

Jonathan Walker
Half Moone Cruise and Celebration Center
Norfolk, Virginia



2009

Half Moone Cruise and Celebration Center



Lighting/Electrical Option

The Pennsylvania State University

Faculty Consultants:

Dr. Richard Mistrick

Professor Theodore Dannerth

Spring 2009 – 4/6/09



HALF MOONE CRUISE AND CELEBRATION CENTER

JONATHAN WALKER
LIGHTING / ELECTRICAL

PROJECT INFORMATION

LOCATION: 111 Waterside Drive, Norfolk, Virginia
PROJECT SIZE: 89,246 Square Feet
FLOORS: 2
BUILDING COST: \$21 Million
CONSTRUCTION TIME: August 2005 - March 2007
DELIVERY METHOD: Design - Bid - Build

ARCHITECTURAL DESIGN

Constructed on a concrete pier, the building's facade is concrete, blue vertical-ribbed metal, and various window systems with a metal roof. The terminal enhances the cruise passenger experience by providing a larger, multipurpose space.

STRUCTURAL SYSTEM

The building is constructed on top of a concrete pier. Various load bearing and non-load bearing concrete walls work with concrete columns to support the structure. Seven supertrusses span spaces up to 117 feet wide.



PROJECT TEAM

OWNER: City of Norfolk
ARCHITECT: BEA International
MEP: Clark Nexsen
STRUCTURAL: BEA International and Clark Nexsen
CONTRACTOR: S.B. Ballard Construction Company



ELECTRICAL SYSTEM

The 3,000A main switchboard is 480Y/277V. A generator backs up particular panels and transformers convert 480V to 208Y/120V when needed. Fluorescent, Halogen and Metal Halide lamps are common, and the Lobby features a large, pendant custom luminaire. Colored LEDs accent the supertrusses.

MECHANICAL SYSTEM

Five Air Handling Units heat and cool the space with a Variable Air Volume system. Two boilers and two chillers are in the Mechanical Room.

CONSTRUCTION

The Base Bid Lump Sum for the building includes the Main Terminal Building, Pedestrian Bridges, Entry Pavilion and Site Work.



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Lighting Appendix

Cut sheets: Luminaires



"Putting Technology in a New Lite."

DESIGNER DX SERIES

Decorative Low Bay

A Decorative Low Bay That Is Truly Unique

The 4 Lamp DX Series from Sportlite combines flexibility with designer looks. A variety of fluorescent lamp choices, reflectors, mountings, lenses and accessories allows greater flexibility in meeting your specific lighting needs. Standard features include instant-on 2-level "stepped" dimming, low heat and a cast aluminum ballast housing in your choice of white, powder coat chrome*, or any standard "RAL" color* (*for an additional charge). It can be ordered with full dimming capabilities as well as emergency ballast backup. Combine all these features with Sportlite's unmatched quality and you will realize that we are truly "Putting Technology in a New Lite".

Standard Features

- Cast Aluminum Ballast Housing
- Flow Thru Venting for Cool Operation
- White Ballast Housing
- 8 Dome Styles
- 2 Level "Stepped" Dimming
- 3 Mounting Styles
- 3 Lamp Choices
- "Smart Sensor" Ballast Technology

Optional Features

- Full Dimming Ballasts
- Emergency Ballast Backup
- 2 Lens Styles
- Wireguard
- Safety Cable
- Parabolic Louver
- Choice of Colors - Custom Colors Available
- Pendant, Curly Cord, Straight Cord or Hook Mounting
- Accent Trim Ring - Custom Colors Available





"Putting Technology in a New Lite."



SPECIFICATIONS

Input Watts w/4 Lamps

- 42 Watt Lamp = 151 Watts
- 32 Watt Lamp = 115 Watts
- 26 Watt Lamp = 94 Watts

Total Initial Lumens

- 42 Watt Lamp = 12,800
- 32 Watt Lamp = 9,600
- 26 Watt Lamp = 7,200

Lumen Maintenance

- 85%

Color Rendering Index

- 82-84

Available Lamp Colors

- 3000K, 3500K, 4100K

Lamp Life

- 15,000 hours (10 hours/start)
- 12,000 hours (3 hours/start)

Electronic Ballast Ratings

- .95 Ballast Factor
- .99 Power Factor

Lamp Base

- GX24Q-4

Weight

- 12 lbs.



21" Aluminium



21" Diamond



21" Pearl



18" Aluminium



18" Diamond w/
3" Drop Lens



18" Pearl

Ordering Information (Example – DX4-T42-41K-21AL-21DLC-120-2SL-3PEN-SC)

Series	Lamp Type	Lamp Color	Dome Type	Lens Type	Voltage	Switching
DX4-DX410	T26 26 Watt	30K	18AL 18" Spun Aluminium	18DUPC 18" Drop Clear PETG Lens more A	120	1SL 1 Switch Leg
	4 Lamp	T32 32 Watt	18PP 18" Poly Prismatic (non-fluted)	18DUPP 18" Drop Poly Prismatic Lens more A	277	2SL 2 Switch Leg
DX2-DX210	T42 42 Watt	41K	18PFL 18" Pearl Polycarbonate (non-fluted)	21DLC 21" Drop Clear Poly Lens Vented		
	2 Lamp		21ABS 21" White ABS (fluted)	21DUPP 21" Drop Poly Prismatic Lens Vented		
DX4C-DX4M			21AL 21" Spun Aluminium	21FLP 21" Flat Lens Polycarbonate		
			21PP 21" Poly Prismatic (fluted)	21FLPP 21" Flat Prismatic Polycarbonate		
DX2C-DX2M			21PFL 21" Pearl Polycarbonate (fluted)	TR18 18" Trim Ring Only		
				TR18CC 18" Trim Ring Only, Custom Color		
				TR21 21" Trim Ring Only		
				TR21CC 21" Trim Ring Custom Color		

NOTE A: Lens not available with 42 watt lamps and 18" domes

Mounting Options

3PEN	3/4" Pendant by Others
4PEN	5/8" Pendant by Others
5PEN2ST	5/8" Pendant, 2" Straight Mount Canopy
5PEN2SW	5/8" Pendant, 2" w/Swivel & Canopy
5PEN4ST	5/8" Pendant, 4" Straight Mount Canopy
5PEN4SW	5/8" Pendant, 4" w/Swivel & Canopy
H	3/4" Male Hook
C	Single Circuit Cord 6'
CM	Multi-Circuit Cord 6'
HC	3/4" Male Hook & Single Circuit Cord 6'
HCM	3/4" Male Hook & Multi-Circuit Cord 6'
HCP	1/4" Male Hook, Single Circuit Cord 6' & Straight Plug
HCPPL	3/4" Male Hook, Single Circuit Cord 6' & Locking Plug
HCMPL	3/4" Male Hook, Multi-Circuit Cord 6' & Locking Plug
WSC2	White Curly Cord & Cable (1" to 2') w/ Canopy
BSC2	Black Curly Cord & Cable (1" to 2') w/ Canopy
WSC4	White Curly Cord & Cable (2" to 4') w/ Canopy
BSC4	Black Curly Cord & Cable (2" to 4') w/ Canopy
CV	Straight Cord, White 4' with Cable and Canopy
CB	Straight Cord, Black 4' with Cable and Canopy

Emergency Ballast Options

EP42SD	ETA ISO-420A, One Lamp, 32w-1050 In, 42w-1300 In, Self Diagnostic, ex
EP42D	ETA I-420A, One Lamp, 32w-1050 In, 42w-1300 In, ex
EP18D	ETA I-18A, Two Lamp, 42w-3000 In, One Lamp, ex
EP30	Bofine B30, Two Lamp, 42w-3600 In, One Lamp, 42w-3200 In, ex

Consult factory for guidelines and compatibility
 Emergency ballasts for use only with 3/4" pendant mounting

Accessories

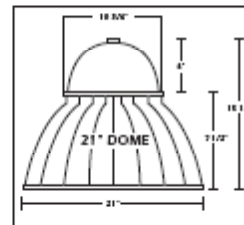
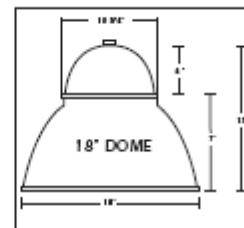
SC	6' Safety Cable to Ballast Box
18WC	Wire Guard for 18" Domes more c
21WC	Wire Guard for 21" Domes more c
21XWC	Wire Guard for 21" Domes with Drop Lens
FU	In Line Fuse - 1 per switch leg
DMC	Deck Mounting Cross Bar
P16W	16 Cell Parabolic for 18" and 21" Domes, White
P16S	16 Cell Parabolic for 18" and 21" Domes, Spectator
P16C	16 Cell Parabolic for 21" Domes, Gold
18P16S	16 Cell Parabolic for 18" Dome, Spectator
18P16W	16 Cell Parabolic for 18" Dome, White
18P16C	16 Cell Parabolic for 18" Dome, Goldtone

NOTE C: Cannot be used with drop lens

Dimming Ballast Options

DM42-3M7	Advance, Mark VII, 32/42w - Two Lamps-more 1
DM42-3MX	Advance, Mark X, 32/42w - Two Lamps-more 2

Consult factory for guidelines and compatibility




Note 1
 EX = External Mount

Note 2
 Advance Mark X requires a 2-Wire Wall Box etc.

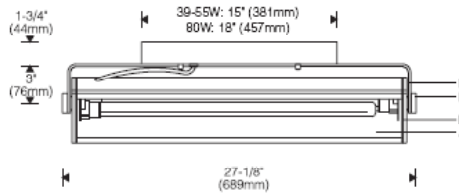
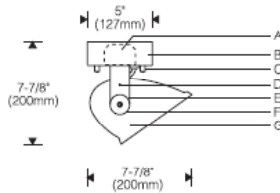
Note 3
 Advance Mark X requires a 2-wire 6-15V Dimmer in addition to the normal 120V Neutral and Ground.

We reserve the right to make changes/deletions/additions without notice. For the latest updates please see our website.

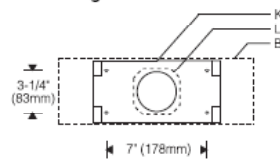


Lighting the Wall Large fluted or smooth  Long Twin Tube Fluorescent **4X® Style 113/114**

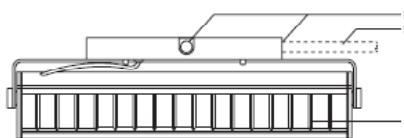
E Mount 1:10 Scale



Mounting Plate



F Mount



Specifications

- | | | | |
|---|---------------------------------------|---|--|
| A Integral electronic ballast (remote for X mount) | D Locking set screw | H Aluminum reveal plates (black) | M 7/8" dia. conduit entries, 3 total (F mount only) |
| B Aluminum canopy/ballast housing | E Aluminum yoke | J Specular extruded aluminum reflector | N Conduit (by others) |
| C Chrome cap nuts | F Machined aluminum knobs | K Aluminum mounting plate | O Accessory snap-in parabolic cross baffle, 35° shielding |
| | G Die-cast aluminum end plates | L Outlet box (by others) | |

Finish:
Style 113 fluted - bright clear anodized aluminum housing. Painted end plates, yoke and canopy in choice of silver or semi-gloss black.
Style 114 smooth - semi-gloss white housing, end plates, yoke and canopy.
Painted surfaces - 6 stage pretreatment and electrostatically applied thermoset powder coat for stable, long lasting and corrosion resistant finish.
Reflector and internal end plates - extruded high purity aluminum with clear anodized specular finish. All luminaire hardware - stainless steel. All mounting hardware - zinc or cadmium plated.
Mounting:
E mount - canopy mounts over recessed outlet box.
F mount - three 7/8" dia. entries in mounting plate with clearance openings in canopy; one front center, one on each end (surface conduit, connectors by others).
Pendant or cantilever assembly ordered separately; specify X mount. Supplied with remote ballast.

Electrical:
Use 90°C wire for supply connections.
Integral electronic HFF thermally protected class P ballast with end-of-life protection.
X mount (for use with pendant or cantilever) furnished with remote electronic ballast. Aluminum ballast enclosure includes four 7/8" dia. entries and a knockout for accessory fuse. **Maximum wire length between remote electronic ballast and fixture is 10' (3m) less length of pendant stem or cantilever arm.**
Optional electronic dimming ballast (E and F mount only); compatible dimmer switch required (by others). Consult sales representative for compatibility and specifications.
Dimming not available with X mount pendant or cantilever.
For complete ballast specifications, see Accessories Section.
Standard:
UL listed or CSA certified for damp locations.
(Style 114 hex tube model with gasketed lens recommended for damp locations.)

REV. 12/08 U.S. Patents 5,434,762 and RE37,310E, Canadian Patent 2,147,106 and foreign.

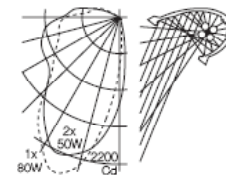
Features

- 4X focuses the light of two 40, 50 or 55W lamps for high impact wall lighting for retail or large commercial interiors
- Die-cast end plates join at articulated black reveals; machined aluminum knobs - no exposed fasteners
- Integral electronic ballast - dimming, emergency optional
- Accessory snap-in specular parabolic cross baffle



Performance

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



For complete photometrics, see www.elliptipar.com.

elliptipar



To Order **4X® Style 113 / 114**

To form a Catalog Number
F [] [] [] [] [] [] [] []
 1 2 3 4 5 6 7 8

1 Source
 F = Long twin tube compact fluorescent

2 Style
 113 = Large fluted surface, **integral** ballast
 114 = Large smooth surface, **integral** ballast
Note: pendant or cantilever mounted units furnished with **remote** ballast.

3 Lamp
 [] [] = Long Twin Tube CF Lamp Code
Lamp Wattage (see chart)
Lamp Configuration
 L1 = Single-lamp cross section
 X2 = **4X®** (dual-lamp) cross section (not available for 80W)

Lamp Wattage	Single-lamp section Code	Lamp	4X® dual-lamp section Code	Lamps
Long Twin Tube Compact Fluorescent				
39	L139	1 x FT36-39W/2G11	X239	2 x FT36-39W/2G11
40	L140	1 x FT40W/2G11	X240	2 x FT40W/2G11
50	L150	1 x FT50W/2G11	X250	2 x FT50W/2G11
55	L155	1 x FT55W/2G11	X255	2 x FT55W/2G11
80	L180	1 x FT80W/2G11		



For complete lamp and ballast information, see Accessories Section. Standard long twin tube lamp color is 3000K / 90+ CRI.

4 Mounting
 E = External yoke on ceiling canopy. Mounting plate fastens over recessed outlet box (by others).
 F = External yoke on ceiling canopy. Mounting plate with (3) 7/8" dia. entries, one on front, one on each end for surface conduit (by others).
 X = External yoke for use with accessory pendant or cantilever mounting assembly (order separately)
Note: furnished with **remote** ballast.

Project: [] Type: []

5 Finish
Style 113 Fluted
 01 = Bright aluminum housing with silver end plates, yoke and canopy
 81 = Bright aluminum housing with semi-gloss black end plates, yoke and canopy
Style 114 Smooth
 02 = Semi-gloss white housing, end plates, yoke and canopy
 99 = Custom RAL or computer matched color to be specified, consult sales representative

6 Voltage/Ballast
Electronic *
 1 = 120V
 2 = 277V
 3 = 347V (Canada)
Dimming †
 T = 120V
 V = 277V
 * X mount furnished with **remote** electronic ballast.
 † Dimming not available for use with pendant or cantilever (X mount) - consult factory for alternatives. Availability for wattages and voltages varies with ballast manufacturer and control type - see www.elliptipar.com for dimming specifications and limitations.

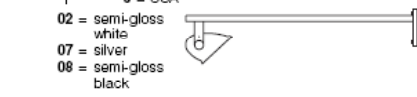
7 Option (See Accessories Section for specifications)
 00 = No options
 0E = Remote emergency battery pack, maximum distance from battery pack to fixture is 5' (1.5m). For use with non-dimming ballasts only.
 XX = For modification not listed, include detailed description. Consult factory prior to specification.

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

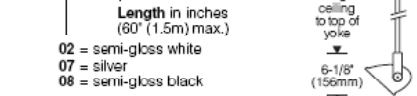
Example
F113 - L150 - F - 01 - 1 - 000
 Large fluted model for use with one 50W long twin tube compact fluorescent lamp. External yoke on canopy with mounting plate for surface conduit (by others). Bright aluminum housing/reflector, silver end plates and canopy. Integral 120V electronic ballast. UL.

Accessories

Order separately. See Accessories Section for specifications.
VCX [] 36 [] = **Cantilever**, 36" (915mm) setback, (X mount remote units only)
 0 = UL
 J = CSA

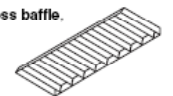


VPX [] [] [] = **Double stem wallwash pendant**, (X mount remote units only)
 0 = UL
 J = CSA



Note: For sloped ceiling pendant, consult factory.

ABL000E0 = Snap-in parabolic **cross baffle**, specular aluminum, 35° shielding



AFK000X [] = **Ballast fuse kit**
 0 = UL
 J = CSA



The external shape of the asymmetric reflectors are trademarks of **elliptipar**. Certain products illustrated may be covered by applicable patents and patents pending. For a list of patents, see Contents pages. These specifications supersede all prior publications and are subject to change without notice. © 2008 **elliptipar**.



Date: _____ Type: _____

Firm Name: _____

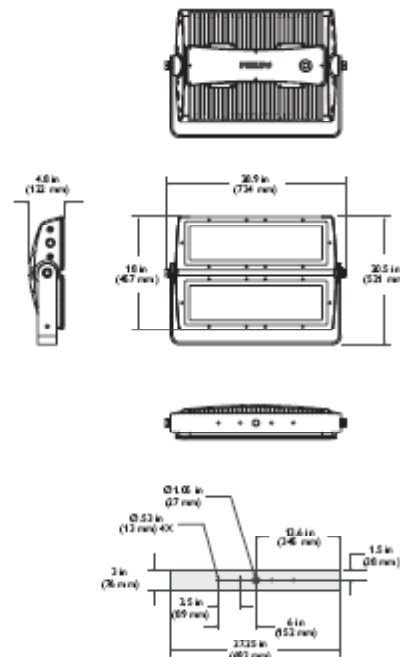
Project: _____

ColorReach Powercore 40° Spread Lens

Next-generation LED floodlight for signature façades and structures

ColorReach™ Powercore, our flagship, high-performance exterior architectural floodlight, is the first LED fixture powerful enough to brilliantly and dynamically illuminate large-scale architectural façades. ColorReach Powercore combines all the benefits of LED-based lighting and control in an elegant fixture specifically designed for large-scale installations, such as commercial skyscrapers, casinos, bridges, piers, public monuments, and themed attractions. With unprecedented lumen output and light projection, this powerful fixture represents the next generation in exterior illumination.

- Integrates Powercore® technology — Powercore technology rapidly, efficiently, and accurately controls power output to ColorReach Powercore fixtures directly from line voltage. Philips Data Enabler merges line voltage and control data and delivers them to fixtures over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Unparalleled light output — With an output of over 5,000 lumens, light projection of over 500 feet, and a 5° native beam angle, ColorReach Powercore is the first fixture to offer legitimate LED-based illumination of large-scale structures and objects.
- Versatile optics — Exchangeable spread lenses of 8°, 13°, 23°, 40°, 63°, and an asymmetric 5° x 17° support a variety of photometric distributions for a multitude of applications, including spotlighting, wall grazing, and asymmetric wall washing. Bezel and gasket ship with spread lenses for easy user installation.
- Saturated, cost-effective color — High-performance LEDs offer rich, saturated color at significantly less cost for installation, operation, and maintenance than traditional light sources.
- Simple fixture positioning — Rugged, slim-profile mounting bracket allows simple positioning and fixture rotation through a full 360°. Side locking bolts reliably secure fixture with standard wrench.



- Universal power input range — ColorReach Powercore accepts a universal power input range of 100 to 240 VAC, allowing the installation of multiple units in a continuous run.
- Industry-leading controls — ColorReach Powercore works seamlessly with the complete Philips line of controllers, including iPlayer 3 and Light System Manager, as well as third-party DMX controllers.

For detailed product information, please refer to the ColorReach Powercore Product Guide at www.colorkinetics.com/ls/rgb/colorreach/





Specifications

Due to continuous improvements and innovations, specifications may change without notice

Item	Specification	Details
Output	Beam Angle	40°
	Lumens†	5,200+
	Color Range	16.7 million additive RGB colors; continuously variable intensity
	Mixing Distance	50 ft (15.2 m) to uniform light
	Lumen Maintenance	90,000 hours L50 @ 25° C 68,000 hours L50 @ 50° C ‡
Electrical	Input Voltage	100 – 240 VAC
	Power Consumption	290 W maximum at full output, steady state
Control	Interface	Data Enabler (DMX or Ethernet)
	Control System	Philips full range of controllers, including Light System Manager, iPlayer 3, or other third-party DMX control sources.
Physical	Dimensions (Height x Width x Depth)	20.5 x 28.9 x 4.8 in (521 x 734 x 122 mm)
	Effective Projected Area (EPA)	0.42 m ²
	Weight	75 lb (34 kg)
	Housing	Die-cast aluminium, powder-coated finish
	Lens	Tempered glass
	Fixture Connections	Integral male / female waterproof connector, 6 ft (1.8 m) leader cable
	Operating Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup
	Humidity	0 – 95%, non-condensing
	Maximum Fixture Count Per Data Enabler	5 – 100 VAC 11 – 220 VAC 6 – 120 VAC 12 – 240 VAC
	Certification and Safety	Certification
LED Class		Class 2 LED product
Environment		Dry / Damp / Wet Location, IP66

† Lumen measurement complies with IES LM-79-08

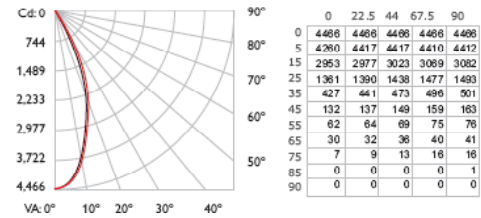
‡ See ColorReach Powercore Product Guide for specific applications



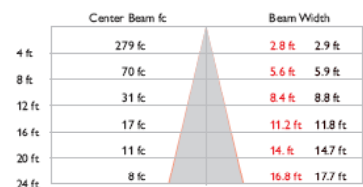
Photometrics

40° spread lens

Polar Candela Distribution



Illuminance at Distance



67 ft (20.4 m) 1 fc maximum distance
 ■ Horiz. Spread: 40.4°
 ■ Vert. Spread: 38.6°

LED	Lumens	Watts	Efficacy
RGB	2418	146	16.56



For lux multiply fc by 10.7

No lens, half unit



Fixtures and Accessories

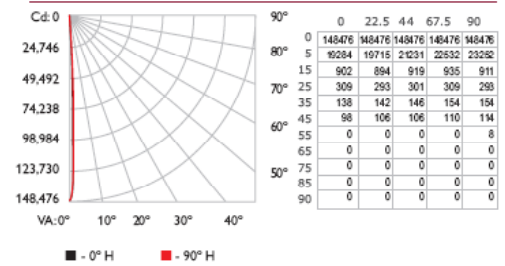
Item	Type	Item Number	Philips 12NC
ColorReach Powercore <i>includes 6 ft (1.8 m) leader cable</i>	UL/cUL and CE/PSE	123-000013-00	910503700451
Replacement Leader Cable	UL/cUL, 6 ft (1.8 m)	108-000043-02	910503700453
Replacement Leader Cable	CE/PSE, 6 ft (1.8 m)	108-000043-03	910503700454
ColorReach Powercore Spread Lens with bezel	13°	120-000068-00	910503700506
	23°	120-000068-01	910503700507
	40°	120-000068-02	910503700508
	63°	120-000068-03	910503700509
	5° x 17°	120-000068-04	910503700510
Data Enabler	DMX	106-000003-04	910403326801
	Ethernet	106-000003-05	910503700064
Light System Manager		103-000015-00	910503700221
iPlayer 3	N.A. Power Cord	103-000019-00	910403327101
	Europe Power Cord	103-000019-01	910503700392
ColorDial		103-000014-00	910403326901
Synchronizer		103-000001-00	—
Multi Synchronizer		103-000002-00	—

Use Item Number when ordering in North America



Philips Color Kinetics
3 Burlington Woods Drive
Burlington, Massachusetts 01803 USA
Tel 888.Full.RGB
Tel 617.423.9999
Fax 617.423.9998
www.colorkinetics.com

Polar Candela Distribution



ColorReach Powercore fixtures are part of a complete line-voltage system which includes fixtures and:

- One or more Data Enablers.
- Any Philips controller, including Light System Manager and iPlayer 3, or a third-party DMX controller.
- One 6 ft (1.8 m) leader cable to connect each fixture to a junction box or Data Enabler.

For detailed product information, please refer to the ColorReach Powercore Product Guide at www.colorkinetics.com/ls/rgb/colorreach/

Illuminance at Distance

	Center Beam fc	Beam Width	
4 ft	9,280 fc	3 ft	.4 ft
8 ft	2,320 fc	.7 ft	.8 ft
12 ft	1,031 fc	1.0 ft	1.2 ft
16 ft	580 fc	1.3 ft	1.6 ft
20 ft	371 fc	1.7 ft	2.0 ft
24 ft	258 fc	2.0 ft	2.3 ft

385 ft (117.3 m)
1 fc maximum distance

■ Horiz. Spread 5.6°
■ Vert. Spread 5.4°

LED	Lumens	Watts	Efficacy
RGB	2622	146	17.96



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DAS-000022-05 R01 01-09



ASPECT VERTICAL ED-17 METAL HALIDE

ASPV
ED-17 MH

APPLICATION:

Retail and commercial accent and display lighting

CONSTRUCTION:

Die-cast aluminum lamp housing with no exposed hardware
Extruded aluminum ballast housing
Screw on/off lens cartridge holds up to 3 forms of media
Powder coat paint

OPTICS:

High performance faceted and peened specular aluminum reflector
Specially designed for ED-17 lamps in wide choice of beam spreads
90° tilt, 358° rotation
Vertical aiming angle indicator
Locking vertical adjustment

MOUNTING:

Available for track, canopy or busway

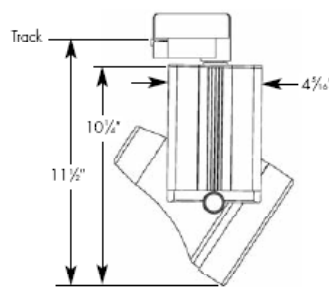
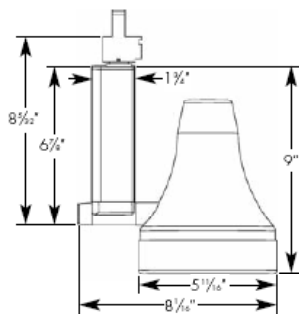
LABELING:

UL and CUL listed



PROJECT :

TYPE :



ELECTRICAL

Lamping

Ballast	Voltage	70w		100w	
		Input watts	Amps*	Input watts	Amps*
Electronic	120v	79	.67	110	.90
	277v	79	.29	110	.41

*Data is for open circuit current
ED-17 medium base metal halide, 70w and 100w

Amerlux reserves the right to change details that do not affect overall function and performance.

Aspect is also available for use with PAR38 CMH lamps. See specific Aspect specification sheets for details.



ORDERING INFORMATION:

Model	Wattage	Lamp Type	Ballast	Finish	Mounting	Voltage	Beam Spreads	Options/ Accessories
ASPV	70 100	17 - ED-17	E - electronic	WT - white textured BT - black textured ST - silver textured (other RAL)	TN1 - Global 1cir 120v TEK - Global 2cir/2neut 120v TN3 - Global 3cir 120v TN2 - Global 2cir/2neut 277v C - canopy B - busway CCL - C-clamp - [other]	120 277	CL - spot NF - narrow flood FL - flood WF - wide flood SL - linear spread lens	GOLD - ferric gold optic reflector HEX - hexcell louver (1/2" x 1/4") SN - snoot, 1" length (specify finish)

Example: ASPV-70-17E-W-TN3-120FL

Cat #:



ASPECT VERTICAL ED-17 METAL HALIDE

ASPV
 ED-17 MH



TYPE :

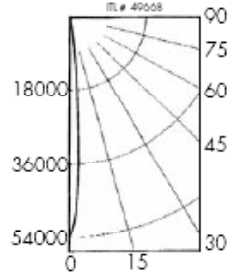


FIXTURE DATA: For 100w data, multiply by 1.5

Complete photometric data (.ies format) available upon request.

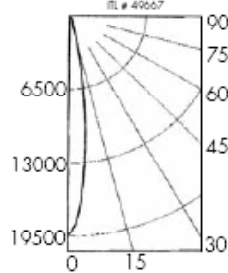
70W ED-17 MH

Spot Distribution
 (IL # 49008)



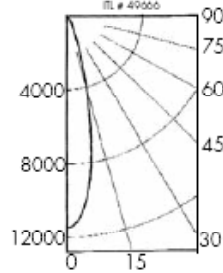
Candelas at Nadir	
Deg	Candela
0	53692
5	23791
15	1000
25	513
35	419
45	175

Narrow Flood Distribution
 (IL # 49007)



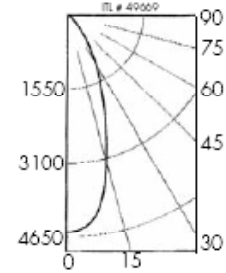
Candelas at Nadir	
Deg	Candela
0	19318
5	14726
15	2722
25	603
35	440
45	201

Flood Distribution
 (IL # 49006)



Candelas at Nadir	
Deg	Candela
0	11514
5	10441
15	4068
25	901
35	490
45	271

Wide Flood Distribution
 (IL # 49009)



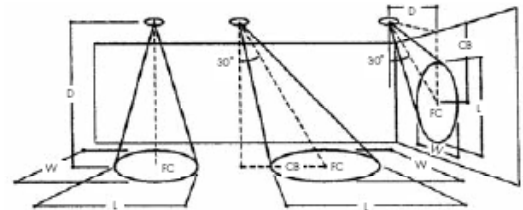
Candelas at Nadir	
Deg	Candela
0	4544
5	4450
15	3193
25	1660
35	746
45	283



APPLICATION DATA:

Notes and Definitions:

Beam spread is to 50% center beam candlepower (CBCP).
 D=Distance to floor or wall.
 FC=Footcandles on floor or wall at center beam aiming location.
 L=Effective Visual Beam length in feet (50% of maximum footcandle level).
 W=Effective Visual Beam width in feet (50% of maximum footcandle level).
 CB=Distance across or down to center beam location.



0° Aiming Angle
Horizontal
Footcandles



30° Aiming Angle
Horizontal
Footcandles



30° Aiming Angle
Vertical
Footcandles



60° Aiming Angle
Vertical
Footcandles

	0° Aiming Angle Horizontal Footcandles				30° Aiming Angle Horizontal Footcandles					30° Aiming Angle Vertical Footcandles					60° Aiming Angle Vertical Footcandles				
	D	FC	L	W	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
SPOT	5.0'	2147	1.0	1.0	5.0'	1311	1.1	1.0	3.0	3.0'	776	1.9	1.0	4.7	3.0'	3823	0.6	0.5	1.8
	7.5'	954	1.2	1.2	7.5'	585	1.8	1.3	4.0	4.0'	436	2.5	1.3	6.8	4.0'	2183	0.8	0.7	2.3
	10.0'	536	1.5	1.5	10.0'	327	2.3	1.9	6.0	5.0'	284	3.0	1.6	8.3	5.0'	1377	1.1	0.9	2.8
	12.5'	343	2.0	2.0	12.5'	223	2.8	1.8	7.0	6.0'	198	3.6	1.9	9.7	6.0'	945	1.3	1.1	3.3
NARROW FLOOD	5.0'	772	1.4	1.4	5.0'	480	2.1	1.6	3.0	3.0'	308	2.9	1.6	4.8	3.0'	1378	1.2	1.0	1.7
	7.5'	343	2.2	2.2	7.5'	226	2.9	2.5	4.0	4.0'	175	3.8	2.2	6.3	4.0'	792	1.5	1.4	2.3
	10.0'	198	2.9	2.9	10.0'	121	4.0	3.4	5.0	5.0'	112	4.8	2.7	7.8	5.0'	509	1.9	1.7	2.7
	12.5'	123	3.7	3.7	12.5'	81	4.8	4.2	7.0	6.0'	79	5.7	3.2	9.3	6.0'	354	2.3	2.0	3.3
FLOOD	5.0'	460	2.2	2.2	5.0'	289	2.9	2.6	3.0	3.0'	228	3.3	2.1	3.8	3.0'	823	1.7	1.5	1.8
	7.5'	204	3.2	3.2	7.5'	138	4.0	3.6	4.0	4.0'	129	4.3	2.8	5.2	4.0'	475	2.2	1.9	2.3
	10.0'	115	4.2	4.2	10.0'	79	5.3	4.7	5.0	5.0'	82	5.4	3.5	6.2	5.0'	307	2.7	2.4	2.8
	12.5'	74	5.3	5.3	12.5'	50	6.6	5.9	6.0	6.0'	58	6.4	4.2	7.8	6.0'	215	3.2	2.9	3.3
WIDE FLOOD	5.0'	181	3.4	3.4	5.0'	135	3.9	3.5	2.0	3.0'	125	3.8	2.8	3.3	3.0'	376	2.3	2.1	1.3
	7.5'	81	5.0	5.0	7.5'	60	5.8	5.2	3.0	4.0'	71	5.1	3.8	4.2	4.0'	210	3.1	2.8	1.8
	10.0'	45	6.6	6.6	10.0'	34	7.7	7.0	4.0	5.0'	45	6.3	4.7	5.3	5.0'	133	3.9	3.6	2.2
	12.5'	29	8.1	8.1	12.5'	22	9.6	8.8	5.0	6.0'	31	7.6	5.6	6.3	6.0'	94	4.6	4.2	2.3



Featuring VirtualSource® Reflectors

13" Direct Pendant Mount Cylinder **CF13P**

One 57W, 70W, or 85W CFL
Double Quad Tube 4-Pin Lamp
120V, 277V, or 347V

DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____

LiteForms®

For conversion to millimeters,
multiply inches by 25.4
Not to Scale

APPLICATIONS:

The CF13P is an 13" pendant mounted cylinder with superior brightness and glare control. The CF13P is ideal for a wide variety of commercial, retail, hospitality, church and institutional applications where the added energy savings of compact fluorescent sources and high light output are required.

HOUSING:

.064" rolled seamless aluminum cylinder featuring durable powder coat painted finish. 45° hang straight canopy furnished standard with a 18" pendant and lockable swivel with 1/2" I.P. stem. Stems can be field cut and are available in custom lengths. Specify: brushed aluminum, matte black, bronze, matte white or Prescolite's exclusive Zet, metallic silver.

REFLECTOR:

Specify clear, champagne gold Alzak®, or black baffle reflector. Virtual Source® optical system provides excellent glare and brightness control for visual comfort.

BALLAST:

One (1) 57W/70W or one (1) 85W compact fluorescent Class 'P' electronic ballast. High power factor standard.

LAMP:

One (1) 57W (GX24q-5 base), 70W (GX24q-6 base), or 85W (2G8 base) 4-pin double quad tube compact fluorescent lamp. Lamp furnished by others.

SOCKET:

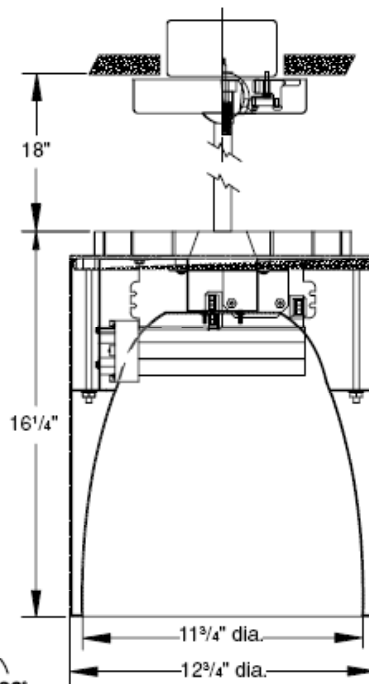
One (1) injection molded socket. Reflector/socket mounting bracket factory set for specified wattage.

INSTALLATION:

Easy installation onto standard J-box.

LABELS:

UL, CSA listed for damp locations



CATALOG NUMBER:

EXAMPLE: CF13P185EBCRBZ

CYLINDERS	CYLINDER OPTIONS	REFLECTOR FINISHES	CYLINDER FINISHES	Special Reflector Finishes: Refer to specification sheet #LFO-CFL-026 for reflector capabilities
<input type="checkbox"/> CF13P157EB 13" Direct pendant mount cylinder, 57W CFL triple, electronic ballast <input type="checkbox"/> CF13P170EB 13" Direct pendant mount cylinder, 70W CFL triple, electronic ballast <input type="checkbox"/> CF13P185EB 13" Direct pendant mount cylinder, 85W CFL triple, electronic ballast	<input type="checkbox"/> 347V (Consult Factory) ¹ <input type="checkbox"/> DM Electronic dimming ballast (contact factory for wall control system compatibility) ¹ <input type="checkbox"/> FSDFA Factory Installed Fuse	<input type="checkbox"/> BR Black Baffle <input type="checkbox"/> CR Clear Alzak <input type="checkbox"/> GR Champagne gold	<input type="checkbox"/> BA Brushed aluminum-standard with black accents (pendant assembly, wall bracket, and cap) <input type="checkbox"/> BL Matte black <input type="checkbox"/> BZ Bronze <input type="checkbox"/> WH Matte white <input type="checkbox"/> Z "Zet" metallic silver	

¹57W and 70W Lamps only



PHOTOMETRIC DATA

LiteForms - 13" Direct Pendant Mount Cylinder CF13P

BALLAST DATA	57W		70W		85W	
	120V	277V	120V	277V	120V	277V
Total System Watts*	59W	59W	75W	75W	98W	97W
Input Current (Amps)*	0.50	0.21	0.63	0.27	0.82	0.36
Input Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Factor	>98%	>98%	>98%	>98%	>99%	>99%
Ballast Factor	>94%	>94%	>96%	>96%	>1.00%	>1.00%
Total Harmonic Distortion	<10%	<10%	<10%	<10%	<10%	<10%
Minimum Starting Temp.	-10°C (14°F)	-10°C (14°F)	-10°C (14°F)	-10°C (14°F)	-30°C (-22°F)	-30°C (-22°F)

*PER LAMP RATINGS

LAMP DATA	57W Double Quad	70W Double Quad	85W Double Quad
Rated Watts	57W	70W	85W
Rated Lumens	4300	5200	6000
Efficacy (LPW)	75	74	71
Rated Life	12,000 hours	12,000 hours	20,000 hours
CRI	82	82	82
Minimum Starting Temp.	0° F	0° F	0° F

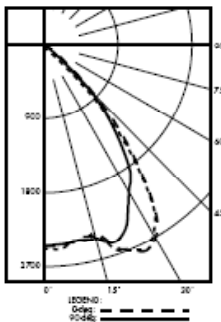
LUMINANCE DATA IN CANDELA/SQ. METER	Average	
	0°	90°
45°	14124	15965
55°	1146	1194
65°	616	519
75°	371	371
85°	314	157

- AVERAGE INITIAL FOOTCANDLES**
- Assumptions:
- Multiple Units (Square Array)
 - Ceiling 80% Wall 50% Floor 20%
 - 4 fixtures evenly spaced in the center of the room.
 - The room is square and has a width and length equal to twice the lamp spacing.
 - The lumen depreciation factor is 0.8
 - The dirt depreciation factor is 0.98

SPACING	CFL PLH		
	RCR1	RCR3	RCR7
7.0	77	60	48
8.0	59	46	37
9.0	47	36	29
10.0	38	29	23
11.0	31	24	19
12.0	26	20	16
13.0	22	17	14
14.0	19	15	12
15.0	17	13	10

CF13P185EBCR
One 85W PL-H Phillips
Spacing Criteria: 1.4
Efficiency: 68%

CANDLEPOWER DISTRIBUTION



CANDLEPOWER SUMMARY

Angle	0°	90°
0	2455	2455
5	2480	2436
15	2374	2438
25	2790	2391
35	2225	1806
45	729	824
55	48	50
65	19	16
75	7	7
85	2	1
90	0	0

Test No. 535

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

ZONAL COEFFICIENT	% Effective Floor Cavity Reflectance														
	80%			70%			50%			30%			10%		
	20% Effective Floor Cavity Reflectance														
	% Wall Reflectance														
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	
1	77	75	73	71	75	73	71	70	70	69	68	68	67	66	
2	72	69	66	63	71	67	65	62	65	63	61	63	61	60	
3	68	63	59	56	67	62	59	56	60	57	55	59	56	54	
4	64	58	54	51	63	57	53	50	56	52	50	54	52	49	
5	60	54	49	46	59	53	49	46	52	48	45	51	47	45	
6	56	50	45	42	55	49	45	42	48	44	41	47	44	41	
7	53	46	41	38	52	45	41	38	45	41	38	44	40	38	
8	50	43	38	35	49	42	38	35	41	38	35	41	37	35	
9	47	40	35	32	46	39	35	32	39	35	32	38	34	32	
10	44	37	33	30	44	37	32	30	36	32	30	36	32	29	

NOTES

☉ Denotes a Virtual Source reflector.
Refer to www.prescolite.com for additional photometric tests (IES Files).



Job Name Here


Fixture Type Here

Ordering Information Here

LN20 SERIES • 120V • PAR16/20



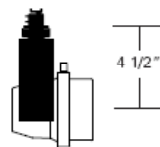
A clean and understated fixture design, the LN20 series blends harmoniously into practically any architectural space.

- Accepts Tungsten Halogen medium screw base PAR16 and PAR20 lamps up to 75 watts
- Sturdy aluminum housing
- Adjustable and self-locking in all horizontal and vertical planes
- On/off safety switch (on most mounting types)
- User-friendly hinged front with relamping handle for easy lamp changing
- Internal multiple accessory clips accept all size AA LSI filters and accessories
- Finishes: LSI Black, White, Silver and Graphite
- Fixture weight: 1.0 lb.
-  IBEW

MOUNTING OPTIONS

LN20-00

Lexan fitting for 1 and 2 circuit LSI Track. With On/Off switch.

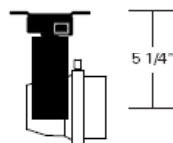


LN20-00F

Same as above, with fuse.

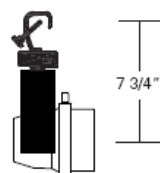
LN20-2G

Universal fitting for Unistrut Systems and any screw or bolt-up applications. With switch, straight 6-foot 3-wire grounding cord and NEMA 5-15P plug.



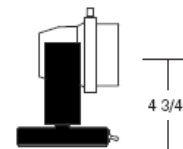
LN20-3G

C-clamp for pipes from 5/8" to 2" O.D. With switch, straight 6-foot 3-wire grounding cord and NEMA 5-15P plug.



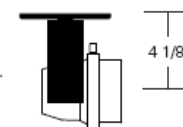
*LN20-4G

Cushioned weighted base for floor or table use. With switch, straight 6-foot 3-wire grounding cord and NEMA 5-15P plug.



LN20-5A

Canopy for permanent mounting on standard 4" octagonal outlet boxes.



Other Options (Consult Factory):

- Stems, specify length
- Custom color, RAL palette
- Emergency Fixture, add suffix **EF** (for use with 00 Track fitting only)

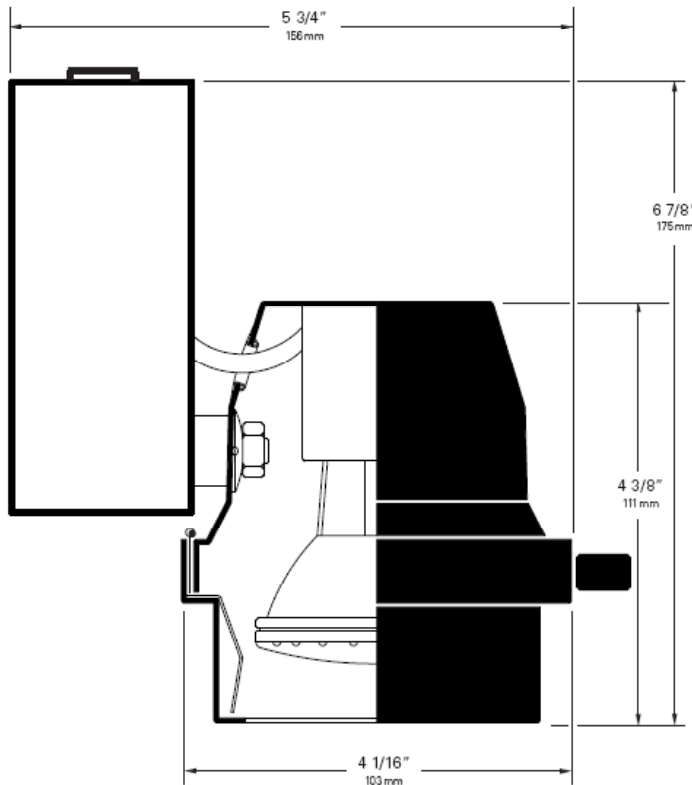
* Non-UL and Non-CUL



Job Name Here

Fixture Type Here

Ordering Information Here



ORDERING INFORMATION

1. Select your **Mounting Option**.
2. Choose other fixture **Options** (add suffix):
 - For Coiled Cord, add **CC**
 Coiled Cord is 18/3 105°C, 18" retracted, 6 foot extended. White fixtures are supplied with white cord, all other finishes are supplied with black cord. Available only with **2G**, **3G** and **4G** mounting options. (When a coiled cord is not specified, a straight cord is provided.)
 - For Wrench Locking, add **WL**
3. Choose a **Finish** for your fixture:
 Black (**B**) White (**W**) Silver (**S**) Graphite (**G**)
 Example: **LN20 - 2G CC WL B**
FIXTURE FITTING COILED CORD WRENCH LOCKING FINISH
 Blue fields are optional. Leave blank if not required.
4. Don't forget your **Accessories!**
 LSI features the widest range of accessories in the industry to help you modify the light's intensity, color, texture and pattern.

PAR16/20 LAMPS

Watts	Spread	CBCP	
35	8°	3000	35PAR20/CAP/NSP
35	30°	900	35PAR20/CAP/NFL
35	40°	600	35PAR20/CAP/WFL
50	10°	6000	50PAR20/H/SP10
50	25°	1500	50PAR20/H/FL25
75	10°	7500	75PAR16/CAP/NSP
75	30°	1900	75PAR16/CAP/NFL

[Click for detailed photometrics](#)

ACCESSORIES



Louver Hex AA

1/8" thick Hexcell metal louver used for thin profile. 45° cut-off. Black finish only.

Other accessories:

- Hood AA
- Cross Baffle AA
- Delta Baffle AA
- Glass Color Filters AA
- Spread Lenses AA990, AA992, AA995, AA996
- Beam Softener AA998
- Light Blocking Screens AA801S, AA802S, AA803S
- OPTIVEX™ UV Filter AA962

[Click for complete accessories and descriptions](#)



CORELITE™

DESCRIPTION

The new Class R1 Series by Corelite offers an ultra shallow recessed design, ideal for plenum-restricted applications and low-ceiling environments. The Class R1 Series has been optically engineered to provide low-brightness ambient illumination and to accommodate a variety of innovative shielding options, including a unique linear prismatic frosted lens, bladed micro baffle, and two styles of perforated overlays. The dedicated T5 design of the Class R1 Series offers superior lumens per watt when compared with traditional 3T8 or twin tube luminaires.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

A ... Construction

Low profile housing die-formed 20 gauge cold rolled steel with integral one-piece 20 gauge gear tray.

B ... Reflectors

High reflectance white powder coat painted reflector system.

C ... Shielding

Linear prismatic co-extruded acrylic lens with white internal micro baffle, clear center and clear/frost blended lens returns. Lens is designed to provide low glare ambient illumination while creating evenly luminous side reflectors. Lens secured to housing via injection molded inserts for easy lamp access.

D ... Electrical

T5/T5HO fixtures are pre-wired with quick wire connectors and use UL listed Class P, T5/T5HO program rapid start universal voltage electronic ballasts, power factor of 97% with less than 10% THD. Fixtures and electrical components certified to UL and CUL standards.

E ... Finish

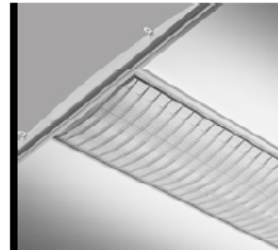
Fixture housings are high reflectance white using electrostatically applied polyester powder coat paint.

Mounting

Standard flange design works with most lay-in ceiling types. Integral pryout tabs secure luminaire to ceiling grid from above. Fixture offers tie-in locations for tie-wire on all corners, consult local code for appropriate tie-wire recommendations.

NOTE: Concealed Ceiling

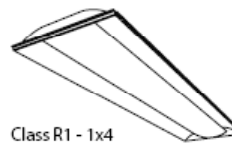
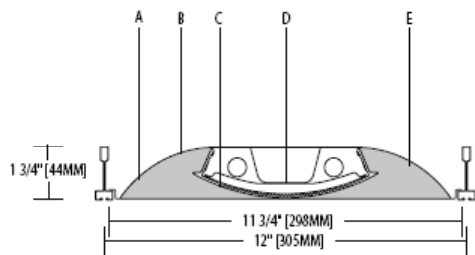
Class R may be installed into inaccessible ceilings (sheet rock, wood panel, etc.). This is achieved with the Metalux DFW series drywall frame-in kit, ordered separately from Metalux. Specify "CC" for the Corelite Ceiling Type. Specify the following part numbers separately, from Metalux:
 For 1x4, order Metalux part # DF-14W-U
 For 2x2, order Metalux part # DF-22W-U
 For 2x4, order Metalux part # DF-24W-U



CLASS R1 Micro Baffle

T5
 2T5HO

1'x4' Ultra Shallow
 Recessed
 1-3/4" Depth



ORDERING INFORMATION

Sample Number: R1-WB-2N5-1C-UNV-14-T1

Series R1: Class R1	Shielding B: Micro Baffle	Lamp Type T5: T5 High Output N5: T5 Normal Output	Wiring * C: Standard Circuit D: Dimming / Step Dimming E: Emergency B: Battery Pack T: Nightlight V: Daylight	Voltage * 120: 120V 277: 277V 347: 347V UNV: Universal (120V-277V)	Ceiling Type T1: 1" Grid, Slot Grid, 9/16" Tegalur T9: 9/16" Grid	Options * AR: Air Return CP: Chicago Plenum NY: New York City Construction AM: Anti-Microbial Coating LG: Lens Gasketing W6: 6' Whip Flex W12: 12' Whip Flex
Reflector W: White	Number of Lamps 2: 2 Lamps	Number of Circuits * 1: 1 Circuit 2: 2 Circuit		Size 14: 1' x 4'		

Notes: 1 Not all options available. Please consult your Cooper Lighting Representative for availability. Specifications and dimensions subject to change without notice.



PHILIPS

iCOLOR COVE MX POWERCORE



The iColor Cove® MX Powercore fixture is the highest-intensity member of the iColor Cove® family of intelligent color-changing cove lights. It delivers more than twice the intensity of any other model in this product line. This high-performance 12-inch (30.5 cm) cove light features Powercore® technology for greater operational efficiency and simplified installation. Two models are available, one with a broad 70°x70° beam pattern and one with a narrow optically-focused beam pattern of 20°x60°.

iColor Cove MX Powercore utilizes Powercore technology, a digital power-processing technology that integrates LED power and data management in the fixture and eliminates external power supplies. Powercore surpasses traditional power supply technology by streamlining multiple conversion and regulation stages into a single, flexible, microprocessor-controlled power stage that controls power output to LED systems directly from line voltage and significantly increases overall system efficiency. Built-in active power factor correction (PFC) yields higher system efficiencies and minimizes stress on building wiring, making the installation easier and the system more cost effective. iColor Cove MX Powercore meets specifications for dry locations. The integral, four-point mounting bracket simplifies installation and minimizes required tools, and permits 180 degrees of rotation, with detents every 10°. The end-to-end locking connectors are capable of making 180° turns and make iColor Cove MX Powercore extremely versatile and easily adaptable for even the most challenging mounting requirements. An optional mounting track is available for linear runs. One-foot (30.5 cm) and five-foot (1.5 m) jumper cables are available for installations that require additional spacing between units.

iColor Cove MX Powercore receives data from a Color Kinetics' Data Enabler—a data formatting device that uses DMX or Color Kinetics' Light System Manager (LSM) Ethernet protocol. Each Data Enabler can support up to 60 fixtures at 120VAC, 90 fixtures at 220VAC or 95 fixtures at 240VAC for a single run, end-to-end installation. The 40-foot (12.2 m) leader cable is field-cutable. iColor Cove MX Powercore can be controlled by Color Kinetics' line of controllers, including Light System Manager, or a third-party DMX controller.

iCOLOR COVE MX POWERCORE SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors; continuously variable intensity
SOURCE	High intensity LEDs
BEAM ANGLE	70° x 70° (no optics); 20° x 60° (narrow optics)
HOUSING	Die cast aluminum, powder coated. Wide beam – 12" x 1.65" x 1.54" (30.5 cm x 4.2 cm x 3.9 cm) Narrow optics – 12" x 2.0" x 1.54" (30.5 cm x 5.09 cm x 3.9 cm)
CONNECTORS	Integral male/female connectors
LISTINGS	UL/cUL, CE

COMMUNICATION SPECIFICATIONS

DATA INTERFACE	Color Kinetics Data Enabler
CONTROL	Color Kinetics full line of controllers including Light System Manager or other DMX512 (RS485) sources

ELECTRICAL SPECIFICATIONS

POWER REQUIREMENT	100-240VAC, 50-60 Hz
POWER CONSUMPTION	12W at full output
POWER FACTOR	0.95 or greater at 120VAC
LEADER CABLE	40-ft (12.2 m) iColor Cove MX Leader Cable (Item# 108-000021-00 US) (Item# 108-000021-01 EU)
JUMPER CABLE	1-ft (30.5 cm) iColor Cove MX Jumper Cable (Item# 108-000022-00) 5-ft (1.5 m) iColor Cove MX Jumper Cable (Item# 108-000022-01)

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-4°F to 122°F (-20°C to 50°C) based on testing of specific product
--------------------------	--

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 50% of original

CHROMACORE®
CKTECHNOLOGY

POWERCORE®
CKTECHNOLOGY

OPTIBIN®
CKTECHNOLOGY



ITEM# 123-000004-00 (No Optics)
ITEM# 123-000004-01 (Narrow)

This product is protected by one or more of the following U.S. patents and their foreign counterparts: 6,016,038, 6,150,774, 6,292,901, 6,340,868, 6,777,891, 6,788,011, 6,806,659, 6,969,954, 6,975,079, 7,186,003, and 7,221,104. Other patents pending.

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

BRO143 Rev 06

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent version.



iCOLOR COVE MX POWERCORE

PHOTOMETRIC PERFORMANCE

Photometric data is based on test results from an independent testing lab.

SOURCE SPECIFICATIONS

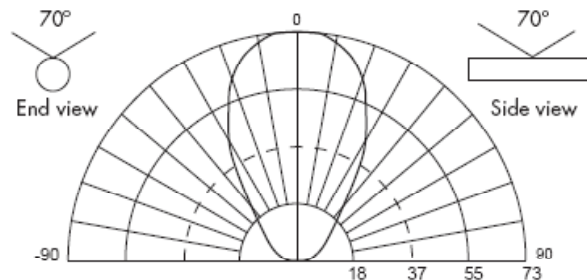
- Optics: Soft-focus polycarbonate lens
- Source: 18 LEDs (6 Red, 6 Green, 6 Blue)
- Beam Angle: 70° x 70° (at 50% of peak illuminance)
- Distribution: Symmetric direct illumination
- CCT: Adjustable 1,000–10,000K
- CRI: Not measurable (CIE 13.3-1995)

ILLUMINANCE DISTRIBUTION

0.3 3.2	0.6 6.5	0.8 8.6	0.6 6.5	0.4 4.3	0.3 3.2	3.0'/1.0m
0.6 6.5	3.1 33.4	5.5 59.2	3.5 37.7	0.9 9.7	0.4 4.3	
0.8 8.6	5.5 59.2	12.0 129.2	10.1 108.7	3.5 37.7	0.6 6.5	0'/0m
0.6 6.5	3.5 37.7	10.1 108.7	12.0 129.2	5.5 59.2	0.8 8.6	
0.4 4.3	0.9 9.7	3.5 37.7	5.5 59.2	3.1 33.4	0.6 6.5	3.0'/1.0m
0.3 2.2	0.4 4.3	0.6 6.5	0.8 8.6	0.6 6.5	0.3 3.1	
3.0'/1.0m		0'/0m		3.0'/1.0m		

Units: Footcandles (top)/Lux (bottom)
 Location: Centered 1'/0.3m from, and perpendicular to, surface
 Multipliers: 0.44 Red, 0.43 Green, 0.13 Blue
 Measured on white, reflectance model: 50%

CANDLE POWER DISTRIBUTION



Measured on: White
 Beam center: 73 cd
 Thin dashed lined: Indicates 50% of peak
 Multipliers: 0.44 Red, 0.43 Green, 0.13 Blue

ILLUMINANCE

DISTANCE	3' 1m	6' 2m	9' 3m	15' 5m
WHITE	8.1 87.2	2.1 22.6	1.0 10.8	0.3 3.2
RED	3.6 38.4	0.9 9.9	0.4 4.7	0.1 1.4
GREEN	3.5 37.4	0.9 9.7	0.4 4.7	0.1 1.4
BLUE	1.1 11.3	0.3 2.9	0.1 1.4	0.0 0.4

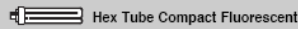
Measured in Footcandles (top)/Lux (bottom) on axis.
 Measured on white, reflectance 0

LIGHT OUTPUT

COLOR	TOTAL OUTPUT (LUMENS)	POWER (WATTS)	EFFICACY (lm/W)
WHITE	102	12	8.5
RED	44.9	4.8	9.4
GREEN	43.9	4.8	9.1
BLUE	13.3	4.8	2.8

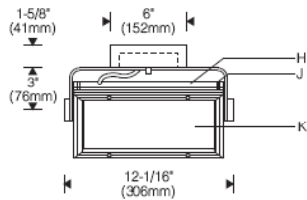
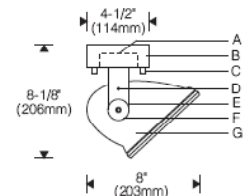


Lighting the Wall Large fluted or smooth

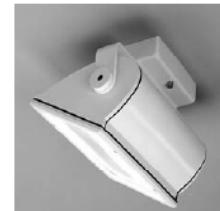
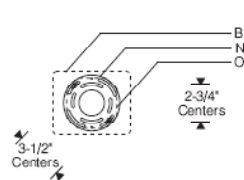


Style 113 / 114

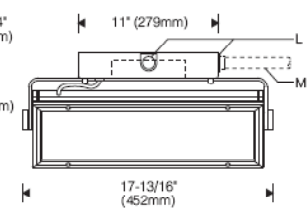
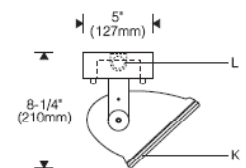
1-Lamp - E Mount 1:10 Scale



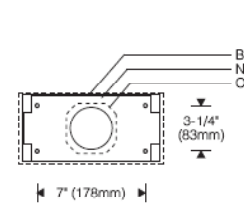
Mounting Plate (1-lamp)



2-Lamp - F Mount 1:10 Scale



Mounting Plate (2-lamp)



Specifications

- | | | | |
|---|---|--|--|
| A Integral electronic ballast (remote for X mount) | E Aluminum yoke | J Aluminum reveal plates (black) | L 7/8" dia. conduit entries, 3 total (F mount only) |
| B Aluminum canopy/ ballast housing | F Aluminum knobs | K Mitred extruded aluminum door frame with micro-prismatic tempered glass lens, silicone gasket | M Conduit (by others) |
| C Chrome cap nuts | G Die-cast aluminum end plates | | N Mounting plate |
| D Locking set screw | H Specular extruded aluminum reflector | | O Outlet box (by others) |

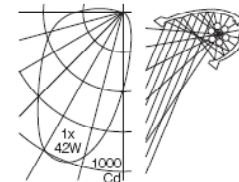
Features

- Scaled for commercial interiors - 8' to 12' high walls
- Door and lens for finished appearance - precured silicone gaskets keep dirt and moisture out, maintain performance
- Integral electronic ballast - ideal low energy, great color, long life incandescent substitute
- Set screw in yoke - securely locks aiming



Performance

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



For complete photometrics, see www.elliptipar.com.

elliptipar

Finish:

Style 113 fluted - bright clear anodized aluminum housing and door frame. Painted end plates, yoke and canopy in choice of silver or semi-gloss black.

Style 114 smooth - semi-gloss white exterior.

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

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

Mounting:

E mount - canopy mounts over recessed outlet box.

F mount - three 7/8" dia. entries in mounting plate with clearance openings in canopy; one front center, one on each end (surface conduit, connectors by others). **Available for 2-lamp units only.**

Pendant or cantilever assembly ordered separately; specify X mount. Supplied with remote ballast.

REV. 6/07

Electrical:

Use 90°C wire for supply connections.

Integral electronic HPF thermally protected class P ballast with end-of-life protection. Twist and lock lampholder allows for easy lamp installation and removal.

X mount (for use with pendant or cantilever) furnished with remote electronic ballast. Aluminum ballast enclosure includes four 7/8" diameter entries and a knockout for an accessory fuse. **Maximum wire length between remote electronic ballast and fixture is 13' (3.9m) for 1-lamp reflectors and 4' (1.2m) for 2-lamp reflectors less length of pendant stem or cantilever arm.**

Optional electronic dimming ballast (E and F mount only); compatible dimmer switch required (by others). Consult sales representative for compatibility and specifications.

Dimming not available with X mount pendant or cantilever.

For complete ballast specifications, see Accessories Section.

Standard:

UL listed and CSA certified for damp locations. (Style 114 painted model recommended for damp locations.) Where pendant or cantilever may be exposed to wind, consult factory.



CORELITE™

DESCRIPTION

The new Class R1 Series by Corelite offers an ultra shallow recessed design, ideal for plenum-restricted applications and low-ceiling environments. The Class R1 Series has been optically engineered to provide low-brightness ambient illumination and to accommodate a variety of innovative shielding options, including a unique linear prismatic frosted lens, bladed micro baffle, and two styles of perforated overlays. The dedicated T5 design of the Class R1 Series offers superior lumens per watt when compared with traditional 3T8 or twin tube luminaires.

Catalog #	Type
Project	
Comments	Date
Prepared by	

SPECIFICATION FEATURES

A ... Construction

Low profile housing die-formed 20 gauge cold rolled steel with integral one-piece 20 gauge gear tray. Optional welded and gasketed construction available for NY and Chicago Plenum applications. Air Return also available.

B ... Reflectors

High reflectance white powder coat painted reflector system.

C ... Shielding

Linear prismatic co-extruded acrylic lens with white painted aluminum internal micro baffle, clear center and clear/frost blended lens returns. Lens is designed to provide low glare ambient illumination while creating evenly luminous side reflectors. Lens secured to housing via injection molded inserts for easy lamp access.

D ... Electrical

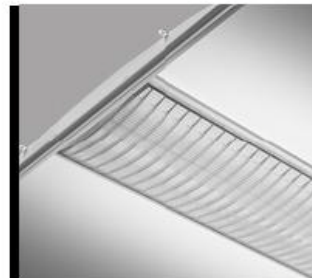
T5/T5HO fixtures are pre-wired with quick wire connectors and use UL listed Class P, T5/T5HO program rapid start universal voltage electronic ballasts, power factor of 97% with less than 10% THD. Fixtures and electrical components certified to UL and CUL standards.

E ... Finish

Fixture housings are standard white using electrostatically applied polyester powder coat paint.

Mounting

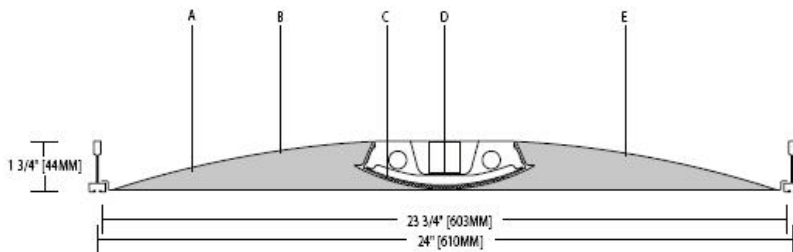
Standard flange design works with most lay-in ceiling types. Integral pryout tabs secure luminaire to ceiling grid from above. Fixture offers tie-in locations for tie-wire on all corners, consult local code for appropriate tie-wire recommendations.



CLASS R1 Micro Baffle

T5
 T5HO

2'x4' Ultra Shallow
 Recessed
 1-3/4" Depth



ORDERING INFORMATION

Sample Number: R1-WB-2N5-1C-UNV-24-T1

Series R1: Class R1	Shielding B: Micro Baffle	Lamp Type T5: T5 High Output N5: T5 Normal Output	Wiring C: Standard Circuit D: Dimming / Step Dimming E: Emergency B: Battery Pack T: Nightlight Y: Daylight	Voltage 120: 120V 277: 277V 347: 347V UNV: Universal (120V-277V)	Ceiling Type T1: 1" Grid, Slot Grid, 9/16" Tegular T9: 9/16" Grid	Options AR: Air Return CP: Chicago Plenum NY: New York City Construction AM: Anti-Microbial Coating LG: Lens Gasketing W6: 6" Whip Flex W12: 12" Whip Flex
Reflector W: White	Number of Lamps 2: 2 Lamps	Number of Circuits 1: 1 Circuit 2: 2 Circuit	Size 24: 2' x 4'			

Notes: 1 Not all options available. Please consult your Cooper Lighting Representative for availability. Specifications and dimensions subject to change without notice.



8" Vertical Triple Tube Open Downlight **LF8CFV**

One 26W, 32W or 42W Triple Tube
Compact Fluorescent
4-pin Lamp
120V-277V

APPLICATIONS:

The LF8CFV offers a vertically lamped compact fluorescent open downlight fixture. The multi-watt, multi-volt ballast provides the ability to change wattages by simply changing the lamp. This luminaire is ideal for a wide variety of medium to high ceiling applications including commercial, retail, hospitality and design build.

HOUSING:

One-piece 22-gauge galvanized steel platform. Prewired J-box with snap-on cover for easy access. Same housing accommodates downlight, wall wash downlight, and lensed downlight reflectors.

REFLECTOR:

High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard. Painted white self-trim (WT) available as option. Baffled units standard with white painted self-trim.

BALLAST:

One (1) compact fluorescent Class 'P' electronic multi-volt (120V through 277V) HPF ballast suitable for operating all 26W, 32W, and 42W triple tube lamps. All ballast options are equipped with EOL protection. Accessible from below ceiling. Contact technical support for 347V.

LAMP:

One (1) 26W (GX24q-3 base), 32W (GX24q-3 base), or 42W (GX24q-4 base) 4-pin triple tube compact fluorescent lamp. Lamp furnished by others or as option below. Use only GE or OSRAM Sylvania lamps.

SOCKET:

One (1) injection molded socket suitable for 26W, 32W, and 42W triple tube lamps (vented).

INSTALLATION:

Universal adjustable mounting brackets accept 1/2" EMT conduit or 1 1/2" or 3/4" lathing channel (by others) or Prescolite 24" bar hangers (B24 or B6). Light commercial bar hangers included.

LABELS:

UL, CSA listed for damp locations. Approved for through wiring (4 in, 4 out). Non-IC type.

LAMP INCLUDED OPTION:

Specify lamp type T (Triple 4-pin) and temperature as shown below.

DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____

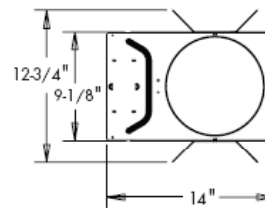
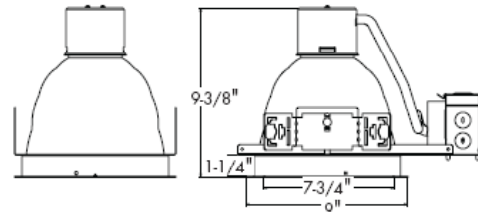
LiteFrame® WFT™

Ceiling Cutout: 8-1/4"

Maximum Ceiling Thickness: 1-1/4"

For conversion to millimeters,
multiply inches by 25.4

Not to Scale



Order housing, reflector and accessories separately.

CATALOG NUMBER:

EXAMPLE: LF8CFV32EB 8CFV LP32T30K

HOUSING	WATTAGE	BALLAST TYPE	HOUSING OPTIONS	REFLECTOR	REFLECTOR COLOR	TRIM OPTIONS	ACCESSORIES
<input type="checkbox"/> LF8CFV	<input type="checkbox"/> 32 26/32/42W Triple Tube	<input type="checkbox"/> EB Electronic VOLTAGE <input type="checkbox"/> Blank 120V-277V <input type="checkbox"/> 347V (consult technical support)	<input type="checkbox"/> CP² Chicago Plenum CP fixture height is 12" <input type="checkbox"/> FSDFA Fuse kit installed at factory <input type="checkbox"/> RIF1^{1,2} Radio interference filter (single circuit) <input type="checkbox"/> EMR^{1,2} Emergency battery pack with remote test switch and indicator light <input type="checkbox"/> DM Electronic analog dimming ballast (Contact technical support for wall control system compatibility) <input type="checkbox"/> MW26 Max Wattage label, 26W <input type="checkbox"/> MW32 Max Wattage label, 32W <input type="checkbox"/> EM^{1,2} Emergency Battery Pack with Integral test switch and indicator light.	<input type="checkbox"/> 8CFV 8" Alzak Semi- Diffuse	<input type="checkbox"/> BLANK Clear Alzak <input type="checkbox"/> CG Champagne Gold Alzak <input type="checkbox"/> PW Pewter Alzak <input type="checkbox"/> WE Wheat Alzak <input type="checkbox"/> LW Light Wheat Alzak <input type="checkbox"/> BB Black Baffle (with clear Alzak upper reflector) <input type="checkbox"/> WB White Baffle (with clear Alzak upper reflector)	<input type="checkbox"/> TRG Trim ring gasket (factory installed) <input type="checkbox"/> WT White Flange (Alzak only)	<input type="checkbox"/> B24 Set of (2) 24" bar hangers for T-bar ceilings <input type="checkbox"/> B6 Set of (2) bar hangers for ceiling joists up to 24" centers <input type="checkbox"/> FSDFI Fuse kit for field installation <input type="checkbox"/> SCA8D Sloped ceiling adapter (see note on back page)
							LAMP ACCESSORIES
							<input type="checkbox"/> LP -wattage= 26, 32, 42 -type= T (Triple 4-pin) -temp= 27K, 30K, 35K, 41K (Kelvin) *Example: LP32T30K

¹RIF1, EMR, and EM options not offered in combination

²CP not offered in combination with RIF1, EMR, or EM



PHOTOMETRIC DATA

LiteFrame® - 8" Vertical Triple Tube Open Downlight - LF8CFV

BALLAST DATA

	26W Triple			32W Triple			42W Triple		
	120V	277V	347V	120V	277V	347V	120V	277V	347V
Total System Watts	29	29	31	36	36	36	46	46	50
Input Current (Amps)	0.24	0.11	0.09	0.31	0.13	0.11	0.38	0.17	0.15
Input Frequency In Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Power Factor	<.98	<.98	<.95	<.98	<.98	<.95	<.98	<.98	<.95
Ballast Factor	<1.1	<1.1	<1.02	<.98	<.98	<.98	<.98	<.98	<1.0
Total Harmonic Distortion	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%

LAMP DATA

Rated Watts	26W Triple	32W Triple	42W Triple
Rated Lumens	1710	2400	3200
Efficacy (LPW)	66	75	76
Rated Life	12,000	12,000	12,000
CRI	82	82	82
Min. Starting Temp.	32°F	32°F	32°F

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average
45°	20810
55°	15977
65°	8860
75°	381
85°	377

Test No. 2341

AVERAGE INITIAL FOOTCANDLES ON WORKPLANE

Assumptions:

1. Ceiling 80% Wall 50% Floor 20%
2. 4 luminaires evenly spaced in the center of the room.
3. The room is square and has a width and length equal to twice the lamp spacing (LS).
4. RCR is Room Cavity Ratio.
5. Dirt and Lumen Depreciation Factors are 1.0.
6. Ballast Factor is 1.0 for ballasted fixtures.

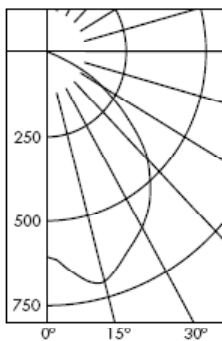
LS (Feet)	(Footcandles)		
	RCR1	RCR3	RCR7
7.0	35	28	19
8.0	27	21	14
9.0	21	17	11
10.0	17	14	9
11.0	14	11	8
12.0	12	10	6
13.0	10	8	5
14.0	9	7	5
15.0	8	6	4

Test No. 2341

LF8CFV32EB/8CFV with Clear Alzak Reflector

Lamp: 1-PL-T/32W/830-PHILIPS
Spacing Criteria: 1.4
Efficiency = 66.8%

CANDLEPOWER DISTRIBUTION



Test No. 2341

CANDLEPOWER SUMMARY

Angle	0°
0	605
5	635
10	684
15	703
20	668
25	631
30	599
35	559
40	506
45	448
50	367
55	279
60	201
65	114
70	13
75	3
80	2
85	1
90	0

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%			70%			50%			30%			10%				
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30		
1	.74	.72	.70	.68	.73	.70	.68	.67	.68	.66	.64	.65	.64	.62	.63	.62	.61
2	.69	.64	.60	.57	.67	.63	.60	.57	.61	.58	.55	.59	.56	.54	.57	.55	.53
3	.63	.57	.53	.49	.62	.56	.52	.49	.54	.51	.48	.53	.50	.47	.51	.48	.46
4	.58	.51	.46	.42	.57	.51	.46	.42	.49	.45	.42	.48	.44	.41	.46	.43	.41
5	.54	.46	.41	.37	.53	.46	.41	.37	.44	.40	.36	.43	.39	.36	.42	.38	.36
6	.50	.42	.37	.33	.49	.41	.36	.33	.40	.36	.32	.39	.35	.32	.38	.35	.32
7	.47	.38	.33	.29	.45	.38	.33	.29	.37	.32	.29	.36	.32	.29	.35	.31	.28
8	.43	.35	.30	.26	.42	.35	.29	.26	.34	.29	.26	.33	.29	.26	.32	.28	.26
9	.41	.32	.27	.23	.40	.32	.27	.23	.31	.26	.23	.30	.26	.23	.30	.26	.23
10	.38	.30	.25	.21	.37	.29	.25	.21	.29	.24	.21	.28	.24	.21	.28	.24	.21

LF8CFV32EB/8CFV

Test No. 2341

NOTES

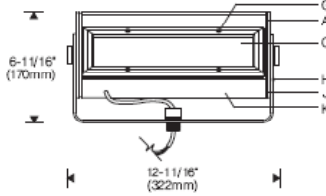
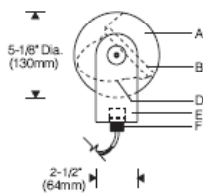
Refer to www.prescolite.com for additional photometric tests (IES Files).
When ordering a sloped ceiling adapter, specify the degree of slope in 5° increments, max. of 35°. For a more precise degree or wet ceiling applications, please contact factory. Sloped ceiling adapter and housing must be installed at the same time prior to finish ceiling installation.





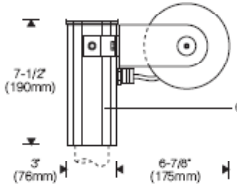
Lighting the Vertical Small cylindrical outdoor, remote  Ceramic Metal Halide  Tungsten Halogen **Style 160**

V Mount 1:8 Scale

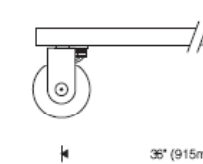


Side-Mount Slipfitter

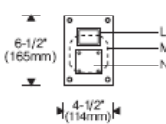
(For use with X Mount)



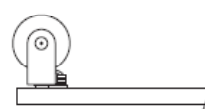
Cantilever: Lighting Downward 1:12 Scale
 (For use with X Mount)



Mounting Plate



Lighting Upward



Specifications

- | | | | |
|--|---|--|---|
| A 3/16" aluminum end plate | D Specular extruded aluminum reflector | H Locking set screw | M Welded aluminum mounting plate with splice access cover |
| B Mitred extruded aluminum door frame with silicone gasket | E Aluminum yoke | J Aluminum reveal plates (black) | N Outlet box (by others) |
| C Micro-prismatic, thermal and impact resistant tempered glass lens | F 1/2" NPT nipple | K Extruded aluminum cylindrical housing | O Accessory extruded aluminum slipfitter for 2-3/8" O.D. pole or tenon |
| | G Tamper-resistant captive door screws | L 1-1/2" x 2" aluminum arm | |

Finish:

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

Reflector - extruded high purity aluminum with clear anodized specular finish. All hardware and components - non corrosive stainless steel or aluminum. Door secured with captive tamper-resistant (#10 Torx) screws in stainless steel threaded reflector inserts to prevent seizing. Yoke attaches with recessed hex socket screws.

Mounting:

1/2" NPT nipple (wet location outlet box or fitting by others). Aluminum cantilever mounting assembly ordered separately, specify X mount. Suitable backing structure required.

Accessory slipfitter ordered separately. Top or side mount for single unit; specify X mount. Fits 2-3/8" O.D. stanchion, pole, or tenon (by others).

Electrical:

Use 90°C wire for supply connections. Leads exit reflector through watertight flush cord entry and silicone coated fiberglass sleeving with 9" (.2m) exposed beyond nipple. 60' (1.5m) leads for X mount.

Tungsten halogen - recessed single contact (RSC) or DC bayonet lampholders retained with patented clamping supports for maximum heat dissipation.

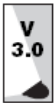
Metal halide - G12 lampholder for use with single ended lamp. Remote high reactance autotransformer ballast (35W and 70W) or electronic ballast, each rated for -20°F/-29°C starting. Die-cast aluminum weatherproof ballast enclosure includes four 1/2" NPT threaded entries. Electronic ballast provides improved voltage regulation, energy savings and automatic shut-off feature to eliminate end-of-life cycling. Optional remote ballast for dry indoor location.

Standard:

UL listed or CSA certified for wet locations.

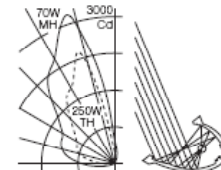
Features

- Rugged extruded aluminum cylinder with 3/16" end plates houses the rigid reflector - no exposed fasteners
- Superior asymmetric distribution for placement closer to the target surface; fast "runback" minimizes spill light
- Round end plates - consistent profile regardless of aiming
- Compact yet powerful - up to 250W halogen, 150W MH



Performance

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



For complete photometrics, visit www.elliptipar.com.

elliptipar



To Order

To form a Catalog Number

1 2 3 4 5 6 7 8

1 Source

M = Metal halide
T = Tungsten halogen

2 Style

160 = Small outdoor cylinder, remote ballast

3 Lamp

Lamp Code	Wattage	Lamp Number	Voltages	Remote Distance
Ceramic Arc Tube Pulse Start Metal Halide (80+ CRI)*				
035G	35	CDM35/T6/830	1, 2 A, B	15' (4.5m) 10' (3m)
070G	70	CDM70/T6/830	1, 2 A, B	15' (4.5m) 20' (6m)
150G	150	CDM150/T6/830	1, 2	15' (4.5m)
Tungsten Halogen				
0100	100	Q100DC	A	
0150	150	Q150DC	A	
0200	200	Q200T3	A	
0250	250	Q250DC	A	

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

4 Mounting

V = External yoke with 1/2" NPT nipple (wet location outlet box or fitting by others)
X = External yoke for use with accessory cantilever or slipfitter (order separately)

5 Finish

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

Project:

6 Voltage/Ballast

Electronic Magnetic*
1 = 120V A = 120V
2 = 277V B = 277V

*35W or 70W Metal Halide or Tungsten Halogen (120V)

7 Option (See Accessories Section for specifications)

00 = No options
0D = Remote ballast for dry indoor location
0H = Long distance remote metal halide ballast (encapsulated magnetic ballast for 35 and 70W, electronic ballast for 150W),
35W: 15' min. up to 50' max. (4.5m - 15m),
70W: up to 50' max. (15m),
150W: 15' (4.5m)
0R = Halogen standby lamp with relay field connected at remote ballast. Lamp included (wattage varies).
XX = For modification not listed, include detailed description. Consult factory prior to specification.

8 Standard

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

Example

M160 - 070G - V - 02 - B - 00J

Small outdoor cylinder for use with 70 watt metal halide lamp. External yoke with 1/2" NPT nipple. Semi-gloss white powder coat finish. Remote 277V magnetic ballast in weatherproof enclosure. CSA.

Style 160

Type:

Accessories

Order separately. See Accessories Section for specifications.

AC 36 = Cantilever, 36" (914mm) setback (for use with X mount unit)
0 = UL
J = CSA
5 Finish

L = single unit (downward or upward facing only)
U = double unit (down and upward facing)

ASF T10 = Top-mount slipfitter, for 2-3/8" O.D. pole, stanchion or tenon (for use with single X mount unit)
5 Finish

ASF S10 = Side-mount slipfitter, for 2-3/8" O.D. pole, stanchion or tenon (for use with single X mount unit)
5 Finish

AEBV 0D0 = External vertical blade baffle, black for lengthwise shielding
2 = 25° shielding
4 = 45°

AFK000X = Ballast fuse kit
0 = UL
J = CSA





Cut Sheets: Lamps



PL-T 42W/835/4P 1CT

Lamp Description

PL-T Triple 4pin Fluorescent Lamp with Amalgam.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	
+ Images:	
+ Family info:	
PRODUCT DATA	
Product Number	268755
Full product name	PL-T 42W/835/4P 1CT
Ordering Code	268755
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268756
EAN2US	
Case Bar Code	50046677268751
Successor Product number	
General Characteristics	
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	16000 hr
Ordering Code	PL-T 42W/835/4P/ALTO
Pack UPC	046677268756
Case Bar Code	50046677268751
Electrical Characteristics	
Watts	42W
Lamp Wattage EL	43.0 W
Lamp Voltage	- V
Dimmable	Yes
Light Technical Characteristics	
Color Code	835 [CCT of 3500K]
Color Rendering Index	82 Ra8
Color Designation	White
Color Description	835 White
Color Temperature	3500 K
Initial Lumens	- Lm
Initial Lumens	3200 Lm
Product Dimensions	
Overall Length C	158.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
Logistic and Packing Data	
Product Number	268755



PL-L 50W/835 2G11 /4P 1CT

Lamp Description

PL-L Long 4pin Fluorescent Lamp.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	+ Images:	+ Family info:
PRODUCT DATA		
Product Number	347534	
Full product name	PL-L 50W/835 2G11 /4P 1CT	
Ordering Code	PL-L 50W/835/4P RS	
Pack type	1 Lamp in a Folding Carton	
Pieces per Sku	1	
Skus/Case	25	
Pack UPC	046677112684	
EAN2US		
Case Bar Code	50046677112689	
Successor Product number		
General Characteristics		
System Description	Rapid Start	
Base	2G11	
Base Information	4P	
Execution	/4P [4 Pins]	
Packing Type	1CT [1 Lamp in a Folding Carton]	
Packing Configuration	25	
Avg. Life	10000 hr	
Avg. Hrs. Life	- hr	
Ordering Code	PL-L 50W/835/4P RS	
Pack UPC	046677112684	
Case Bar Code	50046677112689	
Electrical Characteristics		
Watts	50W	
Lamp Voltage	150 V	
Dimmable	Yes	
Light Technical Characteristics		
Color Code	835 [CCT of 3500K]	
Color Rendering Index	82 Ra8	
Color Designation	White	
Color Description	35 White	
Color Temperature	3500 K	
Initial Lumens	4000 Lm	
Product Dimensions		
Overall Length C	571.6 mm	
Diameter D	39 mm	
Diameter D1	18 mm	
Logistic and Packing Data		
Product Number	347534	



**MasterColor CDM 70W/940 Med ED17P CL
 ALTO+FB**

Lamp Description

Range of protected, high-efficiency long life ceramic metal halide lamps with a stable color over lifetime and a crisp, sparkling light to be used in open fixtures.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	+ Images:	+ Family info:
PRODUCT DATA		
Product Number	360578	
Full product name	MasterColor CDM 70W/940 Med ED17P CL ALTO+FB	
Ordering Code	MHC70/U/MP/4K ALTO	
Pack type	1 Sleeve Open End	
Pieces per Sku	1	
Skus/Case	12	
Pack UPC	046677360573	
EAN2US		
Case Bar Code	50046677360578	
Successor Product number		
General Characteristics		
Base	Medium [Single Contact Medium Screw]	
Base Information	Brass [Brass Base]	
Bulb	ED17P [Protected]	
Bulb Material	Hard Glass	
Bulb Finish	Clear	
Execution	Protected	
Operating Position	Universal [Any or Universal (U)]	
Packing Type	1SL [1 Sleeve Open End]	
Packing Configuration	12	
RatedAvgLife(See Family Notes)	20000 hr	
Feature	ALTO® + FadeBlock™	
Ordering Code	MHC70/U/MP/4K ALTO	
Pack UPC	046677360573	
Case Bar Code	50046677360578	
ANSI Code HID	M143/M98/O	
Electrical Characteristics		
Watts	70W	
Lamp Voltage	100 V	
Environmental Characteristics		
Mercury (Hg) Content	7.8 mg	
Picogram per Lumen Hour	102.4 p/LuHr	
Light Technical Characteristics		
Color Code	940 [CCT of 4000K]	
Color Rendering Index	92 Ra8	
Color Designation	Deluxe Cool White	



PL-T ALTO 57W/835/4P A 1CT

Lamp Description

PL-T Triple 4pin Fluorescent Lamp with Amalgam.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	
+ Images: + Family info:	
PRODUCT DATA	
Product Number	146324
Full product name	PL-T ALTO 57W/835/4P A 1CT
Ordering Code	146324
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	50
Pack UPC	046677146320
EAN2US	
Case Bar Code	50046677146325
Successor Product number	
General Characteristics	
Base	GX24q-5
Base Information	4P
Execution	/4P [4 Pins]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	5X10CC
Rated Avg. Life	0 hr
Ordering Code	PL-T 57W/835/4P/A
Pack UPC	046677146320
Case Bar Code	50046677146325
Electrical Characteristics	
Watts	57W
Lamp Wattage EL	51.0 W
Light Technical Characteristics	
Color Code	835 [CCT of 3500K]
Color Rendering Index	82 Ra8
Color Designation	White
Color Description	835 White
Color Temperature	3500 K
Initial Lumens	- Lm
Initial Lumens	3900 Lm
Product Dimensions	
Overall Length C	197.7 mm
Diameter D	41 mm
Logistic and Packing Data	
Product Number	146324



50W 130V PAR20 FL 25D 1CT

Lamp Description

PAR20 main voltage reflector lamp.

- [Download product data sheet](#)
- [Print page](#)

Product specs: + Images: + Family info:

PRODUCT DATA	
Product Number	229211
Full product name	50W 130V PAR20 FL 25D 1CT
Ordering Code	50PAR20/HAL/NFL30
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	15
Pack UPC	046677229214
EAN2US	
Case Bar Code	50046677229219
Successor Product number	
General Characteristics	
Base	Medium [Single Contact Medium Screw]
Base Information	Brass [Brass Base]
Bulb	PAR20 [PAR 2.5 inch]
Bulb Material	Hard Glass
Bulb Finish	Clear
Reflector Finish	Aluminized
Filament Shape	CC-8 [Axial]
Operating Position	Universal [Any or Universal (U)]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	15
Atmosphere	Gas
RatedAvgLife(See Family Notes)	
Ordering Code	50PAR20/HAL/NFL30
Pack UPC	046677229214
Case Bar Code	50046677229219
Rated Avg. Life @ 120v	4000 hr
Electrical Characteristics	
Watts	50W
Voltage	130V
Light Technical Characteristics	
Beam Description	Flood [Flood]
Beam Angle	25D
Approx. MBCP	1100 cd
Color Rendering Index	100 Ra8
Color Temperature	2900 K
Initial Lumens	550 Lm
Initial Lumens @ 120V	420 Lm
Product Dimensions	
Max Overall Length (MOL) - C	3.375 in



F54T5 835 HO ALTO TG

Lamp Description

- Outstanding performance and reliability.
- [Download product data sheet](#)
- [Print page](#)

Product specs:		+ Images:	+ Family info:
PRODUCT DATA			
Product Number	166728		
Full product name	F54T5 835 HO ALTO TG		
Ordering Code	F54T5/835/HO/ALTO TG		
Pack type	1 Lamp		
Pieces per Sku	1		
Skus/Case	40		
Pack UPC	046677166724		
EAN2US			
Case Bar Code	50046677166729		
Successor Product number			
General Characteristics			
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		
Type	F54T5		
Feature	ALTO®		
Ordering Code	F54T5/835/HO/ALTO TG		
Pack UPC	046677166724		
Case Bar Code	50046677166729		
Electrical Characteristics			
Watts	54W		
Lamp Wattage EL	54 W		
Dimmable	Yes		
Light Technical Characteristics			
Color Code	835 [CCT of 3500K]		
Color Rendering Index	85 Ra8		
Color Designation	835		
Color Description	na [-]		
Color Temperature	3500 K		
Initial Lumens	- Lm		
Product Dimensions			
Overall Length C	1163.2 mm		
Diameter D	17 mm		
Logistic and Packing Data			
Product Number	166728		



PL-T 42W/835/4P 1CT

Lamp Description

PL-T Triple 4pin Fluorescent Lamp with Amalgam.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	
+ Images:	+ Family info:
PRODUCT DATA	
Product Number	268755
Full product name	PL-T 42W/835/4P 1CT
Ordering Code	268755
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677268756
EAN2US	
Case Bar Code	50046677268751
Successor Product number	
General Characteristics	
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	16000 hr
Ordering Code	PL-T 42W/835/4P/ALTO
Pack UPC	046677268756
Case Bar Code	50046677268751
Electrical Characteristics	
Watts	42W
Lamp Wattage EL	43.0 W
Lamp Voltage	- V
Dimmable	Yes
Light Technical Characteristics	
Color Code	835 [CCT of 3500K]
Color Rendering Index	82 Ra8
Color Designation	White
Color Description	835 White
Color Temperature	3500 K
Initial Lumens	- Lm
Initial Lumens	3200 Lm
Product Dimensions	
Overall Length C	158.4 mm
Diameter D	39.85 mm
Diameter D1	39.65 mm
Logistic and Packing Data	
Product Number	268755



F54T5 835 HO ALTO TG

Lamp Description

- Outstanding performance and reliability.
- [Download product data sheet](#)
- [Print page](#)

Product specs:		+ Images:	+ Family info:
PRODUCT DATA			
Product Number	166728		
Full product name	F54T5 835 HO ALTO TG		
Ordering Code	F54T5/835/HO/ALTO TG		
Pack type	1 Lamp		
Pieces per Sku	1		
Skus/Case	40		
Pack UPC	046677166724		
EAN2US			
Case Bar Code	50046677166729		
Successor Product number			
General Characteristics			
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		
Type	F54T5		
Feature	ALTO®		
Ordering Code	F54T5/835/HO/ALTO TG		
Pack UPC	046677166724		
Case Bar Code	50046677166729		
Electrical Characteristics			
Watts	54W		
Lamp Wattage EL	54 W		
Dimmable	Yes		
Light Technical Characteristics			
Color Code	835 [CCT of 3500K]		
Color Rendering Index	85 Ra8		
Color Designation	835		
Color Description	na [-]		
Color Temperature	3500 K		
Initial Lumens	- Lm		
Product Dimensions			
Overall Length C	1163.2 mm		
Diameter D	17 mm		
Logistic and Packing Data			
Product Number	166728		



Product Number: 20871
Order Abbreviation: CF42DT/E/IN/835/ECO
General Description: DULUX 42W triple compact fluorescent amalgam lamp with 4-pin base, integral EOL, 3500K color temperature, 82 CRI, for use with electronic and dimming ballasts, ECOLOGIC

Product Information	
Abbrev. With Packaging Info.	CF42DTEIN835ECO 50/CS 1/SKU
Average Rated Life (hr)	12000
Base	GX24Q-4
Bulb	T (T4)
Color Rendering Index (CRI)	82
Color Temperature/CCT (K)	3500
Family Brand Name	Dulux® EL
Mean Lumens at 25C	2670
Maximum Overall Length - MOL (In)	6.5
Maximum Overall Length - MOL (mm)	163
Nominal Wattage (W)	42.00

Additional Product Information
<u>Product Documents, Graphs, and Images</u>
<u>Compatible Ballast</u>
<u>Packaging Information</u>





Product Number: 20871
Order Abbreviation: CF42DT/E/IN/835/ECO
General Description: DULUX 42W triple compact fluorescent amalgam lamp with 4-pin base, integral EOL, 3500K color temperature, 82 CRI, for use with electronic and dimming ballasts, ECOLOGIC

Product Information	
Abbrev. With Packaging Info.	CF42DTEIN835ECO 50/CS 1/SKU
Average Rated Life (hr)	12000
Base	GX24Q-4
Bulb	T (T4)
Color Rendering Index (CRI)	82
Color Temperature/CCT (K)	3500
Family Brand Name	Dulux® EL
Mean Lumens at 25C	2670
Maximum Overall Length - MOL (In)	6.5
Maximum Overall Length - MOL (mm)	163
Nominal Wattage (W)	42.00

Footnotes

- Approximate initial lumens after 100 hours operation.
- Minimum starting temperature is a function of the ballast; consult the ballast manufacturer.
- There is a NEMA supported, industry issue where T2, T4, and T5 fluorescent and compact fluorescent lamps operated on high frequency ballasts may experience an abnormal end-of-life phenomenon. This end-of-life phenomenon can result in one or both of the following: 1. Bulb wall cracking near the lamp base. 2. The lamp can overheat in the base area and possibly melt the base and socket. NEMA recommends that high frequency compact fluorescent ballasts have an end-of-life shutdown circuit which will safely and reliably shut down the system in the rare event of an abnormal end-of-life failure mode described above. The final requirements of this system are yet to be defined by ANSI. For additional information refer to NEMA papers on their WEBSITE at www.NEMA.org.
- SYLVANIA ECOLOGIC fluorescent lamps are designed to pass the Federal Toxic Characteristic Leaching Procedure (TCLP) criteria for classification as non-hazardous waste in most states. TCLP test results are available upon request. Lamp disposal regulations may vary, check your local & state regulations. For more information, please visit www.lamprecycle.org
- This 4-pin DULUX lamp has an internal end-of-life mechanism (EOL) that shuts down the lamp preventing abnormal end-of-life failure modes. This lamp was designed for use with high frequency ballasts that do not have their own end-of-life (lamp)sensing circuits, but it is also compatible with high frequency ballasts that have their own end-of-life (lamp) sensing circuits.
- The life ratings of fluorescent lamps are based on 3 hr. burning cycles under specified conditions and with ballast meeting ANSI specifications. If burning cycle is increased, there will be a corresponding increase in the average hours life.
- Lumen output and life rated on high frequency operation.
- Rule of Thumb for Compact Fluorescent Lamps: Divide wattage of incandescent lamp by 4 to determine approximate wattage of compact fluorescent lamp that will provide similar light output.
- Optimum light output for DULUX T/E IN amalgam compact fluorescent lamps occurs at approximately 35 deg. C/ 95 deg. F ambient temperature when the lamp is operated in the base up position. The lumen value listed refers to the optimum light output. Non-amalgam compact fluorescent lamps provide atleast 90% light output from 60-100 degrees F in the base up position, the temperature range is narrower for horizontal or base down position.



MasterColor CDM-T 35W/830 T6 1CT

Lamp Description

Range of single-ended T6 high-efficiency ceramic metal halide lamps with a stable color over lifetime and a crisp, sparkling light.

- [Download product data sheet](#)
- [Print page](#)

Product specs:	
MSDS sheets	
PRODUCT DATA	
Product Number	223289
Full product name	MasterColor CDM-T 35W/830 T6 1CT
Ordering Code	223289
Pack type	1 Lamp in a Folding Carton
Pieces per Sku	1
Skus/Case	12
Pack UPC	046677223281
EAN2US	
Case Bar Code	50046677223286
Successor Product number	
General Characteristics	
Base	G12
Bulb	T6 [Diameter: 6/8 inch /19mm]
Bulb Finish	Clear
Operating Position	Universal [Any or Universal (U)]
Packing Type	1CT [1 Lamp in a Folding Carton]
Packing Configuration	12
Ordering Code	CDM35/T6/830
Pack UPC	046677223281
Case Bar Code	50046677223286
ANSI Code HID	M130/E
Electrical Characteristics	
System Power EL	44 W
Watts	35W
Lamp Wattage EL	- W
Lamp Voltage	88 V
Dimmable	No
Light Technical Characteristics	
Color Code	830 [CCT of 3000K]
Color Rendering Index	81 Ra8
Color Designation	Warm White
Color Description	830 Warm White
Color Temperature	3000 K
Initial Lumens	3300 Lm
Initial Lumens	- Lm
Design Mean Lumens	- Lm



Cut Sheets: Ballasts



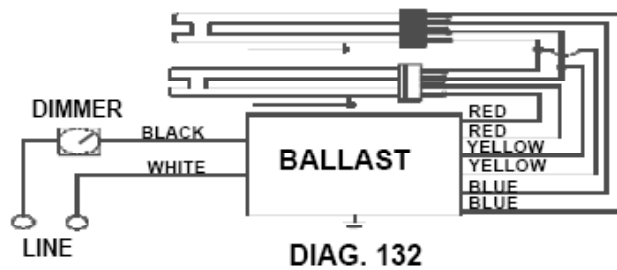
VEZ-2T42-M3-LD

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

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
CFTR32W/GX24C	2	32	50/10	0.28	20/76	0.05/1.00	10	0.98	1.6	1.32
* CFTR42W/GX24C	2	42	50/10	0.36	20/98	0.05/1.00	10	0.98	1.6	1.02
CFTR57W/GX24C	1	57	50/10	0.24	18/66	0.05/1.00	10	0.98	1.6	1.52
CFTR70W/GX24C	1	70	50/10	0.29	18/80	0.05/1.00	10	0.98	1.6	1.25

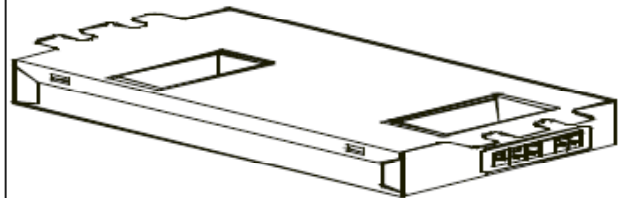
Wiring Diagram



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

Standard Lead Length (inches)

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
6.28 "	3.00 "	1.29 "	6.0 "
6 7/25	3	1 29/100	6
16 cm	7.6 cm	3.3 cm	15.2 cm



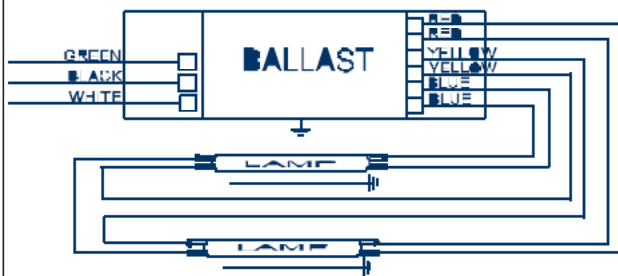
ICN-2S54@277V

Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series/Parallel
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.
F54T5/HO	1	54	-20/-29	0.23	62	1.02	15	0.96	1.7	1.65
* F54T5/HO	2	54	-20/-29	0.43	117	1.00	10	0.98	1.7	0.85

Wiring Diagram

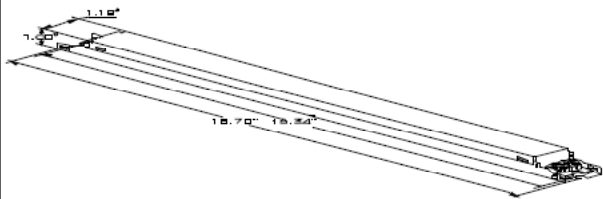


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	31	78.7	Yellow/Blue		0
White	31	78.7	Blue/White		0
Blue	28	71.1	Brown		0
Red	28	71.1	Orange		0
Yellow	48	121.9	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



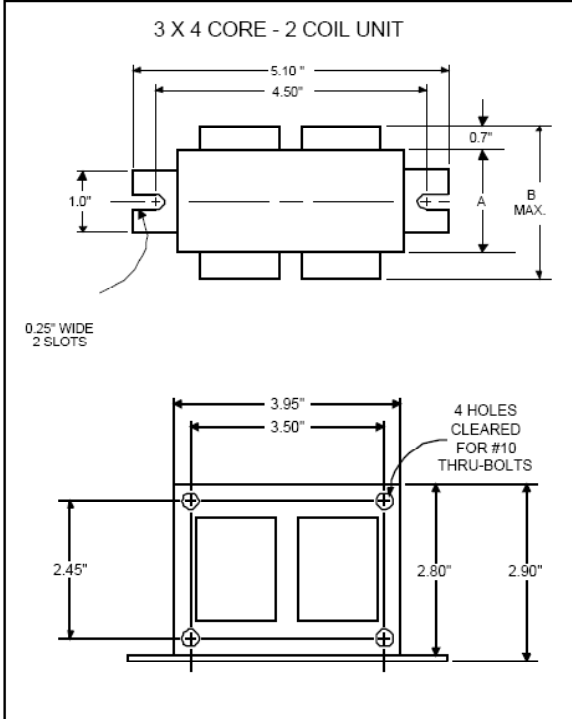
Enclosure Dimensions

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



	Metal Halide Lamp Ballast	Catalog Number 71A5292 For 70W M98/M143 60 Hz HX-HPF Status: Active
--	----------------------------------	--

DIMENSIONS AND DATA



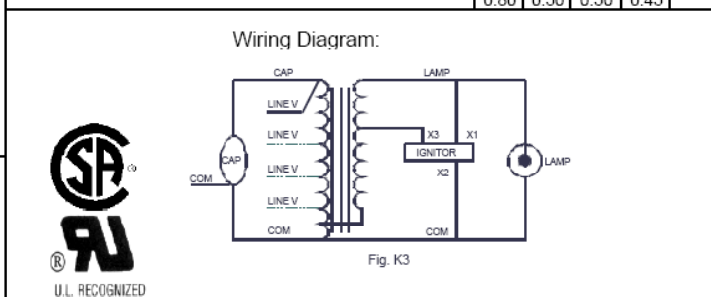
INPUT VOLTS		120	208	240	277
CIRCUIT TYPE	HX-HPF				
POWER FACTOR (min)	90%				
REGULATION					
Line Volts	±5%				
Lamp Watts	±7%				
LINE CURRENT (Amps)					
Operating.....		0.80	0.46	0.40	0.35
Open Circuit.....		1.90	1.00	0.90	0.80
Starting.....		0.55	0.30	0.25	0.25
UL TEMPERATURE RATINGS	H(180°C)				
Insulation Class	1029				
Coil Temperature Code	-20°F or -30°C	A	A	A	A
MIN. AMBIENT STARTING TEMP.	255				
NOM. OPEN CIRCUIT VOLTAGE					
INPUT VOLTAGE AT LAMP DROPOUT.....	88	90	156	180	208
INPUT WATTS					
RECOMMENDED FUSE (Amps).....		4	3	2	2
CORE and COIL	1.45				
Dimension (A)	2.75				
Dimension (B)	5				
Weight (lbs.)	12"				
Lead Lengths					
CAPACITOR REQUIREMENT	8.0				
Microfarads	280				
Volts (min.)					
Fault Current Withstand (amps)					
60 HZ TEST PROCEDURES (Refer to Philips Lighting Electronics N.A. TEST Procedure for HID Ballasts - Form High Potential Test (Volts)					
1 minute	2000				
2 seconds	2500				
Open Circuit Voltage Test (Volts)	230-280				
Short-Circuit Current Test (Amps)	0.95-1.25				
Secondary Current					
Input Current.....		0.55	0.35	0.30	0.25
		0.80	0.50	0.50	0.45

Capacitor: 7C080L33-R

Capacitance: 8
 Dia/Oval Dim: 1.25
 Height: 2.9
 Temp Rating: 105°C

Ignitor: LI533-H4

Ballast to Lamp Distance (BTL) = 15 feet
 Temp Rating: 105°C



Typical Ordering Information
 (please call Philips Lighting Electronics N.A. for suffix availability)

Order Suffix	Description
--------------	-------------

Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice.

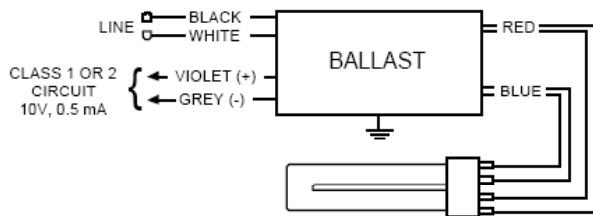


IZT-2T42-M3-BS@277	
Brand Name	MARK 7 0-10V
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

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



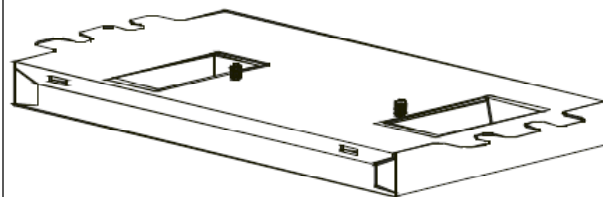
Diag. 58A

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

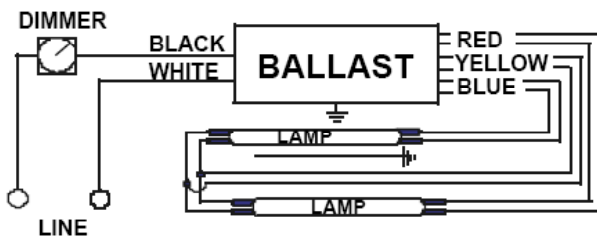


VEZ-2S54	
Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	60 HZ
Status	Active

Electrical Specifications

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

Wiring Diagram

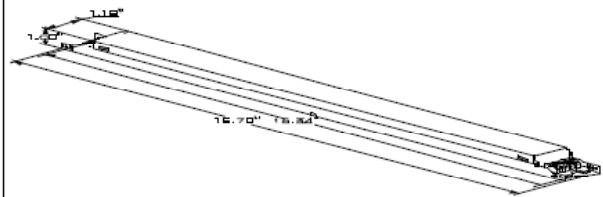


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

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

Enclosure



Enclosure Dimensions

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



VEZ-1T42-M2-LD	
Brand Name	MARK 10 POWERLINE
Ballast Type	Electronic Dimming
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (Watts) (min/max)	Ballast Factor (min/max)	MAX THD %	Power Factor	Lamp Current Crest Factor	B.E.F.
CFQ26W/G24Q	1	26	50/10	0.11	08/31	0.05/1.00	10	0.98	1.6	3.23
CFTR26W/GX24Q	1	26	50/10	0.11	08/31	0.05/1.00	10	0.98	1.6	3.23
CFTR32W/GX24Q	1	32	50/10	0.14	09/38	0.05/1.00	10	0.98	1.6	2.63
* CFTR42W/GX24Q	1	42	50/10	0.18	10/49	0.05/1.00	10	0.99	1.6	2.04

Wiring Diagram

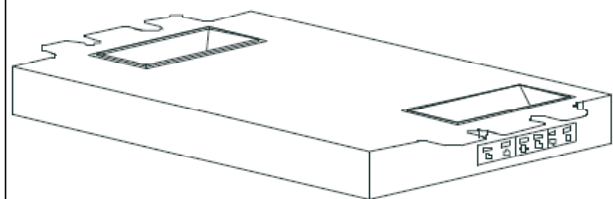


Diag. 134

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

Standard Lead Length (inches)

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	3.00 "	1.29 "	4.60 "
4 49/50	3	1 29/100	4 3/5
12.6 cm	7.6 cm	3.3 cm	11.7 cm



Cut Sheets: Controls

Bill Of Materials			
New System 1			
Item	Lutron Model No.	Description	Qty
1)	GP12-2774ML-20	277V, 3Ø-4 Wire Main Lugs GP Dimming Panel containing 1 20A-1Pole branch breaker rated at 14,000AIC for each of the 12 dimming circuits. Max input feed = 80A	1
2)	XP4-1204ML-20	277V, 3Ø-4 Wire Main Lugs XP Switching Panel containing 1 20A-1Pole branch breaker rated at 10,000AIC for each of the 4 switching circuits. Max feed = 40A	3
3)	GP3-1204M-20	120V GP Dimming Panel containing 1 20A-1Pole branch breaker rated at 10,000AIC for each of the 3 dimming circuits. Max input feed = 20A (3Ø-4 Wire), 40A (1Ø-3 Wire), 60A (1Ø-2 Wire)	1
4)	GP3-2774M-20	277V GP Dimming Panel containing 1 20A-1Pole branch breaker rated at 14,000AIC for each of the 3 dimming circuits. Max input feed = 20A (3Ø-4 Wire), 60A (1Ø-2 Wire)	1
5)	GP8-2774ML-20	277/480V, 3Ø-4 Wire Main Lugs GP Dimming Panel containing 1 20A-1Pole branch breaker rated at 14,000AIC for each of the 8 dimming circuits. Max input feed = 60A	1
6)	GRX-4S-DW-WH	Architrave Doorwide series GRAFIK Eye wallstation. Recalls preset light levels for up to 4 scenes plus off. Fine-tuning of light levels with master raise/lower. Custom Lutron backbox provided.	5
7)	GRX-CI-NWK-E	Ethernet interface. Used to interface GRAFIK Eye systems to touch screens or other intelligent equipment. Uses TCP/IP communication protocols. Surface mount.	2
8)	GRX-DACPI-A-WH	Automatically selects preset scenes on a GRAFIK Eye Control Unit in response to ambient daylight. Opaque Top Cover. Works with either 1 0-10V photocell or up to 3 Lutron MW-PS photocells. 4 Gang US Backbox.	4
9)	GRX-IO	Provides two way interface between GRAFIK Eye Control Units and contact closure devices. Requires 12VDC power supply and relays for contact-closure output (contractor to provide). Surface-mounts on 2 Gang US Backbox.	2
10)	MW-PS-WH	Ceiling mounted daylight photosensor. Low voltage class 2, 24V DC.	6
11)	LUT-ELI-3PH	Emergency lighting interface that senses the normal (non-essential) line voltage on all three phases of normal power. When one or more phases of power are lost, a signal is sent causing control units to enter emergency lighting mode. The interface mounts to a standard 4" x 4" junction box.	1
12)	LOS-CDT-2000-WH	2000 sqft Dual Technology Occupancy Sensor; Ceiling Mounted	5
13)	LUT-19AV-1U	Audiovisual mounting rack for up to four (4) GRX-CI or similar Lutron control interface units. Mounts in standard 19" AV-1U racks.	1
14)	GRX-IRPS-WH	GRAFIK Eye ceiling mounted IR partition switch. A transmitter and receiver unit are mounted to the ceiling. These sensors detect the presence of a partitioning wall. The sensors interface to a GRX-IO set to partition mode. Units each mount in a standard single gang backbox.	1
15)	GRX-CI-PRG	RS232 and Ethernet Interface. Allows for PC Programming with GRX-3500 and GRX-4500 Control Units. Can also be used as an astronomic timeclock for any GRAFIK Eye system. Surface mount.	1
16)	GRX-4516-T-WH	16 Zone GRAFIK Eye 4000 Control Unit with PC Setup Capability and Translucent Top Cover. For use with Lutron GP, LP, and XP Power Panels. 4 Gang US Backbox.	1
17)	PP-120H	15VDC power pack for use with Lutron LOS ceiling mounted occupant sensor and Lutron 0-10 Volt ballast controls. Unit combines a class 2 15VDC power supply and a heavy duty Form A relay.	5
18)	GRX-4502-T-WH	2 Zone GRAFIK Eye 4000 Control Unit with PC Setup Capability and Translucent Top Cover. For use with Lutron GP, LP, and XP Power Panels. 2 Gang US Backbox.	1
19)	SG-SVCN-WH-E01	seeTouch style wallstation (non-insert version) which allows for the selection of preset window treatment levels. Control wires to the GRAFIK Eye control link, and the Sivoia Motor Drive Unit. Unit is a Low Voltage Class 2 (PELV) device that requires 24VAC (Provided by the Sivoia Motor Drive Unit).	1
20)	GRX-4506-T-WH	6 Zone GRAFIK Eye 4000 Control Unit with PC Setup Capability and Translucent Top Cover. For use with Lutron GP, LP, and XP Power Panels. 4 Gang US Backbox.	1
21)	GRX-4508-T-WH	8 Zone GRAFIK Eye 4000 Control Unit with PC Setup Capability and Translucent Top Cover. For use with Lutron GP, LP, and XP Power Panels. 4 Gang US Backbox.	1
22)	GRX-12VDC	120V GRAFIK Eye 3000 Series 12 Volt DC Plug in Power Supply (Requires Duplex Receptacle). Use to power additional wallstation controls within a GRAFIK 3000 System. 800mA capacity can power up to 16 GRX Wallstations.	1
23)	GRX-4504-T-WH	4 Zone GRAFIK Eye 4000 Control Unit with PC Setup Capability and Translucent Top Cover. For use with Lutron GP, LP, and XP Power Panels. 4 Gang US Backbox.	1
24)	-	All electrical devices should match system controls. Use Lutron NovaT+ dimmers, switches, receptacles, jacks and faceplates as required.	0



GRAFIK Eye 4000 Series Control Unit

Cover (shown open)



Description

- Provides pushbutton recall of four preset lighting scenes, plus Off.
- Allows setup of lighting scenes using buttons on the Control Unit.
- Controls virtually any light source via dimming and switching panels.
- Provides lockout options to prevent accidental changes.
- Includes built-in infrared receiver for operation with an optional remote control.

Models available to:

- Control 2 to 24 zones of lighting.

4000 Series Control Units work with:

- GRAFIK Eye Wallstations
- GP and LP Dimming Panels
- XP Softswitch™ Panels

GRX-4100 Control Units

Provide setup using buttons on the Control Unit.

GRX-4500 Control Units

Provide optional setup using a PC, including setting lighting levels in 1% increments.



GP Dimming Panels 120-127 / 277 Volt



GP3/4
Mini
Panels



GP8-24
Standard-Size
Panels

GP Dimming Panels provide power and dimming for up to 144 load circuits and control any light source, including full-conduction non-dim.

Models available with:

- 120-127 V and 277 V input power.
- 3 to 144 circuits.
- Different feed types and breakers.

GP Dimming Panels work with:

- GRAFIK Eye[®] 4000 Control Units.
- GRAFIK 5000[™], GRAFIK 6000[®], and GRAFIK 7000[™] Systems.
- LP Dimming Panels.
- XP Softswitch[®] Panels.
- DMX512 dimming systems via the 2LINK[™] option.



GP36
Large-Size Panels



GP48-144
Large-Size Panels



Dual Technology Ceiling Mount Sensor



The LOS-CDT Series ceiling-mount dual-technology sensors can integrate into Lutron systems or function as stand-alone controls using a Lutron power pack. The technology eliminates manual sensitivity and timer adjustments during installation and over the life of the product.

Features

- Intelligent, continually adapting sensor
- Ultrasonic (US) combined with passive infrared (PIR) sensing provide high sensitivity, high noise immunity, and excellent false tripping immunity
- Suited for complex environments that are difficult to control with single-technology sensors
- Snap-locks to ceiling-mounted cover plate
- Non-Volatile Memory: settings saved in protected memory are not lost during power outages
- 500 to 2000 sq.ft. (46 to 186 m²) coverage when mounted on an 8 - 12 ft. (2.4 to 3.7 m) ceiling; 180° and 360° field of view
- Affords choice of turning lights off or dimming to a preset level in the unoccupied state when integrated with a Lutron system.

Models Available

Cat. No.	Color	Coverage	Field of View
LOS-CDT-500-WH	White	500 sq.ft. (46 m ²)	180°
LOS-CDT-500R-WH	White	500 sq.ft. (46 m ²)	180°
LOS-CDT-1000-WH	White	1000 sq.ft. (93 m ²)	180°
LOS-CDT-1000R-WH	White	1000 sq.ft. (93 m ²)	180°
LOS-CDT-2000-WH	White	2000 sq.ft. (186 m ²)	360°
LOS-CDT-2000R-WH	White	2000 sq.ft. (186 m ²)	360°



GRX-IRPS-WH Infrared Transmitter/Receiver Pair



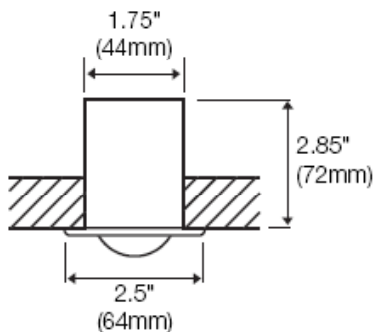
Description

Infrared transmitter/receiver pair detects partition movement and, in conjunction with other Lutron products, coordinates lighting preset functions in areas such as partitioned meeting rooms or ballrooms. Sensors may be used with *GRAFIK Eye* 3000 or 4000 Systems, *GRAFIK Eye QS*, as well as *GRAFIK* 5000/6000/7000 Systems.

- Automatically combines lighting preset functions when partition is open creating one large space.
- Lighting preset functions become independent as partition is closed creating several smaller spaces.
- Sensors require additional Lutron interface (GRX-IO or OMX-IO) and power supply (GRX-12VDC) for proper operation with *GRAFIK Eye* 3000/4000 system.
- Sensors also work with a *GRAFIK Eye QS* system, with a QWS2-2B wallstation and power supply.
- Sensors function with *SeeTouch* SO series wallstation with occupant sensor connection if used with *GRAFIK* 5000/6000/7000 system. One SO series wallstation with occupant sensor connection (ordered separately) can accommodate and supply power for one transmitter/receiver pair for one moveable wall. This will count as two devices on the link.



microPS™ Daylight Sensor



2" (50mm) diameter hole
required for installation

Description

- Provides daylight harvesting capability.
- May be used with the Digital microWATT® Lighting Zone Controller, GRX/OMX-DACPI, or RadioTouch Controller.
- Allows controllers to automatically dim lights when available daylight is high and brighten lights when daylight is low in order to maintain a specific light level in the space.
- May be calibrated for daylight sensitivity.
- Mounts easily on any ceiling tile with one 2" diameter hole.

Specifications

Power

Low-voltage Class 2
Operating Voltage: 24 V Direct Current.

Key Design Features

Meets IEC 801-2. Tested to withstand 15kV electrostatic discharge without damage or memory loss.

Environment

- Temperature: 32-104°F (0-40°C).
- Relative humidity: less than 90% non-condensing.

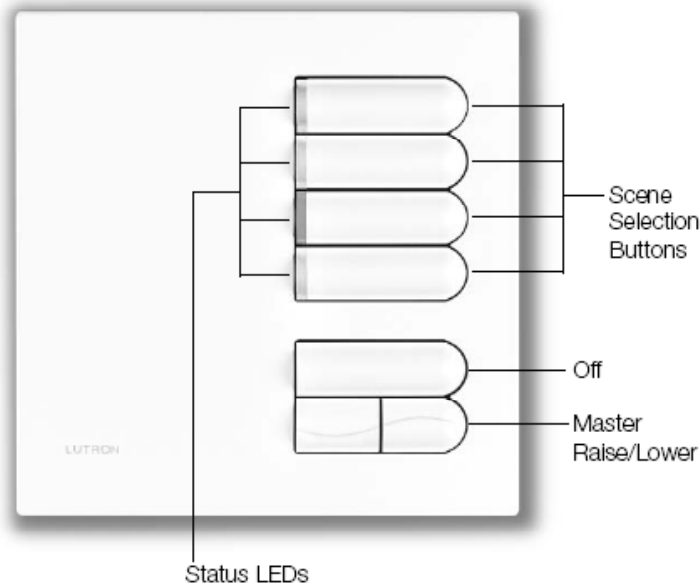
Delivery

Ships in 3-4 weeks.



Color and Finish Codes

EGRX-4S-__-__
4-Scene with Off and Raise/Lower
Wallstation



Description

- Used to select and adjust scenes in GRAFIK Eye Control Units.
- Scene selection functionality can be selected in the field.
- Status LEDs indicate which scene is selected.
- Off button turns all lights off.
- Master raise/lower button brightens or dims all lighting in the selected scene.
- Works with GRAFIK Eye 3000 and 4000 Series Control Units.
- Selects scenes in just one Control Unit or a group of up to eight Control Units.
- Mounts in UK/German wallbox. In the U.S., Lutron supplies a UK wallbox (P/N 241-683) with the Wallstation.

Finish and Engraving Options

Available with engraving to meet specific project needs.

Field Selected Functionality

DIP Switch Settings	Scene selection buttons activate:
5 6	Scenes 1 to 4
	Scenes 5 to 8
	Scenes 9 to 12
	Scenes 13 to 16

DIP Switches 7-10 are set at the factory. Do not change these switches.



Cut Sheets: Miscellaneous Equipment



Email Cut Sheet

Page 1 of 1

A.I.A. Industries, Inc.

290 E. 56th Ave. Denver, CO 80216

Skylight Cut Sheet

Phone 303.296.9696
 1.800.748.2036
 Fax 303.296.2146

Page _____ of _____
 Date _____

Customer Name:

Jonathan Walker _____

Address: _____

Phone: _____ Fax Number: _____

Email: _____

Skylight Type: Dome Pyramid _____ Flat Glass _____

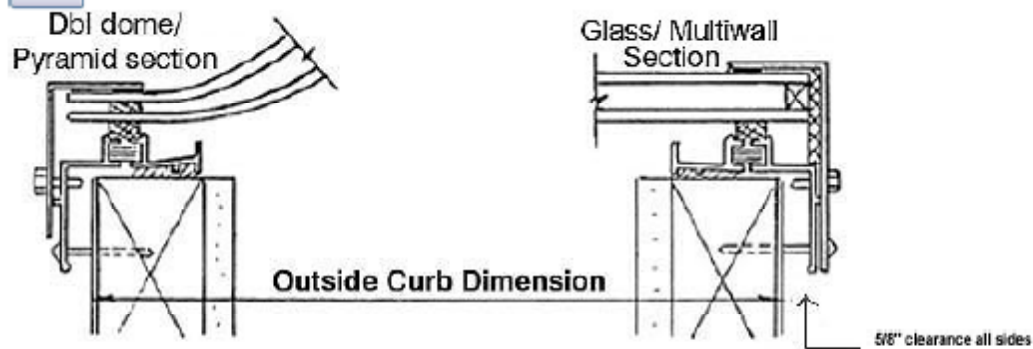
Other _____

Frame: Standard Thermal Break _____ Mill Finish _____ Bronze Finish _____

Other _____

Quantity	Unit Size	Outside Curb Dimension	Glazing Color	Glazing Material
23	46 1/2" x 46 1/2"	49 1/2" x 49 1/2"	Clear	Acrylic

[send](#)



Approved By: _____ Date: _____

SPECIFICATION: A.I.A. skylights shall be factory assembled as manufactured by A.I.A. Industries. Unit shall consist of an inner frame (.070) and outer frame (.080) thick extruded aluminum alloy 6063-T5. Unit shall be gasketed underneath and between domes. Provision shall be made for adequate weepage to exterior. Domes shall consist of one piece formed acrylic plastic. Units constructed to withstand 40 P.S.F. downward, 16 P.S.F. outward loading. Unit shall be constructed to minimize air infiltration. THERMAL BREAK UNITS SHALL HAVE POLYURETHANE THERMAL BREAK TO REDUCE THERMAL TRANSFER THROUGH THE ALUMINUM FRAME AND TO PREVENT CONDENSATION ON THE INTERIOR FRAME SECTIONS. (Glass units shall be constructed of sealed insulating glass panel with tempered outer lite and tempered or laminated inner lite.)



Sivoia QED®

Skylight Shade (4.75 inch frame)

Tension Shade

QB5-111 1 02.04.09

**Sivoia QED | Skylight Shade
 (4.75 inch frame)**

The Sivoia Quiet Electronic Drive (QED) skylight shades utilize the ultra-quiet, precision controlled Electronic Drive Unit (EDU). The Sivoia QED EDU is housed inside the roller tube and aluminum frame, controlling the movement of the shade, and adjusting it to the user's desired positions.

Aesthetics

- Light-blocking fascia eliminates light gaps around fabric when closed
- Concealed cable guides maximize view through skylight when open
- Wide variety of high performance fabrics to enhance décor

Design

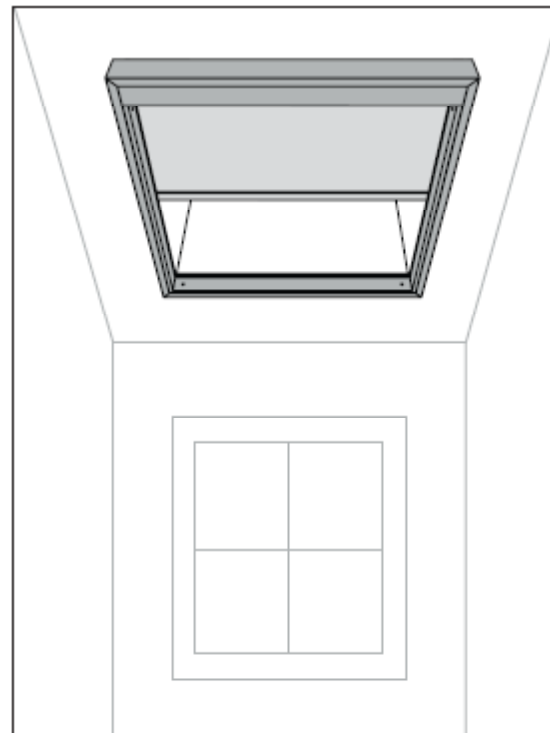
- Unique tension-absorbing frame eliminates stress on the surrounding ceiling structure
- Reliable performance under extreme temperatures is ensured by weld - and seam - free design
- The EDU requires only low-voltage wiring

Operation

- Smooth, ultra-quiet operation
- Shades start, move and stop with precision
- Offers programmable stop points. The EDU tracks the position of the shade and is able to adjust it to predetermined locations at the touch of a button.

Control

- Easy-to-read and easy-to-use controls
- Smooth, quiet, precise movement of skylight shades creates elegant transitions
- One-touch control of hard-to-reach skylight shades through keypad or IR remote
- Seamless integration with other Lutron Sivoia products, lighting controls and other A/V equipment
- Does not require group controllers or relay systems to create shade groups and sub-groups



Sivoia QED skylight shade

Installation

- Flexible 0° to 45° installation.
- Inside, recessed, and outside mounting options allow system to fit any application
- Can be shipped pre-assembled or as components to maximize on-site installation convenience and time savings (Refer to SCT for your application).

Other

- Power failure memory for the lifetime of the product
- 8 year limited warranty

Job Name:	Model Numbers:
Job Number:	



Sivoia QED[®]	Skylight Shade (4.75 inch frame)	Tension Shade
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Q85-111 2 02.04.09

Specifications

Audible noise

- Skylight shade components designed for ultra-quiet operation (will not exceed 44 dBA measured 3 ft (1 m) from the EDU)

Power

- Requires 24 V~
- One transformer output required per EDU
- Power must be provided by a Lutron approved NEC Class 2 power source
- One EDU can power one accessory control (keypads and accessories)

System components

- System allows for a total of 96 devices including any type of *Sivoia QED* EDU, keypad, Contact Closure Input (CCI) or other interfaces
- If the number of keypads and interfaces in an installation exceeds the number of EDU's, external keypad power supplies are required

System capacity

- Typical maximum shade size is 70 sq ft (6.5 sq m)
- Maximum shade size is determined from shade width, length, fabric type, fabric weight, angle of installation, etc. (refer to Lutron Shade Configuration Tool (SCT) for your application)

System performance

- Each EDU stores programmable presets including open, closed and any other position
- Presets can be recalled from keypads, CCIs, IR receivers, and other lighting control system interfaces
- Presets can be set with a 5 second button push and hold from the keypads, CCIs, or handheld remote controls
- Keypad adjustment of presets can be disabled with the "lock out" function on the keypad

- Open and close limits are programmable from the EDU, wall-mounted keypads, and hand-held remote controls
- All system components are Electro Static Discharge (ESD) protected

Grouping

- Keypads and CCIs can control any EDU or group of EDU's without a separate group controller
- System groups and subgroups can be configured at the point of control without rewiring and without access to the EDU
- System may contain multiple EDU types
- Keypads and interfaces within this system are able to operate any group or subgroup of EDU's

Integration

- EDU's integrate with many Lutron lighting controls including GRAFIK Eye[®], HomeWorks[®], RadioRA[®], and RadioTouch[®]
- Contact closure interface available to integrate with A/V equipment such as time clocks, security systems, and touch screens

System controls

- Keypads and CCIs are low-voltage and receive their power from the EDU's
- All system devices must be connected through a common communication link
- IR controls available. IR receivers can be wired directly to EDU. There are also *Sivoia QED* keypads and CCIs with built-in IR receivers

Fabrics

- Fiberglass based fabrics available for sheer, dim-out, and blackout

Job Name:	Model Numbers:
Job Number:	



Sivoia QED[®]

Skylight Shade (4.75 inch frame)

Tension Shade

085-111 3 02.04.09

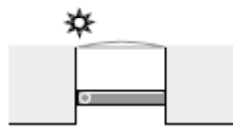
Shade options

Mounting options

The frame can be mounted inside of, recessed into, or outside of the skylight opening.

Cross-section

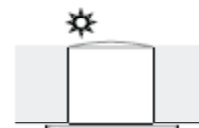
Inside Mount (standard)



Recessed Inside Mount (new construction)

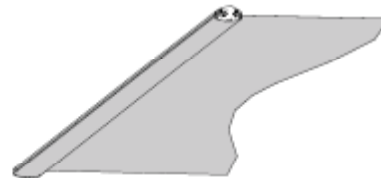


Outside mount (ceiling) (Ideal for retrofit)



Hem bar

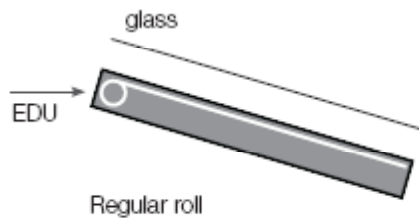
Half-wrap Hem bar



Looking up

Fabric roll orientation

Fabric unwinds from roller at the top and closest to the glass. Skylight shade is not available in reverse roll or with roller at the bottom.



Drive side options

EDU can be located on the left or right side of the shade.

Left drive side



Right drive side



Looking up

Fabric options

Sivoia QED skylight shades are available in a wide variety of fabric types.

Sheer – UV protection, translucent

Dim-out – UV protection, minimal translucence

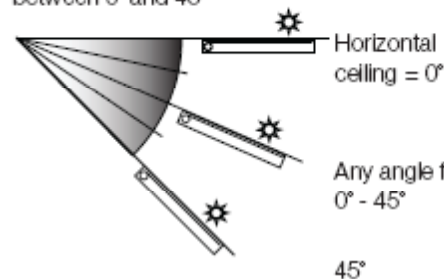
Blackout – Maximum UV protection, no view

NOTE

For complete fabric selection, please consult the SCT or customer service.

Angles of installation

Frame can be installed at any angle between 0° and 45°



Job Name:	Model Numbers:
Job Number:	



Sivoia QED[®]

Skylight Shade (4.75 inch frame)

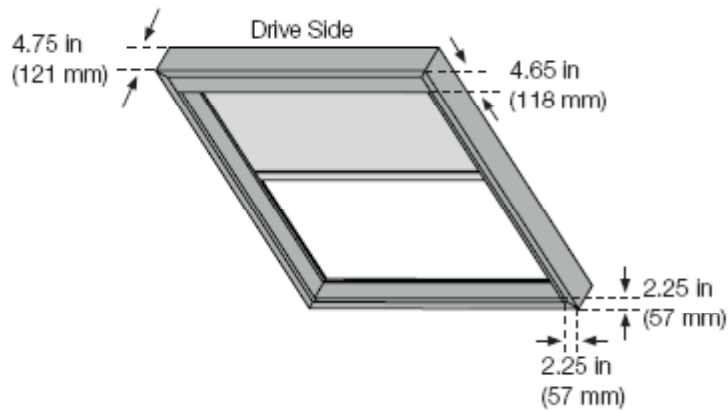
Tension Shade

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Frame Information

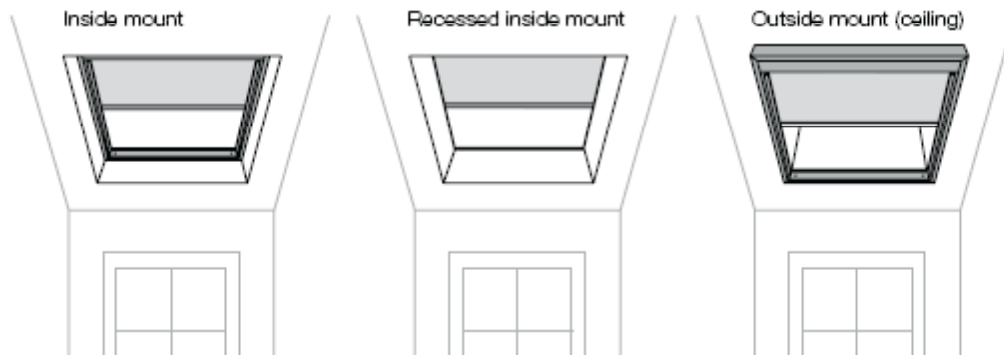
System dimensions

System is concealed within its frame. Frame thickness and depth are standard regardless of system size.



Application diagrams

Room view



Shipping options

System ships pre-assembled or as components.
 (Refer to Lutron Shade Configuration Tool (SCT) for your application).

Job Name:	Model Numbers:
Job Number:	



Sivoia QED[®]

Skylight Shade (4.75 inch frame)

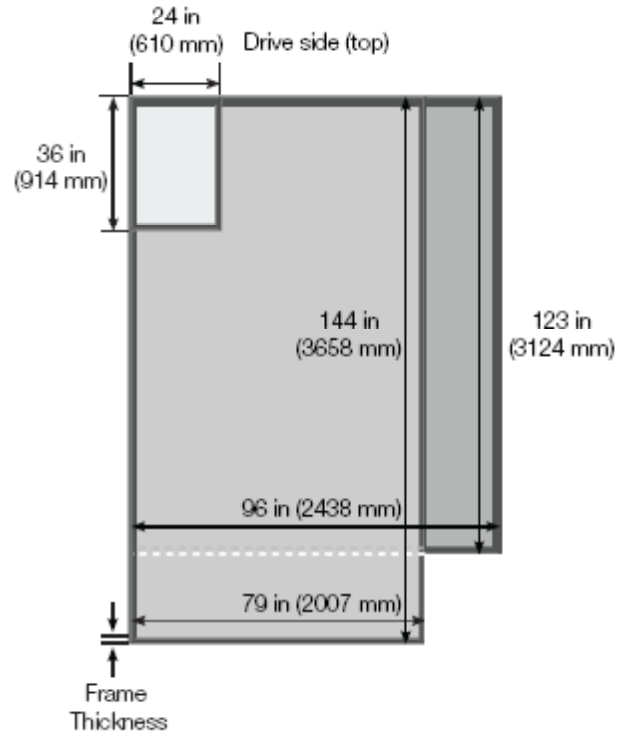
Tension Shade

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System parameters

This chart illustrates general system dimensions of Sivoia QED skylight shade system. System contains frame and shade.

- Minimum system size:
24 in w x 36 in l (610 mm w x 914 mm l)
- Longest system:
79 in w x 144 in l
(2005 mm w x 3658 mm l)
- Widest system:
96 in w x 123 in l
(2438 mm w x 3124 mm l)
- Frame thickness:
Drive end: 4.65 in (118 mm)
Non-drive end and sides: 2.25 in (57 mm)



NOTE

Skylight shade dimension limitations are a function of fabric selection and application angle. Please consult the SCT or customer service for details.

Job Name:	Model Numbers:
Job Number:	

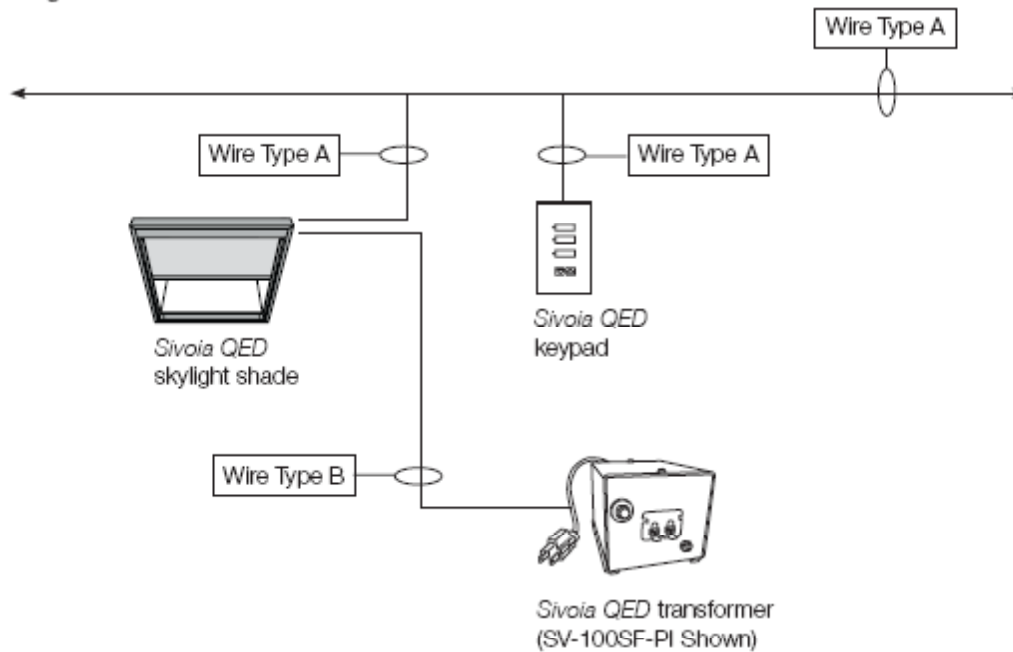


Sivoia QED[®] Skylight Shade (4.75 inch frame) Tension Shade

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System wiring

Single transformer



Wiring types	Purpose	Wire options
A	Communications and keypad power (EDUs, keypads, and accessories)	1 pair 22 AWG (0.5 mm ²) or larger twisted and shielded for communications, 2-18 AWG (1.0 mm ²) for power or use Lutron P/N GRX-CBL-346S-500
B	EDU power (transformer to EDU)	16 AWG (1.5 mm ²) - 200 ft (60.9 m) max 18 AWG (1.0 mm ²) - 125 ft (38.1 m) max 20 AWG (0.5 mm ²) - 75 ft (22.8 m) max

NOTES

- The total length of Wire Type A depends on your system configuration. For actual wire lengths, refer to the Lutron *Sivoia QED* Wiring and Programming Guide, P/N 045-038
- * If the total number of keypads and interfaces in an installation exceeds the number of EDU's, external keypad power supplies are required.

Job Name:	Model Numbers:
Job Number:	

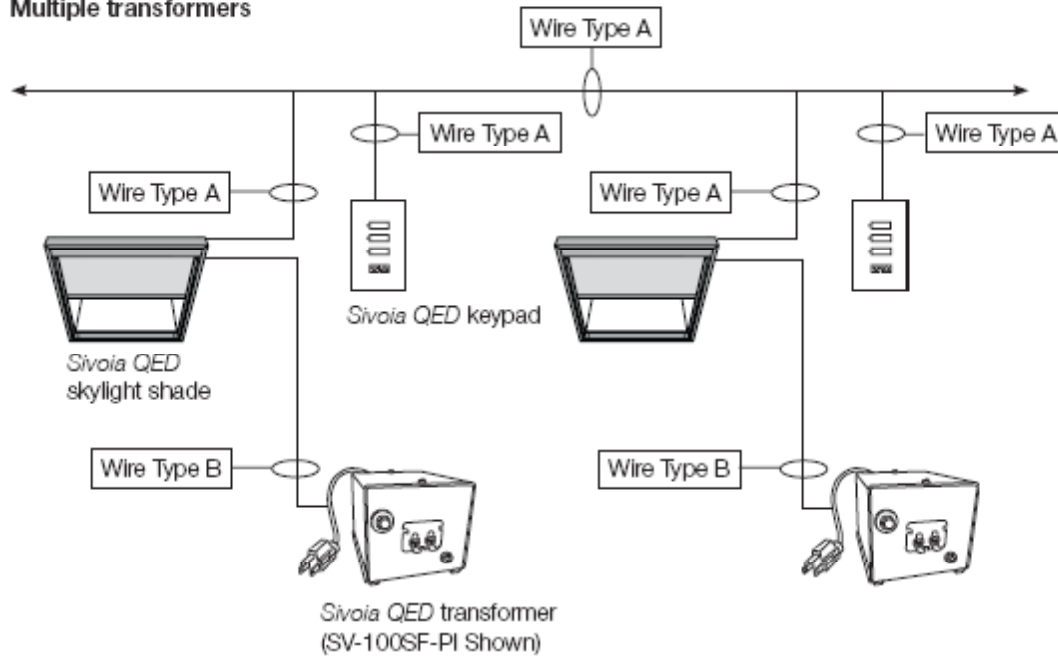


Sivoia QED[®] Skylight Shade (4.75 inch frame) Tension Shade

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System wiring

Multiple transformers



NOTE

The Sivoia QED link supports up to 96 devices (EDU's, Sivoia QED keypads and control closures) (refer to page 2)

Wiring types	Purpose	Wire options
A	Communications and keypad power (EDUs, keypads, and accessories)	1 pair 22 AWG (0.5 mm ²) or larger twisted and shielded for communications, 2-18 AWG (1.0 mm ²) for power or use Lutron P/N GRX-CBL-346S-500
B	EDU power (transformer to EDU)	16 AWG (1.5 mm ²) - 200 ft (60.9 m) max 18 AWG (1.0 mm ²) - 125 ft (38.1 m) max 20 AWG (0.5 mm ²) - 75 ft (22.8 m) max

NOTES

- The total length of Wire Type A depends on your system configuration. For actual wire lengths, refer to the Lutron Sivoia QED Wiring and Programming Guide, P/N 045-038
- * If the total number of keypads and interfaces in an installation exceeds the number of EDU's, external keypad power supplies are required.

Job Name:	Model Numbers:
Job Number:	



Sivoia QED[®]

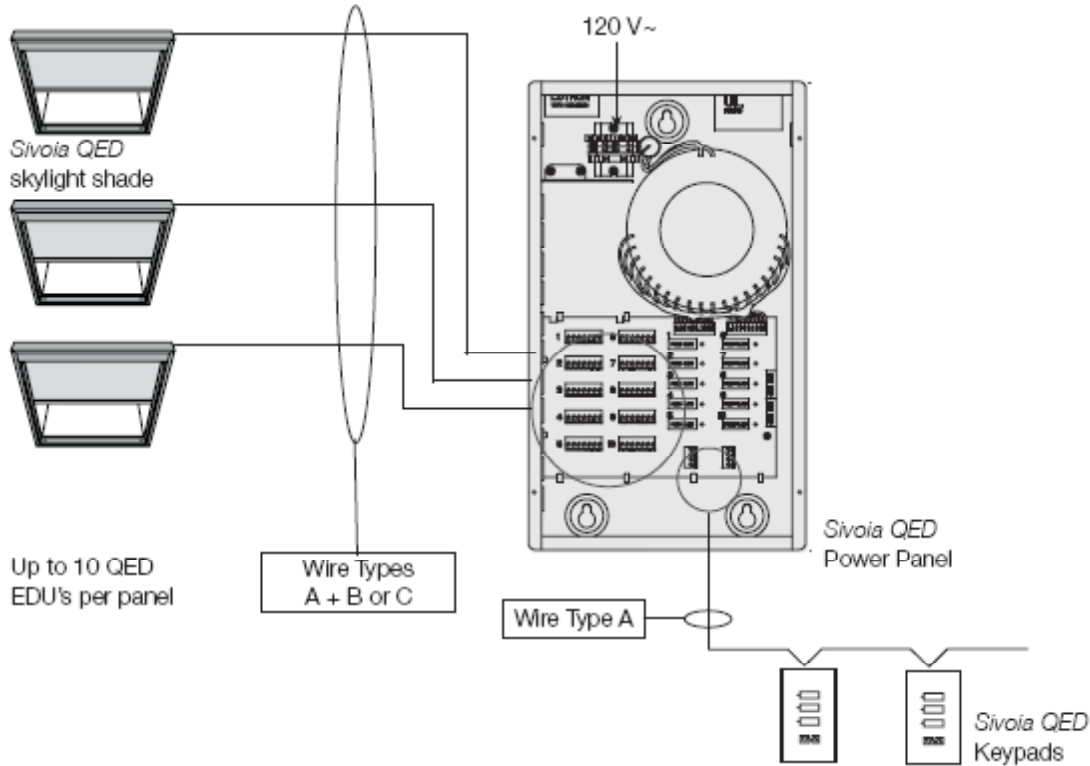
Skylight Shade (4.75 inch frame)

Tension Shade

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Power panels

Single panel or multiple panels



Wiring types	Purpose	Wire options
A	Communications and keypad power (EDUs, keypads, and accessories)	1 pair 22 AWG (0.5 mm ²) or larger twisted and shielded for communications, 2-18 AWG (1.0 mm ²) for power or use Lutron P/N GRX-CBL-346S-500
B	EDU power (transformer to EDU)	16 AWG (1.5 mm ²) - 200 ft (60.9 m) max 18 AWG (1.0 mm ²) - 125 ft (38.1 m) max 20 AWG (0.5 mm ²) - 75 ft (22.8 m) max
C	A and B combined	Combine A and B or use Lutron P/N SVQ-CBL-250 - 200 ft (60.9 m) max

NOTES

- The total length of Wire Type A depends on your system configuration. For actual wire lengths, refer to the Lutron *Sivoia QED* Wiring and Programming Guide, P/N 045-038
- * If the total number of keypads and interfaces in an installation exceeds the number of EDU's, external keypad power supplies are required.

LUTRON. SPECIFICATION SUBMITTAL

Page 8

Job Name:	Model Numbers:
Job Number:	



Sivoia QED® Skylight Shade (4.75 inch frame) Tension Shade

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Limited warranty

SCOPE

This limited warranty ("Warranty") covers the Lutron supplied (a) *Sivoia QED* skylight roller system ("*Sivoia QED* skylight roller system"), (b) manual shade system and (c) alternating current or a/c shade system (each of the foregoing being a "System"). Customer acknowledges and agrees that use of the System constitutes acceptance of all terms and conditions of this Warranty.

LIMITED WARRANTY

Subject to the exclusions and restrictions described below, Lutron warrants that each System will be free from manufacturing defects from the date of shipment by Lutron for a period of (a) one year as to the wall controls, interfaces and system accessories of the *Sivoia QED* skylight roller system ("External *Sivoia QED* skylight Components") and (b) eight years as to the other Systems and the electronic drive unit (EDU), shade fabric, and shade hardware of the *Sivoia QED* skylight roller system. If any manufacturing defect exists in the External *Sivoia QED* components, so long as Customer promptly notifies Lutron of the defect within the one year warranty period and, if requested by Lutron, returns the defective part(s), Lutron will, at its option, either repair the defective part(s) or provide comparable replacement part(s). If any manufacturing defect exists in any of the components of a System other than the External *Sivoia QED* skylight Components, so long as Customer promptly notifies Lutron of the defect within the eight year warranty period and, if requested by Lutron, returns the defective part(s), Lutron will, at its option, either repair the defective part(s) or issue a credit to the Customer against the purchase price of comparable replacement part(s) purchased from Lutron as provided below:

Number of Years from Date of Shipment	Percentage of Cost of Replacement Parts Credited by Lutron
Up to 2	100%
More than 2 but not more than 5	50%
More than 5 but not more than 8	25%
More than 8	0%

Replacement parts for the System provided by Lutron or, at its sole discretion, an approved vendor may be new, used, repaired, reconditioned, and/or made by a different manufacturer.

EXCLUSIONS AND RESTRICTIONS

This Warranty will be void, and Lutron and its suppliers will have no responsibility under this Warranty, if Lutron or its representatives cannot access any components of the System to inspect, diagnose problems with or repair the System or any of its components as a result of concealment or inaccessibility of such components within a building structure.

This Warranty does not cover, and Lutron and its suppliers are not responsible for:

1. Damage, malfunction or inoperability diagnosed by Lutron or a Lutron approved third party as caused by normal wear and tear, abuse, misuse, incorrect installation, neglect, accident, interference or environmental factors, such as (a) use of incorrect line voltages fuses or circuit breakers; (b) failure to install, maintain and operate the System pursuant to the operating instructions provided by Lutron and

Job Name:	Model Numbers:
Job Number:	



Sivoia QED®

Skylight Shade (4.75 inch frame)

Tension Shade

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Limited warranty (continued)

the applicable provisions of the National Electrical Code and of the Safety Standards of Underwriter's Laboratories; (c) use of incompatible devices or accessories; (d) improper or insufficient ventilation; (e) unauthorized repairs or adjustments or alterations; (f) vandalism; (g) an act of God, such as fire, lightning, flooding, tornado, earthquake, hurricane or other problems beyond Lutron's control; or (h) direct exposure to corrosive materials.

2. On-site labor costs to diagnose issues with, and remove, repair, replace, adjust, reinstall and/or reprogram the System or any of its components.

3. Components and equipment external to the System, such as, non-Lutron lighting and automation systems; building wiring audio-visual equipment; and non-Lutron time clocks, photo sensors and motion detectors.

4. The cost of repairing or replacing other property that is damaged when any System does not work properly, even if the damage was caused by the System.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO EIGHT YEARS FROM THE DATE OF SHIPMENT, EXCEPT THAT SUCH IMPLIED WARRANTIES ARE LIMITED TO ONE YEAR FROM THE DATE OF SHIPMENT AS TO THE EXTERNAL SIVOIA COMPONENTS.

NO LUTRON AGENT, EMPLOYEE OR REPRESENTATIVE HAS ANY AUTHORITY TO BIND LUTRON TO ANY AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE SYSTEMS. UNLESS AN AFFIRMATION, REPRESENTATION OR WARRANTY MADE BY AN AGENT, EMPLOYEE OR REPRESENTATIVE IS SPECIFICALLY INCLUDED HEREIN, OR IN STANDARD PRINTED MATERIALS PROVIDED BY LUTRON, IT DOES NOT FORM A PART OF THE BASIS OF ANY BARGAIN BETWEEN LUTRON AND CUSTOMER AND WILL NOT IN ANY WAY BE ENFORCEABLE BY CUSTOMER.

IN NO EVENT WILL LUTRON OR ANY OTHER PARTY BE LIABLE FOR EXEMPLARY, CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO DAMAGES FOR PERSONAL INJURY, FAILURE TO MEET ANY DUTY, INCLUDING OF GOOD FAITH OR REASONABLE CARE, NEGLIGENCE, OR ANY OTHER LOSS WHATSOEVER), NOR FOR ANY REPAIR WORK UNDERTAKEN WITHOUT LUTRON'S PRIOR WRITTEN CONSENT ARISING OUT OF OR IN ANY WAY RELATED TO THE INSTALLATION, DEINSTALLATION, USE OF OR INABILITY TO USE THE SYSTEM OR OTHERWISE UNDER OR IN CONNECTION WITH ANY PROVISION OF THIS WARRANTY, EVEN IN THE EVENT OF THE FAULT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, BREACH OF CONTRACT OR BREACH OF WARRANTY OF LUTRON OR ANY OTHER PARTY, AND EVEN IF LUTRON OR SUCH OTHER PARTY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Job Name:	Model Numbers:
Job Number:	



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Limited warranty (continued)

NOT WITHSTANDING ANY DAMAGES THAT CUSTOMER MIGHT INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DIRECT DAMAGES AND ALL DAMAGES LISTED ABOVE), THE ENTIRE LIABILITY OF LUTRON AND OF ALL OTHER PARTIES UNDER THIS WARRANTY ON ANY CLAIM FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE MANUFACTURE, SALE, INSTALLATION, DELIVERY, USE, REPAIR, OR REPLACEMENT OF THE SYSTEM, AND CUSTOMER'S SOLE REMEDY FOR THE FOREGOING, WILL BE LIMITED TO THE AMOUNT PAID BY CUSTOMER FOR THE SYSTEM. THE FOREGOING LIMITATIONS, EXCLUSIONS AND DISCLAIMERS WILL APPLY TO THE MAXIMUM EXTENT ALLOWED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

WARRANTY CLAIMS, TECHNICAL ASSISTANCE AND WARRANTY INFORMATION.

Contact the Lutron Technical Support Center at the numbers provided on the following page or your local Lutron sales representative with questions concerning the installation or operation of the System or this Warranty, or to make a warranty claim. Please provide the exact model number when calling.

The product may be covered under one or more of the following U.S. patents: 6,935,403; 6,983,783, and 6,994,145 corresponding foreign patents. U.S. and foreign patents pending.

Lutron, the Sunburst logo, Sivoia, *Sivoia QED*, GRAFIK Eye, HomeWorks, RadioTouch and RadioRA are registered trademarks, and Quantum is a trademark of Lutron Electronics Co., Inc.

NEC is a registered trademark of the National Electrical Code.

Job Name:	Model Numbers:
Job Number:	



Sivoia QED^e Skylight Shade (4.75 inch frame) Tension Shade

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 Fax: +44.(0)20.7480.6999

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 08.00 - 20.00 EST
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CUSTOMER SERVICE/ E-MAIL
 shadinginfo@lutron.com

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 www.lutron.com

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 00800.5887.6635

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www.lutron.com/shadingsolutions

USA and Canada (24 hrs/7 days):
 call: 800.523.9466

Other countries (8 a.m. – 8 p.m. ET)
 call: +1 610.282.3800
 fax: +1 610.282.3090

email: shadinginfo@lutron.com

Shades Customer Service

USA and Canada (24 hrs/7 days):
 call: 800.446.1503

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 P/N 085- 111 REV A

Specification Submittal Sheet
 for Sivoia QED skylight shade

Job Name:	Model Numbers:
Job Number:	



GLOBAL TRACK SINGLE CIRCUIT 120V

GES
 1 CIR 120V

APPLICATION:

Power supply for Amerlux track lighting fixtures

LABELING:

UL and CUL listed

CONSTRUCTION:

Architectural grade, extruded aluminum housing
 Milled grounding bar provides continuous ground contact
 Continuously crimped conductor ensures mechanical strength and electrical reliability
 Black, white or natural aluminum

MOUNTING:

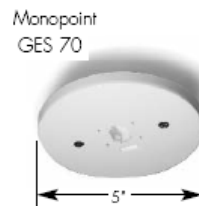
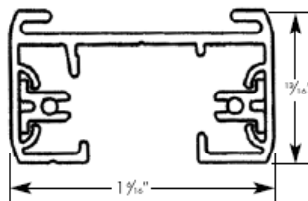
Surface mount only, max. 4' O.C. suspension points



PROJECT:

 TYPE:

GES Track Components



Accessories not shown:
 GES67 - floating canopy feed
 TR-0801 - T-bar ceiling clip



ELECTRICAL

Single circuit, 120v track
 20 amp max.

Amerlux reserves the right to change details that do not affect overall function and performance.

ORDERING INFORMATION:

TRACK Model	Finish	COMPONENTS* Model	Finish
GES204 (44")	1 - natural aluminum	GES11 - live end	1 - silver
GES208 (92")	2 - black	GES13 - conduit end	2 - black
GES212 (140")	3 - white	GES14 - center feed	3 - white
		GES15 - outlet box cover	
		GES17 - T-bar feed kit	
		GES21 - straight connector	
		GES23 - flex connector	
		GES34 - L connector, adjustable universal polarity	
		GES38 - X connector	
		GES40 - T connector, adjustable universal polarity	
		GES41 - dead end	
		GES67 - floating canopy feed	
		GES70 - monopoint	
		TR-0801 - T-bar ceiling clip	

*Components ordered separately

Track Example: GES204-2
 Component Example: GES11-2
 Cat #:

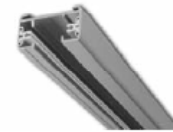


GLOBAL TRACK SINGLE CIRCUIT 120V

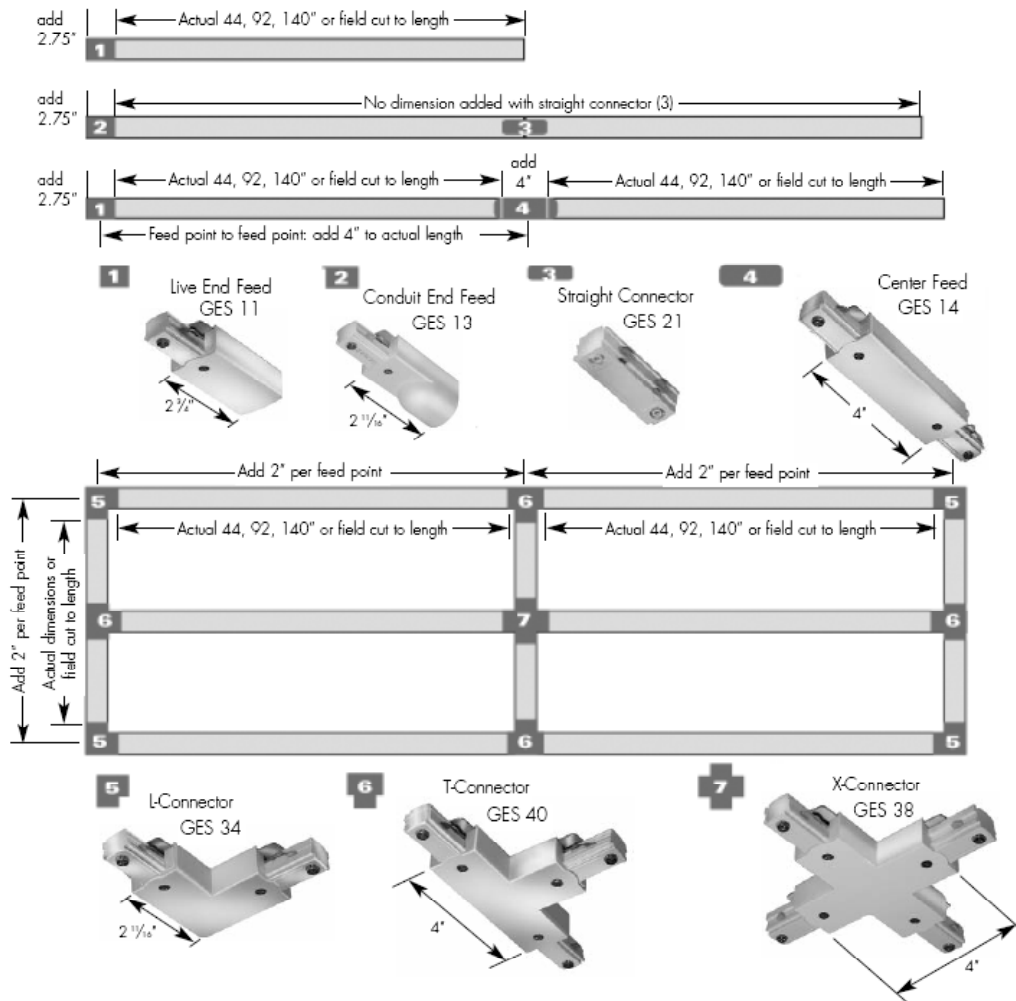
GES
 1 CIR 120V



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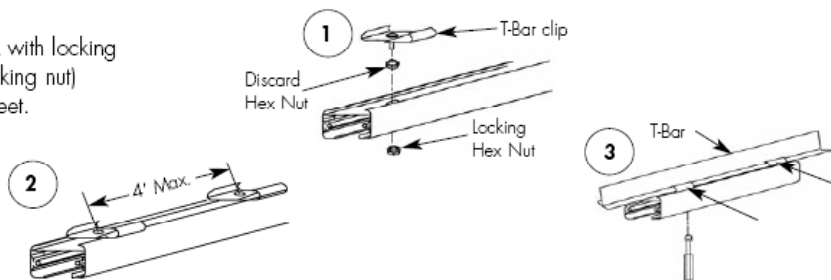


GES TRACK CONFIGURATION AND COMPONENTS



T-GRID SUSPENSION

1. Assemble T-Bar clip to track with locking nut. (Do not fully tighten locking nut)
2. Locate T-Bar clips every 4 feet.
3. Rotate T-Bar clips to T-Bar. Fully tighten locking nuts.





PHILIPS

DATA ENABLER



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

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

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

FEATURES

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



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

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

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

BRO133 Rev 03

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent version.

DATA ENABLER SPECIFICATIONS

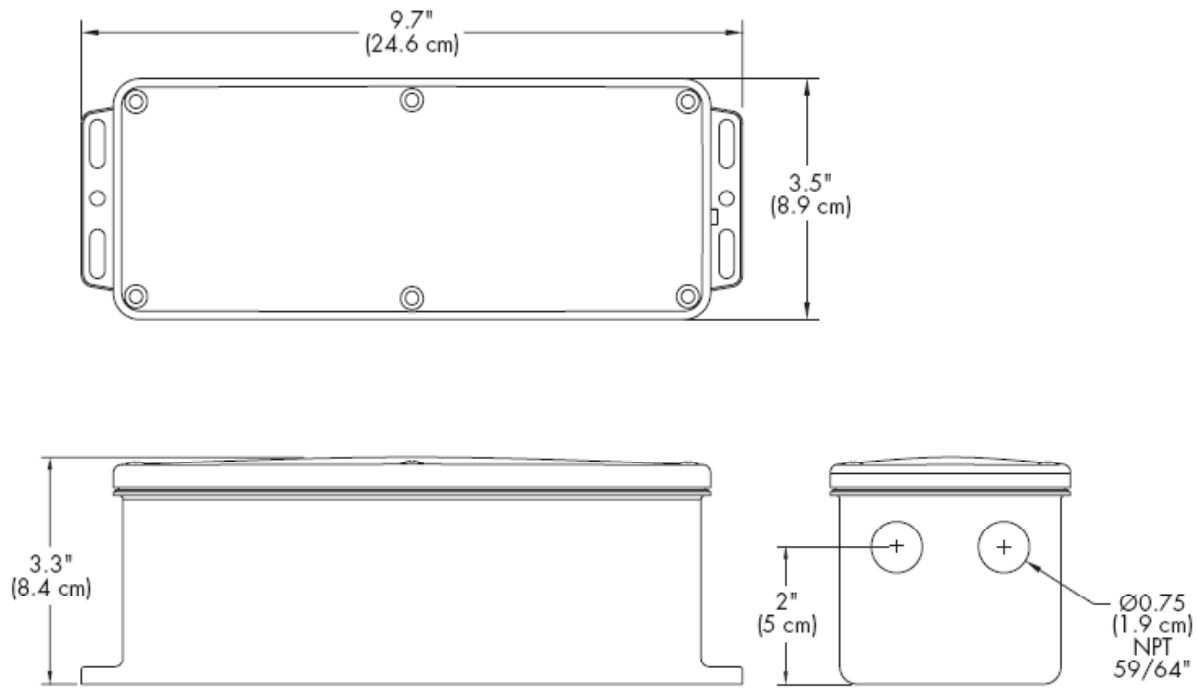
POWER INPUT/OUTPUT	100-240VAC, 50-60 Hz Max. connected load should not exceed 20 Amps
INTERNAL LOAD	10 Watts
HEAT DISSIPATION	10 Watts Max.
AMBIENT OPERATING TEMP	-4°F to 122°F (-20°C to 50°C)
HOUSING	NEMA 4 enclosure, suitable for wet locations: 9.7" (24.6 cm) X 3.5" (8.9 cm) X 3.2" (8.1 cm)
CONNECTORS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



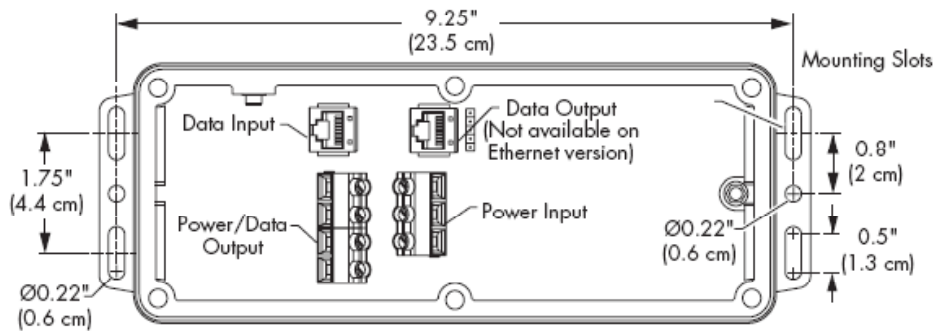
DATA ENABLER

PHYSICAL DIMENSIONS

OVERALL DIMENSIONS



MOUNTING DIMENSIONS

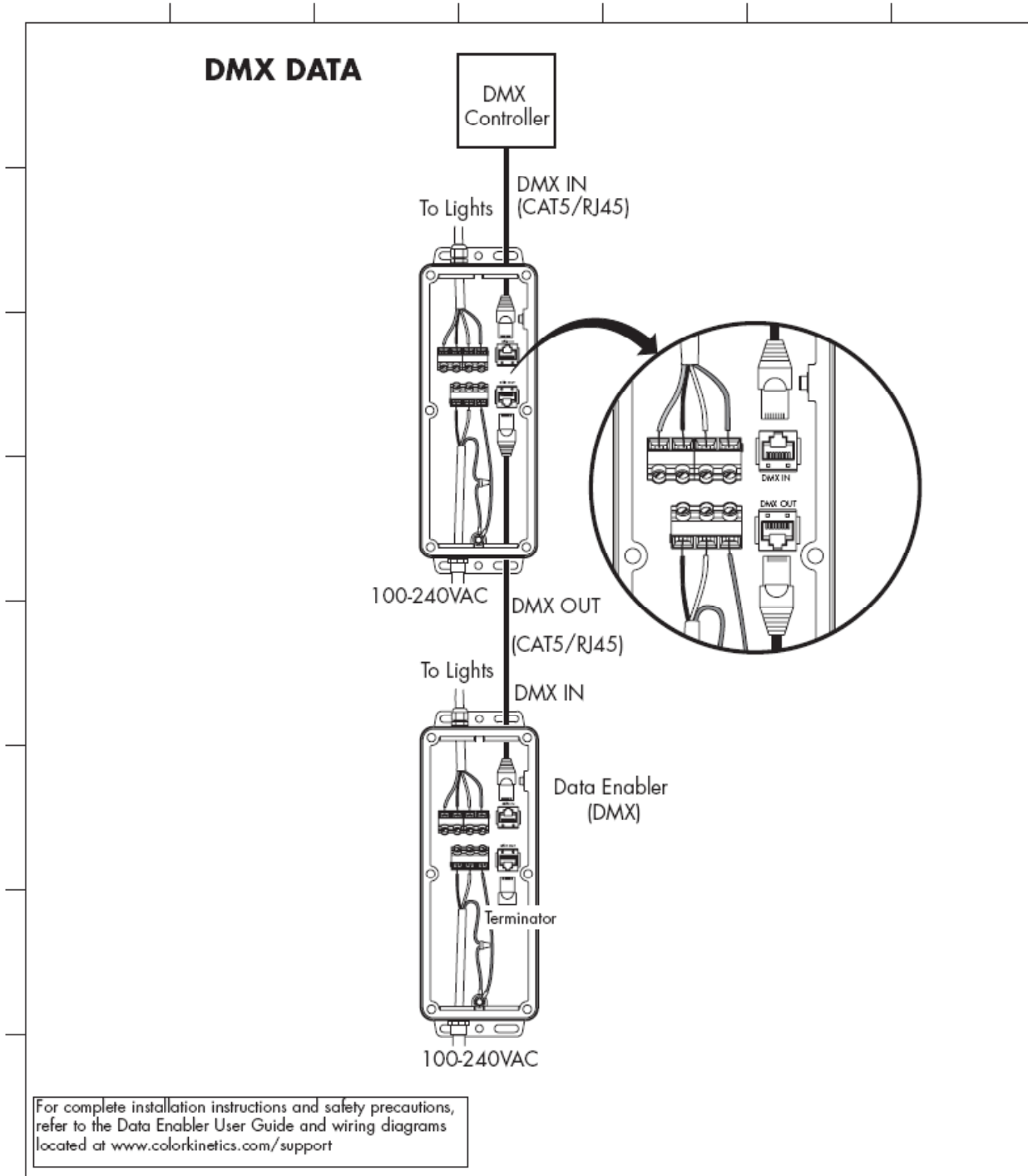


DATA ENABLER	
ITEM # 106-000003-04/05	
DATA CONNECTOR	Input and output: RJ45
OUTPUT CONNECTOR	4-pin terminal block
SUPPLY CONNECTOR	3-pin terminal block
WEIGHT	Approx. 2.5 lbs. (2 kg)



DATA ENABLER

FUNCTIONAL FLOW DIAGRAM





DATA ENABLER

FUNCTIONAL FLOW DIAGRAM

