3/39	Integral	1 circuit (1 ballast) uplight
35	4/42	Integral	2 circuit (2 ballasts) uplight maximum
35	6/39	Integral	2 circuit (2 ballasts) uplight maximum
35	4/40	Integral	2 circuit (2 ballasts) uplight maximum
41	4/42	Integral	2 circuit (2 ballasts) uplight maximum
41	4/40	Integral	2 circuit (2 ballasts) uplight maximum
41	4/50	Integral	2 circuit (2 ballasts) uplight maximum
41	4/55	Integral	2 circuit (2 ballasts) uplight maximum
41	6/40	Integral	2 circuit (2 ballasts) uplight maximum
41	6/50	NA	Not Available
41	6/55	NA	Not Available

DIMMING

Fixture Diameter	Uplight lamps	DIM1	DIM2	DIM3	DIM4	DIM5
20	4/26	Yes	Yes	No	Yes	No
20	2/27	No	No	No	No	No
29	4/42	Yes	Yes	No	Yes	No
29	3/39	Yes	Yes	Yes	Yes	No
35	4/42	Yes	Yes	No	Yes	No
35	6/39	Yes	Yes	Yes	Yes	No
35	4/40	No	No	Yes	Yes	No
41	4/42	Yes	Yes	No	Yes	No
41	4/40	Yes	Yes	Yes	Yes	Yes
41	4/50	No	No	Yes	Yes	No
41	4/55	Yes	Yes	No	No	No
41	6/40	Yes	Yes	Yes	Yes	Yes
41	6/50	No	No	Yes	Yes	No
41	6/55	Yes	Yes	No	No	No



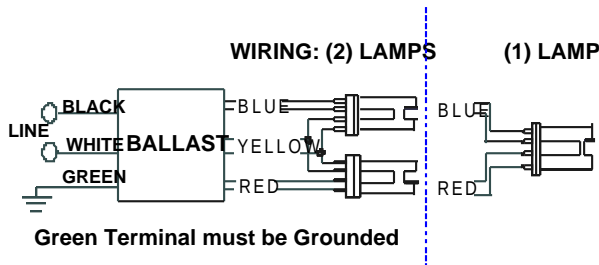
ICF-2S42-M2-BS@277

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

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* CFM42W/GX24q	2	42	0/-18	0.33	93	0.97	10	0.99	1.5	1.04

Wiring Diagram

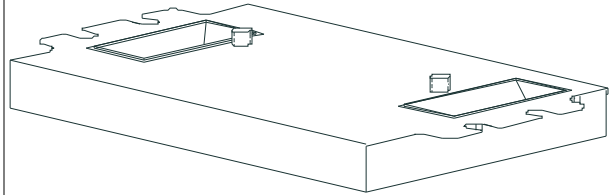


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	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 09/02/2004



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

ADVANCE

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018

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

Corporate Offices: Phone: 800-322-2086



ICF-2S42-M2-BS@277	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

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 available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start except for ballasts with -QS suffix, which shall be Rapid 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 through 277V with sustained variations of +/- 10% (voltage and frequency) with no damage to the IntelliVolt ballast. RCF models shall operate from 60 Hz input source of 120V 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 of 1.00 for primary lamp application.
- 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 10% 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 primary lamp. Ballasts for PL-H lamps shall have a minimum starting temperature of -30C (-20F) for primary lamp.
- 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 be Underwriters Laboratories (UL) rated for use in air-handling spaces.
- 3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.5 Ballast shall comply with ANSI C82.11 where applicable.
- 3.6 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) except for RCF models which shall be Consumer (Class B).

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 75C and three-years for a maximum case temperature of 85C (90C 3year warranty for ICF1H120-M4-XX, ICF2S42-90C-M2-XX and ICF2S70-M4-XX models).
- 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.

Revised 09/02/2004



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ADVANCE TRANSFORMER CO.
 O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
 ROSEMONT, ILLINOIS 60018
 TELEPHONE: (847) 390-5000 FAX: (847) 390-5109



PL- T 42W/830 GX24q- 4 /4P ALTO 1CT

Product family description
PL- T Triple 4pin Fluorescent Lamp with
Amalgam.

Features/Benefits

- ALTO® Lamp Technology - Passes EPA's TCLP test for non-hazardous waste.
- Utilizes amalgam technology to provide > 90% of rated lumens in ambient temperatures from 23F to 130F.
- Triple tube design available in 18, 26, 32, and 42W.
- Excellent Color Rendering - 82 Color Rendering Index (CRI).
- Broad Range of Color Temperature - Available in 2700, 3000, 3500 and 4100K.
- Dimmable - PL-T 4- pin lamps may be used with electronic dimming ballasts.
- Long Life - 12,000 hours.
- Energy Saving - Designed for use with electronic ballasts for lower operating costs and flicker-free starting.

Applications

- Ideal for downlights and medium bay multi-lamp fixtures for general lighting.

Notes

- Rated average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours. Lamp life is appreciably longer if lamps are started less frequently. (202)
- Approximate Initial Lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under standard laboratory conditions. (203)
- Design Lumens are the approximate lamp lumen output at 40% of the lamp's Rated Average Life. This output is based upon measurements obtained during lamp operation on a reference ballast under standard laboratory conditions. (208)

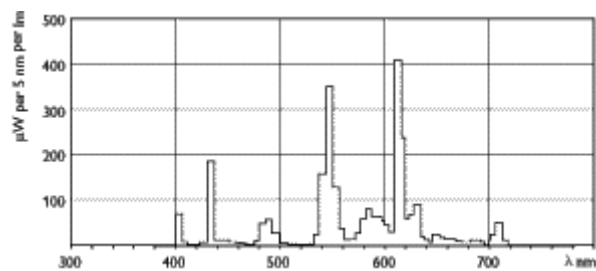
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Product Number	268730
Full product name	PL- T 42W/830 GX24q- 4 /4P ALTO 1CT
Ordering Code	PL- T 42W/830/4P/ALTO
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268732

PHILIPS

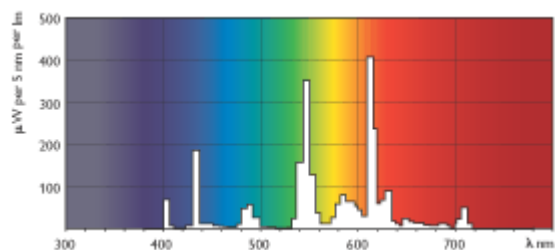
Product data	
EAN2US	
Case Bar Code	50046677268737
Successor Product number	
Base	GX24q-4
Base Information	4P
Execution	/4P [4 Pins]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12
Avg. Hrs. Life	12000 hr
Ordering Code	PL-T 42W/830/4P/ALTO
Pack UPC	046677268732
Case Bar Code	50046677268737
Watts	42W
Lamp Voltage	- V
Dimmable	Yes
Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Description	830 Warm White
Color Temperature	3000 K
Initial Lumens	- Lm
Initial Lumens	3200 Lm
Overall Length C	158.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
Special packing	ALTO
Product Number	268730



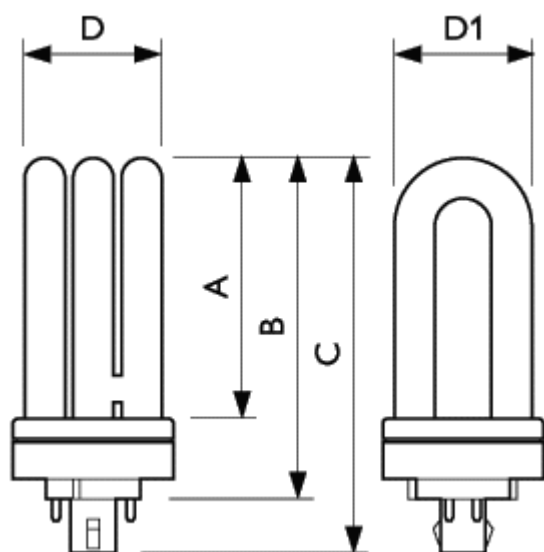
PL-T 42W



PL-T/830



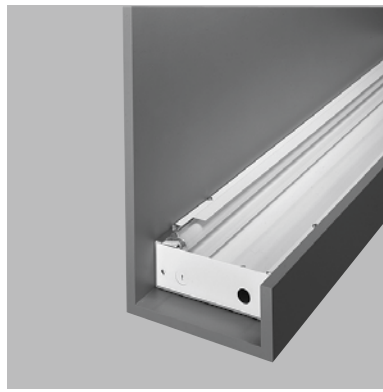
PL-T/830



PL-T

	A	B	C	D	D1
Full product name	Max	Max	Max	Max	Max
PL-T 42W/ 830 GX24q -4 /4P ALTO 1CT	119	143.5	158.4	39.85	39.65

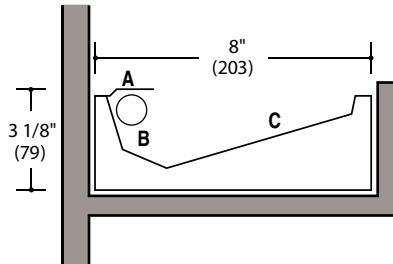




Type:
Project:

Cove-30™
CC-AI-3000
Concealed Cove System

Specifications



- A** Luminance Control Deflector™ minimizes socket shadows.
- B** High-reflectance aluminum for maximum horizontal light projection.
- C** High-reflectance white reflector for efficient indirect distribution.

HOUSING. Die-formed steel. Paint finish is baked white enamel. Ends provided with a 7/8" hole to accommodate pre-wiring.

REFLECTORS. Die-formed steel, finished in high-reflectance white, precisely shaped for maximum horizontal light projection. Configuration with four reflector surfaces includes a high-reflectance specular aluminum insert. Luminance Control Deflector™ (LCD), finished in high-reflectance white, reduces wall brightness directly above fixture and minimizes socket shadows between fixtures.

LAMPING. Available in one- and two-lamp T5, T5HO or T8; one-lamp 39-, 40-, or 50-watt twin-tube compact fluorescent cross-sections.

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

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

PRE-WIRING. Fixtures are supplied with #12 AWG type THHN wire for branch circuits. One end will have factory-installed push-in quick-connects. The other end will be stripped back 1/2" for quick connection in field. For fixtures to accommodate special circuits such as night light and emergency, etc., in-field wiring will be required. See Pre-wiring Information for details.

MOUNTING. Fixtures are installed in cove provided by others. See Planning for installation for detailed information.


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. UL508

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


Ordering guide

Product, lamping, & length						Options							
CC -	AI -	30	2	4	T8 -	CWM -	TW -	ELB -	2CWQ -	LP/EF -	120		
Mounting	Distribution	Series	Lamp Count	Nominal Length(ft)	Lamp Type	Finish	Tandem Wiring	Ballast options	Pre-wiring	Other options	Volts		
CC Concealed Cove	AI Asymmetric indirect	30	1 [†] 2 →	2 →	T8	CWM (Matte White) is standard	→	ELB is std. for T8 or BX LP/ELB is std. for T5 or T5HO	1CWQ	LP/EF F WKC/WP WKC/NP AMA5 AMA10	120 277		
			1 [†] 2 →	3 →			T5HO					→	2CWQ
			1 [†] 2 →	4 →	T5		see notes		DA/ELB HEL/ELB ECO/ELB			see Ballast options	see Other options
			2, 4 →	6 →	BX40 BX50								
			2, 4 →	8 →									
			1 →	2 →	see notes								
			2 →	4 →									
			4 →	8 →									
			2 →	3 →									
			4 →	6 →									


Cross-section lamping




1-T8



2-T8



2-T5 or
T5HO



1-BX39, 40
or 50

CC-AI-3024T8-CWM-TW-ELB-2CWQ-EF-120 is a typical catalog number for a 2-lamp (2 lamps in cross-section), 4-foot long T8 fixture, Matte White finish, tandem-wired electronic ballast, pre-wired with two-circuit branch wiring, emergency fluorescent ballast, 120 volts.

Questions to Ask

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

Ballast options

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

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

Other options

- LP/EF** Low-profile Emergency Fluorescent Ballast. Battery-powered ballast from a UL Listed manufacturer will operate one T5 or T5HO lamp for 1 1/2 hours.
- F** Fuse. Slow or fast blow, determined by Litecontrol.
- WKC/WP** Corner Wiring Kit. With quick-connects.
- WKC/NP** Corner Wiring Kit. Without quick-connects.
- AMA** Adjustable Mounting Angle. Quick attach component to tilt housing either **5°** or **10°**.

Planning for installation

Cove provided by others. Interior cove dimensions should allow for 3 1/8" x 8" fixture cross-section to fit within cove, taking into consideration as-built tolerances. For maximum efficiency, wall and ceiling above cove should have matte surfaces with high reflectances. See design guidelines below. Maximum fixture weight per foot is four pounds.

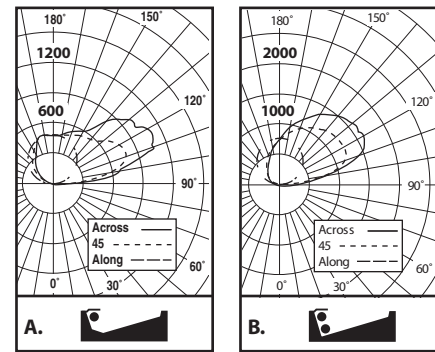
Corner Wiring Kit

Provides the advantages of pre-wiring around corners. Make connections at each end of the flexible whip, push wires into fixtures, then snap onto headers. Specify **WKC/WP** (with push-in quick-connects).

Adjustable Mounting Angle (AMA) Option

When room geometry allows, fixture may be tilted, thereby lowering the beam and resulting in a more effective distribution of light into the room. **AMA** (Adjustable Mounting Angle) quick attach component snaps onto housing to raise back of fixture 5° or 10°. Recommended cove sizes are shown.

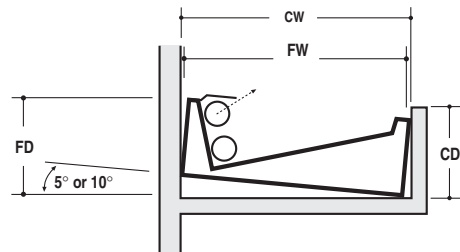
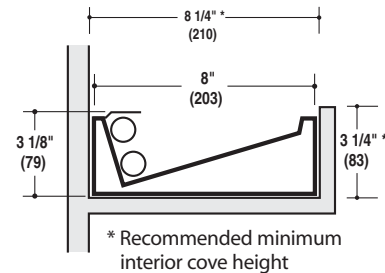
Photometric data



A. CC-AI-3014T8-LP/ELB 79.5% Efficiency
Litecontrol Certified Test Report #29611000

B. CC-AI-3024T8-LP/ELB 63.2% Efficiency
Litecontrol Certified Test Report #29521000

For complete photometric information, see website.



Angle of Tilt	Ordering Option	Fixture Depth (FD)	Fixture Width (FW)	Recommended Cove Depth (CD)	Recommended Cove Width (CW)
0	(standard)	3 1/8"	8"	3 1/4"	8 1/4"
5°	AMA	3 3/4"	8 1/4"	3 1/4"	8 5/8"
10°	AMA	4 1/4"	8 3/8"	3 1/4"	8 5/8"

Design guidelines

For maximum illumination level flexibility, five lamp combinations are available. For a one-lamp T5 or T5HO fixture in a 2 1/16" deep x 6" wide housing refer to Cove-25 (CC-AI-2500).

As the distance from fixture to ceiling is increased, light distribution becomes more uniform. To avoid excessive brightness on ceiling, maximize the distance from the fixture to the ceiling. A fixture with less output (i.e., one-lamp T8) may be tolerated closer to ceiling than one with higher output. To best evaluate an acceptable mounting position, a mock-up is recommended.

Position fixtures along walls as desired to satisfy visual design goals. To avoid excess corner brightness, stop fixtures 9-15" short of end walls; 0-6" from outside corner.

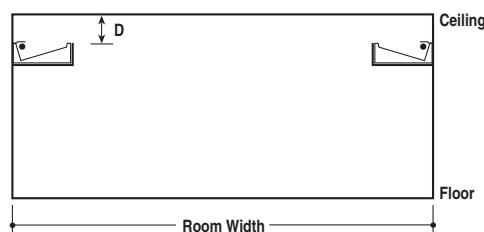
If using high-output T5 lamps, be advised that lamp lumens per foot for each of the lamp lengths are different. Caution is advised when mixing fixture lengths in rows.

For even lower beam throw and better distribution, consider the Adjustable Mounting Angle (**AMA**) option. This lowers the beam throw by 5° or 10°. Size the cove to hide lamps and fixture. This should only be considered if viewing angles prevent a direct view of the raised portion of the fixture, or if a cut-off angle below horizontal is deemed acceptable.

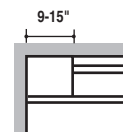
If the zonal cavity method is used to calculate an average illumination, it is advised in a perimeter layout to derate the illuminance by 10%.

If uniformity of light levels is desired, room width should not exceed the following:

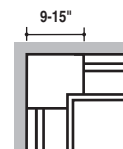
- Fixtures along one wall: 6xD
- Fixtures on opposite walls: 12xD



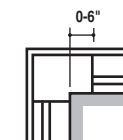
Single row end clearance



Inside corner positioning



Outside corner positioning



Click on **Quick Find 30**



litecontrol.com

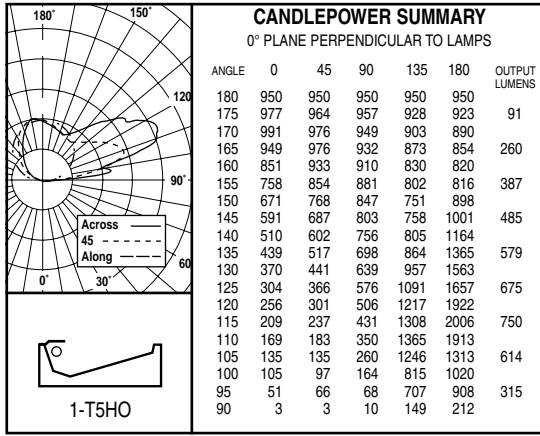
LITECONTROL ... an employee owned company

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

info@litecontrol.com

litecontrol.com

PHOTOMETRIC DATA



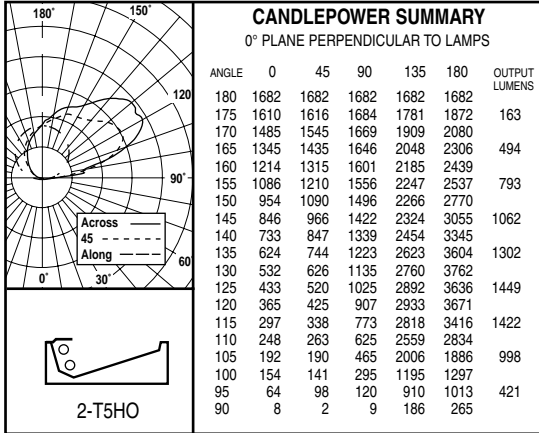
CC-AI-3014T5HO-LP/ELB 83.0 % Efficiency
Litecontrol Certified Test Report #29616000

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	0
RCR																		
0	.79	.79	.79	.79	.68	.68	.68	.68	.46	.46	.46	.26	.26	.26	.08	.08	.08	.00
1	.72	.69	.66	.63	.61	.59	.56	.53	.40	.39	.37	.23	.22	.22	.07	.07	.07	.00
2	.65	.60	.55	.51	.56	.51	.47	.44	.35	.33	.31	.20	.19	.18	.06	.06	.06	.00
3	.60	.52	.47	.43	.51	.45	.41	.37	.31	.28	.26	.18	.17	.15	.06	.05	.05	.00
4	.54	.46	.40	.36	.46	.40	.35	.31	.27	.24	.22	.16	.14	.13	.05	.05	.04	.00
5	.50	.40	.35	.30	.42	.35	.30	.26	.24	.21	.19	.14	.12	.11	.04	.04	.04	.00
6	.46	.36	.30	.26	.39	.31	.26	.23	.22	.18	.16	.13	.11	.09	.04	.03	.03	.00
7	.42	.32	.26	.22	.36	.28	.23	.19	.19	.16	.14	.11	.09	.08	.04	.03	.03	.00
8	.39	.29	.23	.19	.33	.25	.20	.17	.17	.14	.12	.10	.08	.07	.03	.03	.02	.00
9	.36	.26	.21	.17	.30	.23	.18	.15	.16	.13	.10	.09	.07	.06	.03	.02	.02	.00
10	.33	.24	.18	.15	.28	.21	.16	.13	.14	.11	.09	.08	.07	.05	.03	.02	.02	.00

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	4151	83.03	100.00
90-0°	0	.00	.00
180-0°	4151	83.03	100.00



CC-AI-3024T5HO-LP/ELB 81.0 % Efficiency
Litecontrol Certified Test Report #29626000

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	0
RCC RW																		
RCR																		
0	.77	.77	.77	.77	.66	.66	.66	.66	.45	.45	.45	.26	.26	.26	.08	.08	.08	.00
1	.70	.67	.64	.61	.60	.57	.55	.52	.39	.38	.37	.23	.22	.21	.07	.07	.07	.00
2	.64	.58	.54	.50	.54	.50	.46	.43	.34	.32	.30	.20	.19	.18	.06	.06	.06	.00
3	.58	.51	.46	.42	.49	.44	.40	.36	.30	.27	.25	.17	.16	.15	.06	.05	.05	.00
4	.53	.45	.39	.35	.45	.39	.34	.30	.27	.24	.21	.15	.14	.13	.05	.05	.04	.00
5	.48	.39	.34	.29	.41	.34	.29	.26	.24	.20	.18	.14	.12	.11	.04	.04	.04	.00
6	.44	.35	.29	.25	.38	.30	.26	.22	.21	.18	.16	.12	.11	.09	.04	.03	.03	.00
7	.41	.32	.26	.22	.35	.27	.22	.19	.19	.16	.13	.11	.09	.08	.04	.03	.03	.00
8	.38	.29	.23	.19	.32	.24	.20	.16	.17	.14	.12	.10	.08	.07	.03	.03	.02	.00
9	.35	.26	.20	.16	.30	.22	.17	.14	.15	.12	.10	.09	.07	.06	.03	.02	.02	.00
10	.32	.23	.18	.14	.28	.20	.16	.13	.14	.11	.09	.08	.06	.05	.03	.02	.02	.00

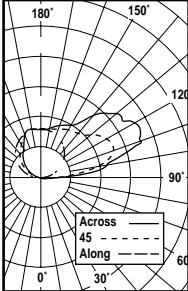
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	8099	81.00	100.00
90-0°	0	.00	.00
180-0°	8099	81.00	100.00

PHOTOMETRIC DATA

CANDLEPOWER SUMMARY		0° PLANE PERPENDICULAR TO LAMPS					OUTPUT LUMENS
ANGLE	0	45	90	135	180		
180	467	467	467	467	467	45	
175	470	469	467	469	475		
170	474	473	463	481	494		
165	464	474	454	489	510		135
160	419	456	442	494	529		
155	378	419	430	500	559		212
150	336	378	408	504	595		
145	297	338	392	509	690		276
140	258	299	367	533	795		
135	224	257	339	589	885		340
130	189	221	309	659	955		
125	156	186	278	709	954		386
120	134	153	243	741	1048		
115	108	120	205	753	1056		408
110	89	88	165	744	1016		
105	69	69	125	674	775		337
100	56	48	80	489	627		
95	31	34	36	360	439		171
90	1	3	4	98	128		



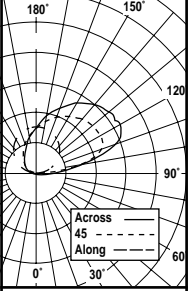
1-T8

CC-AI-3014T8-LP/ELB		79.5 % Efficiency																	
Litecontrol Certified Test Report #29611000																			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCR	0	.76	.76	.76	.76	.65	.65	.65	.65	.44	.44	.44	.25	.25	.25	.08	.08	.08	.00
	1	.69	.66	.63	.60	.59	.56	.54	.51	.38	.37	.36	.22	.21	.21	.07	.07	.07	.00
	2	.62	.57	.53	.49	.53	.49	.45	.42	.34	.31	.29	.19	.18	.17	.06	.06	.06	.00
	3	.57	.50	.45	.41	.49	.43	.39	.35	.30	.27	.25	.17	.16	.15	.05	.05	.05	.00
	4	.52	.44	.38	.34	.44	.38	.33	.30	.26	.23	.21	.15	.14	.12	.05	.04	.04	.00
	5	.48	.38	.33	.29	.40	.34	.29	.25	.23	.20	.18	.13	.12	.11	.04	.04	.03	.00
	6	.44	.35	.29	.25	.37	.30	.25	.22	.21	.18	.15	.12	.10	.09	.04	.03	.03	.00
	7	.40	.31	.25	.21	.34	.27	.22	.19	.18	.15	.13	.11	.09	.08	.03	.03	.03	.00
	8	.37	.28	.22	.18	.31	.24	.19	.16	.17	.14	.11	.10	.08	.07	.03	.03	.02	.00
	9	.34	.25	.20	.16	.29	.22	.17	.14	.15	.12	.10	.09	.07	.06	.03	.02	.02	.00
	10	.32	.23	.18	.14	.27	.20	.15	.12	.14	.11	.09	.08	.06	.05	.03	.02	.02	.00

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	2305	79.51	100.00
90-0°	0	.00	.00
180-0°	2305	79.51	100.00

CANDLEPOWER SUMMARY		0° PLANE PERPENDICULAR TO LAMPS					OUTPUT LUMENS
ANGLE	0	45	90	135	180		
180	776	776	776	776	776	74	
175	685	711	770	837	879		
170	599	648	766	896	970		
165	546	588	749	958	1068		220
160	493	539	732	1009	1168		
155	445	491	709	1058	1252		360
150	400	446	678	1099	1348		
145	353	403	642	1146	1424		483
140	307	356	601	1182	1501		
135	270	310	554	1211	1549		579
130	231	265	503	1226	1600		
125	191	224	451	1243	1577		633
120	164	185	392	1245	1611		
115	136	148	330	1215	1549		629
110	113	118	265	1142	1347		
105	92	88	194	958	1044		485
100	75	67	122	674	747		
95	38	48	51	366	430		206
90	3	1	5	97	139		



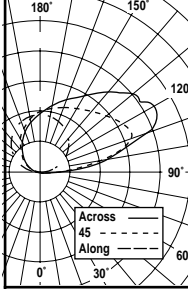
2-T8

CC-AI-3024T8-LP/ELB		63.2 % Efficiency																	
Litecontrol Certified Test Report #29521000																			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCR	0	.60	.60	.60	.60	.51	.51	.51	.51	.35	.35	.35	.20	.20	.20	.06	.06	.06	.00
	1	.55	.52	.50	.48	.47	.45	.43	.41	.31	.30	.28	.18	.17	.17	.06	.05	.05	.00
	2	.50	.45	.42	.39	.42	.39	.36	.33	.27	.25	.23	.15	.14	.14	.05	.05	.04	.00
	3	.45	.40	.36	.32	.39	.34	.31	.28	.24	.21	.20	.14	.13	.12	.04	.04	.04	.00
	4	.41	.35	.31	.27	.35	.30	.26	.24	.21	.18	.17	.12	.11	.10	.04	.04	.03	.00
	5	.38	.30	.26	.23	.32	.27	.23	.20	.18	.16	.14	.11	.09	.08	.03	.03	.03	.00
	6	.35	.28	.23	.20	.29	.24	.20	.17	.16	.14	.12	.10	.08	.07	.03	.03	.02	.00
	7	.32	.25	.20	.17	.27	.21	.17	.15	.15	.12	.10	.09	.07	.06	.03	.02	.02	.00
	8	.29	.22	.18	.15	.25	.19	.15	.13	.13	.11	.09	.08	.06	.05	.02	.02	.02	.00
	9	.27	.20	.16	.13	.23	.17	.14	.11	.12	.10	.08	.07	.06	.05	.02	.02	.02	.00
	10	.25	.18	.14	.11	.21	.16	.12	.10	.11	.09	.07	.06	.05	.04	.02	.02	.01	.00

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	3664	63.18	100.00
90-0°	0	.00	.00
180-0°	3664	63.18	100.00

CANDLEPOWER SUMMARY		0° PLANE PERPENDICULAR TO LAMPS					OUTPUT LUMENS
ANGLE	0	45	90	135	180		
180	963	963	963	963	963	93	
175	898	916	961	1006	1046		
170	827	862	954	1061	1127		
165	776	811	935	1117	1219		274
160	701	766	907	1156	1309		
155	631	705	882	1204	1394		440
150	565	638	843	1253	1477		
145	500	572	802	1289	1604		585
140	440	506	754	1331	1745		
135	383	440	694	1382	1879		711
130	326	376	633	1469	2015		
125	267	321	567	1540	2044		807
120	229	264	497	1617	2194		
115	188	209	416	1649	2168		843
110	154	164	339	1598	1956		
105	116	121	247	1395	1377		660
100	100	91	153	929	1092		
95	45	63	62	587	635		289
90	1	1	5	118	158		



2-BX

CC-AI-3024BX-ELB		74.5 % Efficiency																	
Litecontrol Certified Test Report #29620000																			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCC RW	70	80	30	10	70	50	30	10	50	30	10	50	10	30	10	0			
RCR	0	.71	.71	.71	.71	.61	.61	.61	.61	.41	.41	.41	.24	.24	.24	.08	.08	.08	.00
	1	.65	.62	.59	.57	.55	.53	.51	.48	.36	.35	.34	.21	.20	.20	.07	.06	.06	.00
	2	.59	.54	.49	.46	.50	.46	.42	.40	.31	.29	.28	.18	.17	.16	.06	.06	.05	.00
	3	.54	.47	.42	.38	.46	.40	.36	.33	.28	.25	.23	.16	.15	.14	.05	.05	.04	.00
	4	.49	.41	.36	.32	.41	.36	.31	.28	.24	.22	.20	.14	.13	.12	.05	.04	.04	.00
	5	.45	.36	.31	.27	.38	.32	.27	.24	.22	.19	.17	.13	.11	.10	.04	.04	.03	.00
	6	.41	.33	.27	.23	.35	.28	.23	.20	.19	.16	.14	.11	.10	.08	.04	.03	.03	.00
	7	.38	.29	.24	.20	.32	.25	.21	.17	.17	.14	.12	.10	.08	.07	.03	.03	.02	.00
	8	.35	.26	.21	.17	.29	.23	.18	.15	.16	.13	.11	.09	.08	.06	.03	.02	.02	.00
	9	.32	.24	.18	.15	.27	.20	.16	.13	.14	.11	.09	.08	.07	.06	.03	.02	.02	.00
	10	.30	.21	.17	.13	.25	.18	.14	.12	.13	.10	.08	.08	.06	.05	.02	.02	.02	.00

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
180-90°	4696	74.54	100.00
90-0°	0	.00	.00
180-0°	4696	74.54	100.00

PRE-WIRING INFORMATION

Fixtures are supplied with #12 AWG type THHN wire for branch circuits. One end will have factory-installed push-in quick-connects. The other end will be stripped back 1/2" for quick connection in field. Each quick-connect joins two leads with each lead pushed into the device for a secure, positive connection.

Single-circuit option (1CWQ) will contain:

- (1) black lead wired to ballast(s) black lead for connection to "HOT" feed.
- (1) white lead wired to ballast(s) white lead for connection to "COMMON" feed.
- (1) green lead bonded to fixture for connection to "GROUND" feed.

Two-circuit option (2CWQ) will contain:

- (1) black lead wired to ballast(s) black lead for connection to "HOT" feed of one switch leg of circuit.
- (1) red lead wired to ballast(s) black lead for connection to "HOT" feed of other switch leg of circuit.
- (1) white lead wired to ballast(s) white lead for connection to "COMMON" feed.
- (1) green lead bonded to fixture for connection to "GROUND" feed.

Pigtails for feed points or ends of rows are not furnished by Litecontrol. NOTE: All unused leads must be capped off.

Rated ampacity of feed cords provided by Litecontrol (if applicable) shall be the limiting factor in the number of fixtures that can be fed from a single cord.

These standard options do not provide for those installations where special circuits within the fixtures are involved, such as night/emergency, dimming controls, light level sensors, or Master/Slave fixtures. The installing electrical contractor will furnish and install the branch circuit wiring for those fixtures required by the specific situation.



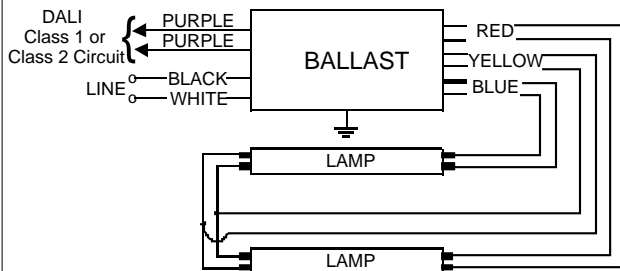
IDA-2S54@120

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

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* F54T5/HO	2	54	50/10	1.05	24/125	0.03/1.00	10	0.98	1.7	0.80
FC12T5/HO	2	55	50/10	0.96	24/114	0.03/1.00	10	0.98	1.7	0.88
FT55W/2G11	2	55	50/10	0.96	24/114	0.03/1.00	10	0.98	0.0	0.88

Wiring Diagram

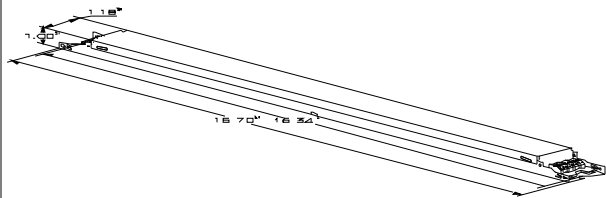


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

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

Revised 01/16/2004



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

ADVANCE

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



IDA-2S54@120	
Brand Name	ROVR
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

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 available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors or integral leads color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start.
- 2.2 Ballast shall be provided with integral protection circuitry to withstand connection of low voltage control leads to mains power supply. In this event, ballast shall default to maximum light output.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 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.
- 2.5 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.
- 2.6 Ballast shall have a Power Factor greater than 0.98 at full light output and greater than 0.90 throughout the dimming range for primary lamp.
- 2.7 Ballast shall have a minimum ballast factor of 1.00 at maximum light output and 0.03 at minimum light output for primary lamp application.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less throughout the dimming range in accordance with lamp manufacturer recommendations.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating.
- 2.11 Ballast shall have a minimum starting temperature of 10C (50F) for primary lamp.
- 2.12 Ballast shall provide Lamp EOL Protection Circuit for all T5, T5/HO, CFL lamps, and T8 lamps operating on 4-lamp ballast.
- 2.13 Ballast shall control lamp light output from 100% - 3% relative light output for T8 and CFL lamps and 100% - 1% relative light output for T5/HO lamps.
- 2.14 Ballast shall ignite the lamps at any light output setting without first going to another output setting.
- 2.15 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 controlled by a Class 1 or Class 2 low voltage DALI controller.

4.5 Ballast shall be Advance part # _____ or approved equal.

Revised 01/16/2004



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 TRANSFORMER CO.
O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
ROSEMONT, ILLINOIS 60018
TELEPHONE: (847) 390-5000 FAX: (847) 390-5109



F54T5/830 HO ALTO TG

Product family description

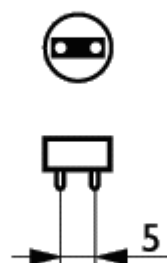
Product data

Product Number	168617
Full product name	F54T5/830 HO ALTO TG
Ordering Code	F54T5/830/HO/ALTO TG
Pack type	1 Lamp
Pieces per Sku	1
Skus/Case	40
Pack UPC	046677168612
EAN2US	
Case Bar Code	50046677168617
Successor Product number	
System Description	High Output
Base	Miniature Bipin
Base Information	Green [Green Base]
Bulb	T5 [16mm]
Packing Type	1LP [1 Lamp]
Packing Configuration	40
Rated Avg. Life	24000 hr
Name Type	F54T5
Feature	ALTO®
Ordering Code	F54T5/830/HO/ALTO TG
Pack UPC	046677168612
Case Bar Code	50046677168617
Watts	54W
Dimmable	Yes
Mercury (Hg) Content	1.4 mg
Color Code	830 [CCT of 3000K]
Color Rendering Index	85 Ra8

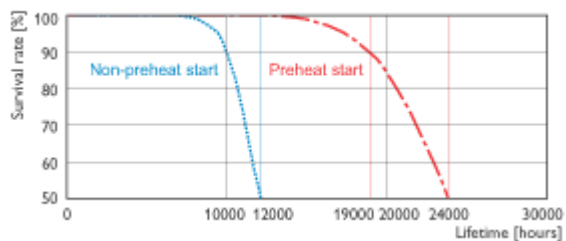
Product data	
Color Designation	830
Color Description	na [-]
Color Temperature	3000 K
Initial Lumens	- Lm
Overall Length C	1163.2 mm
Diameter D	17 mm
Product Number	168617



TL5

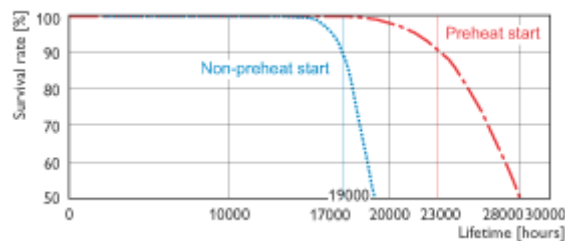


Base Miniature Bipin



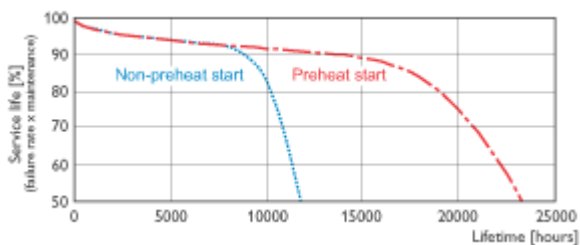
Life Expectancy 3h cycle

TL5



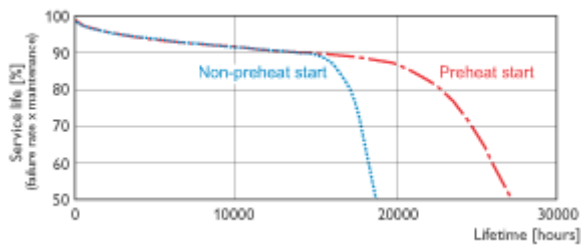
Life Expectancy 12h cycle

TL5



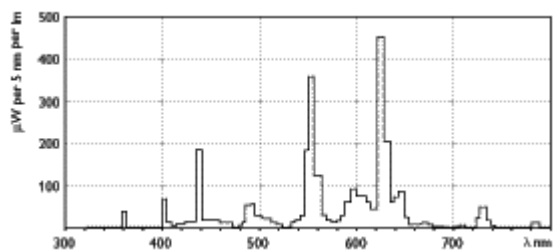
Service Life 3h cycle

TL5

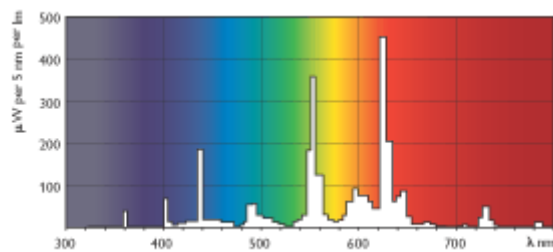


Service Life 12h cycle

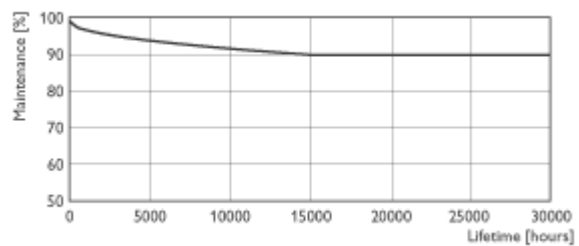
TL5



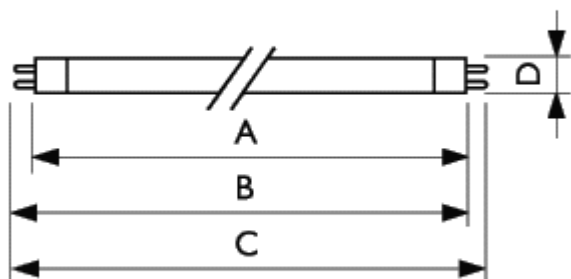
TL5/830



TL5/830



TL5



TL5

	A	B	B	C	D
Full product name	Max	Min	Max	Max	Max
F54T5/830 HO ALTO TG	1149.0	1153.7	1156.1	1163.2	17



TRIPLES-H 232/7

recessed compact fluorescent downlight/wallwasher

COMPACT
FLUORESCENT
1-382

FEATURES

Triples-H 232/7 is an efficient 7" aperture low brightness downlight, for use with two 32-watt, 4-pin, triple tube compact fluorescent lamps by GE, Sylvania or Philips. Triples-H 232/7 provides shielding angles of 40° parallel to and 40° perpendicular to the lamps. Recess depth is only 7 1/4".

One housing allows interchangeable use of downlight and wallwash reflectors, permitting housings to be installed first and reflectors to be installed or changed at any time.


Triples-H 232/7 uses two 32-watt, 4-pin, triple tube lamps providing 4800 lumens (more than a 250-watt incandescent), a 10,000-hour life, a color rendering index (CRI) of 82, and color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).

Reflectors are available in clear, natural aluminum in three finishes: **Even-Tone**, our standard clear finish, partially diffuse, anti-iridescent and gently luminous in appearance; **OptiTone**, specular and anti-iridescent, with minimum brightness and maximum efficiency; and **EasyTone**, diffuse and luminous. Additionally, reflectors are available in champagne gold, wheat, pewter, and bronze. Wallwash (120°) and double wallwash (2x120°) reflectors are also available.

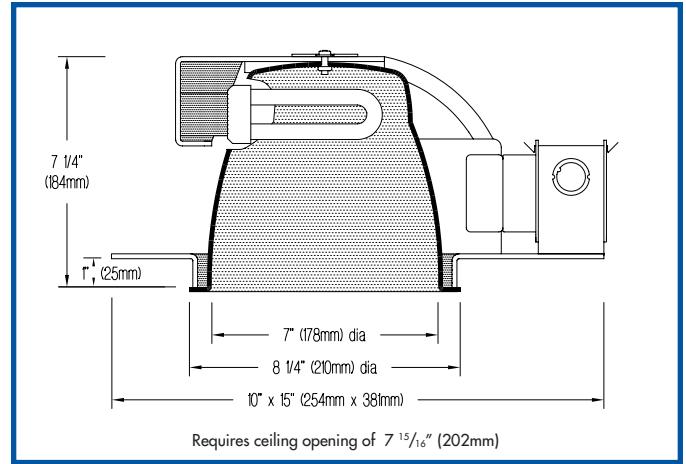
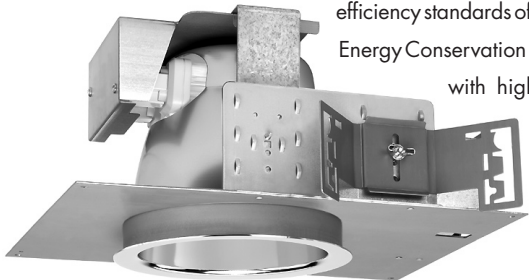
Triples-H 232/7 includes a pair of mounting bars (3/4" x 27" C channel). Specialty bars for wood joist and T-bar installations are available as accessories.

APPLICATIONS

Fixture is recommended for downlighting or wallwashing in offices, stores, banks, schools, auditoriums, hospitals and airports, as well as lobbies and public areas.

Fixture is  listed for Damp Location (may not be suitable for some outdoor environments). Fixture is in compliance with the component based

efficiency standards of the 1995 New York State Energy Conservation Code. Fixture is prewired with high power factor Class P electronic ballast, suitable for use in a fire rated ceiling and approved for eight #12 wire 75°C branch circuit pull-through wiring. Removal of the reflector allows access to the ballast and junction box.



PRODUCT CODE

For complete product code, list basic unit and select one item from each following box.

Basic Unit TRPH 232/7

Reflector Type
Downlight no suffix
Wallwash WW
Double Wallwash DWW

Voltage
120 volt service 120 277 volt service 277

Reflector and Flange Color	Overlap	Flush
EvenTone Clear	VOL	VFL
OptiTone Clear	COL	CFL
EasyTone Clear	ECOL	ECFL
Champagne Gold	GOL	GFL
Wheat	WHOL	WHFL
Pewter	POL	PFL
Bronze	ZOL	ZFL

Other reflector finishes are available on special order.

Standard reflector flange continues reflector finish. White painted flanges and custom painted flanges are available on special order. Add WF (white flange) or CCF (custom color flange).

OPTIONS

Specify by adding to the basic unit.

Dimmable 3-wire ballast; not for outdoor application - DM
Emergency battery pack operates one lamp in event of power outage. Fixture footprint increases to 10 x 17 3/4" (254 x 451mm). Additional 1" (25mm) is required to remove EM pack through aperture. Not for outdoor application or double wallwasher (DWW) - EM
 1/8" (3mm) thick **clear acrylic shield**, spring-mounted within reflector - PS

- ▶ For combinations of the Options above, contact factory or Edison Price Lighting representative.
- ▶ A modified fixture suitable for 2" maximum ceiling thickness is available on special order. Contact factory.
- ▶ A modified fixture suitable for 347-volt service is available on special order. Contact factory.
- ▶ An install-from-below version of this fixture, suitable for installation outside North America, is also available. Contact factory.
- ▶ Decorative reflector rings are available on special order. Contact factory.



TRIPLES-H 232/7

PHOTOMETRIC REPORT

Report No. 50244. Original Independent Testing Laboratories, Inc. (ITL) test report furnished upon request.

Luminaire recessed compact fluorescent downlight with spun aluminum reflector
 Lamp two Philips 32-watt triple-tube compact fluorescent, 4-pin, GX24q-3 base, 2400 lumens each
 Efficiency 52.1%
 Spacing Criteria... 0°- 1.3, 90°-1.4, 180°-1.4
 Axis orientation... 0° plane is parallel to lamps, opposite sockets

BALLAST INFORMATION

Voltage	120	277
Input Watts	69	67
Line Current (A)	.58	.26
Power Factor (%)	>98	>98
THD (%)	<10	<10
Min. Starting Temp* (°F)	0	0

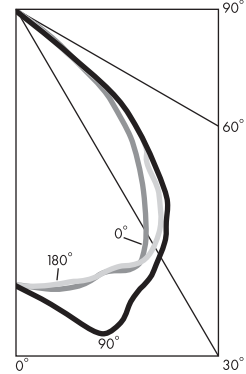
*Consult lamp manufacturers for specific temperatures.

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0 - 30°	1143	23.8	45.7
0 - 40°	1860	38.7	74.4
0 - 60°	2496	52.9	99.8
0 - 90°	2500	52.1	100.0
90 -180°	0	0.0	0.0
0 -180°	2500	52.1	100.0

CANDLEPOWER DISTRIBUTION (Candela)

Vertical Angle	Horizontal Angle				
	0.0	45.0	90.0	135.0	180.0
0	1263	1263	1263	1263	1263
5	1274	1304	1326	1307	1263
15	1280	1403	1536	1434	1272
25	1292	1348	1379	1372	1282
35	1007	1167	1171	1180	1130
45	633	726	769	812	783
55	8	14	20	21	23
65	4	4	4	4	4
75	1	1	1	1	2
85	0	0	0	0	0
90	0	0	0	0	0



LUMINANCE DATA (Candela/m²)

Vertical Angle	Average 0° Longitude	Average 90° Longitude	Average 180° Longitude
45	34788	42262	43032
55	542	1355	1558
65	368	368	368
75	150	150	300
85	0	0	0

To convert cd/m² to footlamberts, multiply by 0.2919.

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 20%

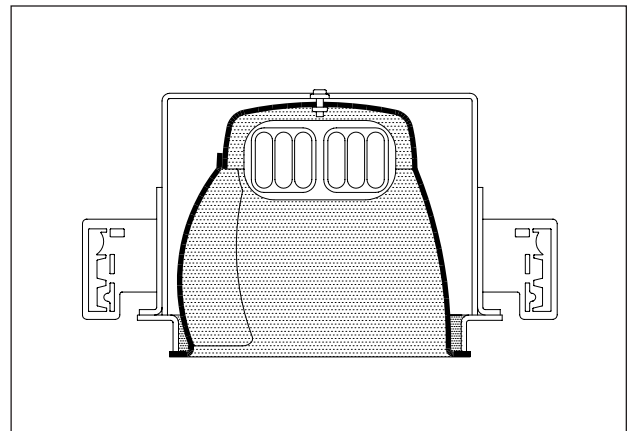
Ceiling Reflectance (%)	80				70				50				30				10				0											
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10			
Room Cavity Ratio																																
0	61	61	61	61	60	60	60	60	57	57	57	55	55	55	53	53	53	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
1	58	56	55	54	57	55	54	53	53	52	51	51	50	50	48	48	48	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
2	55	52	49	47	53	51	49	47	49	47	46	48	46	45	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
3	51	47	44	42	50	47	44	42	45	43	41	44	42	40	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
4	48	43	40	37	47	43	40	37	42	39	37	41	38	36	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
5	45	40	36	34	44	39	36	33	38	35	33	37	35	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
6	42	37	33	30	41	36	33	30	35	32	30	35	32	30	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
7	39	34	30	27	39	33	30	27	33	29	27	32	29	27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8	37	31	27	25	36	31	27	25	30	27	25	30	27	25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
9	35	29	25	23	34	29	25	23	28	25	23	28	25	23	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
10	33	27	23	21	32	27	23	21	26	23	21	26	23	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

TRIPLES-H 232/7 WW

WALLWASH INFORMATION

Distance From Ceiling (Feet)	3' From Wall; 3' O.C.		3'6" From Wall; 3'6" O.C.		4' From Wall; 4' O.C.	
	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures
1	10	9	6	5	4	3
2	18	17	12	11	8	8
3	25	24	16	15	11	10
4	30	30	21	21	14	14
5	28	28	22	22	17	17
6	24	24	20	21	17	17
7	20	20	18	18	16	16
8	17	16	15	15	14	14
9	13	13	13	13	12	12
10	11	11	11	11	10	10
11	9	9	9	9	9	9
12	7	7	8	7	8	8

All vertical footcandles are initial values with no contribution from ceiling or floor reflectances. Computation performed with at least five wallwashers.



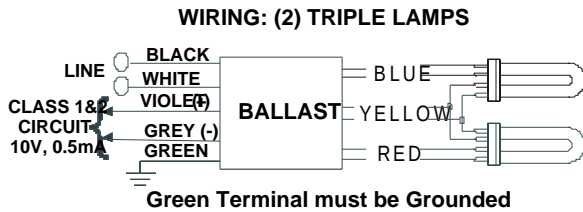


IZT-2T42-M3-BS@277	
Brand Name	MARK 7 0-10V
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* CFM32W/GX24Q	2	32	50/10	0.27	19/75	0.05/1.00	10	0.98	1.4	1.33
CFM42W/GX24Q	2	42	50/10	0.35	18/96	0.05/1.00	10	0.99	1.4	1.04
CFTR57W/GX24Q	1	57	50/10	0.24	18/66	0.05/1.00	10	0.99	1.6	1.52
CFTR70W/GX24Q	1	70	50/10	0.29	18/80	0.05/1.00	10	0.99	1.6	1.25

Wiring Diagram

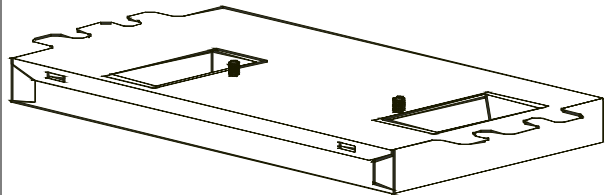


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
6.28 "	3.00 "	1.29 "	2.00 "
6 7/25	3	1 29/100	2
16 cm	7.6 cm	3.3 cm	5.1 cm

Revised 08/27/2003



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



PL- T 32W/830 GX24q- 3 /4P 1CT

Product family description
PL- T Triple 4pin Fluorescent Lamp with Amalgam.

Features/Benefits

- ALTO® Lamp Technology - Passes EPA's TCLP test for non-hazardous waste.
- Utilizes amalgam technology to provide > 90% of rated lumens in ambient temperatures from 23F to 130F.
- Triple tube design available in 18, 26, 32, and 42W.
- Excellent Color Rendering - 82 Color Rendering Index (CRI).
- Broad Range of Color Temperature - Available in 2700, 3000, 3500 and 4100K.
- Dimmable - PL-T 4-pin lamps may be used with electronic dimming ballasts.
- Long Life - 12,000 hours.
- Energy Saving - Designed for use with electronic ballasts for lower operating costs and flicker-free starting.

Applications

- Ideal for downlights and medium bay multi-lamp fixtures for general lighting.

Notes

- Rated average life under specified test conditions with lamps turned off and restarted no more frequently than once every 3 operating hours. Lamp life is appreciably longer if lamps are started less frequently. (202)
- Approximate Initial Lumens. The lamp lumen output is based upon lamp performance after 100 hours of operating life, when the output is measured during operation on a reference ballast under standard laboratory conditions. (203)
- Design Lumens are the approximate lamp lumen output at 40% of the lamp's Rated Average Life. This output is based upon measurements obtained during lamp operation on a reference ballast under standard laboratory conditions. (208)

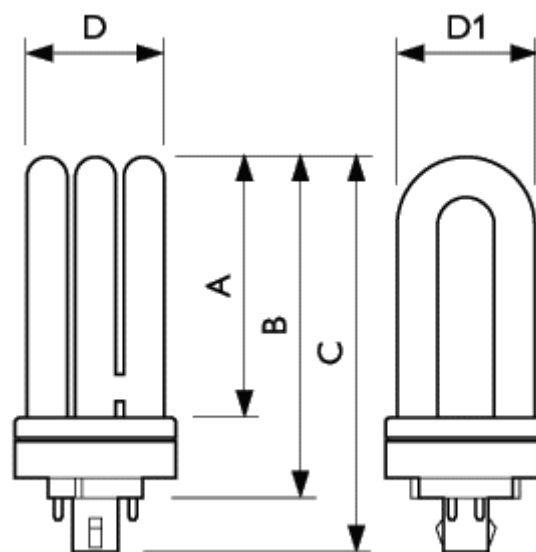
Product data	
Product Number	268326
Full product name	PL- T 32W/830 GX24q- 3 /4P 1CT
Ordering Code	PL- T 32W/830/4P/ALTO
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268329

PHILIPS

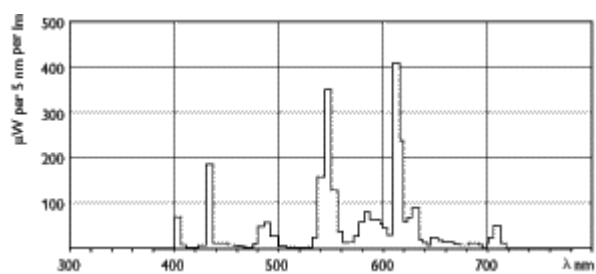
Product data	
EAN2US	
Case Bar Code	50046677268324
Successor Product number	
Base	GX24q-3
Base Information	4P
Execution	/4P [4 Pins]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12
Avg. Hrs. Life	12000 hr
Ordering Code	PL- T 32W/830/4P/ALTO
Pack UPC	046677268329
Case Bar Code	50046677268324
Watts	32W
Lamp Voltage	- V
Dimmable	Yes
Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Description	830 Warm White
Color Temperature	3000 K
Initial Lumens	- Lm
Initial Lumens	2400 Lm
Overall Length C	141.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
Product Number	268326



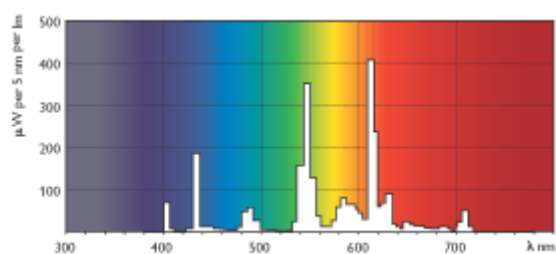
PL- T 32W



PL- T



PL-T/830



PL-T/830





iW PROFILE g2

An INTELLIWHITE™ Product



The iW Profile g2 fixture is a low-profile, linear 12" (30.2 cm) system that features higher light output and enhanced light quality with new optics and advanced LEDs (as compared to the previous generation). The linear design and fixture-to-fixture color consistency of this high-quality white light is well suited for display, museum, exhibit, retail, hospitality and architectural applications.

iW Profile g2 provides flexible color temperature and brightness control through Chromacore® technology, the proven approach that underlies Color Kinetics' existing intelligent solid-state lighting systems. When applied to IntelliWhite™ products, Chromacore controls channels of warm white and cool white LEDs to produce color temperatures within the range of 3000–6500 Kelvin from within a single fixture. iW Profile g2 allows the adjustment of light intensity while providing the option to either maintain or vary the color temperature.

iW Profile g2 is available with three different beam angles to meet diverse application demands: narrow, medium, and forward-throw asymmetric. iW Profile g2 is rated for indoor and damp location installations. The end-to-end locking connectors, capable of making 180° turns, make iW Profile g2 extremely versatile and easily adaptable to even the most challenging mounting environments.

iW Profile g2 is track mounted using the provided eight inch long 0°/60° track or 45° track for forward-throw asymmetric fixtures. This track allows for a light aim perpendicular to the mounting surface, angled at 60° from center, or angled at 45° from center. Optional 5 1/2 foot tracks are available for long, linear runs of 0°/45°/60° mounting angles.

iW PROFILE g2 SPECIFICATIONS

COLOR TEMP RANGE	3000K to 6500K
SOURCE	High intensity LEDs
BEAM ANGLE	Narrow, Medium, Forward-Throw Asymmetric
HOUSING	Aluminum with enamel finish
LENS	Clear tempered UV resistant lens
CONNECTORS	Unified power and data cable
LISTINGS	UL/cUL, CE

COMMUNICATIONS SPECIFICATIONS

DATA INTERFACE	Color Kinetics iW PDS-150 or iW PDS-60
CONTROL	Color Kinetics Line of Controllers, including iW Scene Controller, or LSM*

ELECTRICAL SPECIFICATIONS

POWER REQUIREMENT	24VDC
POWER CONSUMPTION	15W

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-4°F to 122°F (-20°C to 50°C) based on testing of specific product
PROTECTION RATING	IP60 (top of housing); IP50 (bottom of housing)

* For large or complex installations, consider controlling iW Profile g2 with Light System Manager (LSM). Refer to the LSM data sheets or contact support@colorkinetics.com for more information.

CHROMACORE
BY COLOR KINETICS

OPTIBIN
BY COLOR KINETICS



ITEM# 501-000010-00 (Medium)
501-000010-01 (Narrow)
501-000010-02 (Forward-Throw Asymmetric)

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

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BRO185 Rev 04

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent data sheet versions.

LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure [MTBF]. LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity, and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions. Lumen depreciation information is based on LED manufacturers' source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 70% of original light output. When the fixture is running on warm or cool, at room temperature, the LED lifetime is in the range of 50,000 – 70,000 hours. This is based on LED manufacturers' test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see www.colorkinetics.com/lifetime.

iW PROFILE g2 - NARROW

PHOTOMETRIC PERFORMANCE

SOURCE SPECIFICATIONS

Lens: UV-resistant soft-focus polycarbonate lens
 Source: 10 LEDs (5 warm white, 5 cool white)
 Beam Angle: 10° X 110° (at 50% of peak illuminance)
 Distribution: Symmetric direct illumination
 CRI: 79 All, 73 Warm, 83 Cool

ILLUMINANCE DISTRIBUTION

0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	1.0'/0.3m
0.5 5.4	3.9 42.0	6.9 74.3	3.9 42.0	0.6 6.5	0.2 2.2	2.0'/0.6m
0.9 9.7	7.7 82.9	17.1 184.1	14.0 150.7	4.5 48.4	0.6 6.5	3.0'/1.0m
0.6 6.5	4.5 48.4	14.0 150.7	17.1 184.1	7.7 82.9	0.9 9.7	4.0'/1.2m
0.2 2.2	0.6 6.5	3.9 42.0	6.9 74.3	3.9 42.0	0.5 5.4	5.0'/1.5m
0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	6.0'/2.0m
3.0'/1.0m		0'/0m		3.0'/1.0m		

Units: Footcandles (top)/Lux (bottom)
 10.8 lux = 1 fc
 Location: Centered 1'/0.3m from, and perpendicular to, surface
 Measured on: All, Reflectance 50%

ILLUMINANCE

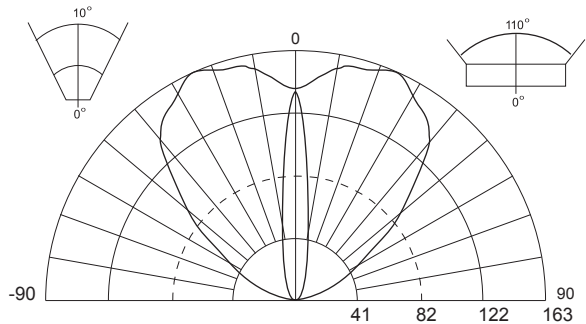
	3' 1m	6' 2m	9' 3m	15' 5m
ALL	19.7 212.1	4.3 46.3	1.8 19.4	0.6 6.5

Measured in Footcandles (top)/Lux (bottom).
 Measured on all, reflectance 0.

CRI

It is common practice in the lighting industry to use color rendering index (CRI) to compare the properties of various light sources. There are known deficiencies and limitations associated with CRI and as a result, it is not always an accurate indicator of good object color appearance. This is especially true for LED-based sources. Until a better method for measuring color rendering in LEDs is accepted, Color Kinetics measures CRI in accordance with the current CIE 13.3-1995 standard using the Ra calculation. The reference illuminants employed are the Planckian locus below 5000K and CIE Daylight reference above 5000K. All measurements for Color Kinetics products are performed by third party laboratories using NIST-traceable instruments.

CANDLE POWER DISTRIBUTION



Measured on: All
 Beam peak: 163 cd
 Thin dashed line: Indicates 50% of peak

LIGHT OUTPUT

	TOTAL OUTPUT (lumens)	POWER (Watts)	EFFICACY (lm/W)
ALL	118	12.0	9.8
WARM	107	11.8	9.1
COOL	118	11.8	10.0

Note: Efficacy figures are for a complete tested fixture not simply a lamp source.

iW PROFILE g2 - MEDIUM

PHOTOMETRIC PERFORMANCE

SOURCE SPECIFICATIONS

Lens:	UV-resistant soft-focus polycarbonate lens
Source:	10 LEDs (5 warm white, 5 cool white)
Beam Angle:	50° X 50°
Distribution:	Symmetric direct illumination
CRI:	79 All, 73 Warm, 83 Cool

ILLUMINANCE DISTRIBUTION

0.2 2.2	0.3 3.2	0.3 3.2	0.3 3.2	0.3 3.2	0.2 2.2	1.0'/0.3m
0.3 3.2	3.9 42.0	7.4 79.7	4.0 43.1	0.4 4.3	0.2 2.2	2.0'/0.6m
0.3 3.2	7.4 79.7	17.9 192.7	14.5 156.1	4.0 43.1	0.3 3.2	3.0'/1.0m
0.3 3.2	4.0 43.1	14.5 156.1	17.9 192.7	7.4 79.7	0.3 3.2	4.0'/1.2m
0.2 2.2	0.4 4.3	4.0 43.1	7.4 79.7	3.9 42.0	0.3 3.2	5.0'/1.5m
0.2 2.2	0.2 2.2	0.3 3.2	0.3 3.2	0.3 3.2	0.2 2.2	6.0'/2.0m
3.0'/1.0m		0'/0m		3.0'/1.0m		

Units: Footcandles (top)/Lux (bottom)
10.8 lux = 1 fc

Location: Centered 1'/0.3m from, and perpendicular to, surface
Measured on: All, Reflectance 50%

ILLUMINANCE

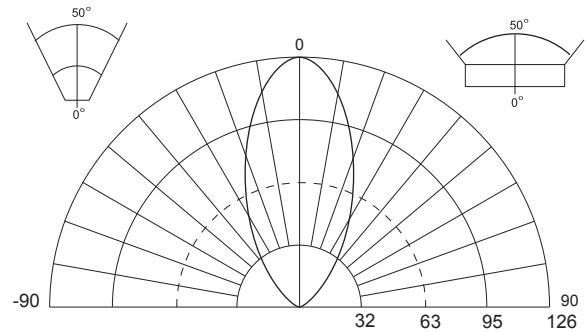
	3' 1m	6' 2m	9' 3m	15' 5m
ALL	18.3 197.0	4.0 43.1	1.7 18.3	0.6 6.5

Measured in Footcandles (top)/Lux (bottom).
Measured on all, reflectance 0.

CRI

It is common practice in the lighting industry to use color rendering index (CRI) to compare the properties of various light sources. There are known deficiencies and limitations associated with CRI and as a result, it is not always an accurate indicator of good object color appearance. This is especially true for LED-based sources. Until a better method for measuring color rendering in LEDs is accepted, Color Kinetics measures CRI in accordance with the current CIE 13.3-1995 standard using the Ra calculation. The reference illuminants employed are the Planckian locus below 5000K and CIE Daylight reference above 5000K. All measurements for Color Kinetics products are performed by third party laboratories using NIST-traceable instruments.

CANDLE POWER DISTRIBUTION



Measured on: All
Beam peak: 126 cd
Thin dashed line: Indicates 50% of peak

LIGHT OUTPUT

	TOTAL OUTPUT (lumens)	POWER (Watts)	EFFICACY (lm/W)
ALL	120	12.0	10.0
WARM	102	11.8	8.6
COOL	127	11.8	10.8

Note: Efficacy figures are for a complete tested fixture not simply a lamp source.

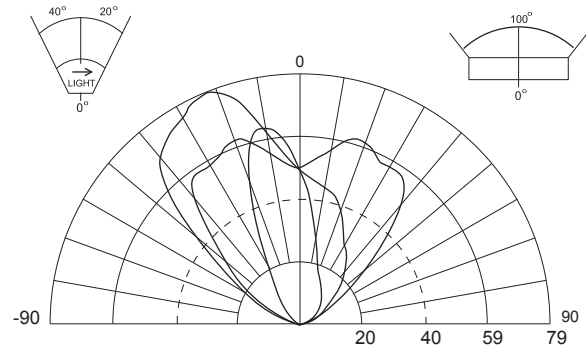
iW PROFILE g2 - ASYMMETRIC

PHOTOMETRIC PERFORMANCE

SOURCE SPECIFICATIONS

Lens: UV-resistant soft-focus polycarbonate lens
 Source: 10 LEDs (5 warm white, 5 cool white)
 Beam Angle: 20° X 40° X 100°
 Distribution: Asymmetric direct illumination
 CRI: 79 All, 73 Warm, 84 Cool

CANDLE POWER DISTRIBUTION



Measured on: All
 Beam center: 79 cd
 Thin dashed line: Indicates 50% of peak

LIGHT OUTPUT

	TOTAL OUTPUT (lumens)	POWER (Watts)	EFFICACY (Lm/w)
ALL	100	12.0	8.3
WARM	90	11.8	7.6
COOL	101	11.8	8.6

Note: Efficacy figures are for a complete tested fixture not simply a lamp source.

ILLUMINANCE DISTRIBUTION

0.2 2.2	0.3 3.2	0.4 4.3	0.3 3.2	0.2 2.2	0.2 2.2	1.0'/0.3m
0.3 3.2	2.4 25.8	4.4 47.4	2.6 28.0	0.5 5.4	0.2 2.2	2.0'/0.6m
0.5 5.4	6.2 66.7	13.4 144.2	10.1 108.7	2.7 29.1	0.4 4.3	3.0'/1.0m
0.4 4.3	4.3 46.3	13.2 142.1	15.0 161.5	6.2 66.7	0.5 5.4	4.0'/1.2m
0.2 2.2	0.5 5.4	4.0 43.1	7.4 79.7	4.0 43.1	0.4 4.3	5.0'/1.5m
0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	0.2 2.2	6.0'/2.0m
3.0'/1.0m	0'/0m				3.0'/1.0m	

Units: Footcandles (top)/Lux (bottom)
10.8 lux = 1 fc

Location: Centered 1'/0.3m from, and perpendicular to, surface
Measured on: All, reflectance model 50/%

ILLUMINANCE

	3' 1m	6' 2m	9' 3m	15' 5m
ALL	7.1 76.4	1.5 16.1	0.7 7.5	0.2 2.2

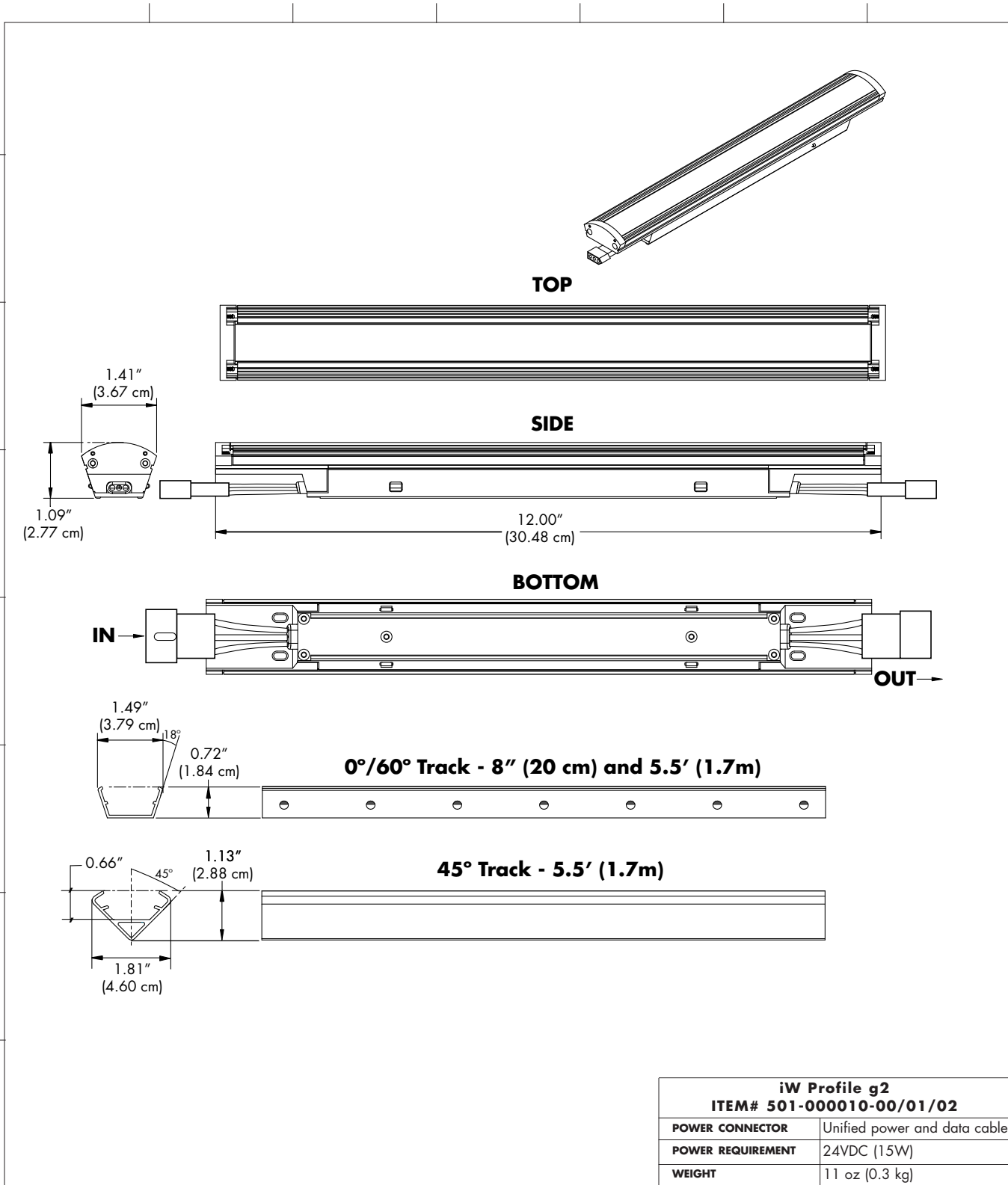
Measured in Footcandles (top)/Lux (bottom).
Measured on all, reflectance 0.

CRI

It is common practice in the lighting industry to use color rendering index (CRI) to compare the properties of various light sources. There are known deficiencies and limitations associated with CRI and as a result, it is not always an accurate indicator of good object color appearance. This is especially true for LED-based sources. Until a better method for measuring color rendering in LEDs is accepted, Color Kinetics measures CRI in accordance with the current CIE 13.3-1995 standard using the Ra calculation. The reference illuminants employed are the Planckian locus below 5000K and CIE Daylight reference above 5000K. All measurements for Color Kinetics products are performed by third party laboratories using NIST-traceable instruments.

iW PROFILE g2

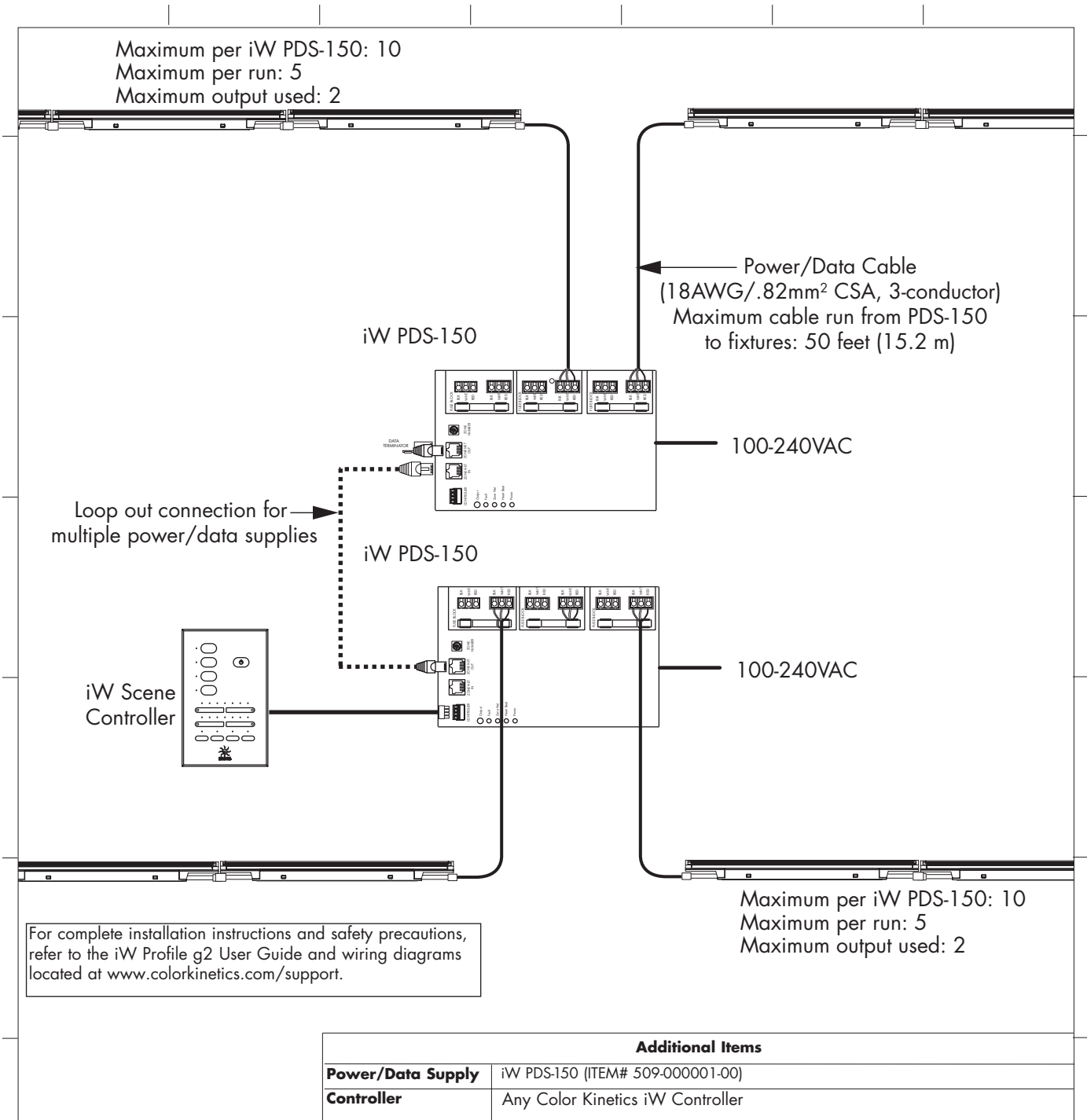
PHYSICAL DIMENSIONS



iW Profile g2 ITEM# 501-000010-00/01/02	
POWER CONNECTOR	Unified power and data cable
POWER REQUIREMENT	24VDC (15W)
WEIGHT	11 oz (0.3 kg)

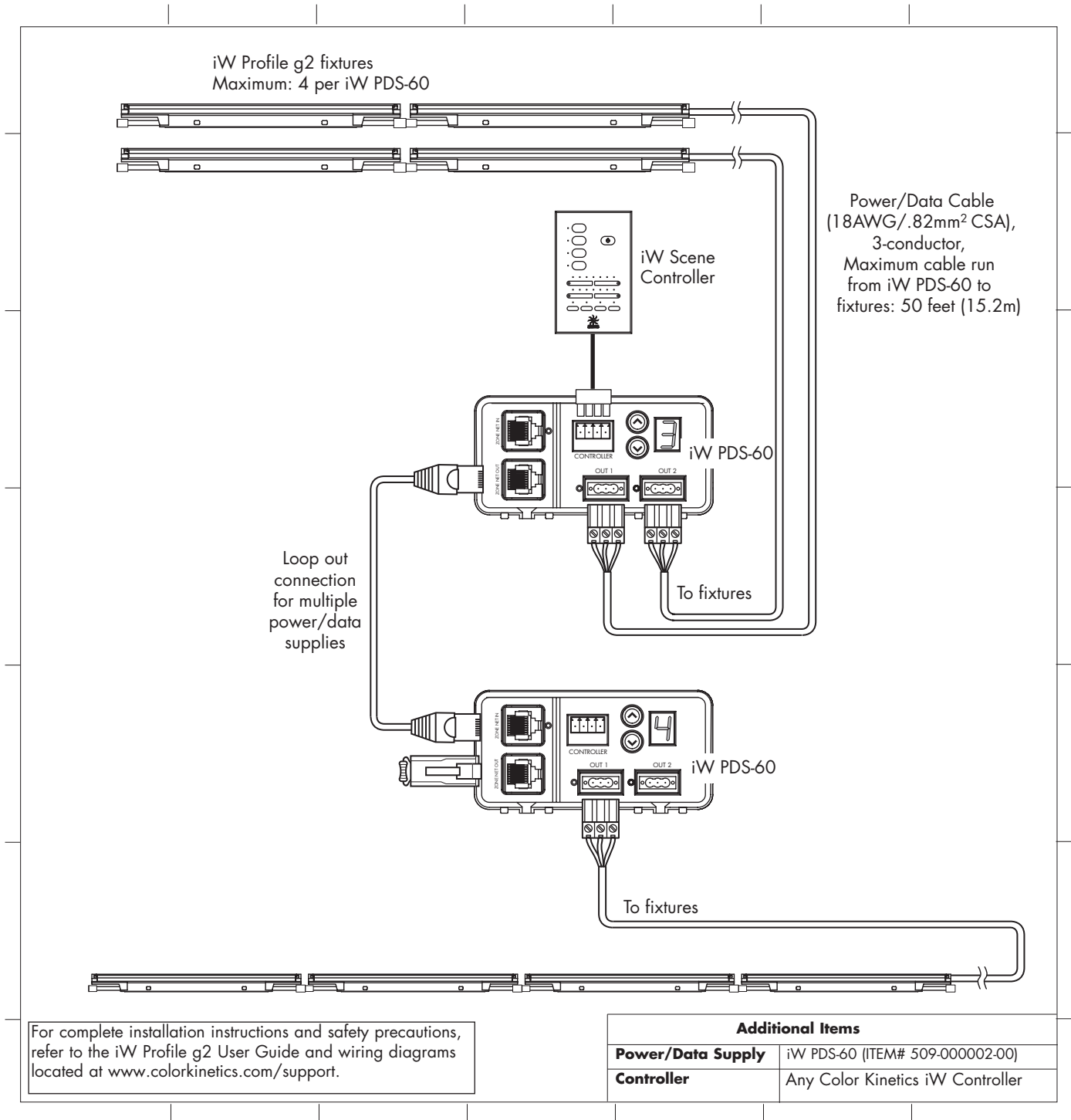
iW PROFILE g2

FUNCTIONAL FLOW DIAGRAM (iW PDS-150)



iW PROFILE g2

FUNCTIONAL FLOW DIAGRAM (iW PDS-60)



OPTIBIN®

There are inherent variations in the fabrication processes of all semiconductor materials. For LEDs, this variance results in differences in the color and intensity of light output as well as electrical characteristics. Due to these differences, LED manufacturers sort production into "bins," but insuring the availability of a single bin is very difficult. To minimize this issue and achieve optimal color consistency in its products, Color Kinetics has developed and uses a proprietary technology called Optibin. Optibin is an advanced production binning optimization process that minimizes the effects of LED variance for the best possible output uniformity in the final product. Color Kinetics Optibin technology gives you the most consistent control of color and intensity from product to product.

OBROUND WALL MOUNT

SPECIFICATIONS



Housing: Extruded aluminum in lengths up to 8 feet. Rows of more than 8 feet are joined internally with no visible fasteners. OB70 series is 100% direct and OB72 series is direct/indirect.

Reflector: Specular aluminum.

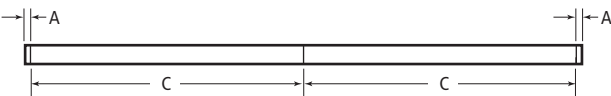
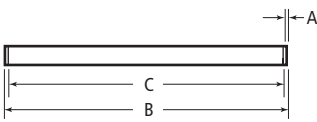
Shielding: Choice of acrylic prismatic lens, white blade baffle, or semi-specular parabolic baffle for all series. For OB72 series, upright can be open or shielded by clear acrylic lens.

Mounting: Wall mount only

Electrical: Instant start, normal light output, high power factor, sound rated A electronic ballast is standard. One-lamp ballast is 0.90 ballast factor, two, three and four-lamp ballasts are 0.88 ballast factor for 120 and 277 volt. One-lamp ballast is 1.17 ballast factor, two-lamp is 0.92, three-lamp is 0.97, and four-lamp is 0.85 for 347 volt.

Finish: Semi-gloss white powder coat paint is standard. Choose from a variety of standard colors on our color chart. Custom colors are available.

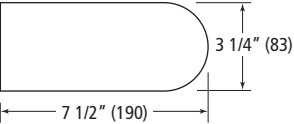
Certification: UL and CUL listed. IBEW labeled.



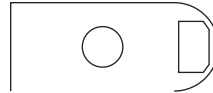
Obround Wall Mount

	A	B	C
4'	1/4"	49 3/32"	48 19/32"
6		1246	1233
8'	1/4"	97 3/4"	97 3/16"
6		2481	2467

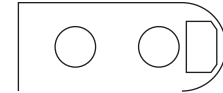
DIMENSIONS



LAMP CONFIGURATIONS



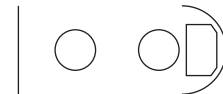
OB701-T8



OB702-T8



OB721-T8



OB722-T8

EXAMPLE

series	lamp configuration	shielding up	shielding down	mounting	length	finish	voltage	options
OB70 (100% direct) OB72 (direct/indirect)	2/T8 1/T8 2/T8	O O-open L-clear acrylic lens	L L-lens WB-white baffle PB-parabolic baffle	WM WM-wall mount	4 4' 8'	SGW SGW-semi-gloss white (refer to color chart in Product Selection Guide for other standard colors) CC-custom color	120 120 277 Dual 347	GLR GLR-GLR fuse and HLR holder GMF-GMF slow blow fuse and holder EM1-B70A or equal EM2-B50 or equal EM3-B100 or equal EM4-B60 or equal DIM1-Advance Mark VII dimming DIM2-Advance Mark X dimming DIM3-Lutron ECO-10 dimming ballast DIM4-Lutron Hi-Lume dimming ballast DIM5-Lutron ECO-10 TVE dimming ballast DIM6-Lutron Tu-Wire dimming ballast (for T8, 32W, 120-volt only)

Due to a program of continuous improvement, LAM Lighting reserves the right to make any variation in design or construction to the equipment described.

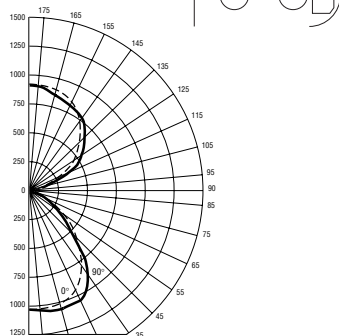
ORDER

project name: _____ type: _____ quantity: _____

- - - - - - - - -

PHOTOMETRICS

OB72-2-WB



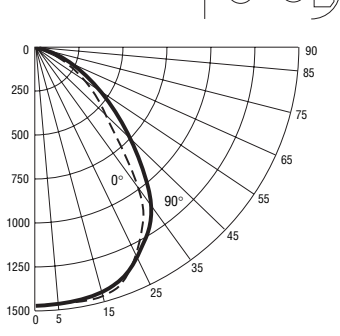
CANDELA DISTRIBUTION

	0	22	45	67	90
180°	907	907	907	907	907
175°	908	904	907	901	902
165°	895	888	880	870	860
155°	832	820	813	815	816
145°	745	734	744	765	773
135°	597	594	622	677	685
125°	479	484	546	581	584
115°	306	338	370	362	357
105°	152	190	187	179	172
95°	30	36	19	15	14
90°	0	0	0	0	0
85°	21	26	29	34	42
75°	80	90	97	108	84
65°	144	156	177	232	267
55°	236	245	300	467	548
45°	321	358	474	672	767
35°	515	577	688	850	925
25°	683	729	834	939	980
15°	829	846	908	973	987
5°	907	905	913	911	910
0°	910	910	910	910	910

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2210	44.8	35.1
90-180°	2720	55.2	43.2
0-180°	4930	100.0	78.3

OB70-2-L



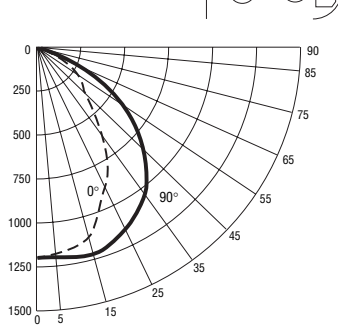
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	39	38	40	33	31
75°	111	109	88	99	106
65°	224	168	122	149	198
55°	443	395	332	343	360
45°	754	713	656	611	570
35°	1117	1118	1088	1049	1025
25°	1336	1341	1346	1343	1337
15°	1463	1463	1472	1470	1454
5°	1490	1485	1491	1484	1487
0°	1489	1489	1489	1489	148

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	3010	100.0	47.8
90-180°	0	0.0	0.0
0-180°	3010	100.0	47.8

OB70-2-WB



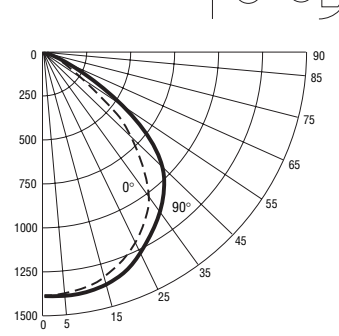
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	17	19	24	28	36
75°	89	93	102	113	81
65°	166	172	194	246	273
55°	269	275	325	487	562
45°	379	418	533	715	809
35°	637	701	808	957	1034
25°	867	920	1015	1119	1162
15°	1113	1140	1155	1218	1226
5°	1172	1173	1183	1183	1188
0°	1181	1181	1181	1181	1181

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2548	100.0	40.4
90-180°	0	0.0	0.0
0-180°	2548	100.0	40.4

OB70-2-PB



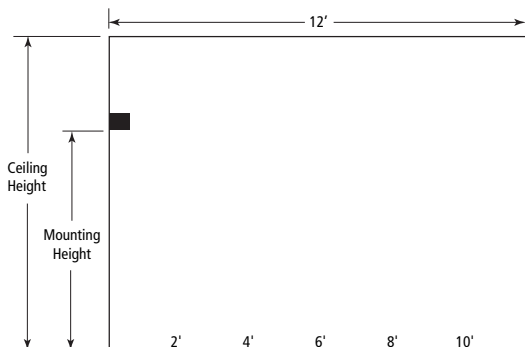
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	0	0	0	1	1
75°	8	8	10	12	14
65°	32	38	75	121	126
55°	330	391	497	546	568
45°	730	757	798	894	941
35°	1018	1044	1056	1089	1115
25°	1194	1219	1224	1246	1256
15°	1323	1336	1361	1371	1356
5°	1377	1374	1384	1381	1384
0°	1378	1378	1378	1378	1378

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2910	100.0	46.2
90-180°	0	0.0	0.0
0-180°	2910	100.0	46.2

APPLICATION DATA



OB721-T8-O-PB-4, 1-Lamp, F32T8, 2950 lumens per lamp, 0.77 LLF, 0.90 Ballast Factor

POWER DENSITY IS 0.4 WATTS PER SQUARE FOOT

Ceiling Height	Mounting Height	Distance from Wall					Floor Average	Adjacent Wall Average
		2'	4'	6'	8'	10'		
9'	8'	9	8	6	4	2	6	5
10'	8'	8	7	5	3	2	6	5
10'	9'	8	7	6	4	3	6	4

Reflectance: 80/50/20

Light Loss Factor - 0.95 room depreciation, 0.95 fixture depreciation, 0.95 lamp depreciation, 0.90 ballast factor = .77 total LLF



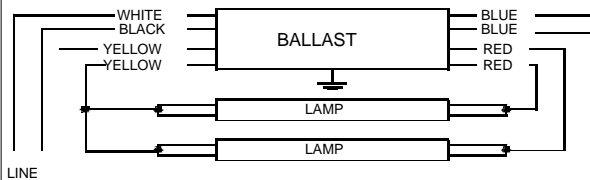
VOP-4P32-SC

Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F40T8	2	40	32/00	0.30	81	1.03	10	0.98	1.7	1.27
F40T8	3	40	32/00	0.38	108	0.93	10	0.98	1.7	0.86

Wiring Diagram



Diag. 71A

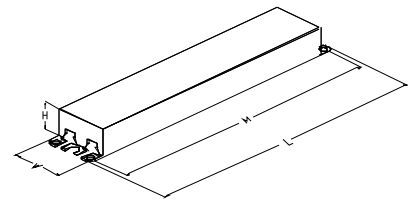
Insulate unused lead for 1000V

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

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	25L	63.5	Yellow/Blue		0
White	25L	63.5	Blue/White		0
Blue	31R	78.7	Brown		0
Red	31R	78.7	Orange		0
Yellow	39L	99.1	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 04/28/2005



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



VOP-4P32-SC	
Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	277
Input Frequency	50/60 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 provide Independent Lamp Operation (ILO) for Instant Start ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 Ballast shall operate from 60 Hz input source of 120V, 277V or 347V as applicable with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast.
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency between 42 kHz and 52 kHz to avoid interference with infrared devices, eliminate visible flicker and avoid Article Surveillance System, such as anti-theft devices.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 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.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less in accordance with lamp manufacturer recommendations.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating for all 4-foot lamps and smaller.
- 2.11 Ballast shall have a minimum starting temperature of 0F (-18C) and 60F (16C) for energy-saving T8 lamps.
- 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).
- 3.6 Ballast shall meet NEMA/CEE High Performance T8 Lighting System Specifications.

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. Ballasts with a "90C" designation in their catalog number shall also carry a three-year warranty at maximum case temperature of 90C.
- 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 striation 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.

Revised 04/28/2005



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 TRANSFORMER CO.
 O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
 ROSEMONT, ILLINOIS 60018
 TELEPHONE: (847) 390-5000 FAX: (847) 390-5109



F40T8 TL841 ALTO TG

Product family description

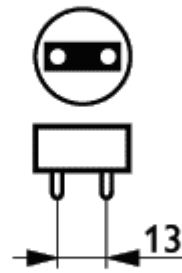
Product data

Product Number	164392
Full product name	F40T8 TL841 ALTO TG
Ordering Code	F40T8/TL841/ALTO TG
Pack type	1 Lamp
Pieces per Sku	1
Skus/Case	25
Pack UPC	046677164393
EAN2US	
Case Bar Code	50046677164398
Successor Product number	
Base	Medium Bi- Pin [Medium Bi- Pin Fluorescent]
Base Information	Green Base
Bulb	T8
Packing Type	1LP [1 Lamp]
Packing Configuration	25
Name Type	F40T8
Feature	ALTO®
Rated Avg. Life [3 hr Start]	20000 hr
Ordering Code	F40T8/TL841/ALTO TG
Pack UPC	046677164393
Case Bar Code	50046677164398
Energy Saving Product	Energy Saving
Watts	40W
Mercury (Hg) Content	3.5 mg
Color Code	TL841 [CCT of 4100K]
Color Rendering Index	86 Ra8
Color Designation	TL841

Product data	
Color Temperature	4100 K
Initial Lumens	3775 Lm
Design Mean Lumens	3500 Lm
Nominal Length [inch]	60
Special Note	TuffGuard™ [TuffGuard Coated]
Product Number	164392



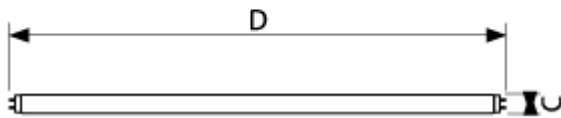
F- T8- RS Med Bipin/GB



Base Medium Bi- Pin



Energy Saving Product Energy Saving



F- T8- RS Med Bipin



2x2 Parabolic Grid Troffer



APPLICATIONS

Designed to provide high efficiency general lighting for low-glare environments, the HP parabolic, grid troffer is typically used in offices, classrooms, and auditoriums.

FEATURES

This efficient, parabolic, grid troffer is available with static and air-handling options. The HP fixture series comes in 2x2 and 2x4 nominal sizes with a 5.2" fixture depth.

Deep cell, premium-grade aluminum louvers in choice of low-iridescent diffuse or specular louver finishes.

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

Integral T-bar safety clips are standard.

Flange option available.

SPECIFICATIONS

HOUSING: Cold rolled, pre-painted steel housing is rigid and fully assembled with rivets.

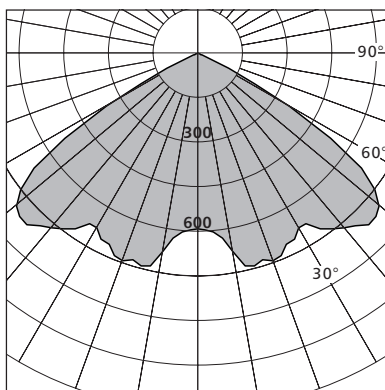
REFLECTOR: Material is Miro[®] enhanced specular aluminum with a total reflectivity of 95%.

DIFFUSER: Louvers formed from premium-grade aluminum lighting sheet.

MOUNTING: The HP series fixture is suitable for mounting in NEMA type G ceiling systems. Flange option available for non-grid ceiling types.

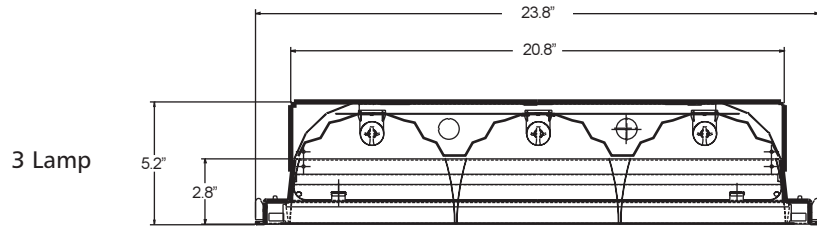
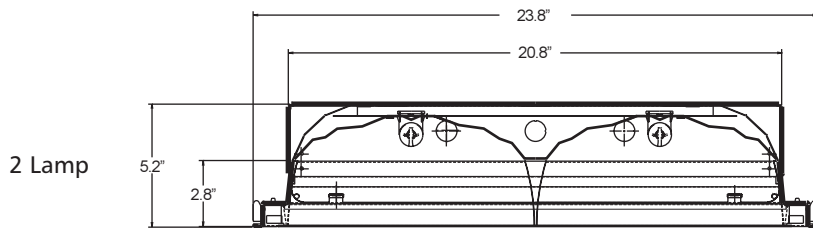
LAMP HOLDERS: T8 lamps are secured with locking lampholders.

PHOTOMETRY



HPGS22XBD33022
Test #200180
Fixture Efficiency: 71.4%
SC Across: 2.0, SC Along: 1.2

CROSS SECTIONS



Drawings for dimensional detail only. Subject to change without notice.

MODELS AVAILABLE

Fixture Schedule				Fixture ID#						
<input type="checkbox"/>	HP	G	<input type="checkbox"/>	22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fixture Series		Housing		Photometry		Lamp Configuration		Ballast Quantity	Ballast Voltage
			A - Air-handling N - Static		B - Broad N - Normal S - Spread		O22 - 2 F17T8 O23 - 3 F17T8 O24 - 4 F17T8		1 2 3	1 - 120V 2 - 277V 3 - 347V U - 120V/277V
Tandem Option				Reflector Material		Diffuser		Ballast Type		
2 - Tandem of 2				W - White ballast cover X - Miro® enhanced aluminum	D23 - Semi-specular 6 cell louver D33 - Semi-specular 9 cell louver			EP - Standard electronic LP - Low-power electronic MP - Medium-power electronic YP - High-power electronic		

Not all photometry and diffuser options available with every lamp configuration.

Not all ballast types and quantities available with every lamp configuration.

For additional ballast options please contact your local Holophane sales representative.



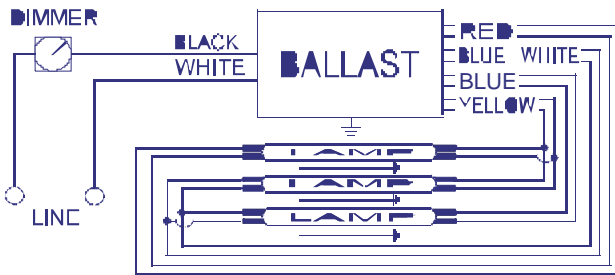
VEZ-3S32-SC

Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
* F17T8	3	17	50/10	0.21	18/56	0.05/1.05	10	0.99	1.6	1.88
F25T8	3	25	50/10	0.29	19/79	0.05/1.05	10	0.99	1.6	1.33
F32T8	3	32	50/10	0.37	20/102	0.05/1.00	10	0.99	1.6	0.98

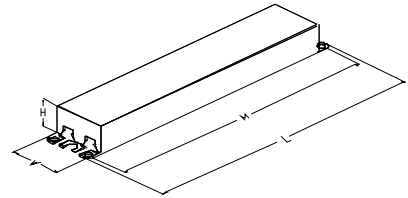
Wiring Diagram



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)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 10/28/2005



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



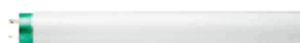
F17T8 TL841 ALTO TG

Product family description

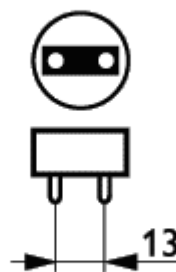
Product data

Product Number	168989
Full product name	F17T8 TL841 ALTO TG
Ordering Code	F17T8/TL841/ALTO TG
Pack type	1 Lamp
Pieces per Sku	1
Skus/Case	25
Pack UPC	046677168988
EAN2US	
Case Bar Code	50046677168983
Successor Product number	
Base	Medium Bi- Pin [Medium Bi- Pin Fluorescent]
Base Information	Green Base
Bulb	T8
Packing Type	1LP [1 Lamp]
Packing Configuration	25
Name Type	F17T8
Feature	ALTO®
Ordering Code	F17T8/TL841/ALTO TG
Pack UPC	046677168988
Case Bar Code	50046677168983
Energy Saving Product	Energy Saving
Watts	17W
Mercury (Hg) Content	3.5 mg
Color Code	TL841 [CCT of 4100K]
Color Rendering Index	85 Ra8
Color Designation	TL841
Color Temperature	4100 K

Product data	
Initial Lumens	1400 Lm
Design Mean Lumens	1330 Lm
Nominal Length [inch]	24
Special Note	TuffGuard™ [TuffGuard Coated]
Product Number	168989



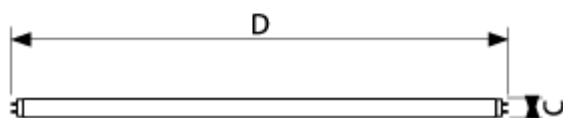
F- T8- Unv Med Bipin/GB



Base Medium Bi- Pin



Energy Saving Product Energy Saving



F- T8- Unv Med Bipin



OBROUND WALL MOUNT

SPECIFICATIONS



Housing: Extruded aluminum in lengths up to 8 feet. Rows of more than 8 feet are joined internally with no visible fasteners. OB70 series is 100% direct and OB72 series is direct/indirect.

Reflector: Specular aluminum.

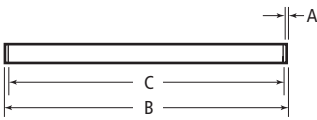
Shielding: Choice of acrylic prismatic lens, white blade baffle, or semi-specular parabolic baffle for all series. For OB72 series, upright can be open or shielded by clear acrylic lens.

Mounting: Wall mount only

Electrical: Instant start, normal light output, high power factor, sound rated A electronic ballast is standard. One-lamp ballast is 0.90 ballast factor, two, three and four-lamp ballasts are 0.88 ballast factor for 120 and 277 volt. One-lamp ballast is 1.17 ballast factor, two-lamp is 0.92, three-lamp is 0.97, and four-lamp is 0.85 for 347 volt.

Finish: Semi-gloss white powder coat paint is standard. Choose from a variety of standard colors on our color chart. Custom colors are available.

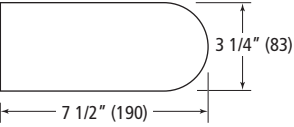
Certification: UL and CUL listed. IBEW labeled.



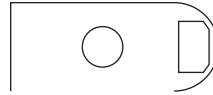
Obround Wall Mount

	A	B	C
4'	1/4"	49 3/32"	48 19/32"
6'		1246	1233
8'	1/4"	97 3/4"	97 3/16"
6'		2481	2467

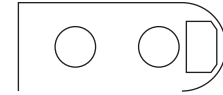
DIMENSIONS



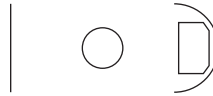
LAMP CONFIGURATIONS



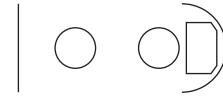
OB701-T8



OB702-T8



OB721-T8



OB722-T8

EXAMPLE

series	lamp configuration	shielding up	shielding down	mounting	length	finish	voltage	options
OB70 (100% direct) OB72 (direct/indirect)	2/T8 1/T8 2/T8	O O-open L-clear acrylic lens	L L-lens WB-white baffle PB-parabolic baffle	WM WM-wall mount	4 4' 8'	SGW SGW-semi-gloss white (refer to color chart in Product Selection Guide for other standard colors) CC-custom color	120 120 277 Dual 347	GLR GLR-GLR fuse and HLR holder GMF-GMF slow blow fuse and holder EM1-B70A or equal EM2-B50 or equal EM3-B100 or equal EM4-B60 or equal DIM1-Advance Mark VII dimming DIM2-Advance Mark X dimming DIM3-Lutron ECO-10 dimming ballast DIM4-Lutron Hi-Lume dimming ballast DIM5-Lutron ECO-10 TVE dimming ballast DIM6-Lutron Tu-Wire dimming ballast (for T8, 32W, 120-volt only)

Due to a program of continuous improvement, LAM Lighting reserves the right to make any variation in design or construction to the equipment described.

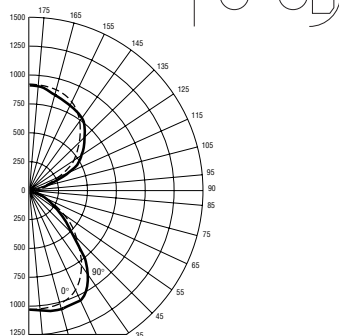
ORDER

project name: _____ type: _____ quantity: _____

- - - - - - - - -

PHOTOMETRICS

OB72-2-WB



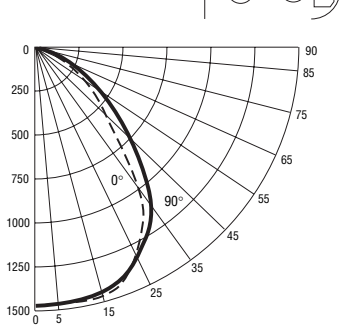
CANDELA DISTRIBUTION

	0	22	45	67	90
180°	907	907	907	907	907
175°	908	904	907	901	902
165°	895	888	880	870	860
155°	832	820	813	815	816
145°	745	734	744	765	773
135°	597	594	622	677	685
125°	479	484	546	581	584
115°	306	338	370	362	357
105°	152	190	187	179	172
95°	30	36	19	15	14
90°	0	0	0	0	0
85°	21	26	29	34	42
75°	80	90	97	108	84
65°	144	156	177	232	267
55°	236	245	300	467	548
45°	321	358	474	672	767
35°	515	577	688	850	925
25°	683	729	834	939	980
15°	829	846	908	973	987
5°	907	905	913	911	910
0°	910	910	910	910	910

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2210	44.8	35.1
90-180°	2720	55.2	43.2
0-180°	4930	100.0	78.3

OB70-2-L



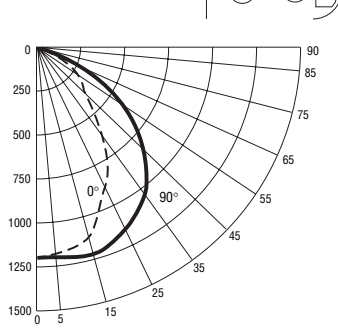
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	39	38	40	33	31
75°	111	109	88	99	106
65°	224	168	122	149	198
55°	443	395	332	343	360
45°	754	713	656	611	570
35°	1117	1118	1088	1049	1025
25°	1336	1341	1346	1343	1337
15°	1463	1463	1472	1470	1454
5°	1490	1485	1491	1484	1487
0°	1489	1489	1489	1489	148

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	3010	100.0	47.8
90-180°	0	0.0	0.0
0-180°	3010	100.0	47.8

OB70-2-WB



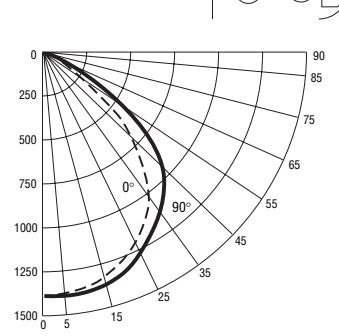
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	17	19	24	28	36
75°	89	93	102	113	81
65°	166	172	194	246	273
55°	269	275	325	487	562
45°	379	418	533	715	809
35°	637	701	808	957	1034
25°	867	920	1015	1119	1162
15°	1113	1140	1155	1218	1226
5°	1172	1173	1183	1183	1188
0°	1181	1181	1181	1181	1181

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2548	100.0	40.4
90-180°	0	0.0	0.0
0-180°	2548	100.0	40.4

OB70-2-PB



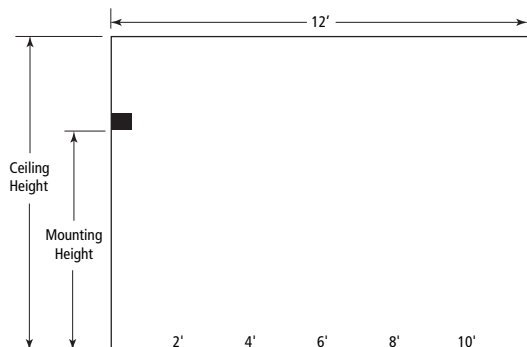
CANDELA DISTRIBUTION

	0	22	45	67	90
90°	0	0	0	0	0
85°	0	0	0	1	1
75°	8	8	10	12	14
65°	32	38	75	121	126
55°	330	391	497	546	568
45°	730	757	798	894	941
35°	1018	1044	1056	1089	1115
25°	1194	1219	1224	1246	1256
15°	1323	1336	1361	1371	1356
5°	1377	1374	1384	1381	1384
0°	1378	1378	1378	1378	1378

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture Output	% Lamp Output
0-90°	2910	100.0	46.2
90-180°	0	0.0	0.0
0-180°	2910	100.0	46.2

APPLICATION DATA



OB721-T8-O-PB-4, 1-Lamp, F32T8, 2950 lumens per lamp, 0.77 LLF, 0.90 Ballast Factor

POWER DENSITY IS 0.4 WATTS PER SQUARE FOOT

Ceiling Height	Mounting Height	Distance from Wall					Floor Average	Adjacent Wall Average
		2'	4'	6'	8'	10'		
9'	8'	9	8	6	4	2	6	5
10'	8'	8	7	5	3	2	6	5
10'	9'	8	7	6	4	3	6	4

Reflectance: 80/50/20

Light Loss Factor - 0.95 room depreciation, 0.95 fixture depreciation, 0.95 lamp depreciation, 0.90 ballast factor = .77 total LLF



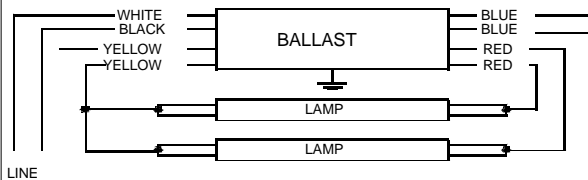
VOP-4P32-SC

Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F40T8	2	40	32/00	0.30	81	1.03	10	0.98	1.7	1.27
F40T8	3	40	32/00	0.38	108	0.93	10	0.98	1.7	0.86

Wiring Diagram



Diag. 71A

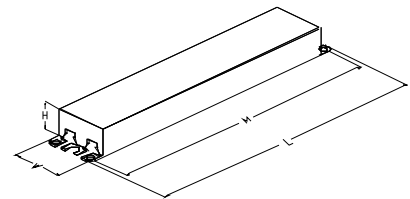
Insulate unused lead for 1000V

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

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	25L	63.5	Yellow/Blue		0
White	25L	63.5	Blue/White		0
Blue	31R	78.7	Brown		0
Red	31R	78.7	Orange		0
Yellow	39L	99.1	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
9 1/2	1 7/10	1 9/50	8 9/10
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 04/28/2005



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ADVANCE

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 Corporate Offices: Phone: 800-322-2086



VOP-4P32-SC	
Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	277
Input Frequency	50/60 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 provide Independent Lamp Operation (ILO) for Instant Start ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 Ballast shall operate from 60 Hz input source of 120V, 277V or 347V as applicable with sustained variations of +/- 10% (voltage and frequency) with no damage to the ballast.
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency between 42 kHz and 52 kHz to avoid interference with infrared devices, eliminate visible flicker and avoid Article Surveillance System, such as anti-theft devices.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 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.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less in accordance with lamp manufacturer recommendations.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating for all 4-foot lamps and smaller.
- 2.11 Ballast shall have a minimum starting temperature of 0F (-18C) and 60F (16C) for energy-saving T8 lamps.
- 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).
- 3.6 Ballast shall meet NEMA/CEE High Performance T8 Lighting System Specifications.

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. Ballasts with a "90C" designation in their catalog number shall also carry a three-year warranty at maximum case temperature of 90C.
- 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 striation 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.

Revised 04/28/2005



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ADVANCE TRANSFORMER CO.
 O'HARE INTERNATIONAL CENTER - 10275 WEST HIGGINS ROAD
 ROSEMONT, ILLINOIS 60018
 TELEPHONE: (847) 390-5000 FAX: (847) 390-5109



F40T8 TL841 ALTO TG

Product family description

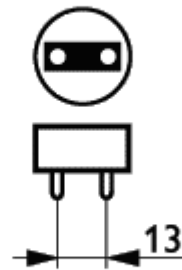
Product data

Product Number	164392
Full product name	F40T8 TL841 ALTO TG
Ordering Code	F40T8/TL841/ALTO TG
Pack type	1 Lamp
Pieces per Sku	1
Skus/Case	25
Pack UPC	046677164393
EAN2US	
Case Bar Code	50046677164398
Successor Product number	
Base	Medium Bi- Pin [Medium Bi- Pin Fluorescent]
Base Information	Green Base
Bulb	T8
Packing Type	1LP [1 Lamp]
Packing Configuration	25
Name Type	F40T8
Feature	ALTO®
Rated Avg. Life [3 hr Start]	20000 hr
Ordering Code	F40T8/TL841/ALTO TG
Pack UPC	046677164393
Case Bar Code	50046677164398
Energy Saving Product	Energy Saving
Watts	40W
Mercury (Hg) Content	3.5 mg
Color Code	TL841 [CCT of 4100K]
Color Rendering Index	86 Ra8
Color Designation	TL841

Product data	
Color Temperature	4100 K
Initial Lumens	3775 Lm
Design Mean Lumens	3500 Lm
Nominal Length [inch]	60
Special Note	TuffGuard™ [TuffGuard Coated]
Product Number	164392



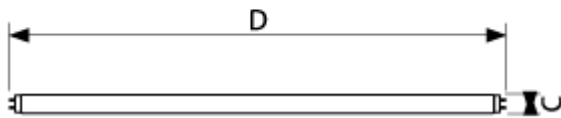
F- T8- RS Med Bipin/GB



Base Medium Bi- Pin



Energy Saving Product Energy Saving



F- T8- RS Med Bipin





DT-200 Dual Technology Sensor

Combines passive infrared and ultrasonic technologies

SmartSet™ automatically selects optimal settings for each space



Built-in light level sensor

Accepts low voltage switch input for manual-on operation

Walk-through mode increases savings potential

PROJECT

LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's DT-200 Dual Technology occupancy sensors combine passive infrared (PIR) and ultrasonic technologies into one unit to achieve precise coverage.

Operation

The DT-200 turns lighting on when both PIR and ultrasonic technologies detect occupancy. It can also work with a low voltage switch for manual-ON operation. PIR technology senses the difference between infrared energy from a human body in motion and the background space. Ultrasonic technology uses the Doppler Principle and high frequency (40 kHz) ultrasound to sense motion within the space. Once lighting is on, detection by either technology holds lighting on. When no occupancy is detected for the length of the time delay, lighting turns off. The DT can also be set so that only one technology is needed to trigger lighting on or both technologies are needed to hold lighting on. The sensors are low voltage and utilize a Watt Stopper power pack.

SmartSet

Using SmartSet™ technology, the DT-200 sensors require no adjustment at installation. SmartSet monitors the controlled space to identify usage patterns. Using this information, it automatically adjusts the time delay and sensitivity for optimal performance and energy efficiency. The sensor assigns short delays (as low as 5 minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

Watt Stopper/Legrand dual technology sensors have the flexibility to work in a variety of applications. Mounted at 10 feet, the sensors can cover up to 2000 square feet of walking motion and 1000 square feet of desktop motion. The sensors are designed to control lighting in difficult applications, such as classrooms, where one technology alone could encounter false triggers. In addition to classrooms, the DT-200 works well in warehouses, large offices, open office spaces, and computer rooms.

Features

- Advanced control logic based on RISC micro-controller provides:
 - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
 - SmartSet automatically adjusts sensitivity and time delay settings to fit occupant patterns
 - Walk-through mode turns lights off 3 minutes after the area is initially occupied – ideal for brief visits such as mail delivery
- Available with built-in light level sensor featuring simple, one-step setup
- Sensors work with low voltage momentary switches to provide manual control
- LEDs indicate occupancy detection
- 8 occupancy logic options give users the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- Swivel mounting bracket for convenient corner mounting to wall or ceiling



www.wattstopper.com
800.879.8585



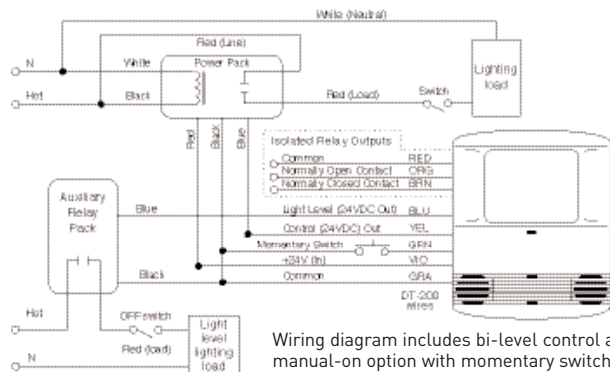
DT-200 Technical Information

Specifications

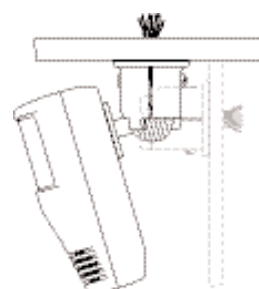
- 24 VDC/VAC and halfwave rectified AC
- 40 kHz frequency ultrasonic transmission
- Time delays: SmartSet (automatic), fixed (5, 10, 15, 20, or 30 minutes), walk-through, test-mode
- Sensitivity adjustment: SmartSet (automatic) or reduced sensitivity (for PIR sensitivity); ultrasonic sensitivity is variable with trimpot
- Built-in light level sensor (DT-200) – works from 2 to 200 footcandles (21 to 2,152 lux)
- Low voltage, momentary switch input for manual operation
- DT-200 contains an isolated relay with N/O and N/C outputs; rated for 1 Amp at 24 VDC/VAC
- 2000 ft² of walking motion mounted at 10 ft; 1000 ft² of desktop motion
- Units per power pack: DT-200: up to 2 (B), up to 3 (BZ); DT-205: up to 3 (B), up to 4 (BZ)
- Dimensions: 4.4" x 3.4" x 2" (110.3mm x 85.9mm x 49.6mm) LxWxD
- UL and CUL listed; Five year warranty

Wiring & Mounting

Wiring Diagram



Mounting

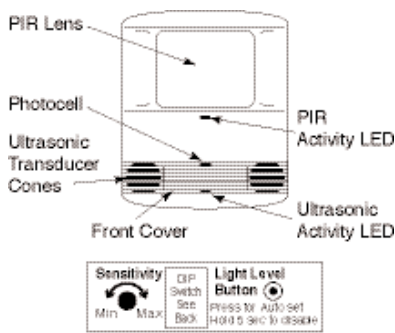


A swivel mounting bracket, attached to the sensor, allows the sensor to be angled for wall or ceiling mounting.

Grooves on the bracket help to achieve desired angle for coverage.

Controls & Settings

Product Controls



DIP Switch Settings

Trigger	Walk Occupancy	Walking Occupancy	Multi-Pass Occupancy	Multi-Pass Occupancy (Override)
Standard	Bot	Bot	Bot	Bot
Option 1	Bot	Bot	Bot	Bot
Option 2	Flt	Bot	Bot	Bot
Option 3	Bot	Bot	Bot	Bot
Option 4	Flt	Flt	Flt	Flt
Option 5	Flt	Ultra	Ultra	Ultra
Option 6	Max	Bot	Bot	Bot
Option 7	Max	Bot	Bot	Bot

Time Delay	4	5	6
5 sec SmartSet	↑	←	→
5 minutes	←	→	●
10 minutes	←	→	●
15 minutes	←	→	●
20 minutes	←	→	●
30 min	←	→	●

LEDs 7

Disabled

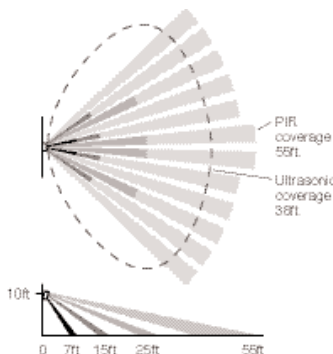
Enabled

PIR Sensitivity 8

Minimum

Max SmartSet

Coverage



Coverages shown are maximum and represent half-step walking motion. Under ideal conditions, with no barriers or obstacles, coverage for half-step walking motion can reach up to 2000 ft² while coverage for typical desktop activity can reach up to 1000 ft².

Ordering Information

Catalog No.	Voltage	Current	Coverage	Features
<input type="checkbox"/> DT-200	24 VDC	43 mA	2000 ft ² (185.8 m ²)	light level, isolated relay
<input type="checkbox"/> DT-205	24 VDC	35 mA	2000 ft ² (185.8 m ²)	