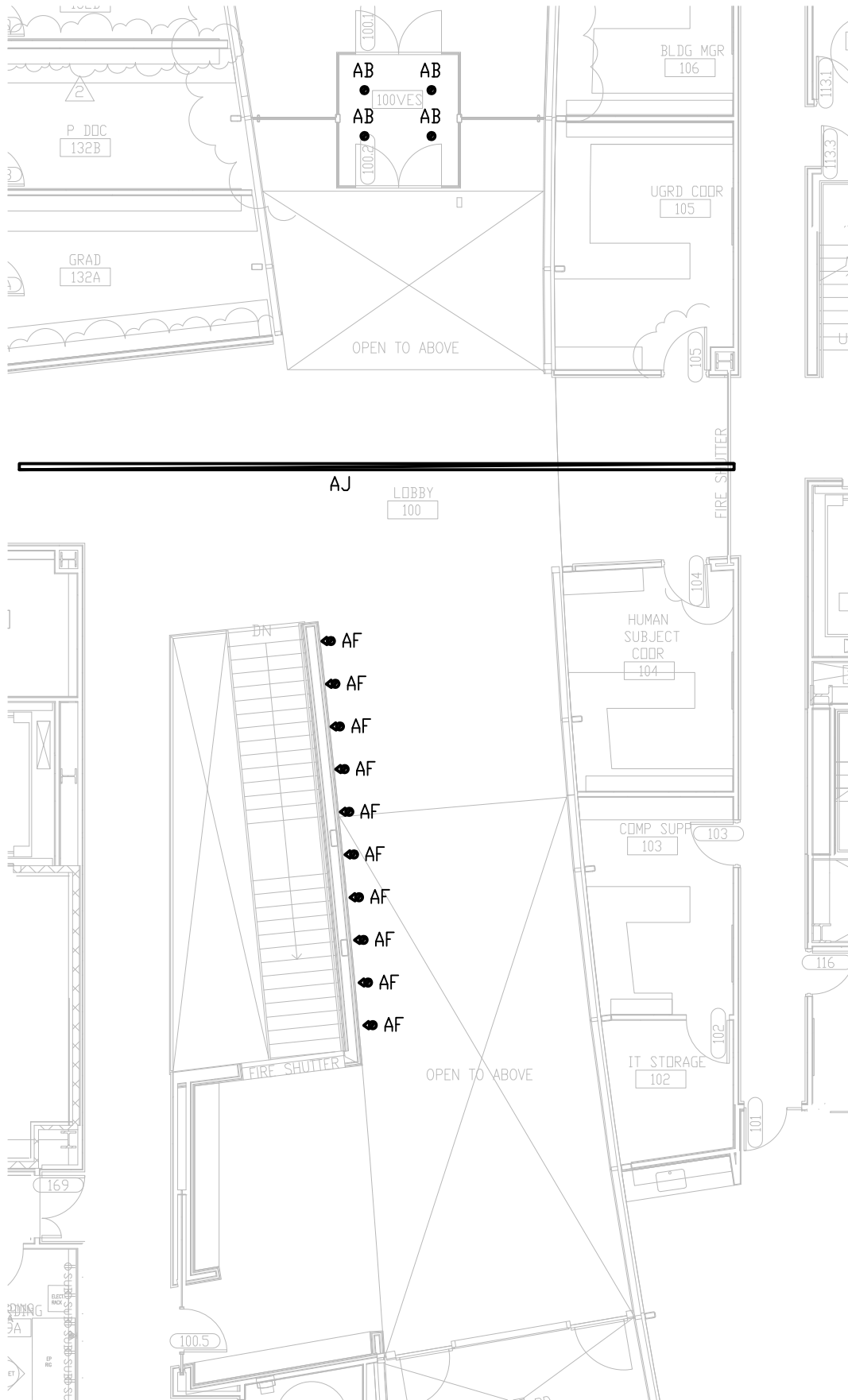


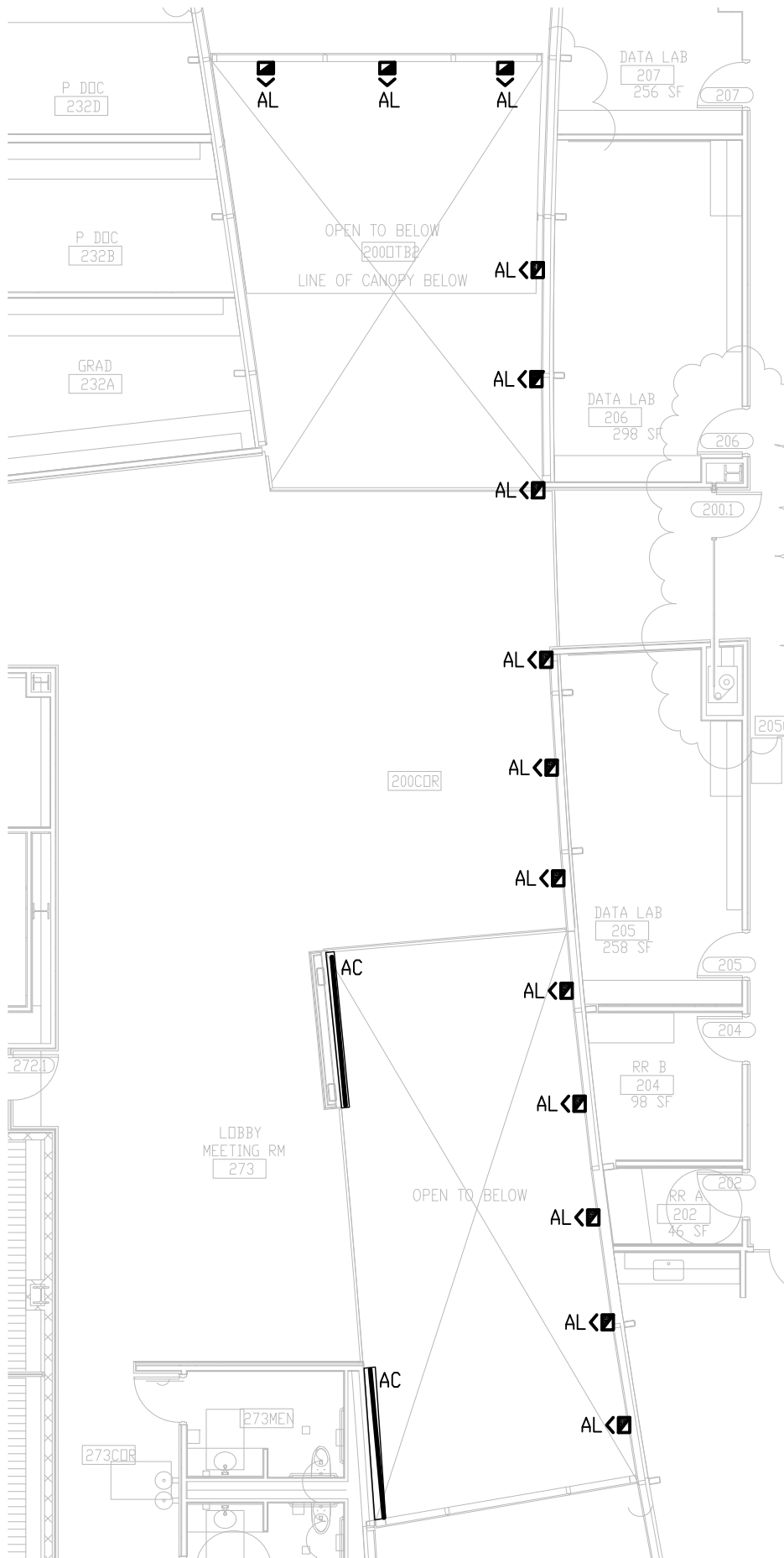
LIGHTING PLAN

SCALE: 3/32" = 1'-0"



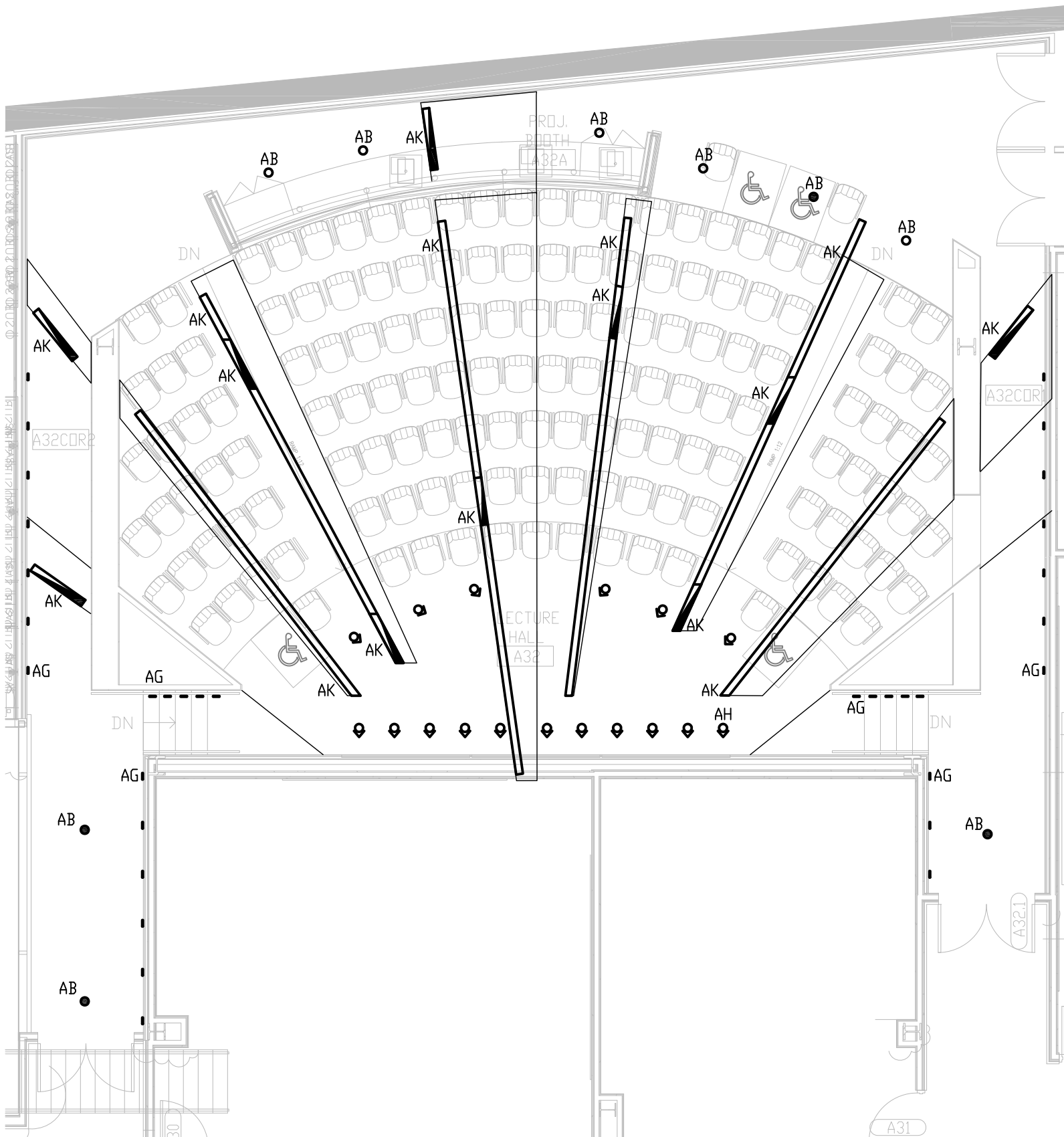
LIGHTING PLAN

SCALE: 3/32" = 1'-0"



LIGHTING PLAN

SCALE: 3/32" = 1'-0"



LIGHTING PLAN

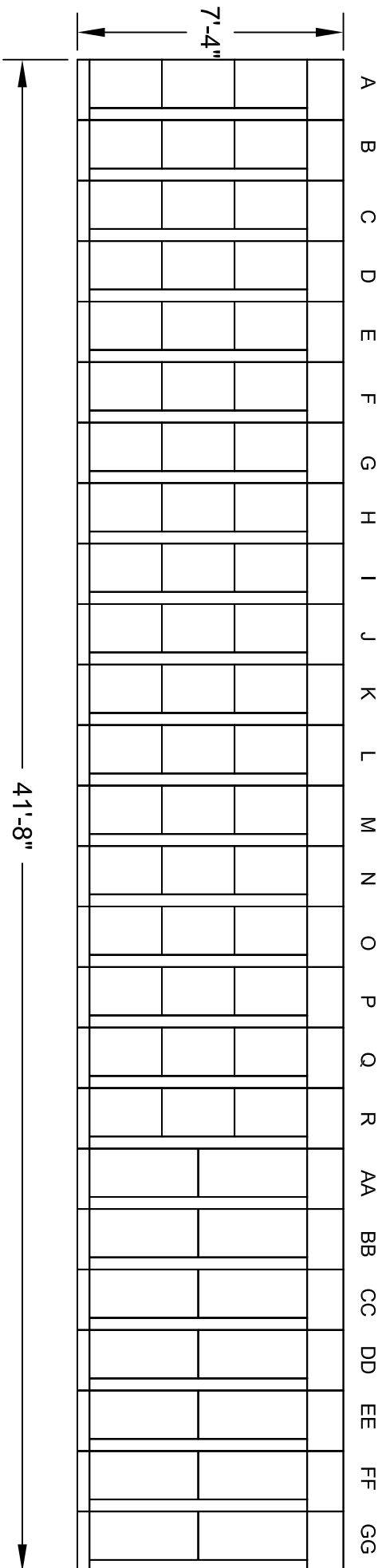
APPENDIX L

SCALE: 1/8" = 1'-0"

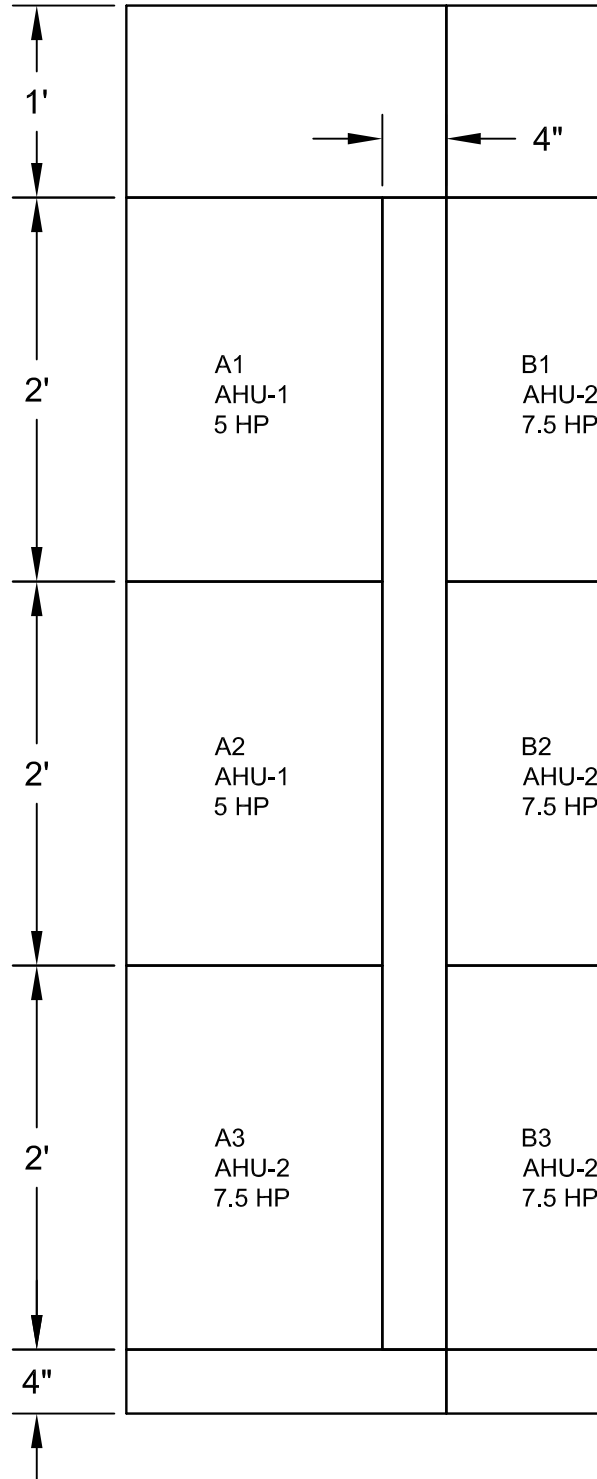


LIGHTING PLAN

SCALE: $\frac{1}{8}" = 1'-0"$

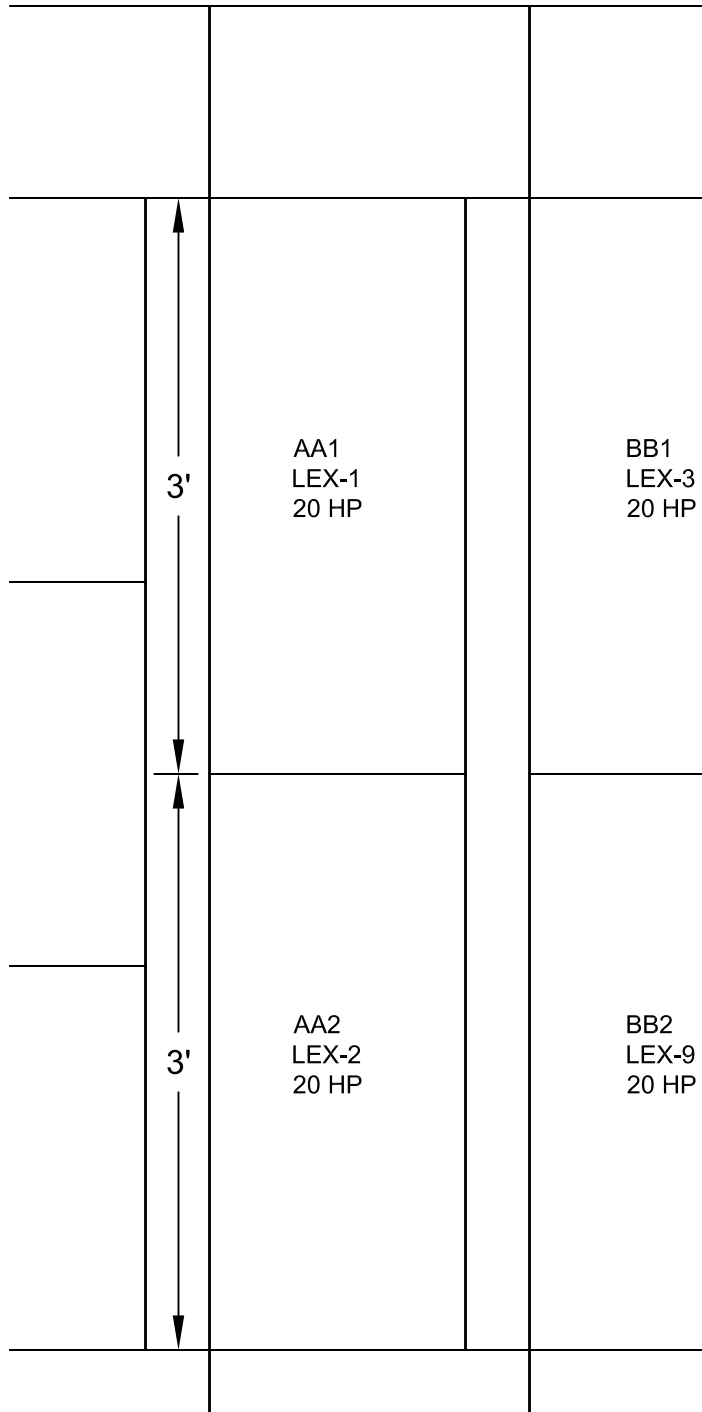


MCC ELEVATION
SCALE: NTS



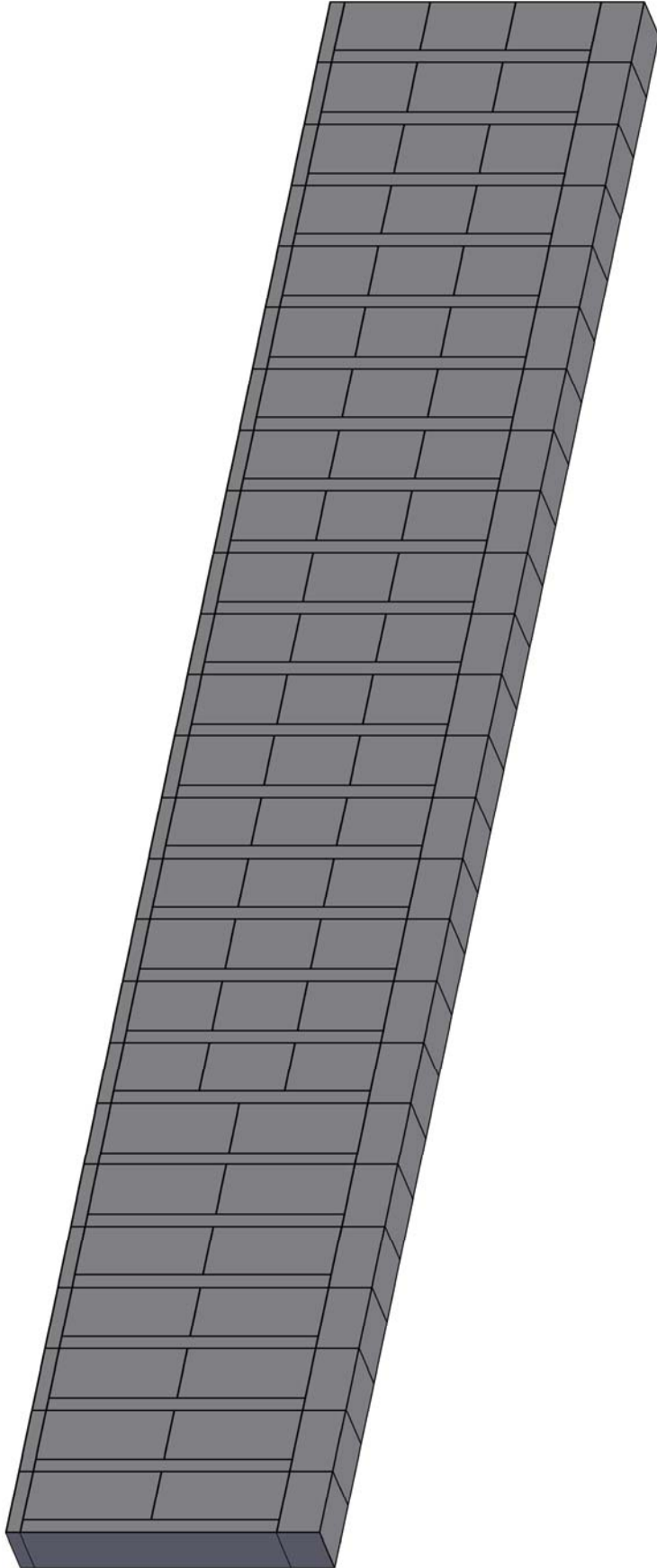
MCC ELEVATION DETAIL

SCALE : 1"=1'



MCC ELEVATION DETAIL

SCALE : 1"=1'



MCC 3D VIEW

SCALE : NTS



Description

NIPPO Seamlessline

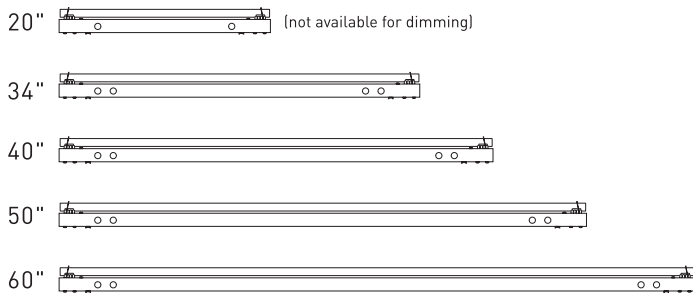
T6 fluorescent series consist of a lamp & linear housing 2 1/2" in height x less than 2" wide designed to fit in tight spaces. The unique side lamp socket design allows for lamps to be mounted end to end for smooth and continuous illumination. In continuous run applications lamps are as close as 1/16" and never more than 1/2" apart end to end with illumination at lamp ends. Individual fixture lengths include nominal 20", 34", 40", 50" and 60". All fixture lengths can be coupled together to form a UL listed continuous thru wire system. Lumen output is maintained regardless of lamp length allowing for mixing of lengths in continuous runs. A variety of lamp color temperatures ranging from 2500K to 6700K all maintain 88CRI. The average rated life for **Seamlessline** lamps is 20,000 hours.

1 Fixture

LENGTH

500 =	503mm (19 13/16")
850 =	853mm (33 9/16")
1000 =	1003mm (39 1/2")
1250 =	1253mm (49 5/16")
1500 =	1503mm (59 3/16")

nominal length



2 Lamp

LENGTH

500 =	495mm (19 1/2")
850 =	845mm (33 1/4")
1000 =	995mm (39 3/16")
1250 =	1245mm (49")
1500 =	1495mm (58 7/8")

Performance

Seamlessline offers a total luminaire efficiency of 94% along with superior light output and color consistency within each lamp color. Dimming versions allow for continuous smooth dimming down to 10%. Lumen output exceeds 800 lms/ft. 85 lumens / watt average.

Construction

Extruded aluminum fixture housing includes a snap-fit cover, spring clip lamp sockets, and lamp retaining wires for maximum protection.

Mounting Options

Seamlessline is surface mountable with pre-punched back mounting holes for easy installation.

Electrical

All fixtures are pre-wired with factory installed quick-connectors for power feed connection, thru wiring, and low voltage connection (for dimming signal). Electronic ballasts are thermally protected and have a Class "P" rating. Fixtures can be power fed either thru back knock-outs, side knock-outs, or end fed with the Seamlessline SF power feed box. All fixtures can be continuous row mounted and thru wired utilizing the Seamlessline SCI "I" couplings. **Seamlessline** is UL Listed for indoor use.

Power Consumption

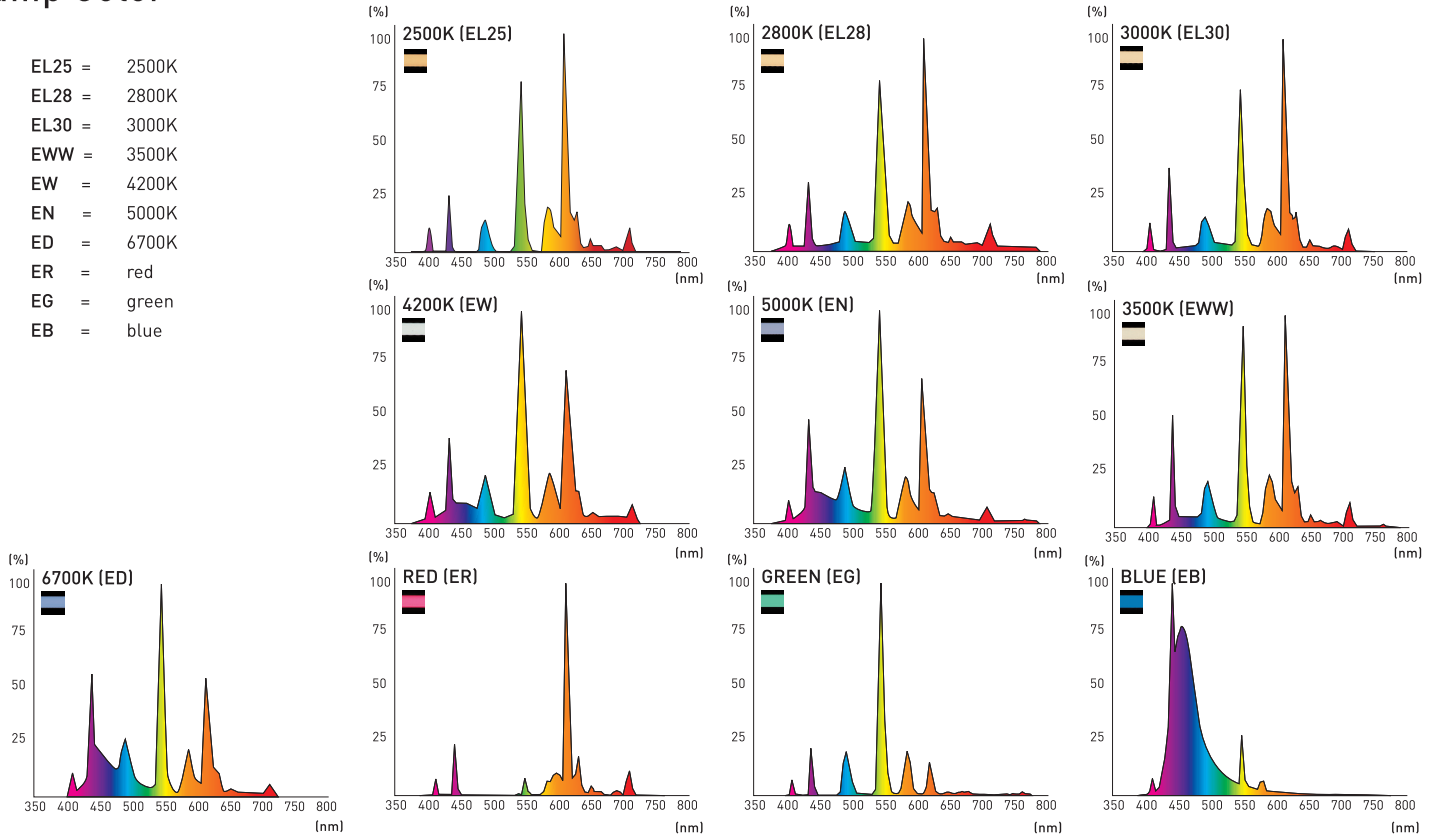
All fixture and lamp combinations consume from 9 -10 w/ft.

Finish

The standard fixture housing is an anodized aluminum finish.

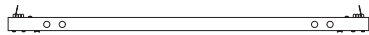
Lamp Color

EL25 =	2500K
EL28 =	2800K
EL30 =	3000K
EW =	3500K
EW =	4200K
EN =	5000K
ED =	6700K
ER =	red
EG =	green
EB =	blue



ORDERING FORMAT

1 Fixture



SAL - UW -

Seamlessline
Architectural
Lighting

U.S. Wire

LENGTH

★ 500 =	503mm (19 13/16")
850 =	853mm (33 9/16")
1000 =	1003mm (39 1/2")
1250 =	1253mm (49 5/16")
1500 =	1503mm (59 3/16")

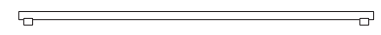
VOLTAGE

A =	120 V
C =	277 V

DIMMING

M = dimming
blank = non dimming
★ Note : 500 not dimmable

2 Lamp



FRT

Fluorescent Lamp
Rapid start
T - tube

LENGTH

500 =	495mm (19 1/2")
850 =	845mm (33 1/4")
1000 =	995mm (39 3/16")
1250 =	1245mm (49")
1500 =	1495mm (58 7/8")

COLOR

EL25 =	2500K	EB =	blue
EL28 =	2800K	EG =	green
EL30 =	3000K	ER =	red
EWW =	3500K		
EW =	4200K		
EN =	5000K		
ED =	6700K		

3 Accessories (Specify separately)

(Requirements will vary according to run lengths or when using individual units)

UFDA-035AP = 120volts, 90mA for dimming signal

UFDC-035AP = 277volts, 40mA for dimming signal

SF = Power Feed Box (for end power feed)

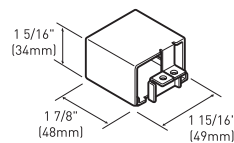
SCI = I - Coupler (for connecting fixtures in runs)

SCL = L - Coupler (for 90 degree corner connection)

SCT = T - Coupler (for connecting fixtures in T shape)

SCX = X - Coupler (for connecting fixtures in cross)

POWER FEED BOX SF



I-COUPLING SCI

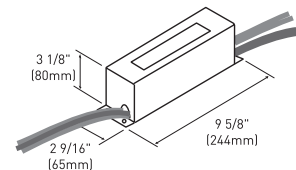


DC to PWM Converter Unit

This converter can operate up to 20 fixtures with 0-10Vdc signal from dimming control unit.

UFDA-035AP
120 volts, 90mA

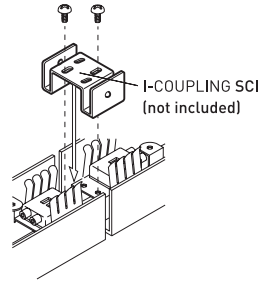
UFDC-035AP
277volts, 40mA



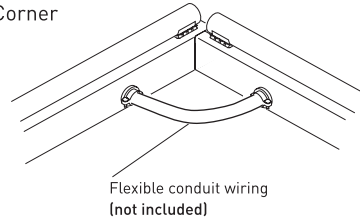
APPENDIX S

ADJOINING DETAIL

Straight

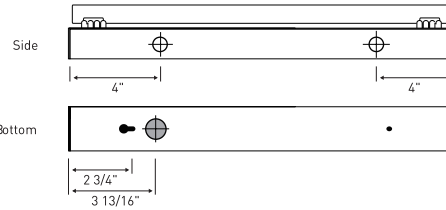


Corner



MOUNTING LOCATIONS

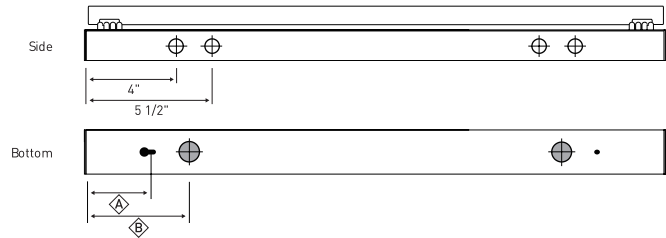
20" Fixture



- ⊕ 7/8" K.O. (accepts 1/2" fitting)
- ⊕ 5/8" K.O. (accepts 3/8" fitting)
- 3/8" x 3/16" Mounting Hole
- 3/16" Mounting Hole

34", 40", 50", 60" Fixture

	⊕	⊕
34"	3"	4 5/8"
40"	5 15/16"	7 9/16"
50"	8 7/8"	10 1/2"
60"	13 13/16"	15 7/16"

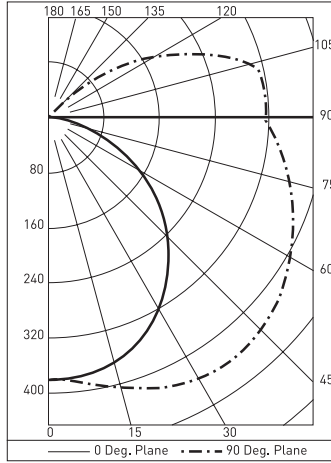


LAMP & BALLAST DATA

	voltage	catalog no.	O.A.length	Input current (A)	Input wattage (W)	Weight (lb)	Lamp wattage (W)	Lumen (lm) *
dimming	120	<input type="checkbox"/> SAL-UW850AM	33 9/16" [853mm]	0.32	35	2.3	27	2240
		<input type="checkbox"/> SAL-UW1000AM	39 1/2" [1003mm]	0.36	40	2.4	31	2630
		<input type="checkbox"/> SAL-UW1250AM	49 5/16" [1253mm]	0.40	46	2.7	38	3350
		<input type="checkbox"/> SAL-UW1500AM	59 3/16" [1503mm]	0.47	54	2.9	45	3970
dimming	277	<input type="checkbox"/> SAL-UW850CM	33 9/16" [853mm]	0.18	35	2.3	27	2240
		<input type="checkbox"/> SAL-UW1000CM	39 1/2" [1003mm]	0.20	40	2.4	31	2630
		<input type="checkbox"/> SAL-UW1250CM	49 5/16" [1253mm]	0.22	46	2.7	38	3350
		<input type="checkbox"/> SAL-UW1500CM	59 3/16" [1503mm]	0.24	54	2.9	45	3970
non dimming	120	<input type="checkbox"/> SAL-UW500A	19 3/16" [503mm]	0.19	22	2.6	17	1350
		<input type="checkbox"/> SAL-UW850A	33 9/16" [853mm]	0.26	31	3.0	27	2240
		<input type="checkbox"/> SAL-UW1000A	39 1/2" [1003mm]	0.32	38	3.2	30	2630
		<input type="checkbox"/> SAL-UW1250A	49 5/16" [1253mm]	0.38	45	3.4	39	3350
		<input type="checkbox"/> SAL-UW1500A	59 3/16" [1503mm]	0.44	52	3.7	46	3970
non dimming	277	<input type="checkbox"/> SAL-UW500C	19 3/16" [503mm]	0.08	22	2.6	17	1350
		<input type="checkbox"/> SAL-UW850C	33 9/16" [853mm]	0.12	33	3.0	27	2240
		<input type="checkbox"/> SAL-UW1000C	39 1/2" [1003mm]	0.14	38	3.2	30	2630
		<input type="checkbox"/> SAL-UW1250C	49 5/16" [1253mm]	0.17	47	3.4	39	3350
		<input type="checkbox"/> SAL-UW1500C	59 3/16" [1503mm]	0.19	52	3.7	46	3970

*4200, 3500, 3000, 2800, 2500K

PHOTOMETRY



Tested by
LUMINARE TESTING LABORATORY, INC.
Test Report #07915 Dated 02-05-2004
Fixture : SAL-UW1000A

ZONAL CAVITY COEFFICIENTS EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

CEILING	80				70				50		
	WALL RCR	70	50	30	10	70	50	30	10	50	30
0	108	108	108	108	103	103	103	103	93	93	93
1	95	89	84	80	90	85	80	76	77	73	70
2	85	76	68	62	80	72	65	60	65	60	55
3	77	66	57	51	73	63	55	49	57	50	45
4	70	58	49	42	66	55	47	40	50	43	38
5	64	50	41	35	60	48	40	33	44	37	31
6	58	45	36	29	55	43	34	28	39	32	26
7	53	40	31	25	50	38	30	24	35	28	23
8	49	36	27	22	46	34	26	21	31	24	19
9	45	32	24	18	43	31	23	18	28	21	17
10	42	29	21	16	40	28	21	16	25	19	15

CANDLE DISTRIBUTION

LUMEN SUMMARY

VERT. ANG.	HORIZONTAL ANGLE			FLUX
	0.0	45.0	90.0	
0	381	381	381	
5	380	383	383	37
15	366	390	407	110
25	338	391	429	179
35	296	384	440	236
45	243	364	435	272
55	182	335	418	285
65	118	299	391	277
75	57	260	361	253
85	13	223	329	220
90	3	209	316	
95	3	209	314	203
105	2	178	302	172
115	2	110	219	106
125	2	44	132	50
135	2	0	48	12
145	0	0	0	0
155	0	0	0	0
165	0	0	0	0
175	0	0	0	0
180	0	0	0	0

ZONE	LUMENS	%LAMP	%FIXTURE
0- 30	326	12.8	13.5
0- 40	562	22.0	23.3
0- 60	1120	43.9	46.4
0- 90	1870	73.3	77.5
90-120	481	18.8	19.9
90-130	530	20.8	22.0
90-150	542	21.3	22.5
90-180	542	21.3	22.5
0-180	2412	94.6	100.0

TOTAL LUMINAIRE

EFFICIENCY: 94.6%
CIE TYPE: SEMI-DIRECT
PLANE: 0-DEGD90-DEG
SPACING CRITERIA: 1.2 1.7

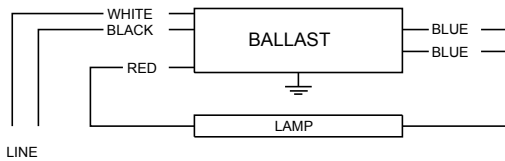
REL-2P59-SC

Brand Name	STANDARD ELEC
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	120
Input Frequency	60 HZ
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F .
* F42T6	1	25	32/00	0.32	36	1.20	20	0.98	1.6	3.33
F42T6	2	25	32/00	0.47	56	1.00	20	0.98	1.6	1.79

Wiring Diagram



Diag. 69

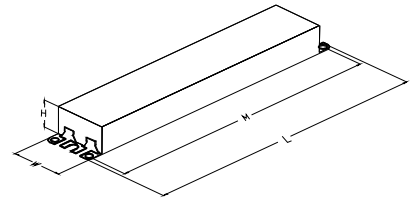
Insulate unused blue lead for 1000V

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

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	22	55.9	Yellow/Blue		0
White	22	55.9	Blue/White		0
Blue	46	116.8	Brown		0
Red	70	177.8	Orange		0
Yellow		0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

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

Revised 02/22/2008



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. All specifications are nominal unless otherwise noted.

PHILIPS LIGHTING ELECTRONICS N.A.

10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018
 Tel: 800-322-2086 · Fax: 888-423-1882 · www.philips.com/advance
 Customer Support/Technical Service: 800-372-3331 · OEM Support: 866-915-5886

APPENDIX S

REL-2P59-SC	
Brand Name	STANDARD ELEC
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	120
Input Frequency	60 HZ
Status	Active

Electrical Specifications

Notes:

Section I - Physical Characteristics

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

Section II - Performance Requirements

- 2.1 Ballast shall be _____ (Instant or Rapid) Start.
- 2.2 Ballast shall provide Independent Lamp Operation (ILO) for Instant Start ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 Ballast shall operate from 60 Hz input source of 120V, 277V or 347V as applicable with sustained variations of +/- 10% (voltage and frequency).
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency between 20 kHz and 30 kHz or above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 Ballast shall have a minimum ballast factor for primary lamp application as follows: 0.75 for Low Watt, 0.85 for Normal Light Output and 1.20 for High Light.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 20% for Standard models and THD of less than 10% for Centium models when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating for all 4-foot lamps and smaller.
- 2.11 Ballast shall have a minimum starting temperature of _____ [-18C (0F) for standard T8 lamps, 10C (50F) for T8/HO, standard T12, Slimline T12 and Long Twin Tube lamps, 0C (32F) for Slimline T8, -29C (-20F) for T12/HO lamps,] for primary lamp application. Ballast shall have a minimum starting temperature of 60F (16C) for energy-saving lamps.
- 2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions.

Section III - Regulatory Requirements

- 3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.
- 3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.4 Ballast shall comply with ANSI C82.11 where applicable.
- 3.5 Ballast shall comply with the requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
- 3.6 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

- 4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
- 4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.
- 4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market.

Note: Energy saving T8 lamps (25W, 28W or 30W) may experience lamp striations if operated on ballasts not rated for their use.

Revised 02/22/2008



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APPENDIX S

TRIPLES-V 18/6

recessed compact fluorescent downlight/wallwasher

COMPACT
FLUORESCENT
1-125

FEATURES

Triples-V 18/6 is an efficient 6" aperture low brightness downlight designed for use with one 18-watt triple-tube compact fluorescent lamp of the 4-pin types made by GE, Sylvania or Philips. Triples-V 18/6 provides a shielding angle of 40°.

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


Triples-V 18/6 uses one 18-watt lamp providing 1200 lumens (more than a 75-watt incandescent), a 10,000-hour life, a color rendering index (CRI) of 82, and color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).

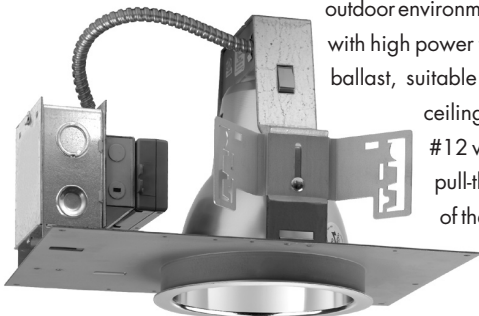
Reflectors are available in clear, natural aluminum in three finishes: **EvenTone**, our standard clear finish, partially diffuse, anti-iridescent and gently luminous in appearance; **OptiTone**, semi-specular and anti-iridescent, with minimum brightness and maximum efficiency; and **EasyTone**, diffuse and luminous. Additionally, reflectors are available in champagne gold, wheat, pewter and bronze. Wallwash (120°), corner wallwash (210°) and double wallwash (2x120°) reflectors are also available.

Triples-V 18/6 includes a pair of mounting bars (3/4" x 27" C channel). Specialty bars for wood joist and T-bar installations are also available.

APPLICATIONS

Fixture is suitable for downlighting or wallwashing in nearly all architectural environments, especially those spaces where non-directional luminaires are preferred over rectangular troffers. These include offices, stores, lobbies, corridors, restrooms and public areas.

Fixture is  listed for Damp Location (may not be suitable for some outdoor environments). Fixture is prewired with high power factor Class P electronic ballast, suitable for use in a fire rated ceiling, and approved for ten #12 wire 75°C branch circuit pull-through wiring. Removal of the reflector allows access to the ballast and junction box.

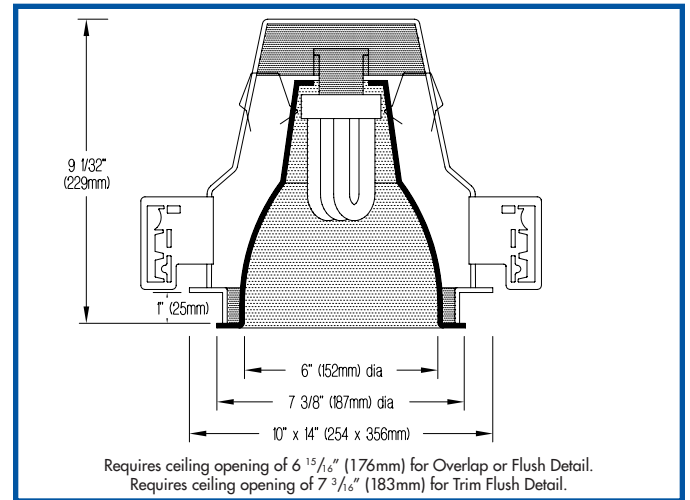


NOTE: Under certain conditions, such as installations where there is a pressure differential between the room and ceiling cavity, amalgam based fluorescent lamps may experience reduced lumen output.

MODIFICATIONS AVAILABLE

Contact factory with quantity for pricing; orders may require shop drawing approval.

- CHP-**: fixture suitable for **Chicago Plenum**; add CHP- as prefix to Product Code.
- CONC-**: fixture suitable for poured-in-place **concrete**; add CONC- as prefix to Product Code.
- EXP-**: 'European-style' **install-from-below** fixture; add EXP- as prefix to Product Code.
- +2"CLG**: fixture suitable for installation in **2" thick ceiling** material; add +2"CLG to Product Code.



PRODUCT CODE

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

Basic Unit	TRPV 18/6		
Reflector Type			
Downlight	no suffix	Corner Wallwash	CWW
Wallwash	WW	Double Wallwash	DWW
Voltage			
120 volt service	120	277 volt service	277
Reflector Color and Detail	<i>Overlap Flange</i>	<i>Flush</i>	<i>Trim Flush*</i>
EvenTone Clear	VOL	VFL	VTF
OptiTone Clear	COL	CFL	CTF
EasyTone Clear	ECOL	ECFL	ECTF
Champagne Gold	GOL	GFL	GTF
Wheat	WHOL	WHFL	WHTF
Pewter	POL	PFL	PTF
Bronze	ZOL	ZFL	ZTF
Other reflector finishes available on special order.			
Overlap Flange continues reflector finish. White painted flanges and custom painted flanges are available on special order. Add WF (white flange) or CCF (custom color flange).			
*Trim Flush reflector trim requires the use of a plaster ring Accessory (see below).			

OPTIONS

Specify by adding to the basic unit.

Dimmable 3-wire ballast	- DM
Emergency battery pack operates lamp in event of power outage. Fixture footprint increases to 10 x 17 1/2" (254 x 444mm). Not available with CWW reflector. Not for outdoor application	- EM
1/8" (3mm) thick clear acrylic shield , spring-mounted in reflector. Available with downlight or WW reflector only.....	- PS

ACCESSORIES

Specify as a separate line item.

Plaster ring allows use of Trim Flush (-TF) reflector in sheetrock ceiling; 7 3/16" (183mm) dia hole is required.....TF RING/6

- For combinations of the Options above, contact factory or Edison Price Lighting representative.
- A modified fixture suitable for 347-volt service is available on special order. Contact factory.
- Decorative reflector rings are available on special order. Contact factory.



APPENDIX S

TRIPLES-V 18/6



PHOTOMETRIC REPORT

Report No. 44758. Original Independent Testing Laboratories, Inc. (ITL) test report furnished upon request.

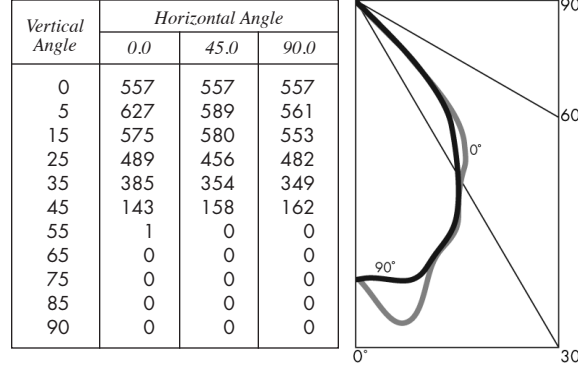
Luminaire recessed compact fluorescent downlight with spun aluminum reflector, semi-specular finish
 Lamp Philips 18-watt triple-tube compact fluorescent, 4-pin GX24q-2 base, 1200 lumens
 Efficiency 64.3%
 Spacing Criteria 0°-1.2, 90°-1.1

BALLAST INFORMATION

Voltage	120	277
Input Watts	22	22
Line Current (A)	.19	.08
Power Factor (%)	>98	>98
THD (%)	<10	<10
Min. Starting Temp* (°F)	0	0

*Consult lamp manufacturers for specific temperatures.

CANDLEPOWER DISTRIBUTION (Candela)



LUMINANCE DATA (Candela/m²)

Vertical Angle	Average 0° Longitude	Average 90° Longitude
45	10215	11572
55	88	0
65	0	0
75	0	0
85	0	0

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

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0 - 30°	436	36.3	56.5
0 - 40°	661	55.1	85.7
0 - 60°	772	64.3	100.0
0 - 90°	772	64.3	100.0
90 - 180°	0	0.0	0.0
0 - 180°	772	64.3	100.0

COLOR MULTIPLIERS

OptiTone (C)	1.00
EvenTone (V)	.95
EasyTone (EC)	.88
Champagne Gold (G)	.97
Wheat (WH)	.79
Pewter (P)	.81
Bronze (Z)	.58

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

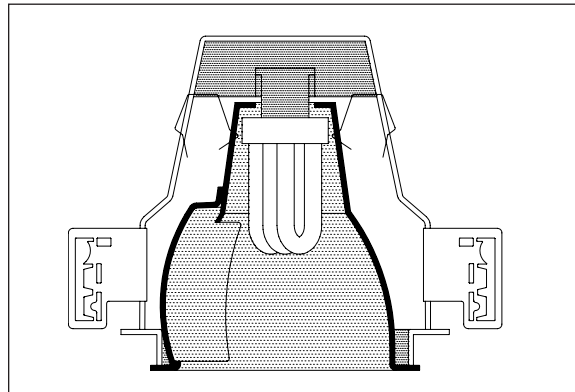
Effective Floor Cavity Reflectance 20%

Ceiling Reflectance (%)	80				70				50				30				10				0			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	
Room Cavity Ratio																								
0	76	76	76	76	75	75	75	75	71	71	71	68	68	68	65	65	65	64						
1	73	71	69	67	71	69	68	66	67	65	64	64	63	62	62	61	61	59						
2	69	65	62	60	67	64	62	59	62	60	58	60	58	57	58	57	56	55						
3	65	60	57	54	63	59	56	54	58	55	53	56	54	52	55	53	51	50						
4	61	56	52	49	60	55	51	49	54	51	48	52	50	47	51	49	47	46						
5	57	52	48	45	56	51	47	44	50	46	44	49	46	44	48	45	43	42						
6	54	48	44	41	53	47	43	41	46	43	40	45	42	40	45	42	40	39						
7	51	45	40	37	50	44	40	37	43	40	37	42	39	37	42	39	37	36						
8	48	42	37	34	47	41	37	34	40	37	34	40	36	34	39	36	34	33						
9	46	39	35	32	45	38	35	32	38	34	32	37	34	32	37	34	31	31						
10	43	36	32	30	42	36	32	30	35	32	29	35	32	29	34	31	29	28						

TRIPLES-V 18/6 WW

WALLWASH INFORMATION

Distance From Ceiling (Feet)	2'6" From Wall; 2'6" O.C.		3' From Wall; 3' O.C.	
	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures
1	5	5	3	3
2	8	7	5	4
3	13	13	7	6
4	15	15	10	10
5	13	13	10	10
6	10	11	9	9
7	9	8	8	8
8	7	7	6	6
9	6	6	5	5



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

line™ .75

SYMMETRIC

Application

io Lighting's **line series .75** is approximately .75" x .75" in cross section. UL listed for dry locations, its low profile housing enables functional luminous intensities from "tight" architectural details such as niches, coves and casework. Similar to halogen light sources, LEDs are point sources that offer superior definition to three-dimensional objects and sparkle to reflective surfaces.

series .75 is a low voltage linear accent luminaire that may be ordered in incremental nominal lengths that range from 6" to 96". Optional beam spreads along the perpendicular axis of the fixture include 10°, 45° and 65°. For details on the asymmetric beam spread, see dedicated specification sheet. **io** ensures that each LED is provided thermal and electrical management properties in accordance with the LED manufacturers recommendations. Projected average rated life is 50,000 hours at 70% of lamp lumen output. Contact factory for IES LM-80 compliance. To ensure proper performance, architectural details should allow for ventilation and air flow around the fixture. Ambient temperature surrounding the fixture shall not exceed 120°F (48.9°C).

Light Output

line series .75 is available with three lumen outputs for white light only. Red, green, blue and amber are available in high output only. All values below are initial lumens per foot. IES LM-79 format files may be obtained from the factory or downloaded from www.iolighting.com. Consult factory for High CRI options and availability.

	Standard Output	Mid Output	High Output
2700K White:	68 lms/ft	126 lms/ft	180 lms/ft
3000K White:	68 lms/ft	126 lms/ft	180 lms/ft
5000K White:	91 lms/ft	168 lms/ft	240 lms/ft

Construction

Extruded aluminum housing coupled with a patented optical assembly may not be disassembled for re-lamping. Customized acrylic optics offer very high transmissivity, UV stability and excellent longevity. Three mounting bracket options include: surface, side surface and field adjustable. Bracket material is composed of stainless steel for ease of installation and removal as required.

Electrical

Field adjustable 4'-0" 22 AWG, 300 volt rated power cords are supplied with strain reliefs. 24 volt 96 watt power supply will be provided as a standard if not specified otherwise. For detailed information regarding daisy chain limitations, remote distance limitations, power supply options, and dimming options consult the **io** website, the **io** catalog (pages 98-100) or an **io** representative.

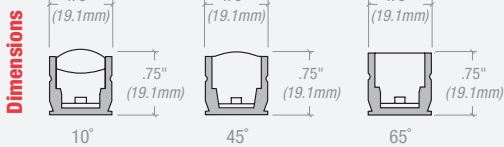
Power Consumption

Standard Output:	2.92 w/ft	Mid Output:	5.34 w/ft	High Output:	7.62 w/ft
------------------	-----------	-------------	-----------	--------------	-----------

Power consumption does not include power supply losses.

Finish

Anodized aluminum finish is standard. Custom finishes may be available upon request.



io line .75 45°, 3KHO

lighting facts^{CM}

A Program of the U.S. DOE

Light Output (Lumens)	300
Watts	20.9
Lumens per Watt (Efficacy)	14

Color Accuracy	72
Color Rendering Index (CRI)	

Light Color	3003 (Bright White)
Correlated Color Temperature (CCT)	

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

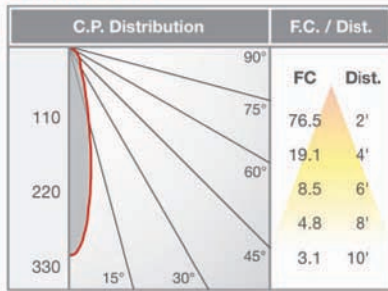
Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: 6PRA-J4J15J
Model Number: 0.03.1.3KHO.45.1.05.2
Type: Shelf-mounted task lights

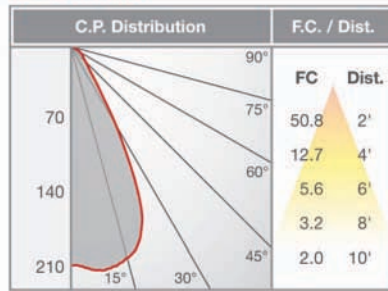
Label references 30" **line .75** symmetric fixture with a 45° beam spread in High Output 3000K. Lighting Facts for additional beam spreads and light output levels may be obtained from **io** Lighting.

APPENDIX S

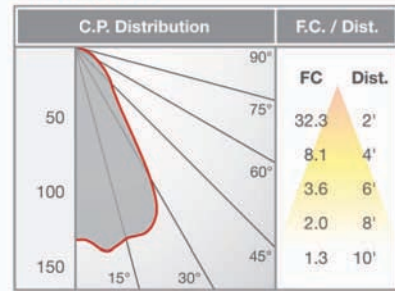
3KH0 10 DEGREE



3KH0 45 DEGREE



3KH0 65 DEGREE



Charts reference 30° line. .75 symmetric fixture in High Output 3000K.

LIGHT OUTPUT CONVERSION TABLE

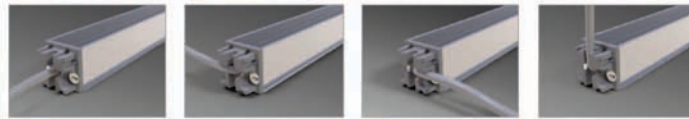
White Light Output	3000K S.O.	3000K M.O.	3000K H.O.	5000K S.O.	5000K M.O.	5000K H.O.
Light Output Multiplier	0.38 ⁽¹⁾	0.70 ⁽¹⁾	1.0 ⁽¹⁾	0.51 ⁽¹⁾	0.93 ⁽¹⁾	1.33 ⁽¹⁾

Color Light Output	RED	GREEN	BLUE	AMBER
Light Output Multiplier	0.53 ⁽²⁾	0.51 ⁽²⁾	0.30 ⁽²⁾	0.51 ⁽²⁾

IES format photometrics may be downloaded from www.iolighting.com.

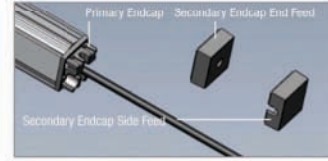
Note: 2700K and 3000K have same light output.

NEW FIELD CONFIGURABLE ELECTRICAL FEED



End feed Right side feed Left side feed Top feed

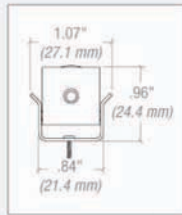
Note: Electrical contractor may adjust orientation of electrical feed in the field.



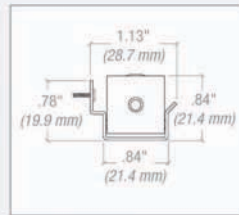
Secondary End Cap



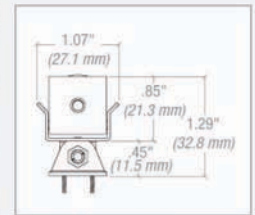
100 Surface (io part #: SA.BK.SURF)



101 Side surface (io part #: SA.BK.WALL)



102 Field adjustable (io part #: SA.BK.ADJMT)



- 1. LINE SERIES**
03 .75 SO, MO or HO
- 2. LOCATION**
I Interior
- 3. COLOR**
27K White 2700K (Standard)⁽¹⁾
27KMO White 2700K (Mid Output)⁽¹⁾
27KH0 White 2700K (High Output)⁽¹⁾
3K White 3000K (Standard)⁽¹⁾
3KMO White 3000K (Mid Output)⁽¹⁾
3KH0 White 3000K (High Output)⁽¹⁾
5K White 5000K (Standard)⁽¹⁾
5KMO White 5000K (Mid Output)⁽¹⁾
5KH0 White 5000K (High Output)⁽¹⁾
R Red⁽²⁾
G Green⁽²⁾
B Blue⁽²⁾
A Amber⁽²⁾

- 4. DISTRIBUTION**
10 10 Degree
45 45 Degree
65 65 Degree
- 5. MOUNTING**
100 Surface
101 Side surface
102 Field adjustable

- 6. FINISH**
1 Anodized aluminum
2 Anodized custom color

- 7. LENGTH**
UNITS (ACTUAL)
01 6" (6.53")
02 12" (12.22")
03 18" (17.97")
04 24" (23.53")
05 30" (29.22")
06 36" (34.97")
07 42" (40.53")
08 48" (46.22")
09 54" (51.97")
10 60" (57.53")
11 66" (63.22")
12 72" (68.97")
13 78" (80.22")⁽³⁾
14 84" (85.97")⁽³⁾
15 90" (91.53")⁽³⁾
16 96" (97.22")⁽³⁾

- 8. ELECTRICAL FEED**
2 One end feed
22 Double end feed
Note: Electrical contractor may adjust orientation of electrical feed in the field.
- 9. VOLTAGE / DIMMING**
1 120v
2 277v
3 120v w/dim
4 277v w/dim
5 Other

- 10. SPECIFY DRIVER / DIMMING**
Note: If not specified otherwise, io will supply 96 watt drivers. Refer to pages 98-100 for Power Supply options or download Power Supply specification sheet from www.iolighting.com.

1. White light variance between LEDs within a single fixture will not exceed ANSI Binning Standards.
2. Refer to conversion table for output. Only available in 7:6 w/R.
3. High Output only available in lengths up to 72".

SSL Chromaticity Standard: ANSI C78.337		
Color	Nominal CCT	Target CCT & Tolerance (K)
White	2700K	2725 ±145
White	3000K	3045 ± 175
White	5000K	5028 ± 283

For Metric Conversion		
1"	1"	1'
25.4mm	2.54cm	0.3m





Date: _____ Type: _____

Firm Name: _____

Project: _____

eW Fuse Powercore

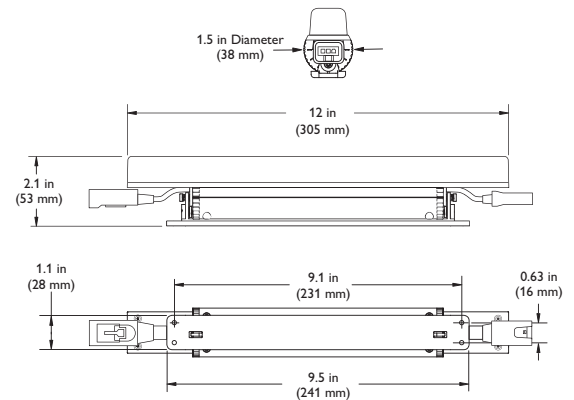
3000 K, 10° x 60° Beam Angle

Ultra-compact, high-performance LED grazing fixture

With narrow and medium beams of intense white or solid blue light, eW® Fuse Powercore is an excellent choice for a full range of surface grazing and wall-washing applications. Its ultra-compact form factor permits installation in tight spaces too small to accommodate conventional grazing fixtures with similar light output. Meets or exceeds the performance of comparable linear fluorescent grazing fixtures while lowering installation, energy, and maintenance costs. Offers environmentally-conscious buyers a green, energy-efficient grazing fixture with industry-leading quality and quantity of light.

- Cost-effective alternative — Long useful source life and low-maintenance operation represent a cost-effective alternative to traditional grazing fixtures.
- High-performance beam quality — Available narrow 10° x 60° or medium 30° x 60° beam angle. Superior beam quality delivers striation-free light as close as 6 in (152 mm) from fixture placement. Interlocking connectors for end-to-end installation with no light scalloping between fixtures.
- Multiple color temperatures for design and application flexibility — Available in 2700 K, 3000 K, 3500 K, and 4000 K for applications calling for warm, neutral, or cool white light. Solid blue also available.
- Superior binning algorithm — Exceeds the recognized standards for color quality to guarantee uniformity and consistency of hue and color temperature across LEDs, fixtures, and manufacturing runs.
- Integrates patented Powercore® technology — Powercore rapidly, efficiently, and accurately controls power directly from line voltage, eliminating the need for an external power supply, dramatically simplifying installation, and lowering total system cost.

- Support for multiple voltages — Accepts power input of 100, 120, 208, 220 – 240, and 277 VAC for consistent installation and operation from line voltage in most locations.
- Dimming capability — Patented DIMand® technology offers smooth dimming capability with many electronic low voltage (ELV) dimmers for all input voltages.
- Simple installation — Contractor-friendly installation allows product runs ranging from 50 fixtures at 100 VAC to 139 fixtures at 277 VAC. Easy-to-install 4 ft (1.2 m) mounting tracks allow quick project setup in linear applications.



- Easy mounting and positioning — With end-to-end locking power connectors that can make 180° turns, eW Fuse Powercore fixtures are easy to position in even the most challenging mounting circumstances. Fixtures rotate in 10° increments through 180° for precise aiming and color mixing. Optional mounting tracks support vertical and overhead positioning. 1 ft (305 mm) and 5 ft (1.5 m) jumper cables can add extra space between fixtures.

For detailed product information, please refer to the eW Fuse Powercore Product Guide at www.colorkinetics.com/ls/essentialwhite/ewfusepc

PHILIPS

APPENDIX S

Preliminary Specifications

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

Item	Specification	3000 K*, 10° x 60° beam angle
Output	Lumens†	602
	Efficacy (lm / W)	50.6
	CRI	83
	Lumen Maintenance‡	50,000 hours L70 @ 25° C 37,000 hours L70 @ 50° C 90,000 hours L50 @ 25° C 80,000 hours L50 @ 50° C
Electrical	Input Voltage	100 / 120 / 208 / 220 – 240 / 277 VAC, auto-switching, 50 / 60 Hz
	Power Consumption	13.5 W maximum at full output, steady state
	Power Factor	.99 @ 120 V
Control	Dimming	Compatible with many commercially available ELV, trailing edge, or reverse-phase control dimmers§
Physical	Dimensions (Height x Width x Depth)	1.1 x 12 x 2.1 in (28 x 305 x 53 mm)
	Weight	0.98 lbs (.45 kg)
	Housing	Die-cast aluminium, white powder-coated finish
	Lens	Polycarbonate
	Fixture Connections	Integral male / female connectors
	Temperature Ranges	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage
	Humidity	0 – 95%, non-condensing
	Maximum Fixture Run Length	50 @ 100 VAC 60 @ 120 VAC 104 @ 208 VAC 115 @ 220 – 240 VAC 139 @ 277 VAC Configuration: Fixtures installed end-to-end, 20 A circuit, standard 10 ft (3.1 m) Leader Cable
Certification and Safety	Certification	UL / cUL, FCC, CE, C-Tick
	LED Class	Class 2 LED product
	Environment	Dry / Damp Location, IP20

* Color temperatures conform to nominal CCTs as defined in ANSI Chromaticity Standard C78.377A.

† Lumen measurement complies with IES LM-79-08 testing procedures.

‡ L70 = 70% maintenance of lumen output (when light output drops below 70% of initial output).
L50 = 50% maintenance of lumen output (when light output drops below 50% of initial output).

Ambient temperatures specified. Based on measurements that comply with IES LM-80-08 testing procedures. See www.colorkinetics.com/support/appnotes/lm-80-08.pdf for more information.

§ See www.colorkinetics.com/support/appnotes/notes/ for specific details.

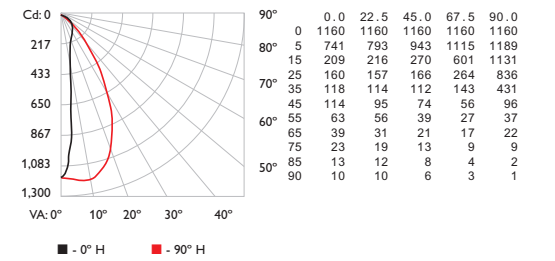
|| These figures are accurate for this configuration only. Changing the configuration can affect fixture run lengths.



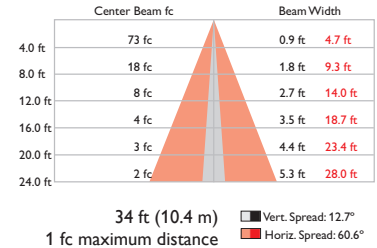
Photometrics

3000 K, 10° x 60° beam angle

Polar Candela Distribution



Illuminance at Distance



Lumens	602
Efficacy	50.6 lm / W

For lux multiply fc by 10.7

Accessories

Item	Type	Item Number	Philips 12NC
Leader Cable with terminator and strain relief	UL / cUL	10 ft (3 m)	108-000047-00 910503700972
	CE / CCC	10 ft (3 m)	108-000047-01 910503700973
Wiring Compartment with terminator	UL / cUL	120-000077-01	910503700994
Jumper Cable	UL / cUL	1 ft (305 mm)	108-000048-00 910503700974
		5 ft (1.5 m)	108-000048-01 910503700975
	CE / CCC	1 ft (305 mm)	108-000048-02 910503700976
		5 ft (1.5 m)	108-000048-03 910503700977
Terminators	10 / box	120-000099-00	910503701120
Mounting Track, White	Quantity 1	4 ft (1219 mm)	120-000124-00 910503701787



Philips Color Kinetics
3 Burlington Woods Drive
Burlington, Massachusetts 01803 USA
Tel 888.385.5742
Tel 617.423.9999
Fax 617.423.9998
www.philipscolorkinetics.com

APPENDIX S

Fixtures

Color Temp.	Beam Angle	Item Number	Philips 12NC
2700 K	10° x 60°	523-000065-00	910503701653
	30° x 60°	523-000065-04	910503701657
3000 K	10° x 60°	523-000065-01	910503701654
	30° x 60°	523-000065-05	910503701658
3500 K	10° x 60°	523-000065-02	910503701655
	30° x 60°	523-000065-06	910503701659
4000 K	10° x 60°	523-000065-03	910503701656
	30° x 60°	523-000065-07	910503701660
Blue	10° x 60°	223-000065-02	910503701676
	30° x 60°	223-000065-06	910503701680

Use Item Number when ordering in North America.

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DAS-000079-03 R01 10-10

February 2011

Cup -

Product code:
SM19

Technical description:

The luminaire body of Cup 60 is made of extruded and die-cast aluminium, while the lamp unit of Cup 110 is completely made of die-cast aluminium. The click-in system and steel safety springs prevent the release of the glass.

Dimension:

D=120 x 106mm h=2000 mm

Colour:

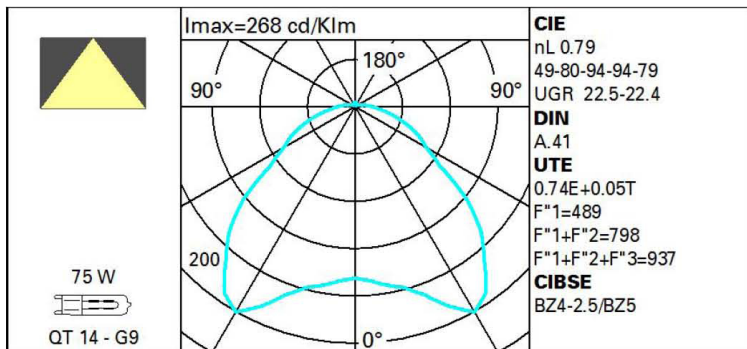
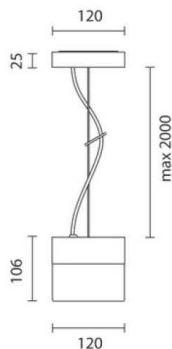
White (01)|Grey (15)

Notes:

Luminaires complete with lamp and suspension cable.



Complies with EN605981 and pertinent regulations



Photometric Diagram

Design Roberto Pamio

iGuzzini

February 2011

Cup -



Attach\Diagrams\SM19_L116_X1.jpg

Photometric curve code: SP310000.116											
Uncorrected UGR values (at 1000 lm bare lamp luminous flux)											
Riflect.:		viewed crosswise					viewed endwise				
ce il/cav		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim		viewed crosswise					viewed endwise				
x	y										
2H	2H	19.6	20.7	20.0	21.1	21.5	20.0	21.1	20.4	21.4	21.8
	3H	20.6	21.6	21.0	22.0	22.4	20.2	21.2	20.7	21.6	22.0
	4H	21.0	21.9	21.5	22.3	22.8	20.3	21.2	20.7	21.6	22.1
	6H	21.4	22.2	21.8	22.6	23.1	20.3	21.1	20.8	21.6	22.0
	8H	21.5	22.3	22.0	22.8	23.2	20.3	21.1	20.8	21.5	22.0
	12H	21.6	22.4	22.1	22.8	23.3	20.2	21.0	20.7	21.5	22.0
4H	2H	20.0	20.9	20.4	21.3	21.7	21.5	22.4	21.9	22.8	23.3
	3H	21.2	21.9	21.6	22.4	22.9	21.9	22.7	22.4	23.1	23.6
	4H	21.7	22.4	22.2	22.9	23.4	22.1	22.8	22.6	23.3	23.8
	6H	22.1	22.7	22.7	23.3	23.8	22.2	22.8	22.7	23.3	23.9
	8H	22.3	22.9	22.9	23.4	24.0	22.2	22.8	22.8	23.3	23.9
	12H	22.5	23.0	23.0	23.5	24.1	22.2	22.7	22.8	23.3	23.9
8H	4H	21.9	22.4	22.4	22.9	23.5	22.8	23.4	23.3	23.9	24.5
	6H	22.4	22.9	23.0	23.5	24.1	23.0	23.5	23.6	24.1	24.7
	8H	22.7	23.1	23.3	23.7	24.3	23.1	23.5	23.7	24.1	24.8
	12H	23.0	23.3	23.6	23.9	24.6	23.2	23.6	23.8	24.2	24.8
12H	4H	21.9	22.4	22.4	22.9	23.5	23.0	23.5	23.5	24.0	24.6
	6H	22.5	22.9	23.1	23.5	24.1	23.3	23.7	23.9	24.3	24.9
	8H	22.8	23.1	23.4	23.7	24.4	23.4	23.8	24.0	24.4	25.0
Variations with the observer position at spacing:											
S =	1.0H	0.3 / -0.3					0.2 / -0.3				
	1.5H	0.5 / -0.7					0.5 / -0.7				
	2.0H	1.0 / -0.9					1.2 / -0.8				

Photometric Diagram

Design Roberto Pamio

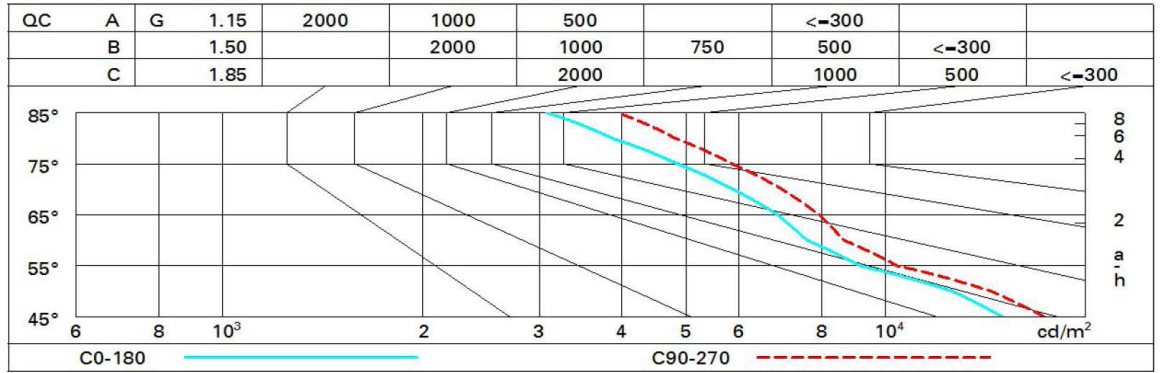
iGuzzini

February 2011

Cup -



Attach\Diagrams\SM19_L116_L1.jpg

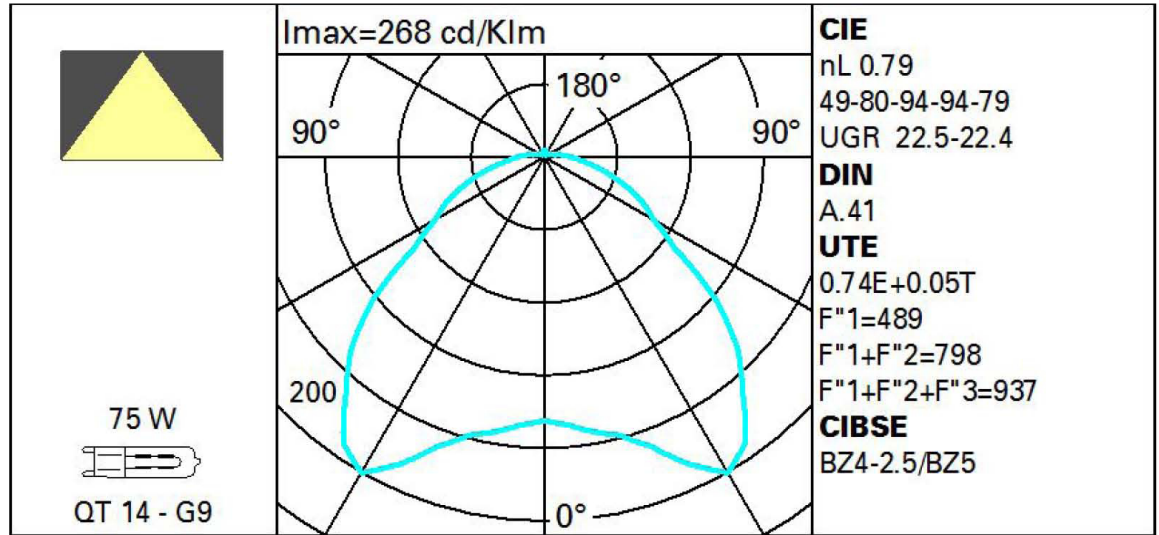


February 2011

Cup -



Attach\Diagrams\SM19_L116_P1.jpg



Attach\Diagrams\SM19_L116_C1.jpg

R	77	75	73	71	55	53	33	00	DRR
K0.8	51	43	37	33	41	36	35	30	40
1.0	56	49	43	39	47	42	41	35	48
1.5	64	58	53	49	56	51	50	44	60
2.0	68	63	59	56	61	57	56	50	68
2.5	71	67	63	60	65	61	60	54	74
3.0	73	69	66	63	67	64	62	57	77
4.0	75	72	70	67	70	68	66	61	82
5.0	77	74	72	70	72	70	67	63	85

LIGHT UP WALK

#I.B001- -13
VOLTAGE FINISH

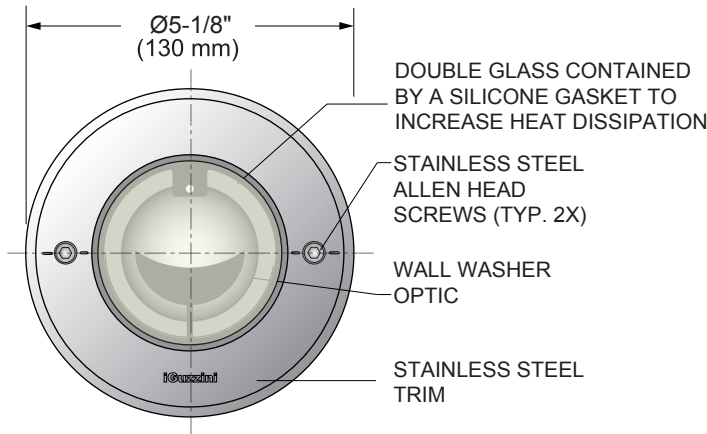
In-ground recessed luminaire with wall washer optic. Cast aluminum body and outer casing. Trim and vandal resistant screws are made of stainless steel. The double layer of tempered glass reduces the surface temperature. The total assembly can withstand a load of 5000 Kg (11 000 lbs) at a maximum speed of 50 Km/h (31 mph).

LAMPING: 1 X 10 W XELOGEN, 12 V LOW VOLTAGE, G4 BASE.

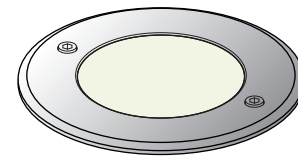
PROJECT NAME: _____

TYPE: _____

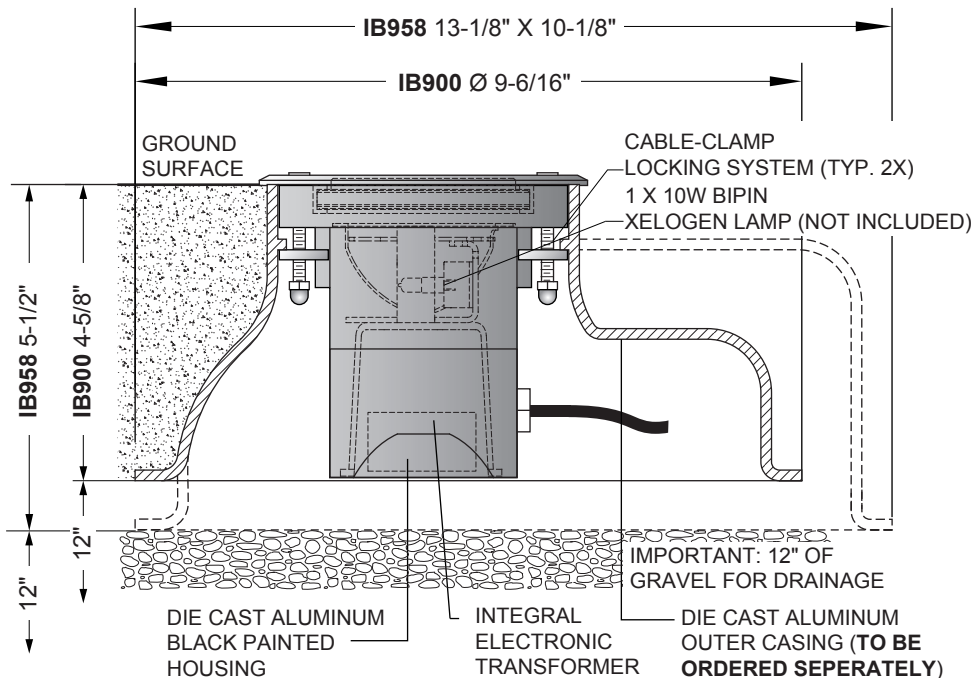
LAST UPDATE: FEBRUARY 24th, 2009



TOP VIEW



ISOMETRIC VIEW



SECTION VIEW

ACCESSORIES TO BE ORDERED SEPERATELY



I-B900 - CASING



I.B958 - CASING MULTIPLE FEEDER 13-1/8" X 10-1/8" X 5-1/2" H.



I-B916 - SUCTION CUP



B917 - COLORED FILTERS

05 - RED
06 - YELLOW
09 - BLUE

VOLTAGE 120 V

METAL FINISH 13 - STAINLESS STEEL



5455 de Gaspé
suite 100, Montréal (Québec)
Canada H2T 3B3
P.: 514.523.1339 F.: 514.525.6107

APPENDIX S

**LIGHT UP WALK
PROFESSIONEL**

Recessed wall luminaires · glass block

Housing: Die-cast aluminum with integral wiring compartment.

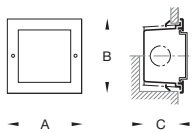
Enclosure: One piece die-cast aluminum faceplate. Optically active, impact resistant, satin matte crystal glass, .21" thick. The faceplate is secured with captive, hex key, flat head stainless steel fasteners threaded into stainless steel inserts in the housing casting. Continuous high temperature U-channel gasket for weather tight operation.

Electrical: Low Voltage; G4 (10W) requires a remote Class 2, 12V safety transformer. Lamp supplied. Through Wiring: Maximum of four (4) No. 12 AWG conductors (plus ground) suitable for 90°C. Two 7/8" knockouts provided for 1/2" conduit.

Finish: Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

UL listed, suitable for wet locations and poured concrete/masonry or stud wall construction. Type non-IC. Protection class:IP 65.

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



		Lamp	Lumen	A	B	C
2303	ADA	1 10W T3 G4,12V	140	3 1/8	3 1/8	4



WASHLUX-T® 126/6 226/6

COMPACT
FLUORESCENT
1-614

recessed compact fluorescent lensed wallwashers

FEATURES

Washlux-T 126/6 and Washlux-T 226/6 are efficient compact fluorescent wallwashers for use with 26-watt, 4-pin, triple tube compact fluorescent lamps by GE, Philips or Sylvania. Fixtures provide uniform illumination on vertical surfaces up to the ceiling line. Aperture diameter is 6 1/2" and recess depth is only 6 3/4".

The optical assembly consists of a two-part specular internal reflector, Edison Price Lighting's unique flat 85° spread lens, and an external Darklite reflector designed to minimize aperture brightness.


Washlux-T 126/6 uses one 26-watt lamp providing 1800 lumens (more than a 100-watt incandescent) and Washlux-T 226/6 uses two 26-watt lamps providing 3600 lumens (more than a 150-watt incandescent). Compact fluorescent lamps have a 10,000-hour life, a color rendering index (CRI) of 82, and color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).

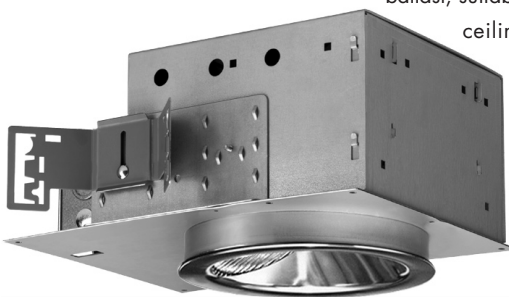
Reflectors are available in clear, natural aluminum in two finishes: **EvenTone**, our standard clear finish, partially diffuse, anti-iridescent and gently luminous in appearance; and **EasyTone**, diffuse and luminous. Additionally, reflectors are available in champagne gold, wheat, pewter, bronze and black.

Washlux-T 126/6 and Washlux-T 226/6 include a pair of mounting bars (3/4" x 27" C channel). Specialty bars for wood joist and T-bar installations are available as accessories.

APPLICATIONS

Fixture is recommended for wallwashing in offices, stores, lobbies and public areas. The use of matte wall finishes is recommended to avoid specular reflections.

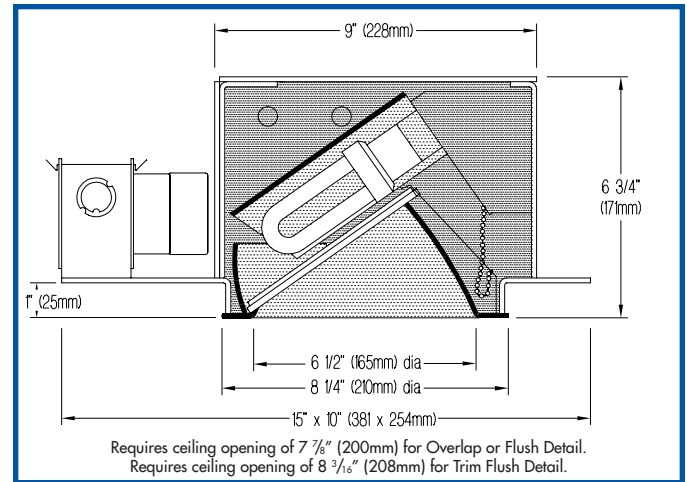
Fixture is  listed for Damp Location (may not be suitable for some outdoor environments). Fixture is prewired with high power factor Class P electronic ballast, suitable for use in a fire rated ceiling and approved for eight #12 wire 75°C branch lighting circuit pull-through wiring. Access to the ballast and wiring compartment is provided by removing a snap-in cover.



MODIFICATIONS AVAILABLE

Contact factory with quantity for pricing; orders may require shop drawing approval.

- CHP-**: single-lamp fixture suitable for **Chicago Plenum**; add CHP- as prefix to Product Code.
- CONC-**: single-lamp fixture suitable for poured-in-place **concrete**; add CONC- as prefix to Product Code.
- EXP-**: 'European-style' **install-from-below** fixture; add EXP- as prefix to Product Code.
- +2"CLG**: fixture suitable for installation in **2" thick ceiling** material; add +2"CLG to Product Code.



PRODUCT CODE

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

Basic Unit WLXT 126/6 or WLXT 226/6

Voltage
120 volt service 120 277 volt service 277

Reflector Color and Detail	Overlap Flange	Flush	Trim Flush*
EvenTone Clear	VOL	VFL	VTF
EasyTone Clear	ECOL	ECFL	ECTF
Champagne Gold	GOL	GFL	GTF
Wheat	WHOL	WHFL	WHTF
Pewter	POL	PFL	PTF
Bronze	ZOL	ZFL	ZTF
Black	BOL	BFL	BTF

Other reflector finishes available on special order.

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

*Trim Flush reflector trim requires the use of a plaster ring Accessory (see below).

OPTIONS

Specify by adding to the basic unit.

Dimmable 3-wire ballast. Fixture footprint increases to 17 3/8" x 10" (441 x 254mm). Additional 2" (51 mm) height clearance required to remove ballast through aperture..... - DM

Emergency battery pack operates one lamp in event of power outage. Includes a plate with ready light and test switch for adjacent installation by others. Fixture footprint increases to 17 3/8" x 10" (441 x 254mm). Additional 2 1/2" (63mm) height clearance required to remove EM pack through aperture. Not for outdoor application - REM

ACCESSORIES

Specify as a separate line item.

Plaster ring allows use of Trim Flush (-TF) reflector in sheetrock ceiling; 8 3/16" (208mm) dia hole is required TF RING/7

- For combinations of the Options above, contact factory or Edison Price Lighting representative.
- A modified fixture suitable for 347-volt service is available on special order. Contact factory.



APPENDIX S

WASHLUX-T 126/6



PHOTOMETRIC REPORT

(ITL) Luminaire Testing Laboratory Report No. 05979. Original test report furnished upon request.

Luminaire recessed lensed wallwasher

Lamps..... one 26-watt triple-tube compact fluorescent, 4-pin, GX24q-3 base, 1800 lumens

WALLWASH INFORMATION

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

All vertical footcandles are initial values with no contribution from ceiling or floor reflectances. Computation performed with a total of five wallwashers.

BALLAST INFORMATION

Voltage	120	277
Input Watts	28	28
Line Current (A)	.25	.11
Power Factor (%)	>98	>98
THD (%)	<10	<10
Min. Starting Temp* (°F)	0	0

*Consult lamp manufacturers for specific temperatures.

WASHLUX-T 226/6

PHOTOMETRIC REPORT

ITL Report No. 05980. Original Independent Testing Laboratories, Inc. (ITL) test report furnished upon request.

Luminaire recessed lensed wallwasher

Lamps..... two 26-watt triple-tube compact fluorescent, 4-pin, GX24q-3 base, 1800 lumens each

WALLWASH INFORMATION

Distance From Ceiling (Feet)	3' From Wall; 3' O.C.		3'6" From Wall; 3' O.C.		4' From Wall; 3' O.C.	
	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures
1	20	18	14	13	10	10
2	37	36	28	28	22	21
3	39	39	34	34	29	29
4	32	32	31	31	29	29
5	25	25	25	25	25	25
6	19	19	20	20	21	20
7	14	14	16	15	17	16
8	11	11	12	12	13	13
9	9	9	10	10	11	10
10	7	7	8	8	9	8
11	6	5	6	6	7	7
12	4	4	5	5	6	6

All vertical footcandles are initial values with no contribution from ceiling or floor reflectances. Computation performed with a total of five wallwashers.

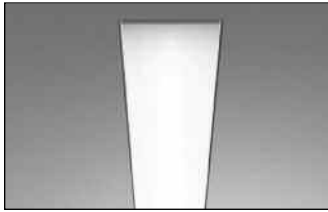
BALLAST INFORMATION

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

*Consult lamp manufacturers for specific temperatures.

SLOTLIGHT PRO Fluorescent One Lamp Cross-section T5 or T5 HO

6" Recessed, Flangeless Sheetrock Ceiling, Perimeter or Wall



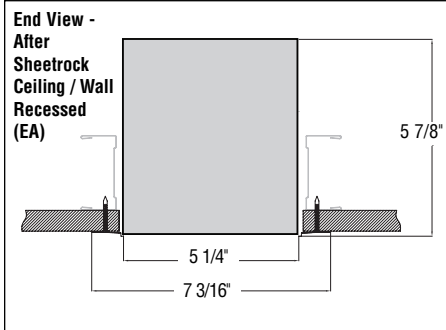
Applications: SLOTLIGHT PRO is a lighting solution as unobtrusive as it is sophisticated. The streamlined design with its sleek and contemporary image offering "ribbons of light" harmonizes perfectly with the architecture.

online Find it Fast **399**

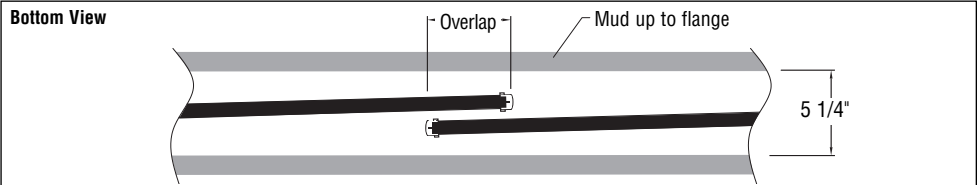
Type: _____ Quantity: _____ Project: _____

USE THIS CHART FOR INDIVIDUAL FIXTURES ONLY (FOR CONTINUOUS RUNS SEE PAGE 30A)

SLR6NI	CEILING/MOUNTING	LAMP	LENGTH	OPTIC	VOLTAGE/BALLAST	WIRING OPTIONS	OTHER OPTIONS
SLR6NI SLOTLIGHT PRO, 6" Recessed, Flangeless, Individual	EB Before Sheetrock Ceiling	1215 (1) 21W T5	03 2'-10 5/8"	See page 30A for available optics.	U Universal 120/277V DA_* Dimming, Analog (0-10V) DD_* Dimming, DALI DE_* Dimming, Lutron ECO-10™ DH_* Dimming, Lutron HiLume® DSC_* Dimming, Lutron EcoSystem™, Control Fixture DSN_* Dimming, Lutron EcoSystem, Non-control Fixture STD*_ Dimming, Step	MS1 Master-Slave Switching, Single Circuit AB2 A/B Switching, 2 Circuit AB3 A/B/C Switching, 3 Circuit	HP Higher Performance Option WF Whip Flex 3/8" X 6' 14 AWG WN_* Whip Flex 3/8" X 6' 14 AWG (NYC) EM1_* Standby Battery Pack/ 1 Lamp CP Chicago Plenum F Fusing QD Power Feed Quick Disconnect
		1395 (1) 39W T5 HO	04 3'-10 7/16"				
	EA After Sheetrock Ceiling / Wall Recessed	1545 (1) 54W T5 HO	05 4'-10 1/4"				
		1355 (1) 35W T5	08 7'-4 9/16"				
	PM Perimeter Mount, Before Sheetrock Ceiling	1805 (1) 80W T5 HO	12 10'-10 11/16"				
		2285 (2) 28W T5					
		2545 (2) 54W T5 HO					
		3285 (3) 28W T5					
		3545 (3) 54W T5 HO					



* Specify "1" for 120V or "2" for 277V. Some lamp types may not be available. EM not available for (03), (04) or (05) lengths. Must be 8ft minimum length. EM not available for 347V. EM for 35W T5 listed as dry location only. Offered as MOD with customer approval. EM not available for 80W T5 HO lamp. DA not available for 39W T5 HO (120V/277V) or 80W T5 HO (120V) lamps. DA for 80W T5 HO (277V) offered as MOD with customer approval. DD not available for 21W T5, 39W T5 HO and 80W T5 HO lamps (120V/277V). DE not available for 35W T5 or 80W T5 HO lamps (120V/277V). DH not available for 21W T5, 28W T5, 35W T5 and 80W T5 HO lamps (120V/277V). DSC/DSN not available with 80W T5 HO lamps (120V/277V). STD*_ not available for 347V. STD*_ not available with single lamp 21W T5, 28W T5 (120V/277V). STD*_ not available with 39W T5 HO, 54W T5 HO, 35W T5 and 80W T5 HO lamps (120V/277V).



UL LISTED
Suitable for Damp Locations
Approved for thru wiring
Above ceiling access not required
IBEW Union Made

Lead Time? Double-click on
<http://www.zumtobel.us/PDBXXXXXXXXXXXX>
XXXXXXXXXXXXXXXXXXXX
A = ZOOM! Quick Ship - ships in 2 weeks
B = ships in 4 weeks C = ships in 8 weeks

1. Housing - Extruded aluminum housings in various standard lengths. Finish is powder coated high-reflectance white. Post painted. Continuous rows provided with specially designed joiner system allowing uniform appearance with no light leaks. Aluminum endcaps. Feed from top or side.

2. Mounting - Before Sheetrock: Mounting brackets with 1/4-20 threaded rod (by others) and snap-on yoke (by Zumtobel) provided approximately every 4 feet. Fixture does not need to be disassembled for installation. **After Sheetrock Ceiling / Wall:** Flange secured to blocking behind sheetrock ceiling / wall with flat head screws (by others) using screw holes provided every 3 inches. Mud up to flange for clean, flush appearance.

Perimeter Mount: For before sheetrock ceiling installations only. Mount perimeter fixture mounting rail (by Zumtobel) to wall making sure it is level. Hang fixture by yokes (by Zumtobel). Fixture supported by yokes, not ceiling.

3. Lamping and Length - One 21W, 28W or 35W T5, or 39W, 54W or 80W T5 HO staggered lamps in cross-section. Staggered lamping only applicable for 2 or more lamps. Fixture lengths are as noted above. Refer to ordering information to determine lamp type, quantity and wattage.

4. Optic - Choose from Frosted Acrylic or Micro-Pyramidal Lens, Matte or Specular Bivergence® Louver, White Louver. Each optic (except MPO) is available as either flush or regressed. Regressed optics offer a choice of corrugated side or smooth side. All flush louver optics are available with option of Overlay. See page 30A for list of available optics. Choose Higher Performance Option (HP) for any available optic for higher efficiency.

5. Voltage/Ballast - Electronic, universal

voltage (120/277V) or 347V. Prewired for thru wiring. Ballasts are mounted in geartray offering entry from below.

6. Dimming - In control fixtures with Lutron EcoSystem dimming, control wires are brought to an interface. Consult factory for location of control wire feed. Consult factory for specific dimming requirements other than those listed above.

7. Wiring Options - Standard wiring is single circuit with 1-lamp ballast. This will be supplied if no wiring option is chosen. Other options available are Single Circuit Master-Slave switching (MS1), 2 Circuit A/B Switching with separate neutral (AB2) and 3 circuit A/B/C switching with common neutral. See page 30D for more information.

8. Standby Battery Pack - Integral standby battery pack with integral test switch.

9. Power Feed Quick Disconnect - Available as an option for quick connection to power supply.

10. Weight - 2.5 lbs per linear foot

COMPANION LUMINAIRE OPTIONS	FIF #
6" Recessed, Flangeless Sheetrock Ceiling or Perimeter, MR-16	401
6" Recessed, Flangeless Sheetrock Ceiling or Perimeter, Lit Corner	402
6" Recessed, Flanged Sheetrock Ceiling or Wall	395
6" Recessed, T-bar Ceiling or Perimeter	403
6" Recessed, Flangeless Sheetrock Ceiling, Wall Washer	400

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Highland, NY 12528-2630

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FAX (845) 691-6289

www.zumtobel.us

SL-30

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APPENDIX S

Continuous Run Fixtures

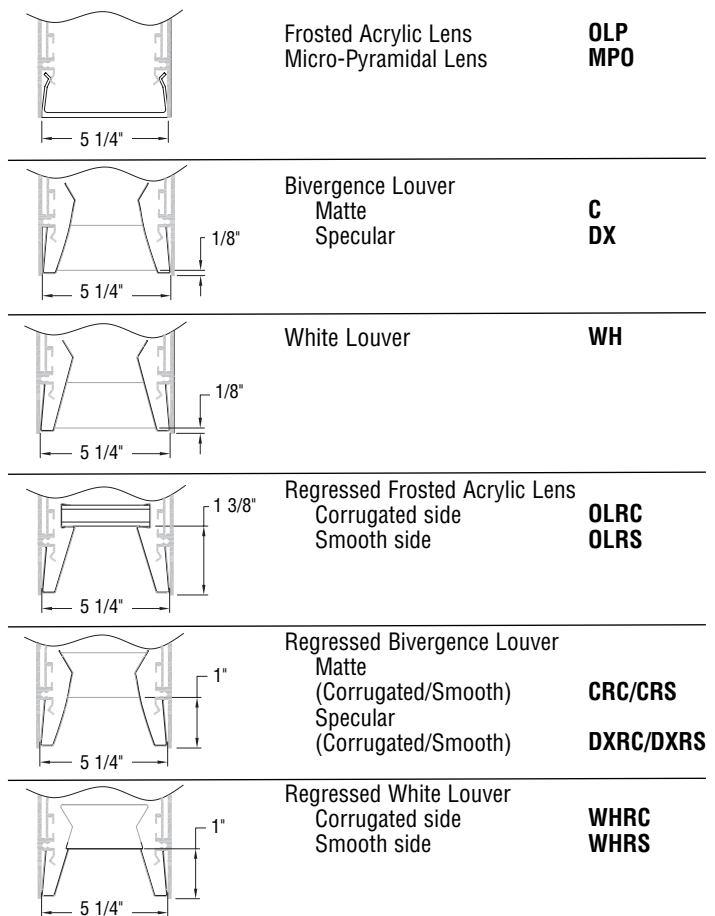
USE THIS CHART FOR CONTINUOUS RUNS ONLY

SLR6NS								
SLR6NM								
SLR6NE								
FIXTURE	CEILING/MOUNTING	LAMP	LENGTH	OPTIC	VOLTAGE/BALLAST	WIRING OPTIONS	OTHER OPTIONS	
SLR6NS SLOTLIGHT PRO, 6" Recessed, Flangeless, Starter	EB Before Sheetrock Ceiling	1215 (1) 21W T5	03 2'-8 1/2" (S/E)	See page 30A for available optics.	U Universal 120/277V 347 347V DA_* Dimming, Analog (0-10V) DD_* Dimming, DALI DE_* Dimming, Lutron ECO-10™ DH_* Dimming, Lutron HiLume® DSC_* Dimming, Lutron EcoSystem™, Control Fixture DSN_* Dimming, Lutron EcoSystem, Non-control Fixture STDM_* Dimming, Step	MS1 Master-Slave Switching, Single Circuit AB2 A/B Switching, 2 Circuit AB3 A/B/C Switching, 3 Circuit	HP Higher Performance Option WF Whip Flex 3/8" X 6' 14 AWG WN_* Whip Flex 3/8" X 6' 14 AWG (NYC) EM1_* Standby Battery Pack/ 1 Lamp CP Chicago Plenum F Fusing QD Power Feed Quick Disconnect	
		1395 (1) 39W T5 HO	04 3'-8 5/16" (S/E)					
	1285 (1) 28W T5	05 4'-8 1/8" (S/E)						
SLR6NM SLOTLIGHT PRO, 6" Recessed, Flangeless, Mid	EA After Sheetrock Ceiling / Wall	1545 (1) 54W T5 HO	04 3'-6 1/8" (M)	EM not available for 03), (04) or (05) lengths. Must be 8ft minimum length. EM not available for 347V. EM for 35W T5 listed as dry location only. Offered as MOD with customer approval. EM not available for 80W T5 HO lamp. DA not available for 39W T5 HO (120V/277V) or 80W T5 HO (120V) lamps. DA for 80W T5 HO (277V) offered as MOD with customer approval. DD not available for 21W T5, 39W T5 HO and 80W T5 HO lamps (120V/277V). DE not available for 35W T5 or 80W T5 HO lamps (120V/277V).	DH not available for 21W T5, 28W T5, 35W T5 and 80W T5 HO lamps (120V/277V). DSC/DSN not available with 80W T5 HO lamps (120V/277V). STDM not available for 347V. STDM not available with single lamp 21W T5, 28W T5 (120V/277V), STDM not available with 39W T5 HO, 54W T5 HO, 35W T5 and 80W T5 HO lamps (120V/277V).			
		1355 (1) 35W T5	05 4'-5 15/16" (M)					
	1805 (1) 80W T5 HO	08 7'-2 7/16" (S/E)						
SLR6NE SLOTLIGHT PRO, 6" Recessed, Flangeless, End	PM Perimeter Mount, Before Sheetrock Ceiling	2285 (2) 28W T5	08 7'-2 7/16" (S/E)					
		2545 (2) 54W T5 HO	12 10'-8 9/16" (S/E)					
		3285 (3) 28W T5	12 10'-6 3/8" (M)					
		3545 (3) 54W T5 HO						

Optics

- OLP** Frosted Acrylic Lens, Flush
- MPO** Micro-Pyramidal Lens, Flush
- C** Matte Bivergence® Louver, Flush
- DX** Specular Bivergence Louver, Flush
- WH** White Louver, Flush
- OLRC** Regressed Frosted Acrylic Lens, Corrugated Side
- OLRS** Regressed Frosted Acrylic Lens, Smooth Side
- CRC** Regressed Matte Parabolic Louver, Corrugated Side
- CRS** Regressed Matte Bivergence Louver, Smooth Side
- DXRC** Regressed Specular Parabolic Louver, Corrugated Side
- DXRS** Regressed Specular Bivergence Louver, Smooth Side
- WHRC** Regressed White Louver, Corrugated Side
- WHRS** Regressed White Louver, Smooth Side
- CO** Matte Bivergence Louver, Flush, Opal Overlay
- DXO** Specular Bivergence Louver, Flush, Opal Overlay
- WHO** White Louver, Flush, Opal Overlay

Optic	Side	Finish
Frosted Acrylic Lens	Smooth	High Reflectance White
Frosted Acrylic Lens	Corrugated	High Reflectance White
Matte Bivergence Louver	Smooth	Matte
Matte Bivergence Louver	Corrugated	Matte
Specular Bivergence Louver	Smooth	Specular
Specular Bivergence Louver	Corrugated	Matte
White Louver	Smooth	High Reflectance White
White Louver	Corrugated	High Reflectance White



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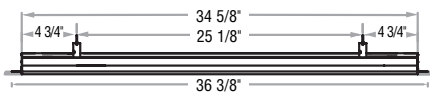
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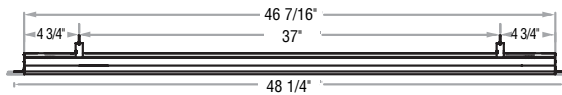
Side Views - Before Sheetrock Ceiling / Perimeter Mount Installation

Individual Fixtures

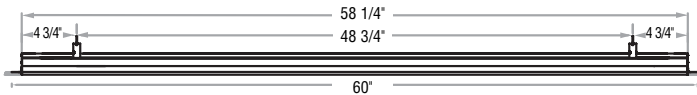
SLR6NI-EB/PM (03) Length Individual Fixture



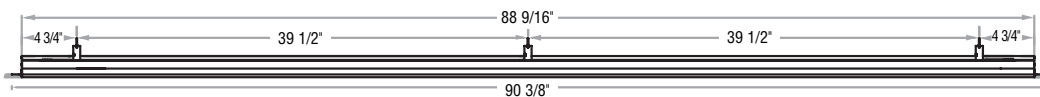
SLR6NI-EB/PM (04) Length Individual Fixture



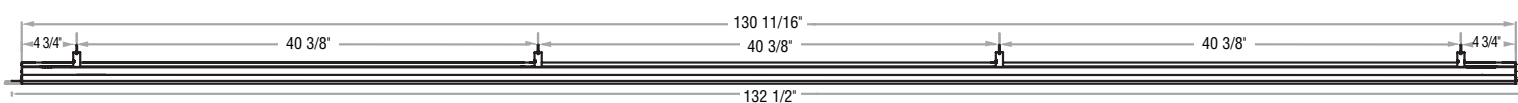
SLR6NI-EB/PM (05) Length Individual Fixture



SLR6NI-EB/PM (08) Length Individual Fixture

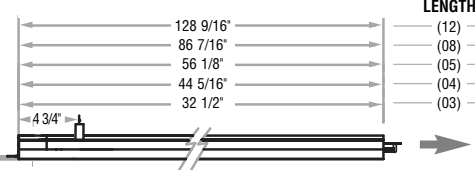


SLR6NI-EB/PM (12) Length Individual Fixture

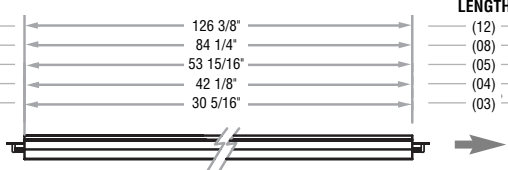


Continuous Run Fixtures

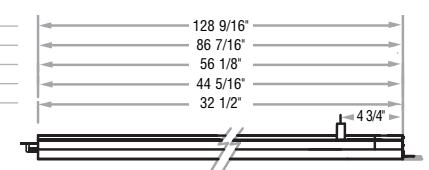
SLR6NS-EB/PM Starter Fixtures
(end flange not included)



SLR6NM-EB/PM Mid Fixtures



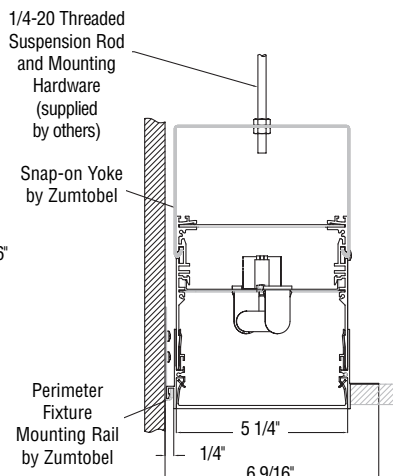
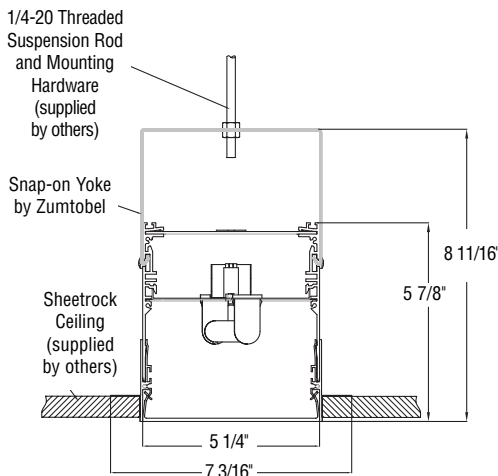
SLR6NE-EB/PM End Fixtures
(end flange not included)



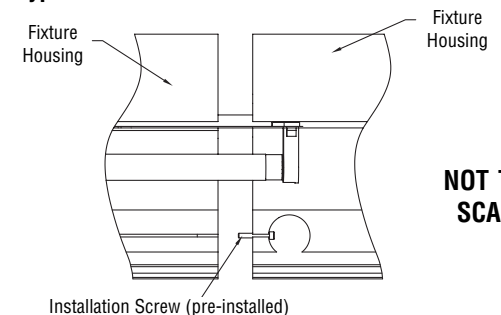
Starter fixture includes an aluminum endcap. Geartray with Cap end designed to extend into next fixture. Supplied with mechanical alignment bars and installation screw installed in housing.

Mid fixture receives Start or Mid fixture on one end and End or Mid fixture on the other end. Quick connector with Plug end designed to extend into Start fixture and Cap end designed to extend into End fixture. Supplied with mechanical alignment bars and installation screws installed in housing.

End fixture includes an aluminum endcap. Geartray with Plug end designed to extend into next fixture. Supplied with installation screw installed in housing. No mechanical alignment bars.



Typical Connection Detail



NOT TO SCALE

	Maximum length of fixture run per feed*:	
	(1) 28W T5	(1) 54W T5 HO
120V	172 ft.	88 ft.
277V	400 ft.	212 ft.

*All run lengths based on using ULT ballasts and drawing a maximum of 12 amps on the circuit.

Shown with Frosted Acrylic Lens, Flush

Zumtobel Lighting Inc. ©2009
3300 Route 9W
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TEL (845) 691-6262
(800) 932-0633
FAX (845) 691-6289

www.zumtobel.us

SL-30B

In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials. Technical specification sheets that appear on www.zumtobel.us are the most recent version and supersede all other versions that exist in any other printed or electronic form.

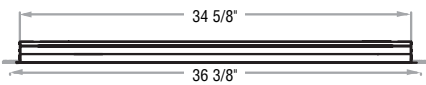
ZUMTOBEL

APPENDIX S

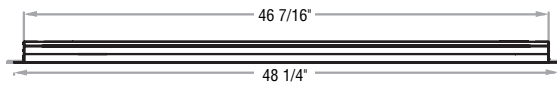
Side Views - After Sheetrock Ceiling / Wall Recessed Installation

Individual Fixtures

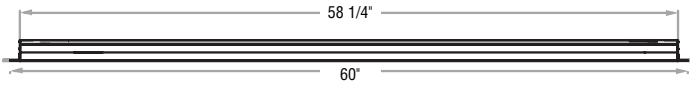
SLR6NI-EA (03) Length Individual Fixture



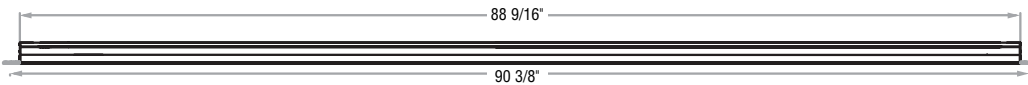
SLR6NI-EA (04) Length Individual Fixture



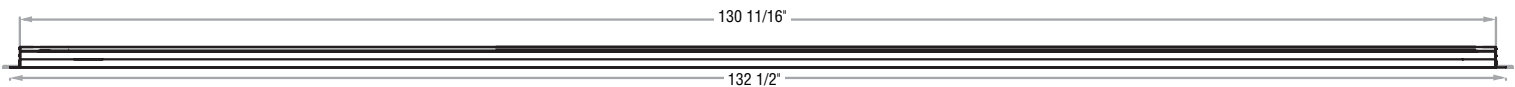
SLR6NI-EA (05) Length Individual Fixture



SLR6NI-EA (08) Length Individual Fixture

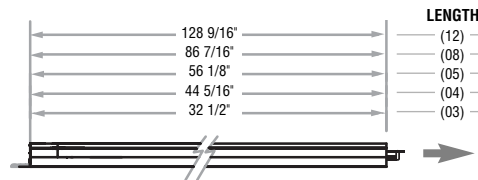


SLR6NI-EA (12) Length Individual Fixture

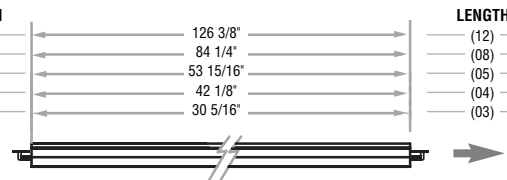


Continuous Run Fixtures

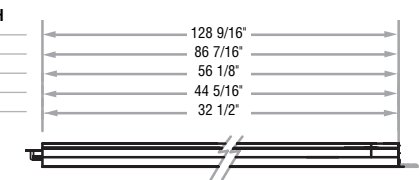
SLR6NS-EA Starter Fixtures
(end flange not included)



SLR6NM-EA Mid Fixtures



SLR6NE-EA End Fixtures
(end flange not included)

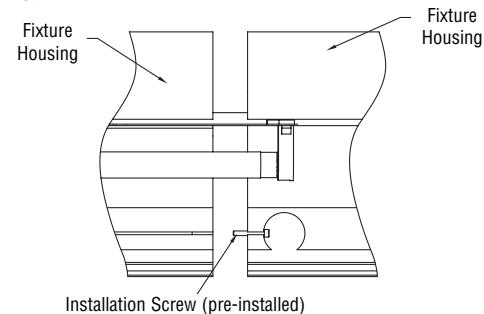


Starter fixture includes an aluminum endcap. Geartray with Cap end designed to extend into next fixture. Supplied with installation screw installed in housing.

Mid fixture receives Start or Mid fixture on one end and End or Mid fixture on the other end. Quick connector with Plug end designed to extend into Start fixture and Cap end designed to extend into End fixture. Supplied with installation screws installed in housing.

End fixture includes an aluminum endcap. Geartray with Plug end designed to extend into next fixture. Supplied with installation screw installed in housing.

Typical Connection Detail



NOT TO SCALE

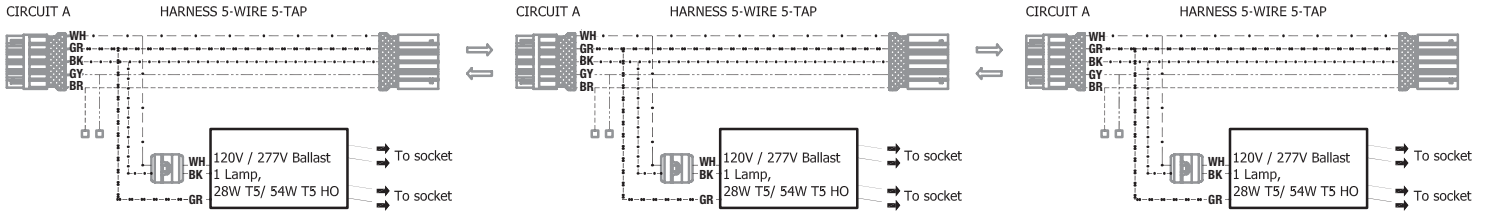
Maximum length of fixture run per feed*:

	(1) 28W T5	(1) 54W T5 HO
120V	172 ft.	88 ft.
277V	400 ft.	212 ft.

*All run lengths based on using ULT ballasts and drawing a maximum of 12 amps on the circuit.

Sample Wiring Information

SLOTLIGHT PRO Standard Wiring, 1 Circuit, Common Neutral - (12) Length

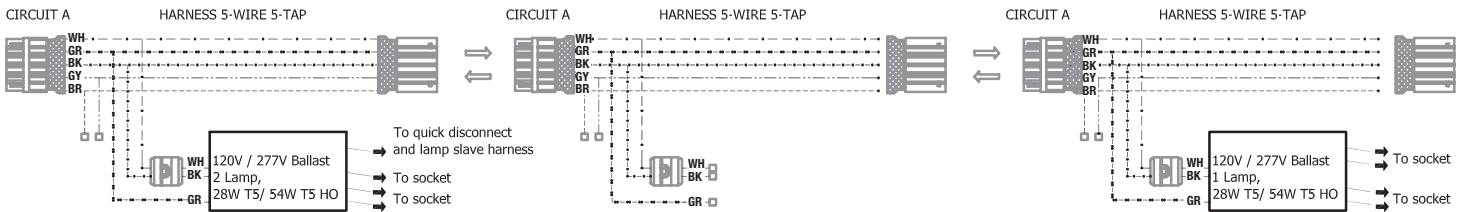


COLOR	STANDARD
--- -- WH - WHITE	NEUTRAL
--- -- GR - GREEN	GROUND
--- -- BK - BLACK	HOT
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

COLOR	STANDARD
--- -- WH - WHITE	NEUTRAL
--- -- GR - GREEN	GROUND
--- -- BK - BLACK	HOT
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

COLOR	STANDARD
--- -- WH - WHITE	NEUTRAL
--- -- GR - GREEN	GROUND
--- -- BK - BLACK	HOT
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

SLOTLIGHT PRO Master-Slave Switching, 1 Circuit, Common Neutral - MS1 - (12) Length



COLOR	STANDARD
--- -- WH - WHITE	NEUTRAL
--- -- GR - GREEN	GROUND
--- -- BK - BLACK	HOT
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

COLOR	STANDARD
--- -- WH - WHITE	NOT USED
--- -- GR - GREEN	NOT USED
--- -- BK - BLACK	NOT USED
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

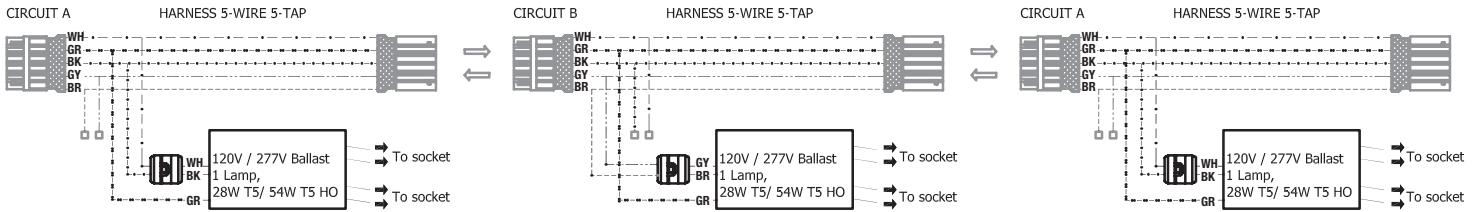
COLOR	STANDARD
--- -- WH - WHITE	NEUTRAL
--- -- GR - GREEN	GROUND
--- -- BK - BLACK	HOT
--- -- GY - GREY	NOT USED
--- -- BR - BROWN	NOT USED
BALLAST DISCONNECT	

NOTE: Master-Slave Switching not available with one lamp fixtures.

Sample wiring options shown above are for non-dimmed fluorescents only.

Sample Wiring Information

SLOTLIGHT PRO A/B/A Switching, 2 Circuit, Separate Neutral - AB2 - (12) Length



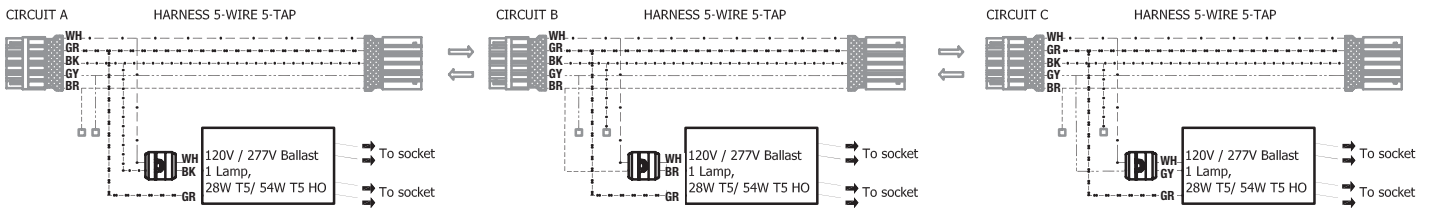
COLOR	STANDARD
WH - WHITE	NEUTRAL
GR - GREEN	GROUND
BK - BLACK	HOT
GY - GREY	NOT USED
BR - BROWN	NOT USED
BALLAST DISCONNECT	

COLOR	STANDARD
WH - WHITE	NOT USED
GR - GREEN	GROUND
BK - BLACK	NOT USED
GY - GREY	NEUTRAL
BR - BROWN	HOT
BALLAST DISCONNECT	

COLOR	STANDARD
WH - WHITE	NEUTRAL
GR - GREEN	GROUND
BK - BLACK	HOT
GY - GREY	NOT USED
BR - BROWN	NOT USED
BALLAST DISCONNECT	

NOTE: A/B/A or A/B Switching not available with one lamp fixtures.

SLOTLIGHT PRO A/B/C Switching, 3 Circuit, Common Neutral - AB3 - (12) Length



COLOR	STANDARD
WH - WHITE	NEUTRAL
GR - GREEN	GROUND
BK - BLACK	HOT
GY - GREY	NOT USED
BR - BROWN	NOT USED
BALLAST DISCONNECT	

COLOR	STANDARD
WH - WHITE	NEUTRAL
GR - GREEN	GROUND
BK - BLACK	NOT USED
GY - GREY	NOT USED
BR - BROWN	HOT
BALLAST DISCONNECT	

COLOR	STANDARD
WH - WHITE	NEUTRAL
GR - GREEN	GROUND
BK - BLACK	NOT USED
GY - GREY	HOT
BR - BROWN	NOT USED
BALLAST DISCONNECT	

NOTE: A/B/C Switching not available with one or two lamp fixtures.

Sample wiring options shown above are for non-dimmed fluorescents only.

SLR6 1545 04 OLP (1) 54W T5 HO

6" WIDE RECESSED FLUORESCENT, FROSTED ACRYLIC LENS, FLUSH

LTL 14341

Total Luminaire Efficiency 49%

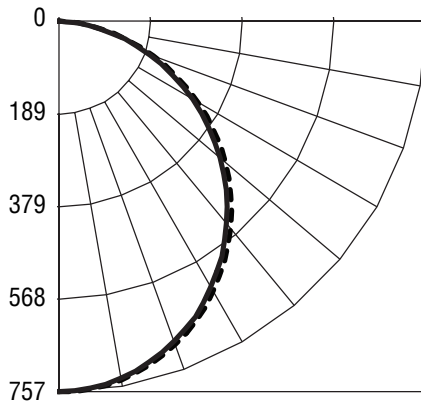
0% Uplight 100% Downlight

Spacing Criteria

Lateral Plane 0° 90°
1.26 1.24

TOTAL LAMP LUMENS = 4400

INPUT WATTS = 60



Maximum Candela = 757 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4612	4538	4483
55	4439	4338	4281
65	4150	4058	3996
75	3664	3564	3539
85	3056	2907	2832

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	583.46	13.3	27.4
0-40	952.44	21.6	44.7
0-60	1675.75	38.1	78.6
0-90	2131.95	48.5	100
90-120	0	0	0
90-130	0	0	0
90-150	0	0	0
90-180	0	0	0
0-180	2131.95	48.5	100

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10			
0	58	58	58	58	56	56	56	56	54	54	54	52	52	52	49	49	49	48			
1	53	50	48	46	51	49	47	46	47	46	44	45	44	43	43	42	41	40			
2	48	44	40	38	47	43	40	37	41	39	36	40	37	35	38	36	35	34			
3	44	38	34	31	42	38	34	31	36	33	30	35	32	30	34	31	29	28			
4	40	34	30	26	39	33	29	26	32	29	26	31	28	26	30	27	25	24			
5	37	30	26	23	36	30	26	23	29	25	22	28	25	22	27	24	22	21			
6	34	27	23	20	33	27	23	20	26	22	20	25	22	19	24	22	19	18			
7	31	25	21	18	31	24	20	17	24	20	17	23	20	17	22	19	17	16			
8	29	23	18	16	28	22	18	16	22	18	15	21	18	15	20	18	15	14			
9	27	21	17	14	27	20	17	14	20	16	14	19	16	14	19	16	14	13			
10	26	19	15	13	25	19	15	13	18	15	13	18	15	13	18	15	13	12			

SLR6 1545 04 OLP HP (1) 54W T5 HO

6" WIDE RECESSED FLUORESCENT, FROSTED ACRYLIC LENS, FLUSH

HIGHER PERFORMANCE OPTION

LTL 14350

Total Luminaire Efficiency 57%

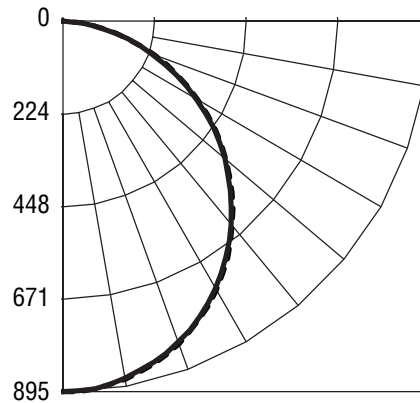
0% Uplight 100% Downlight

Spacing Criteria

Lateral Plane 0° 90°
1.26 1.24

TOTAL LAMP LUMENS = 4400

INPUT WATTS = 60



Maximum Candela = 895 Located At Horizontal Angle = 45, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5438	5374	5310
55	5232	5142	5085
65	4888	4796	4719
75	4292	4216	4166
85	3577	3428	3354

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	690.09	15.7	27.4
0-40	1127.02	25.6	44.7
0-60	1983.03	45.1	78.6
0-90	2522.34	57.3	100
90-120	0	0	0
90-130	0	0	0
90-150	0	0	0
90-180	0	0	0
0-180	2522.34	57.3	100

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10			
0	68	68	68	68	67	67	67	67	64	64	64	61	61	61	58	58	58	57			
1	62	59	57	55	61	58	56	54	56	54	52	53	52	51	51	50	49	48			
2	57	52	48	45	55	51	47	44	49	46	43	47	44	42	45	43	41	40			
3	52	45	41	37	50	45	40	37	43	39	36	41	38	35	40	37	35	33			
4	47	40	35	31	46	39	35	31	38	34	31	37	33	30	35	32	30	29			
5	43	36	31	27	42	35	30	27	34	30	26	33	29	26	32	29	26	25			
6	40	32	27	23	39	32	27	23	31	26	23	30	26	23	29	25	23	22			
7	37	29	24	21	36	29	24	21	28	24	21	27	23	20	26	23	20	19			
8	35	27	22	19	34	26	22	18	26	21	18	25	21	18	24	21	18	17			
9	32	25	20	17	31	24	20	17	24	19	17	23	19	16	22	19	16	15			
10	30	23	18	15	30	22	18	15	22	18	15	21	18	15	21	17	15	14			

SLR6 1545 04 WHRS (1) 54W T5 HO

6" WIDE RECESSED FLUORESCENT, REGRESSED WHITE LOUVER, SMOOTH SIDE

LTL 14349

Total Luminaire Efficiency 57%

0% Uplight 100% Downlight

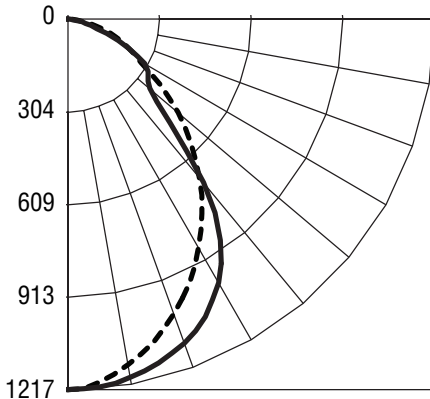
Spacing Criteria

Lateral Plane 0° 90°

1.10 1.22

TOTAL LAMP LUMENS = 4400

INPUT WATTS = 60



Maximum Candela = 1217 Located At Horizontal Angle = 0, Vertical Angle = 2.5
 # 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
 # 2 - Vertical Plane Through Horizontal Angles (90 - 270)

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5865	6087	4872
55	4670	4096	4083
65	3779	3440	3796
75	3321	2546	2186
85	2547	1808	1644

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	893.73	20.3	35.9
0-40	1407.63	32	56.5
0-60	2150.2	48.9	86.4
0-90	2489.68	56.6	100
90-120	0	0	0
90-130	0	0	0
90-150	0	0	0
90-180	0	0	0
0-180	2489.68	56.6	100

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10			
0	67	67	67	67	66	66	66	66	63	63	63	60	60	60	58	58	58	57			
1	62	60	58	56	61	59	57	55	56	55	53	54	53	52	52	51	50	49			
2	57	53	50	47	56	52	49	46	50	48	45	48	46	44	47	45	43	42			
3	53	48	43	40	52	47	43	40	45	42	39	44	41	38	42	40	38	37			
4	49	43	38	35	48	42	38	35	41	37	34	39	36	34	38	35	33	32			
5	45	39	34	31	44	38	34	30	37	33	30	36	32	30	35	32	29	28			
6	42	35	30	27	41	35	30	27	34	30	27	33	29	27	32	29	26	25			
7	39	32	27	24	38	32	27	24	31	27	24	30	26	24	29	26	24	23			
8	37	29	25	22	36	29	25	22	28	24	22	28	24	22	27	24	21	20			
9	34	27	23	20	34	27	23	20	26	22	20	26	22	20	25	22	20	19			
10	32	25	21	18	32	25	21	18	24	21	18	24	20	18	23	20	18	17			

SLR6 1545 04 WHRS HP (1) 54W T5 HO

6" WIDE RECESSED FLUORESCENT, REGRESSED WHITE LOUVER, SMOOTH SIDE

HIGHER PERFORMANCE OPTION

LTL 14355

Total Luminaire Efficiency 66%

0% Uplight 100% Downlight

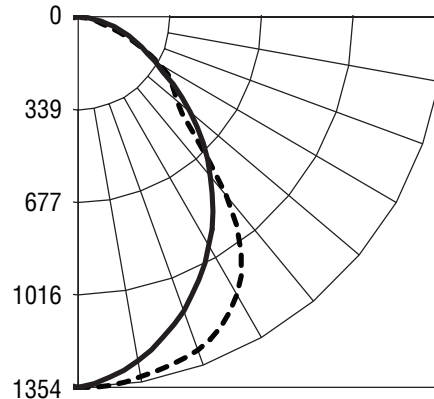
Spacing Criteria

Lateral Plane 0° 90°

1.10 1.28

TOTAL LAMP LUMENS = 4400

INPUT WATTS = 60



Maximum Candela = 1354 Located At Horizontal Angle = 90, Vertical Angle = 2.5
 # 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
 # 2 - Vertical Plane Through Horizontal Angles (0 - 180)

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6604	7191	6158
55	5357	4995	5282
65	4389	4050	4355
75	3846	2989	2546
85	3040	2137	1972

ZONAL LUMEN SUMMARY

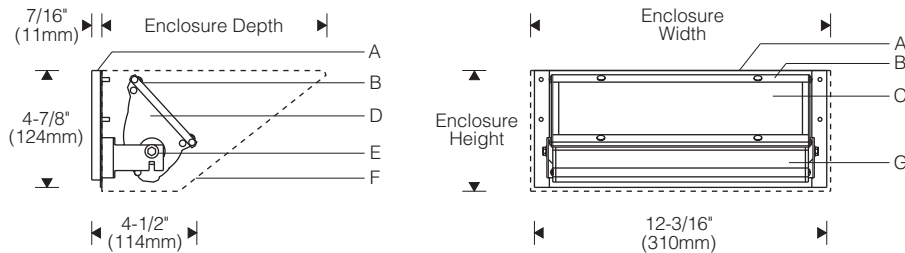
Zone	Lumens	%Lamp	%Fixt
0-30	1007.89	22.9	34.9
0-40	1603.35	36.4	55.5
0-60	2492.28	56.6	86.3
0-90	2888.77	65.7	100
90-120	0	0	0
90-130	0	0	0
90-150	0	0	0
90-180	0	0	0
0-180	2888.77	65.7	100

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

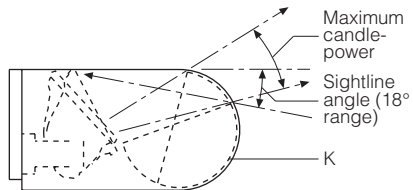
Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10			
0	78	78	78	78	76	76	76	76	73	73	73	70	70	70	67	67	67	66			
1	72	70	67	65	71	68	66	64	65	63	62	63	61	60	60	59	58	57			
2	67	62	58	54	65	60	57	54	58	55	52	56	54	51	54	52	50	49			
3	61	55	50	46	60	54	50	46	52	48	45	50	47	44	49	46	44	42			
4	57	49	44	40	55	48	44	40	47	43	39	45	42	39	44	41	38	37			
5	52	45	39	35	51	44	39	35	42	38	35	41	37	34	40	37	34	33			
6	49	40	35	31	47	40	35	31	39	34	31	38	34	30	37	33	30	29			
7	45	37	32	28	44	36	31	28	35	31	27	35	30	27	34	30	27	26			
8	42	34	29	25	41	33	28	25	33	28	25	32	28	25	31	27	25	23			
9	40	31	26	23	39	31	26	23	30	26	23	29	25	22	29	25	22	21			
10	37	29	24	21	36	29	24	21	28	24	21	27	23	21	27	23	20	19			

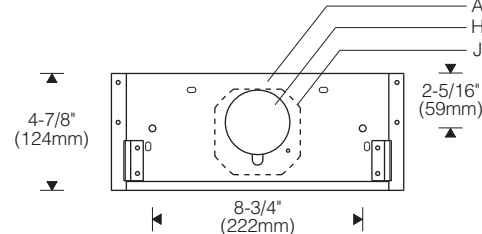
Base Unit 1:8 Scale



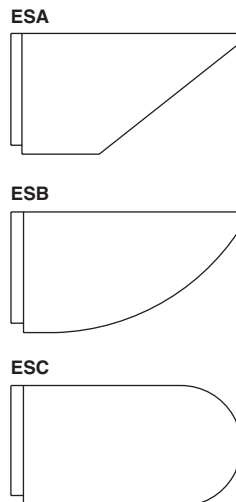
ESC Enclosure 1:8 Scale



Mounting Plate



Enclosures 1:8 Scale



For enclosure dimensions, see ordering information on reverse side.



Specifications

- | | | | |
|--|--|--|---|
| A Aluminum yoke/mounting plate (forms reveal at wall) | C Micro-prismatic tempered glass lens | F Sconce enclosure (ordered separately) | J Outlet box (by others) |
| B Overlapping aluminum door frame | D Stamped aluminum end plates | G Specular extruded aluminum reflector | K Rotating semi-cylindrical front (allows sightline and aiming angles to vary) |
| E Beveled spring washers | H Removable splice access cap | | |

Features

- Crisp geometric sconce enclosures compliment any space or design your own housing
- Unique ESC sconce – adjustable shielding and aiming
- Compact yet powerful – up to 150W ceramic metal halide, 350W IR halogen (equivalent to 500W)
- Non-corrosive – base unit is aluminum and stainless steel



Finish:

Bright clear anodized aluminum reflector with mill finish aluminum door and end plates; black yoke/mounting plate. Enclosure finish specified separately.

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

Reflector – extruded high purity aluminum with clear anodized specular finish. All luminaire hardware – stainless steel.

Mounting:

Yoke/mounting plate fastens to suitable structure over recessed outlet box, and supports enclosure (ordered separately).

For pendant mounting, yoke/mounting plate attaches to accessory pendant assembly (ordered separately).

Standard:

UL listed or CSA certified for damp locations (Style 451 with gasketed lens recommended for damp locations; see Outdoor Section). Suitable for upright orientation only.

Electrical:

Use 90°C wire for supply connections.

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 encapsulated high reactance autotransformer ballast (35W and 70W) or electronic ballast. Electronic ballast provides improved voltage regulation, energy savings and automatic shut-off feature to eliminate end-of-life lamp cycling.

For complete ballast specifications, see Accessories Section.

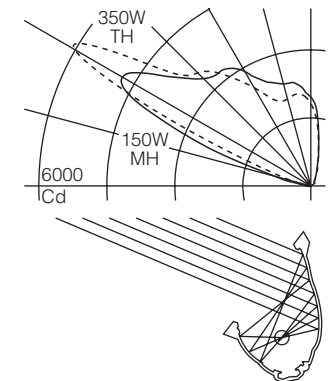
Enclosure (ordered separately):

Seam welded, ground smooth cold rolled steel. Edges are rolled to eliminate "oil canning." Attaches to base unit forming a reveal at the wall to prevent light leaks and delineate the form. Thermoset powder coat finish.

ESC enclosure sidearms are brushed clear anodized aluminum. Rotatable semi-cylindrical front allows sightline angle to be adjusted from horizontal to 18° below horizontal.

Performance

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



For complete photometrics, visit www.elliptipar.com

To Order

Ensconce® Style 403

To form a Catalog Number

4
0
3
-
W
-
0
0
-
-
-

1
2
3
4
5
6
7
8



1 Source

M = Metal halide
T = Tungsten halogen

2 Style

403 = Small Ensconce® base unit, **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	15' (4.5m)
			A, B	10' (3m)
070G	70	CDM70/T6/830	1, 2	15' (4.5m)
			A, B	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	
0350	350	Q350T3/CL/HIR	A	

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

4 Mounting

W = Yoke/mounting plate for attachment over recessed outlet box

5 Finish

00 = Bright clear anodized reflector with mill finish door and end plates; black yoke/mounting plate

Note: Specify enclosure finish separately.

6 Voltage/Ballast

<i>Electronic</i>	<i>Magnetic*</i>
1 = 120V	A = 120V
2 = 277V	B = 277V

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

Project: _____

7 Option (see Accessories Section for specifications.)

00 = No options
0H = Long distance remote ballast (encapsulated magnetic ballast for 35 and 70W only), 35W: 15' min. up to 50' max. (4.5m - 15m), 70W: up to 50' max. (15m)
0M = MRI medical facility use (tungsten halogen only). Custom enclosure required. Consult factory prior to specification.
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

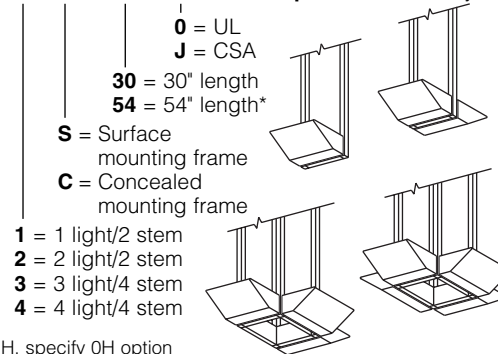
T403 - 0250 - W - 00 - A - 000

Small Ensconce® base unit with 250W tungsten halogen lamp. Yoke/mounting plate to attach to suitable structure over recessed outlet box. Bright anodized reflector with mill finish door and end plates. Yoke/mounting plate finished black. 120V. UL. Order enclosure separately.

Accessories

Order separately. See Accessories Section for specifications.

EPS02 - _____ = Small pendant assembly



*150W M.H. specify 0H option

AFK000X _____ = Ballast fuse kit

0 = UL
J = CSA

Type: _____

Enclosures

Order separately. See Accessories Section for specifications.

ESA _____ **A** 000 **

12-1/2" width x
5" height x
9-3/8" depth*



ESB _____ **A** 000 **

12-1/2" width x
5" height x
9-3/8" depth*



ESC _____ **A** 000

13" width x
5" height x
9-1/16" depth*



* Add 7/16" (11mm) for reveal at wall.

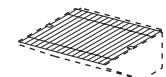
** Change "000" to "M00" for use in MRI medical facility.

A Enclosure Finish

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

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

APG00010 = Wire **paper guard** (available for enclosure styles ESA and ESB only)



ABA08010 = Enclosure **backsplash shield** includes sawtooth baffle and black interior finish to minimize light on wall behind (available for enclosure styles ESA and ESB only)



Pole top luminaires with indirect adjustable light distribution

Housing/fitter: Heavy one piece die-cast aluminum optical housing with integrally cast transition "fitter" which slip fits a 3" O.D. pole top or tenon and is secured by six (6) flush, stainless steel set screws. The housing gracefully supports two (2) 3/4" diameter stainless steel struts located at 180° as well as a die-cast aluminum diffuser retaining ring. All components function and appear as a unified design.

Optical: 3/4" thick, machined tempered crystal clear optical glass with a high temperature-rated one piece molded silicone rubber gasket encloses the precise, stippled pure aluminum, wide flood distribution reflector. The glass retaining ring is secured by two (2) hidden stainless steel hex head access screws.

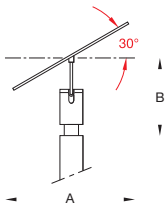
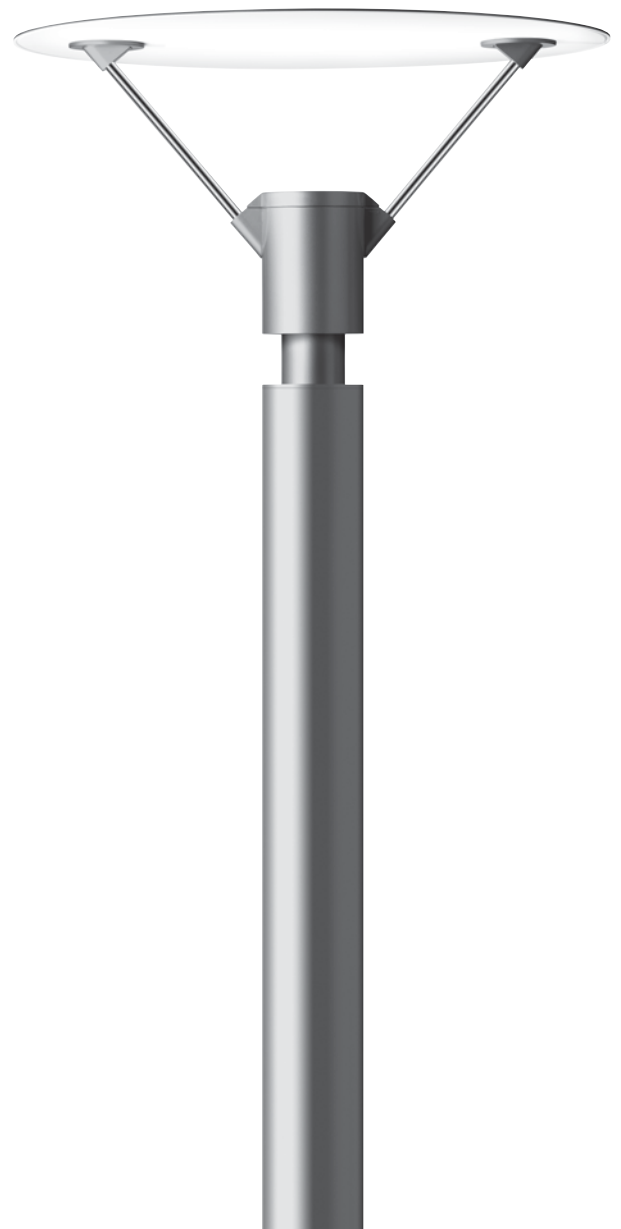
Reflective disk: 31 1/2" diameter x 1/4" thick aluminum plate secured by two (2) die-cast aluminum fixed clamping "saddles" which receive the stainless steel struts. A 1/4" wide by 1/8" deep "drip" channel is provided around the edge of the underside disk.

Electrical: Lampholder is a single ended porcelain G12, bi-pin with nickel plated contacts supplied, pulse rated 5 KV. Ballast is electronic, universal voltage 120V through 277V, located in the base of the selected BEGA pole.

Finish: These luminaires are available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Underside of disk is white. Custom colors supplied on special order.

UL listed, suitable for wet locations. Protection class: IP65.

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



	Lamp	Lumen	A	B
8200 MH	1 70W T6 G12 MH	6600	31 1/2	19 7/8

Drive-over in-grade luminaires for the illumination of facades

Outer housing: Constructed of stainless steel.

Inner housing: One piece stainless steel housing with a cast bronze guard/cover secured together with stainless steel bolts. The entire lamp 'module' is removable for relamping by removing two (2) captive stainless steel bolts. Reflector of pure anodized aluminum with convex molded 1/2" thick safety glass. One piece molded U-channel, high temperature silicone gasket.

Electrical: Lampholders: GY6.35 bi-pin with ceramic insulator and high temperature leads. Integral electronic transformer 120V: 11.6V, available in 120V only. Lamp included. Inner housing is pre-wired with nine (9) feet of 18/3 waterproof cable with a "water stopper" feature, cable clamp and a waterproof cable gland entry into housing. A separate waterproof wiring box for power supply must be provided (by contractor).

Finish: Natural bronze casting, custom colors are not available.

UL listed, suitable for wet locations and vehicle drive over. Protection class: IP67.

Note: A foundation designed to bear pressure loads up to 6600 lbs. from vehicles with pneumatic tires and proper drainage must be supplied by the customer. The luminaires must not be used for traffic lanes where they are subject to horizontal pressure from vehicles braking, accelerating, and changing direction.

Temperature caution: The column "T" in the chart below indicates the temperature in degree Celsius which is reached on the center of the glass surface during operation. Surface temperatures are for exterior applications. For interior applications add 10°C to the temperature shown.

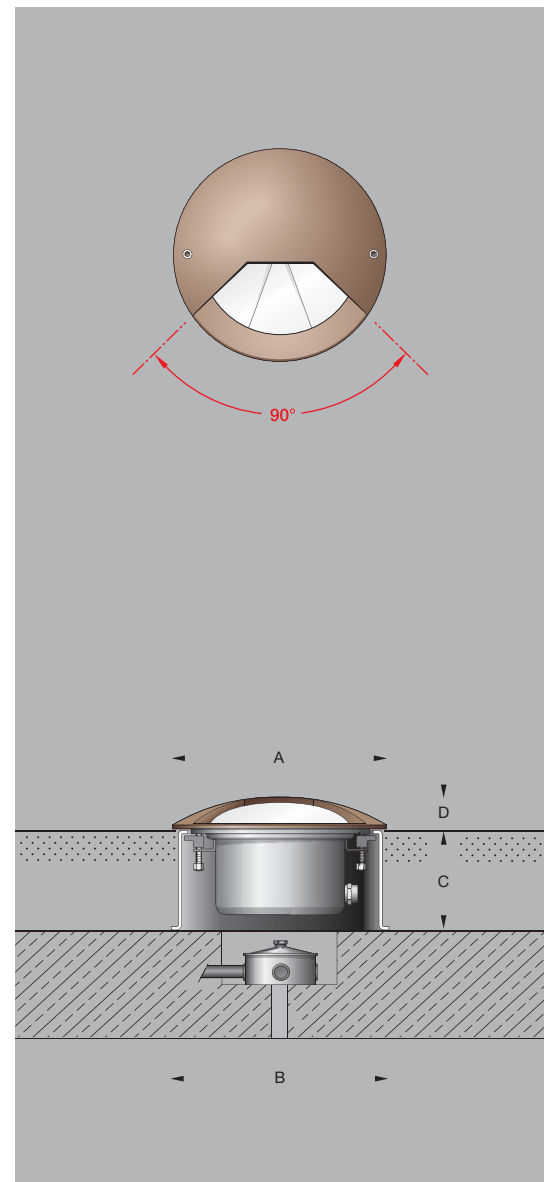
Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:

Round drive over floodlight								
	Lamp		Lumen	T	A	B	C	D
8702	1	35W T4 GY6.35,12V	600	80°	7 1/8	7 1/8	4 3/4	1 1/2

The following table is a planning aid. The luminaire type and its arrangement are derived from the size of the illuminated object and the required illuminance. LLF=1

Planning aid	A	H	B	E	G ¹
8702	2'	8'	4'	7.0 fc	16
35W T4 GY6.35, 12V	3'	10'	6'	3.8 fc	11.6
	4'	12'	8'	2.3 fc	11.6
	6'	15'	12'	1.2 fc	9.7

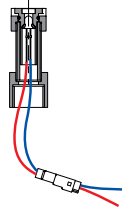
A – Distance between luminaires and façade H – Height of façade B – Distance between luminaires
E – Average illuminance on façade G¹ – Uniformity of illuminance LLF – Light loss factor



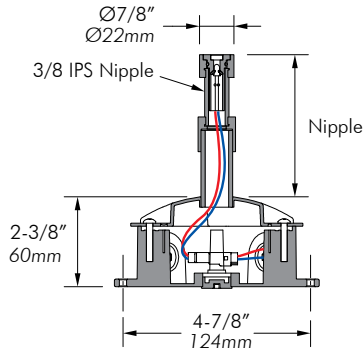
0.1W in-ground

L06

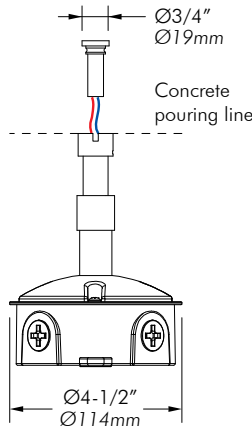
SPEC SHEET



Shown with no base (to 1/2 NPT connector)



Shown with base



Application: Outdoor/indoor indicator light for driveway and sidewalk.

Electrical: 0.1W LED powered by remote constant 6V driver (not included).

Input Current: 20mA

Input Voltage: 6V DC

Power Consumption: 0.1W

Recommended Driver: TLDDL6V6W1 (not included). Dimmable driver is not available for this fixture.

Weight: 1.21lbs (0.549kg).

Material: Stainless steel 316.

Mounting: Can be buried in earth/gravel or cast into concrete with or without mounting base.

Approval: Wet and dry locations. Approved to US and Canadian standards by CSA.



Type:

Project:

Modified:

Quantity:

Notes:

CODE

L06

COLOR

WS27S

WS27S = 2700K, std CRI

BASE

B = with base
N = no base

NIPPLE

2 = 2-1/2" (64mm) minimum
4 = 4" (102mm)
8 = 8" (203mm)
X = custom length

MATERIAL

S6

S6 = stainless steel 316



t 1.877.708.1184 f 604.708.1185 www.mplighting.com
16 West 4th Avenue, Vancouver BC V5Y 1G3, Canada

APPENDIX S

0.1W in-ground

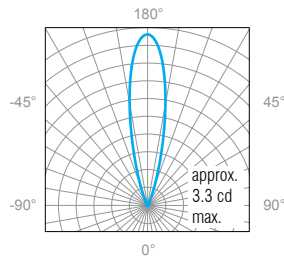
L06

SPEC SHEET

Photometric Data

L06
2700K Std
3.2 lm

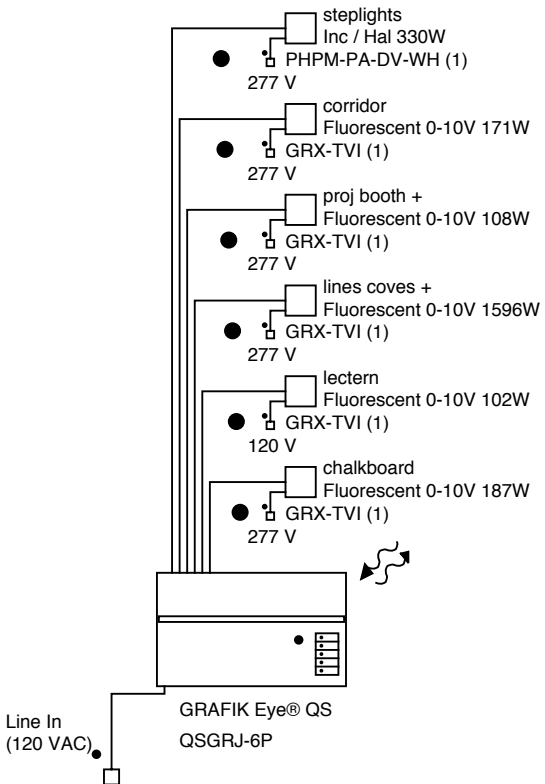
Polar Candela Distribution



Illuminance at a Distance

	Center Beam FC	Beam Width	
0.2'	119.21	0.1'	0.1'
0.3'	29.80	0.1'	0.1'
0.5'	13.25	0.2'	0.2'
0.7'	7.45	0.3'	0.3'
0.8'	4.77	0.3'	0.3'
1.0'	3.31	0.4'	0.4'

■ 0° Spread: 23.4°
■ 90° Spread: 23.2°



Wiring Notes:	● 2 #12 AWG (2.5 mm ²)	▼ 2 #18 AWG (1.0 mm ²)	■ 277 VAC Input Power	▲ Lutron <u>GRX-CBL-346S</u> or <u>GRX-PCBL-346S</u>
	▽ 3 #18 AWG (1.0 mm ²)	□ 120 VAC Input Power	★ Only connect 3 wires (Common, mux, mux)	

Lutron

APPENDIX C

Project Name: New Project	Page: 1
Project Number:	

Description	Model Number	Qty.
GRAFIK Eye® QS Wireless Control Unit	QSGRJ-6P	1
GRAFIK Eye® QS Faceplate Kit	QSGFP-WH-NST	1
Power Module	GRX-TVI	5
Power Module	PHPM-PA-DV-WH	1

Lutron

Project Name: New Project

Project Number:

Page: 2

APPENDIX C

Project Information

Project Name: New Project
 Installer Company: _____
 Installer Name: _____
 Phone: _____

Shipping Information

Name: _____
 Company: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____



Type:	Model Number:	Engraving Certificate Number:	Button color:
1 Scene Control			white (WH)

Lutron Electronics Co. Inc.
 Dept 309 engraving
 7200 Suter Road
 Coopersburg, PA 18036
 www.lutron.com
 Phone: 610.282.3800



Project Name: New Project

Lutron Project #:

Lutron Order #:

P.O.#:

Page: 3

APPENDIX C

Model Number: QSGRJ-6P

Phase Control Zones

Zone	Name	Load Type	No. Fixtures	Wattage/Fixture	Total Wattage
1	chalkboard	Fluorescent 0-10V	11	17	187
2	lectern	Fluorescent 0-10V	6	17	102
3	lines coves +	Fluorescent 0-10V	28	57	1596
4	proj booth +	Fluorescent 0-10V	6	18	108
5	corridor	Fluorescent 0-10V	3	57	171
6	steplights	Inc / Hal	33	10	330

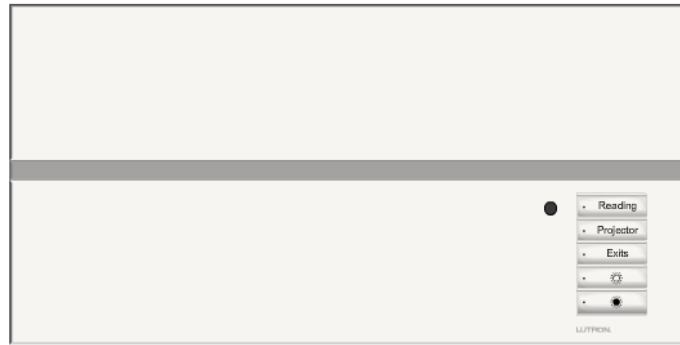
Lutron

Project Name: New Project

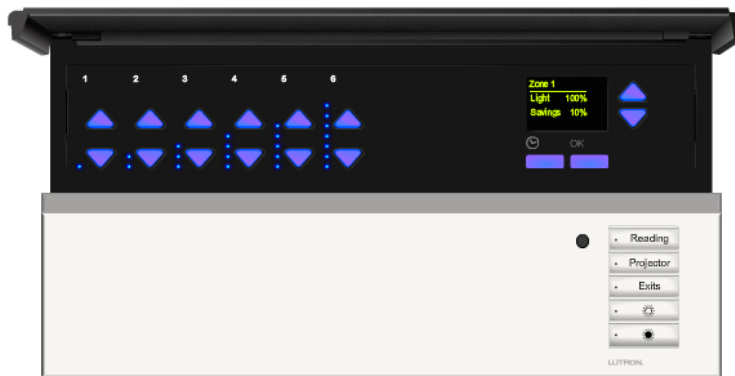
Project Number:

Page: 4

APPENDIX C



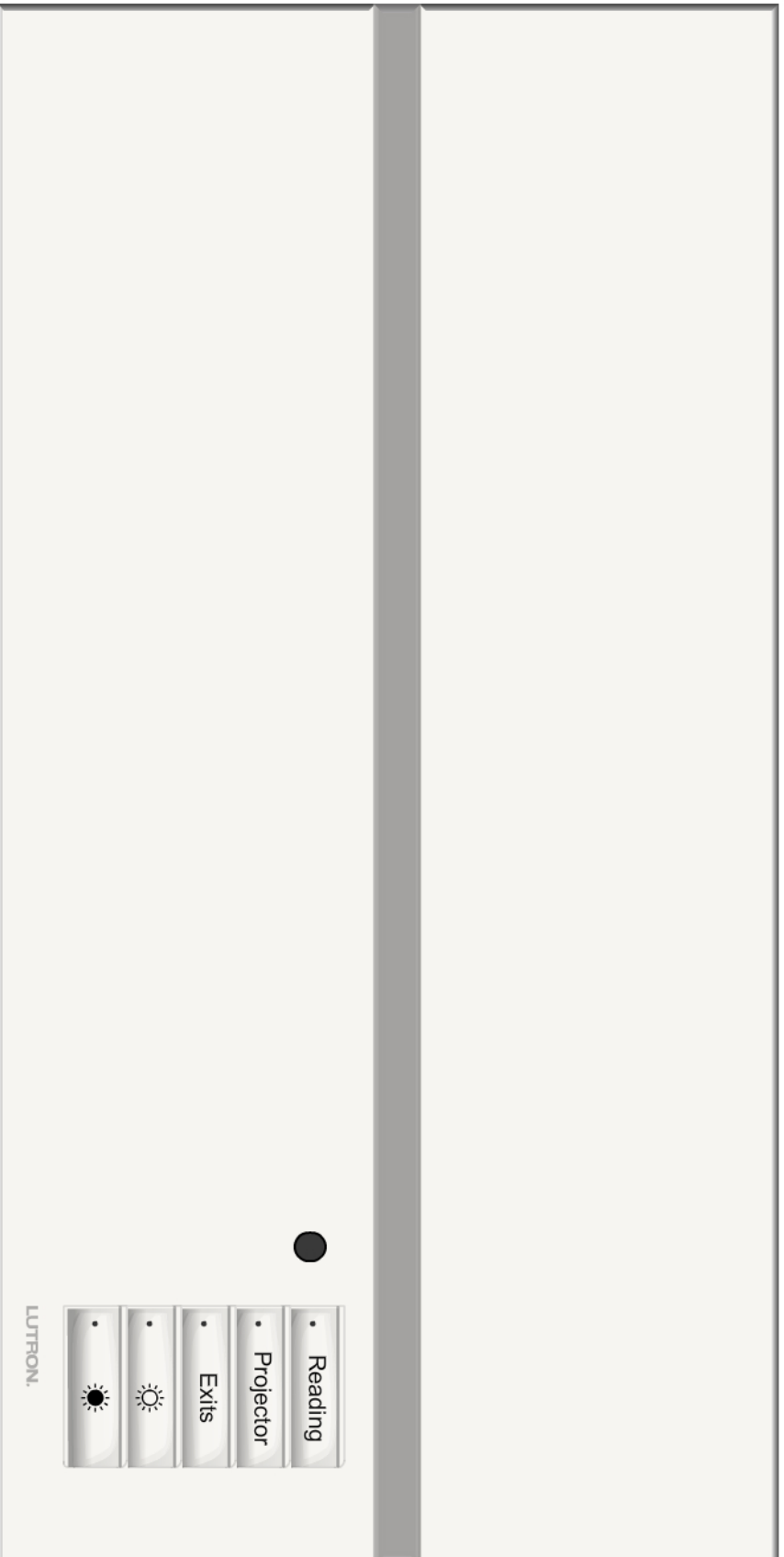
GRAFIK Eye® QS with lid closed.



GRAFIK Eye® QS with lid open.



Actual colors may vary slightly.

Light Zones:	Colors:
6	Faceplate: white (WH)
Shade Groups:	Stripe: gray (GR)
0	Buttons: white (WH)
Model Number:	
Unit:	QSGRJ-6P Quantity: 1



Actual colors may vary slightly.

Selected Wall Color

 Benjamin Moore Paints	Affinity Colors: Fusion www.myaurapaints.com	
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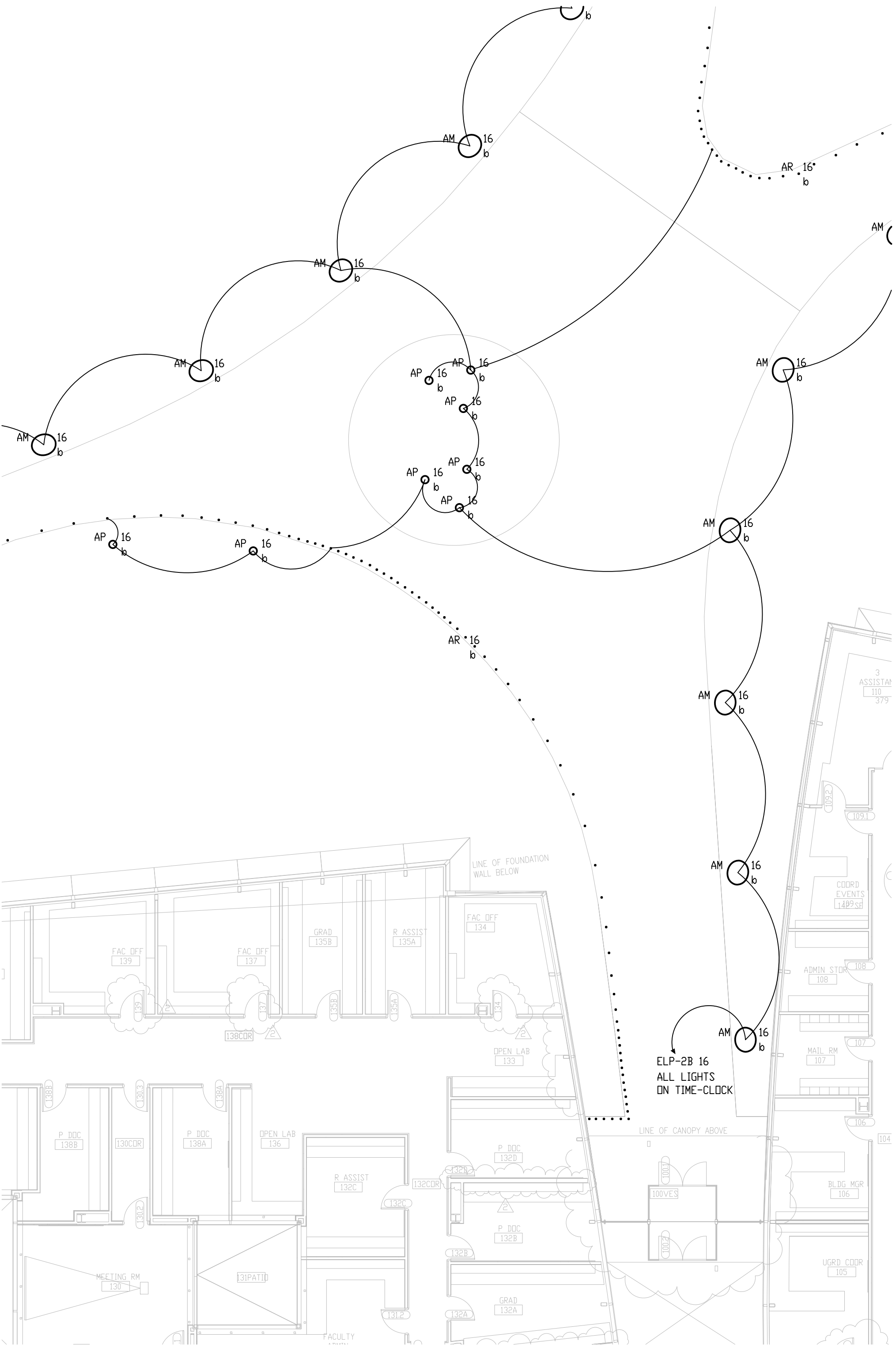
*Actual color may differ slightly; please refer to paint chips for most accurate representation.



Project Name: New Project

Project Number:

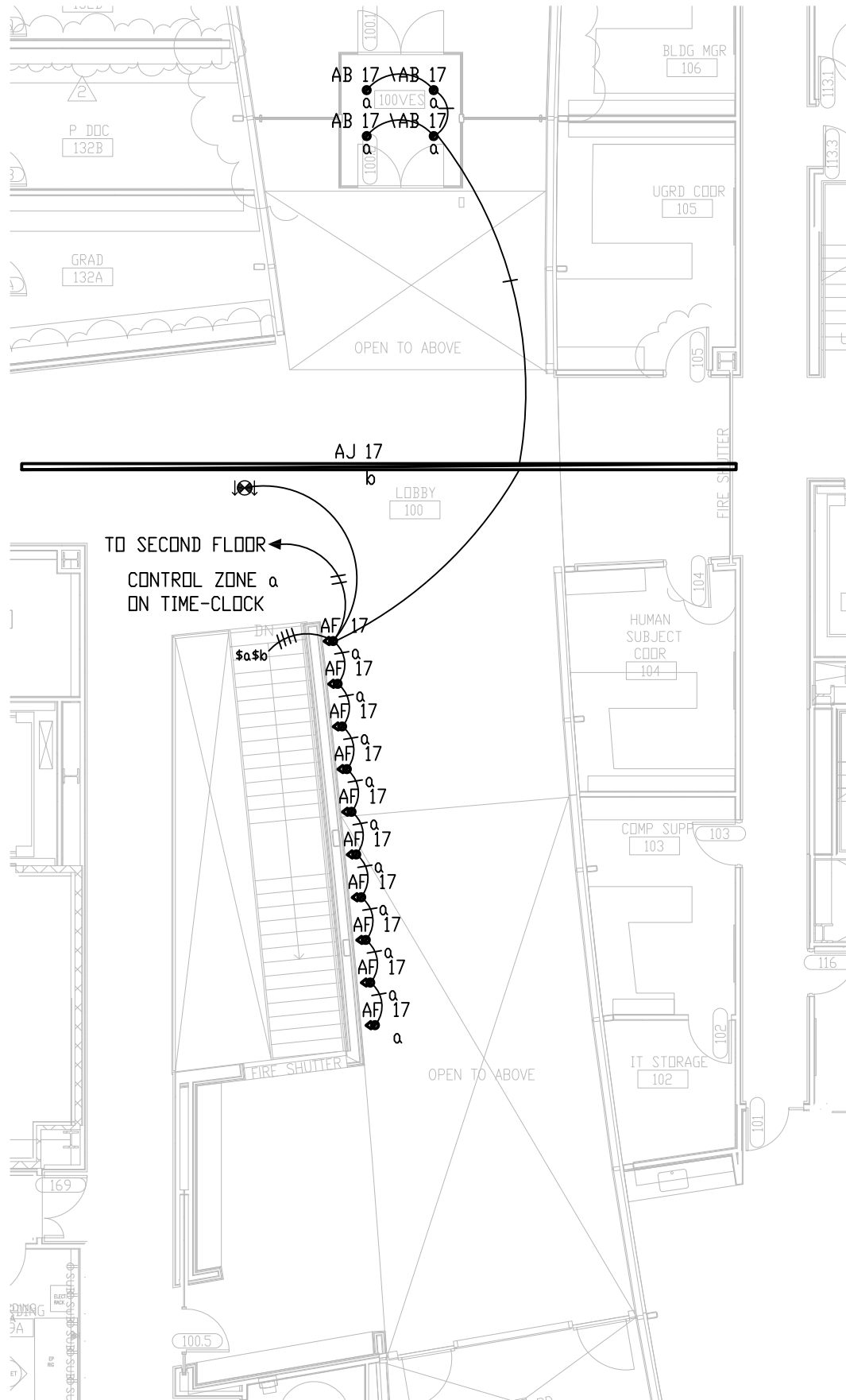
Page: 6



ELECTRICAL PLAN

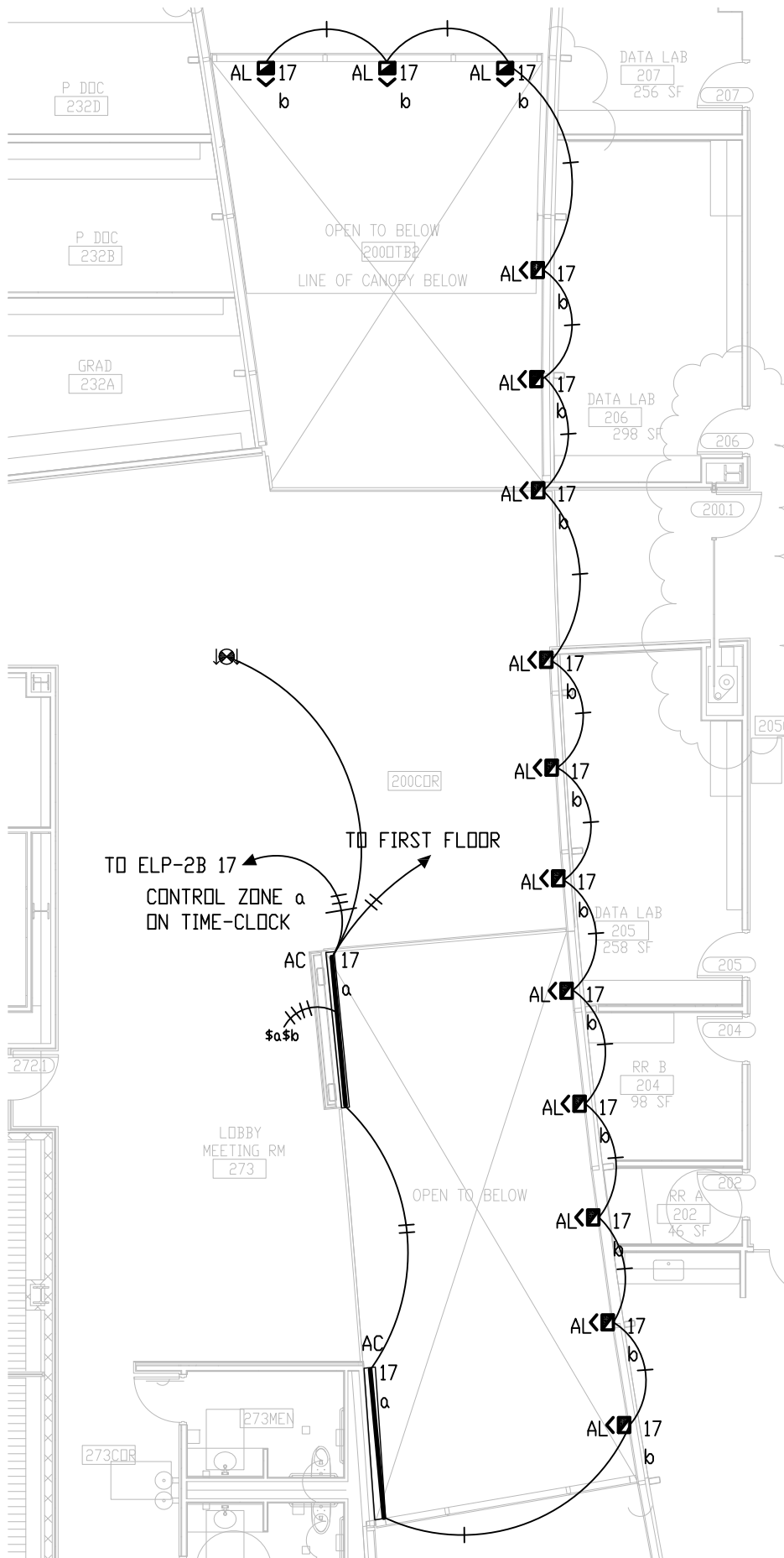
APPENDIX E

SCALE: 3/32" = 1'-0"



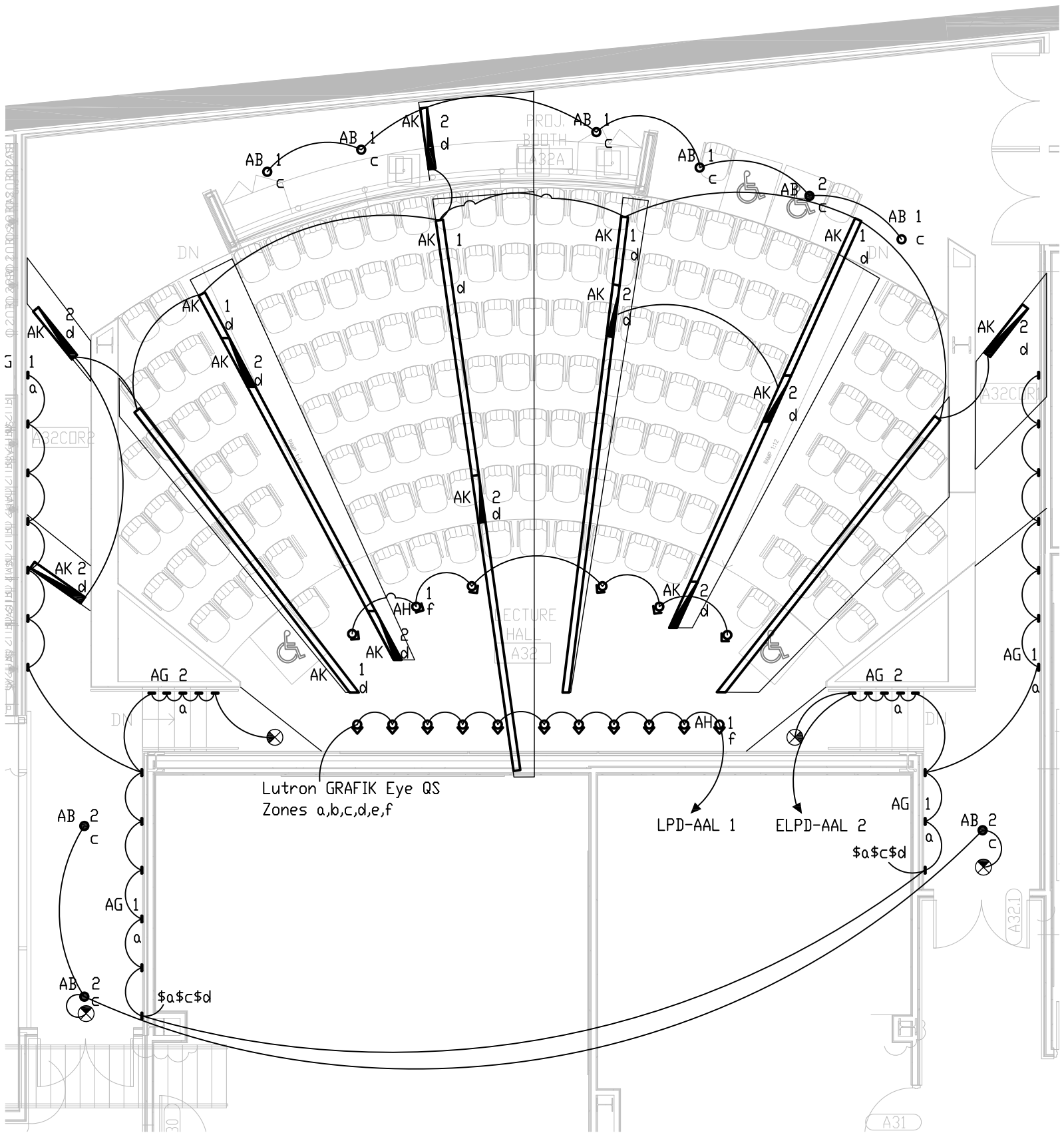
ELECTRICAL PLAN

SCALE: 3/32" = 1'-0"



ELECTRICAL PLAN

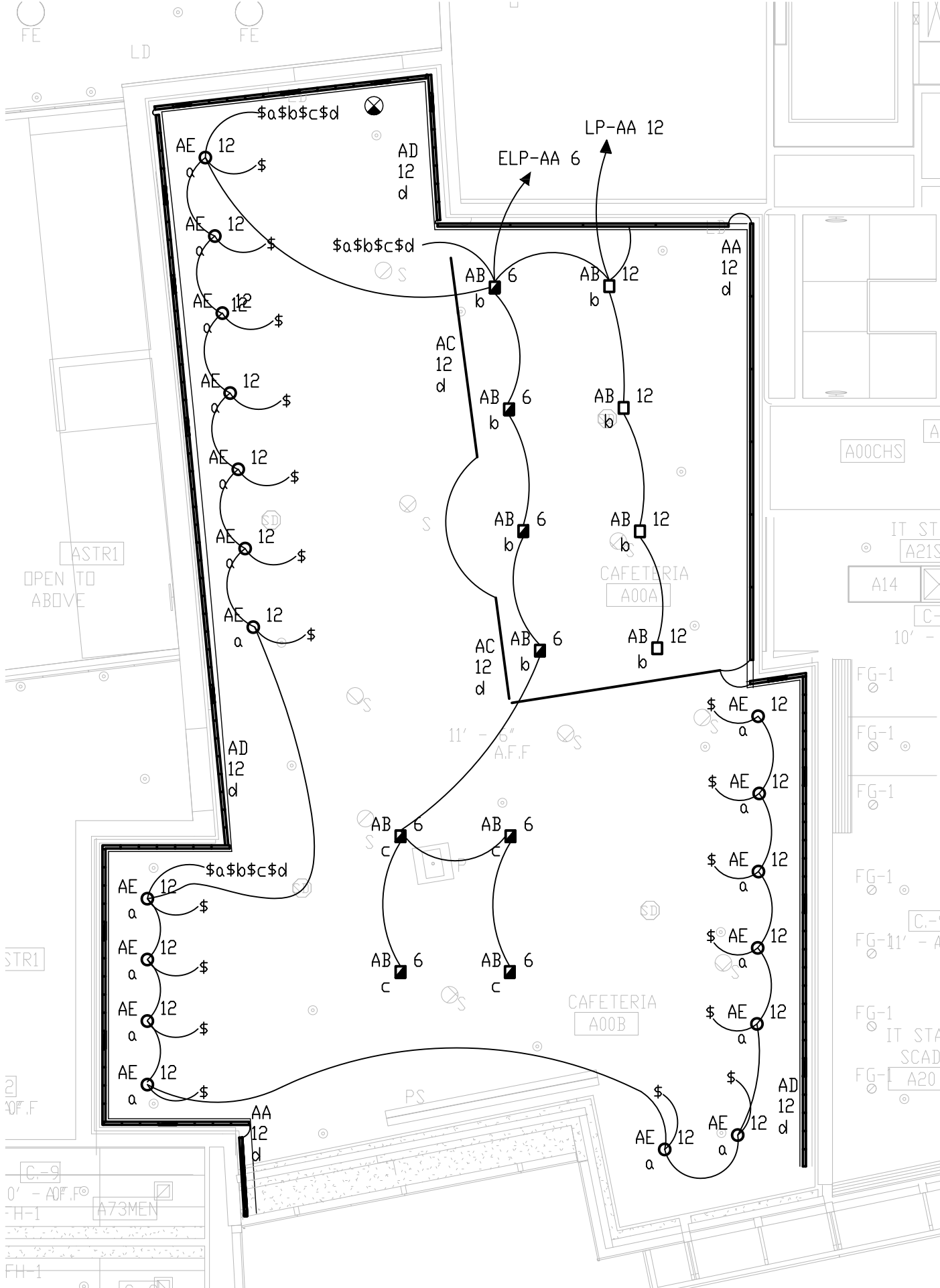
SCALE: 3/32" = 1'-0"



ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

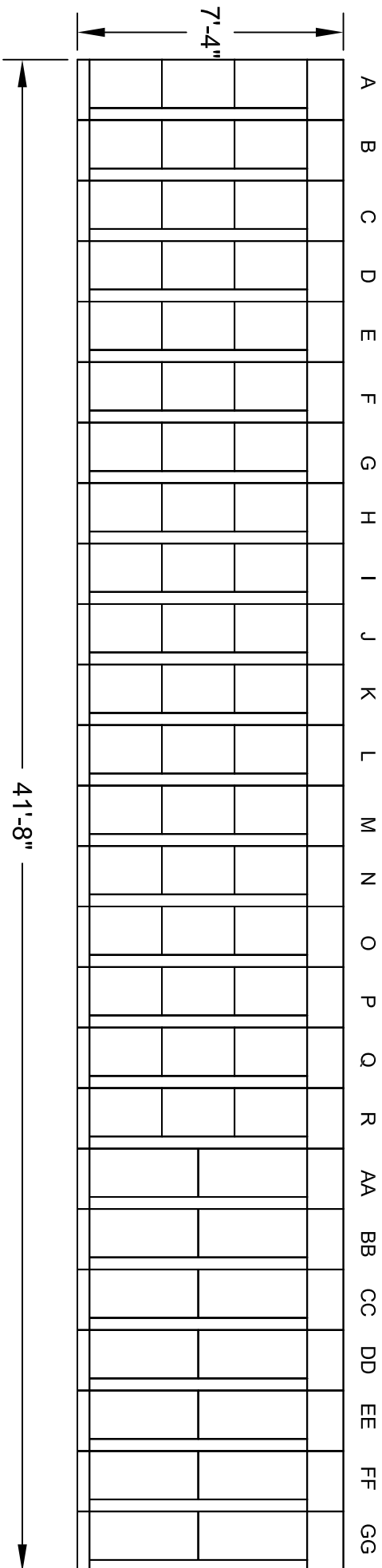
APPENDIX E



ELECTRICAL PLAN

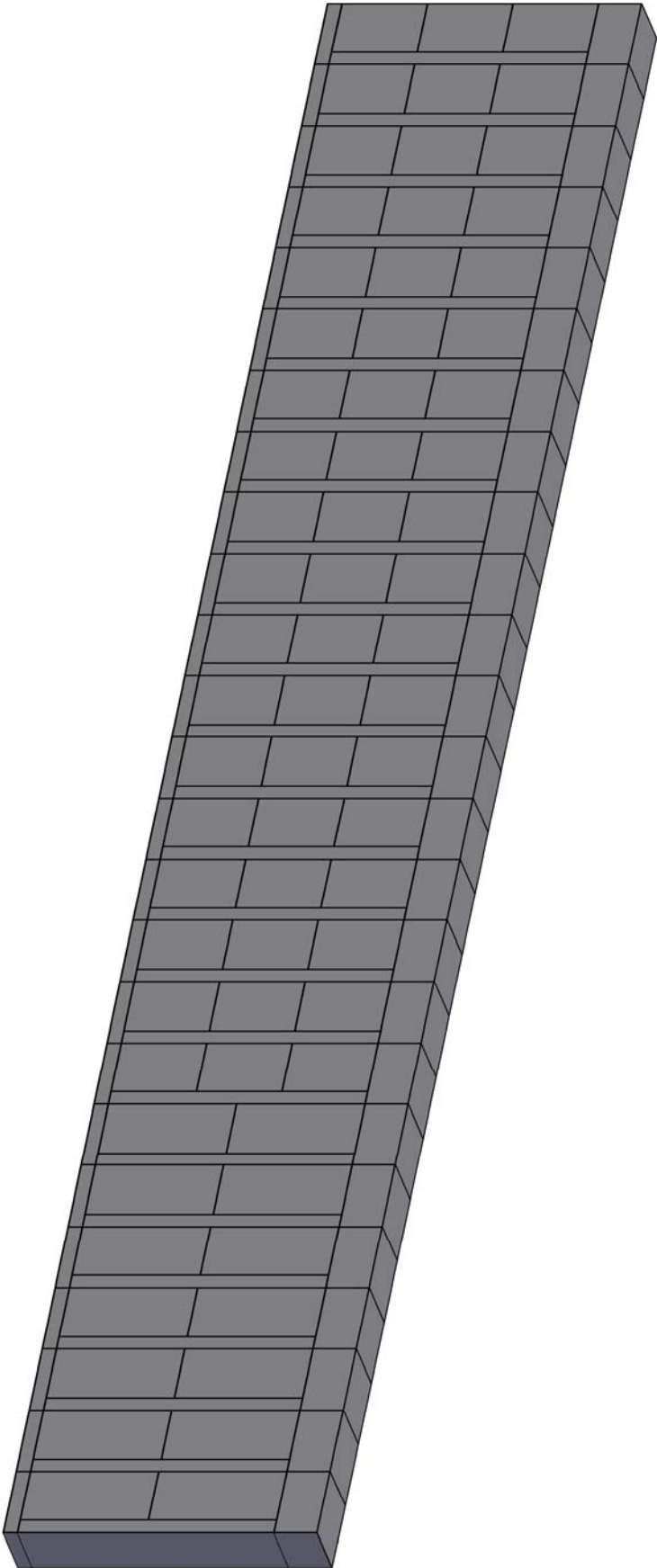
APPENDIX E

SCALE: 1/8" = 1'-0"



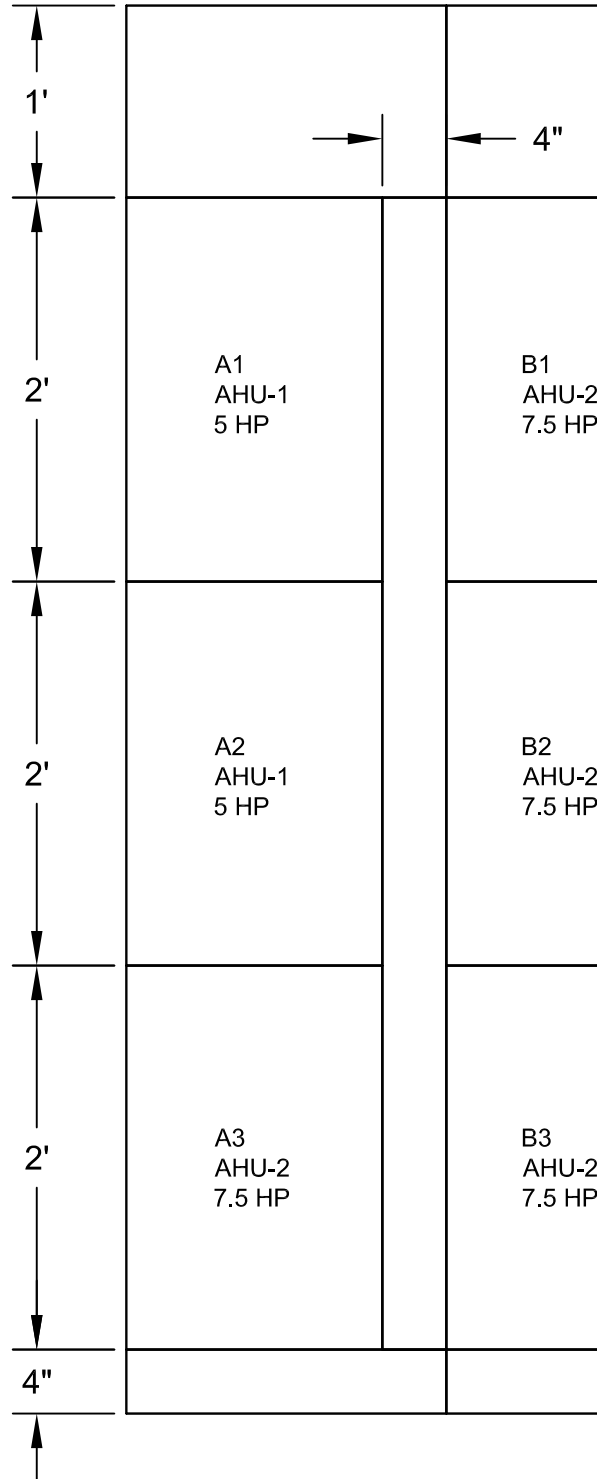
MCC ELEVATION

SCALE : NTS



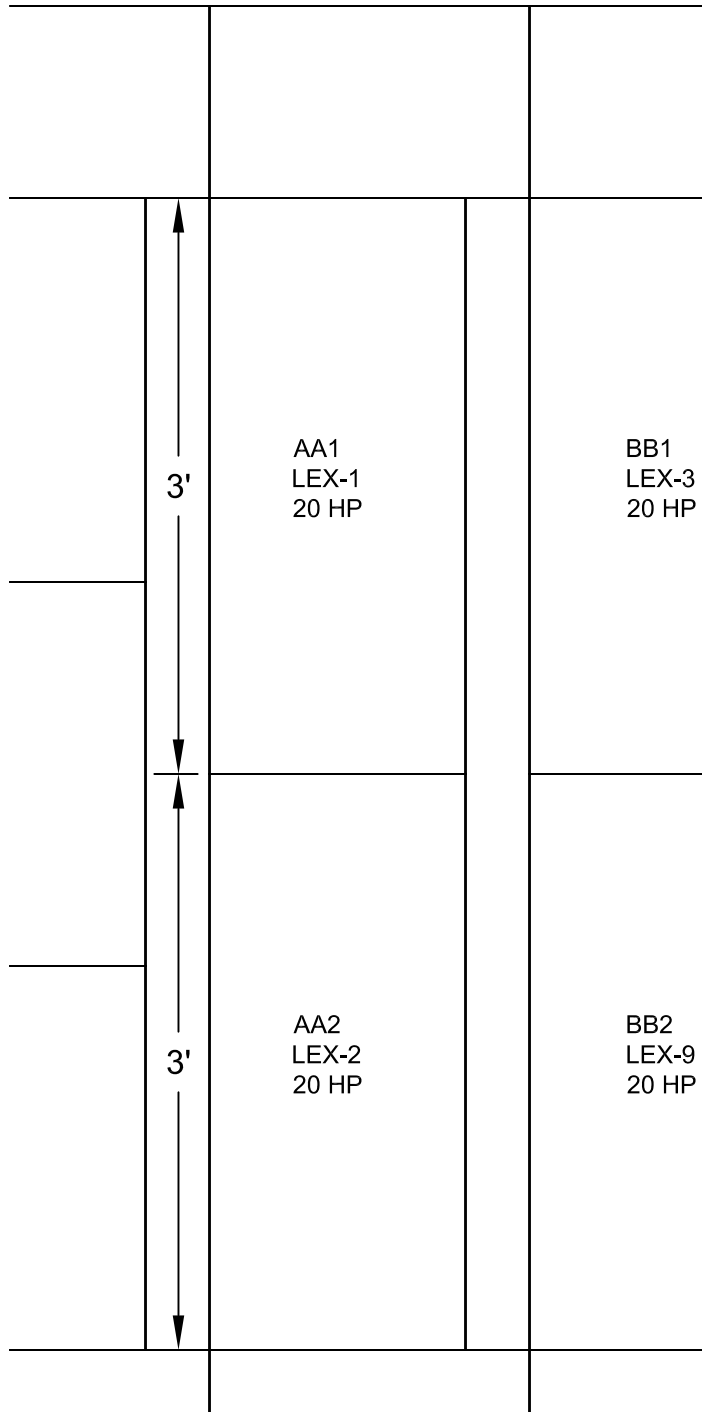
MCC 3D VIEW

SCALE : NTS



MCC ELEVATION DETAIL

SCALE : 1"=1'



MCC ELEVATION DETAIL

SCALE : 1"=1'



AD Plus Lighting Panelboards

Catalog/Selection Guide



imagination at work

AD Plus Lighting Panelboards

Short circuit ratings	35kAIC @ 600Y/347V, 100kAIC @ 480Y/277V (fully rated)
Main bus ratings	Up to 800A UL (600A CSA)
Mains	Breaker or lug
Enclosures	NEMA 3R, 12, 4X (stainless steel)
Dimensions	20" wide x 5 3/4" deep standard, 30" wide available
Mounting	Flush or surface, concealed hardware and hinges standard, door-within-door and front-hinged-to-box options available
Approvals	UL & CSA



AD Plus Lighting Panelboards

600Vac, Factory Assembled – Three-Phase, 3-Wire/4-Wire

1. Select Interior and Main

Main Lug Interiors^{①④}

Use E150 Line Bolt-on Branch Breakers		Single Main Lugs			Subfeed Main Lugs		
Panel Amps Max	Branch Space Required	Interior Catalog Number	List Price, GO-101	Size (inches)	Interior Catalog Number	List Price, GO-101	Size (inches)
125	0-12	ADF3121MB	\$579.00	25.5	ADF3121SB	\$616.00	28.5
	13-18	ADF3181MB	633.00	28.5	ADF3181SB	670.00	34.5
	19-24	ADF3241MB	728.00	31.5	ADF3241SB	764.00	37.5
	25-30	ADF3301MB	821.00	34.5	ADF3301SB	858.00	40.5
	31-36	ADF3361MB	915.00	37.5	ADF3361SB	951.00	46.5
225	37-42	ADF3421MB	1009.00	40.5	ADF3421SB	1046.00	49.5
	0-12	ADF3122MB	648.00	31.5	ADF3122SB	689.00	31.5
	13-18	ADF3182MB	703.00	37.5	ADF3182SB	743.00	37.5
	19-24	ADF3242MB	796.00	40.5	ADF3242SB	836.00	40.5
	25-30	ADF3302MB	890.00	43.5	ADF3302SB	930.00	43.5
400	31-36	ADF3362MB	984.00	49.5	ADF3362SB	1024.00	49.5
	37-42	ADF3422MB	1077.00	52.5	ADF3422SB	1117.00	52.5
	0-12	ADF3124MB	812.00	40.5	ADF3124SB	907.00	46.5
	13-18	ADF3184MB	890.00	46.5	ADF3184SB	985.00	49.5
	19-24	ADF3244MB	976.00	49.5	ADF3244SB	1071.00	52.5
600	25-30	ADF3304MB	1070.00	52.5	ADF3304SB	1164.00	58.5
	31-36	ADF3364MB	1163.00	58.5	ADF3364SB	1258.00	61.5
	37-42	ADF3424MB	1256.00	61.5	ADF3424SB	1351.00	64.5
	0-12	ADF3126MB	953.00	46.5	—	—	—
	13-18	ADF3186MB	1033.00	49.5	—	—	—
800 ^②	19-24	ADF3246MB	1120.00	52.5	—	—	—
	25-30	ADF3306MB	1214.00	58.5	—	—	—
	31-36	ADF3366MB	1308.00	61.5	—	—	—
	37-42	ADF3426MB	1401.00	64.5	—	—	—
	0-12	ADF3128MB	1350.00	55.5	—	—	—
800 ^②	13-18	ADF3188MB	1545.00	55.5	—	—	—
	19-24	ADF3248MB	1740.00	55.5	—	—	—
	25-30	ADF3308MB	1935.00	55.5	—	—	—
	31-36	ADF3368MB	2130.00	61.5	—	—	—
	37-42	ADF3428MB	2325.00	64.5	—	—	—

Service Information:
 3-ph, 4w 120/208Vac
 3-ph, 3w 480Vac
 3-ph, 4w 480Y/277Vac
 3-ph, 3w 600Vac
 3-ph, 4w 600Y/347Vac
 UL Listed
 CSA Certified

Mains:
 150A - THED, SE
 225A - TFJ, SF
 400A - TJJ, SG
 600A - SG
 800A - SK (UL only)
 150-800A MLO

Branch Breakers:
 15-100A 1P, 2P;
 15-150A 3P
 220A max. double branch
 (100A/120A)

Main Breaker Interiors^{①④}

Use E150 Line Bolt-on Branch Breakers		Interrupting Rating																			
Panel Amps Max.	Branch Space Required	25kA 480Vac ^③				35kA 480Vac				65kA 480Vac				100kA 480Vac				35kA 600Y/347Vac			
		Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)	Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)	Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)	Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)	Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)	Interior Catalog Number	List Price, GO-101	Sizing Dim's (In's)		
150	0-12	ADF3121TB	\$974.00	31.5	ADF3121KB	\$1174.00	28.5	ADF3121DB	\$1644.00	28.5	ADF3121GB	\$2160.00	28.5	ADF3121DB	\$1644.00	28.5					
	13-18	ADF3181TB	1028.00	37.5	ADF3181KB	1228.00	37.5	ADF3181DB	1700.00	31.5	ADF3181GB	2217.00	31.5	ADF3181DB	1700.00	31.5					
	19-24	ADF3241TB	1121.00	40.5	ADF3241KB	1321.00	40.5	ADF3241DB	1796.00	34.5	ADF3241GB	2312.00	34.5	ADF3241DB	1796.00	34.5					
	25-30	ADF3301TB	1215.00	43.5	ADF3301KB	1415.00	43.5	ADF3301DB	1892.00	37.5	ADF3301GB	2408.00	37.5	ADF3301DB	1892.00	37.5					
	31-36	ADF3361TB	1309.00	49.5	ADF3361KB	1509.00	49.5	ADF3361DB	1988.00	40.5	ADF3361GB	2504.00	40.5	ADF3361DB	1988.00	40.5					
225	37-42	ADF3421TB	1400.00	52.5	ADF3421KB	1600.00	52.5	ADF3421DB	2084.00	43.5	ADF3421GB	2600.00	43.5	ADF3421DB	2084.00	43.5					
	0-12	ADF3122TB	1713.00	43.5	ADF3122KB	923.00	43.5	ADF3122DB	3343.00	43.5	ADF3122GB	3610.00	43.5	ADF3122DB	3343.00	43.5					
	13-18	ADF3182TB	1767.00	49.5	ADF3182KB	923.00	49.5	ADF3182DB	3398.00	49.5	ADF3182GB	3664.00	49.5	ADF3182DB	3398.00	49.5					
	19-24	ADF3242TB	1859.00	52.5	ADF3242KB	923.00	52.5	ADF3242DB	3493.00	52.5	ADF3242GB	3761.00	52.5	ADF3242DB	3493.00	52.5					
	25-30	ADF3302TB	1954.00	55.5	ADF3302KB	923.00	55.5	ADF3302DB	3590.00	55.5	ADF3302GB	3857.00	55.5	ADF3302DB	3590.00	55.5					
400	31-36	ADF3362TB	2047.00	61.5	ADF3362KB	923.00	61.5	ADF3362DB	3685.00	61.5	ADF3362GB	3952.00	61.5	ADF3362DB	3685.00	61.5					
	37-42	ADF3422TB	2140.00	64.5	ADF3422KB	2785.00	64.5	ADF3422DB	3742.00	64.5	ADF3422GB	4049.00	64.5	ADF3422DB	3742.00	64.5					
	0-12	ADF3124TB	2577.00	49.5	ADF3124KB	3410.00	49.5	ADF3124DB	4305.00	49.5	ADF3124GB	4599.00	49.5	ADF3124DB	4305.00	49.5					
	0-18	ADF3184TB	2666.00	55.5	ADF3184KB	3499.00	55.5	ADF3184DB	4396.00	55.5	ADF3184GB	4690.00	55.5	ADF3184DB	4396.00	55.5					
	19-24	ADF3244TB	2758.00	58.5	ADF3244KB	3591.00	58.5	ADF3244DB	4489.00	58.5	ADF3244GB	4783.00	58.5	ADF3244DB	4489.00	58.5					
600	25-30	ADF3304TB	2853.00	61.5	ADF3304KB	3686.00	61.5	ADF3304DB	4584.00	61.5	ADF3304GB	4878.00	61.5	ADF3304DB	4584.00	61.5					
	31-36	ADF3364TB	2946.00	67.5	ADF3364KB	3779.00	67.5	ADF3364DB	4680.00	67.5	ADF3364GB	4975.00	67.5	ADF3364DB	4680.00	67.5					
	37-42	ADF3424TB	3038.00	70.5	ADF3424KB	3871.00	70.5	ADF3424DB	4775.00	70.5	ADF3424GB	5070.00	70.5	ADF3424DB	4775.00	70.5					
	0-12	—	—	—	ADF3126KB	5389.00	49.5	ADF3126DB	6284.00	49.5	—	—	—	ADF3126DB	6284.00	49.5					
	0-18	—	—	—	ADF3186KB	5480.00	55.5	ADF3186DB	6375.00	55.5	—	—	—	ADF3186DB	6375.00	55.5					
600	19-24	—	—	—	ADF3246KB	5572.00	58.5	ADF3246DB	6467.00	58.5	—	—	—	ADF3246DB	6467.00	58.5					
	25-30	—	—	—	ADF3306KB	5666.00	61.5	ADF3306DB	6561.00	61.5	—	—	—	ADF3306DB	6561.00	61.5					
	31-36	—	—	—	ADF3366KB	5759.00	67.5	ADF3366DB	6654.00	67.5	—	—	—	ADF3366DB	6654.00	64.5					
37-42	—	—	—	ADF3426KB	5851.00	70.5	ADF3426DB	6748.00	70.5	—	—	—	ADF3426DB	6748.00	70.5						

① Bottom feed supplied as standard. Change last character in catalog number from B to T for top feed.
 ② Box is 30" wide x 7.81" deep.
 ③ TFJ main rated 22,000AIC
 ④ Available up through 78 circuits CSA. Consult Speedi for more information.

AD Plus Lighting Panelboards 600Vac, Factory Assembled

2. Select Branch Breakers

Branch Breakers – E150-Line, Bolt-on

Max. Volts	Frame	Trip	List Price Each, GO-101			Frame	Trip	List Price Each, GO-101		
			Per Circuit					Per Circuit		
			1 pole	2 pole	3 pole			1 pole	2 pole ^③	3 pole
277V	TED ^{①②}	15-60	\$76.00	—	—	THED ^{①②}	15-30	\$90.00	—	—
		70-100	175.00	—	—			—	—	—
480V	TED4 ^{①②}	15-60	—	\$205.00	\$270.00	THED4 ^{①②}	15-60	—	\$263.00	—
		70-110	—	284.00	338.00			—	\$344.00	\$765.00
		125-150	—	—	476.00			—	—	—
	SEHA ^{①②④}	15-60	—	642.00	747.00	SELA ^{①②④}	15-60	—	661.00	868.00
		70-100	—	746.00	849.00			—	856.00	1010.00
		110-150	—	1539.00	1930.00			—	1920.00	2280.00
600V	TED6 ^{①②}	15-60	—	263.00	302.00	THED6 ^{①②}	15-60	—	—	397.00
		70-110	—	—	379.00			—	—	447.00
		125-150	—	—	650.00			—	—	765.00
	FBV (22 kA)	15-60	156.18	218.12	357.27	—	—	—	—	—
		70-100	256.88	302.18	448.36					
	FBN (25 kA)	15-60	181.79	254.00	415.85	—	—	—	—	—
		70-100	299.00	351.88	521.88					
	FBH (35 kA)	15-60	281.66	383.15	626.95	—	—	—	—	—
		70-100	463.25	530.80	786.80					
	FBL (42 kA) ^⑤	15-60	366.40	511.89	838.05	—	—	—	—	—
		70-100	602.63	709.15	1051.73					

- ① 220A double branch maximum (100/120A, 90/130A, etc.).
- ② Mounting of branch breaker in future space requires hardware kit ASPTED3P, \$83.50
List Price, GO-134B. Provides hardware sufficient to mount (3) 1-pole or (1) 3-pole breaker.
- ③ Requires 3 poles of branch space.
- ④ Spectra branch breakers require barrier ASP25AD65KA.
- ⑤ Max. panel rating is 35kAIC @ 600Y/347V.

Short Circuit Current Ratings (kAIC)

C/B Frame	System Voltages		
	120Y/208V	480Y/277V	600Y/347V
TED	18	18	—
THED	65	25	18
SEHA	65	25	—
SELA	100	65	25
SEPA	100	100	25
FBV	65	35	22
FBN	100	65	25
FBH	100	100	35
TFJ	25	22	18
SFHA	65	35	—
SFLA	100	65	25
SFPA	100	100	25
TJJ	42	25	22
SGHA	42	25	25
SGLA	65	65	35
SGPA	100	100	35

3. Select Subfeed (if required)

Subfeed Breakers – 3 pole maximum

Max. Volts	Frame	Trip	List Price, GO-101	
			2 pole	3 pole
480V	SFHA	175-225	\$1256.00	\$1571.00
	SELA 4	175-225	2297.00	2761.00
600V	TFJ	110-225	855.00	951.00

4. Select Interior Options

Interior Options

Note: Sizing dimensions to be used only for estimating enclosure selection, not to determine interior length.

Options	Description	Catalog Number Option Suffix	125/150A		225A		400A		600A		800A	
			Sizing Adder	List Price Adder, GO-101	Sizing Adder	List Price Adder, GO-101	Sizing Adder	List Price Adder, GO-101	Sizing Adder	List Price Adder, GO-101	Sizing Adder	List Price Adder, GO-101
Optional Lugs ^①	Compression AL	L1	—	\$ 30.00	—	\$ 50.00	—	\$130.00	—	\$175.00	—	—
	Pressure CU	L2	—	49.00	—	49.00	—	92.00	—	114.00	—	—
	Comp. AL Oversize	L3	—	152.00	9"	152.00	—	461.00	—	461.00	—	—
	Press. AL Oversize	L4	—	54.00	9"	54.00	—	330.00	—	330.00	—	—
Subfeed Breaker	2 or 3 Pole TFJ	F1	N/A	—	12"	Price by Device	18"	Price by Device	18"	Price by Device	—	—
Feed Thru	Feed Thru Lugs ^②	T1	9"	164.00	9"	164.00	3"	286.00	6"	286.00	6"	\$451.00
Busbar	600 APSI AL	B1	—	595.00	—	595.00	—	759.00	—	—	—	N/A
	750 APSI AL	B2	—	135.00	—	135.00	—	Std.	—	Std.	—	Std.
	800 APSI CU	B3	—	476.00	—	476.00	—	625.00	—	—	—	N/A
	1000 APSI CU ^③	B4	—	103.00	—	103.00	—	182.00	—	246.00	—	459.00
200% Rated Neutrals ^④	—	N2	—	60.00	—	100.00	—	140.00	—	280.00	N/A	N/A
	—	N3	—	60.00	—	100.00	—	140.00	—	N/A	N/A	N/A

① Oversize lugs available on single main lug panels only.

② Feed thru lugs not available on subfeed or oversized main lug panels.

③ 7 For silver or tin plating 1000 APSI Cu only add \$100 List, GO-101.

④ 200% rated neutrals in 600A panels require 30" W box.

AD Plus Lighting Panelboards 600Vac, Factory Assembled

5. Select Box and Front Options (NEMA 1 included as standard)

Front Filler Plates TEDFP1

Field installed

List Price \$1.00 each, GO-101

Standard pack: 50

Box Options

Description	Box Catalog Number Suffix	List Price, GO-101
Blank Endwalls	B	①
Painted Box	P	\$160.00
30" Wide	W	250.00
NEMA 3R/12	3	950.00
Knockout	K	①
NEMA 4X	4S	4950.00

① No charge if included on original order.

Front Options

Description	Front Catalog Number Suffix	List Price, GO-101
Screw Cover	C	\$61.00
Hinged Door-in-Door	D	110.00
Optional Lock: Yale 511S	Y	300.00
Optional Lock: Corbin 15767	L	146.00
Nameplate	N	27.00
Door within a Door①	P	238.00
Stainless Steel Front②	S	1467.00
30" Wide	W	250.00
Screw-on nameplates	U	74.00
Metal directory card holder	M	50.00

① Consists of two lockable doors – one over panel interior and one over box wiring gutters. Yale locks not available.

② Flush only. Available with C and N options.

6. Select TVSS

TVSS Transient Voltage Surge Suppression①

Maximum Surge Current per Mode	Maximum Surge Current per Phase	Description	List Price GO-101
65kA	130kA	TVSS UL1449,UL1283	\$6350.00
80kA	160kA	TVSS UL1449,UL1283	\$7000.00
100kA	200kA	TVSS UL1449,UL1283	\$8500.00
100kA	200kA	TVSS UL1449, no counter	\$2875.00
100kA	200kA	TVSS UL1449	\$3575.00

① For factory installed transient voltage surge suppression (TVSS) units in 10" module, add T6 suffix to interior catalog number and 10" to box height.

7. Accessories

Enclosures①

Sizing Dimensions (Inches)	Box Catalog Number	Inside Box Dim.'s (Inches)			Front Catalog Number
		Length	Width	Depth	
28.5-31.5	AB31	31.5	20	5.81	AF31F,S
34.5-37.5	AB37	37.5	20	5.81	AF37F,S
40.5-43.5	AB43	43.5	20	5.81	AF43F,S
46.5-49.5	AB49	49.5	20	5.81	AF49F,S
52.5-55.5	AB55	55.5	20	5.81	AF55F,S
57.5-64.5	AB64	64.5	20	5.81	AF64F,S
67.5-76.5	AB76	76.5	20	5.81	AF76F,S

Flush fronts are 1.5 inches larger than box. Surface fronts are .25 inches larger than box.

① Box supplied as standard for 225A 150kA and 400A 65 and 100kA ratings is 7.81 inches deep, when used with THLC.

For functional pricing only. Use Speedi-Win/Plus for exact quotation and order entry.

AD Plus Lighting Panelboards

Accessories – Field Installed Kits/Replacement Parts

Enclosures^①

Panel Size	Box Catalog Number	Box Size Inches ^②	List Price ^③ , GO-134B	Front Catalog Number ^④	List Price ^③ , GO-134B
0-25.5	AB25B	25.5	\$166.00	AF25F,S	\$170.00
28.5-31.5	AB31B	31.5	170.00	AF31F,S	174.00
34.5-37.5	AB37B	37.5	182.00	AF37F,S	191.00
40.5-43.5	AB43B	43.5	204.00	AF43F,S	218.00
46.5-49.5	AB49B	49.5	233.00	AF49F,S	257.00
52.5-55.5	AB55B	55.5	261.00	AF55F,S	299.00
57.5-64.5	AB64B	64.5	286.00	AF64F,S	326.00
67.5-76.5	AB76B	76.5	324.00	AF76F,S	367.00

Box Options

Description	Box Catalog Number Suffix ^⑤	List Price, GO-101
7.81 deep ^⑥	D	\$200.00
Painted Box	P	200.00
30" Wide ^⑦	W	250.00
NEMA 3R/12	3	950.00

Front Options

Description	Front Catalog Number Suffix ^⑧	List Price, GO-101
Screw Cover	C	\$61.00
Front hinged to box	D	110.00
Optional Lock: Yale 5116 w/Rosette	Y	300.00
Optional Lock: Corbin 15767	L	146.00
Door within a Door ^⑨	P	238.00
Stainless Steel ^⑩	S	1467.00
30" Wide	W	82.00
Nameplate	N	27.00
Screw-on nameplate	U	74.00
Metal directory	M	50.00

- ① "B" suffix provides blank end walls. Order "K" suffix for endwalls with knockouts.
- ② Standard boxes are 20" wide by 5.81 inches deep.
- ③ Use when ordering items separately for replacement. Do not deduct from panel list price to obtain interior only pricing.
- ④ Flush fronts are 11/2" larger than box. Surface fronts are 1/4" larger.
- ⑤ Add to base box catalog number.
- ⑥ K frame main only.
- ⑦ Includes field installable gutter barrier.
- ⑧ Add to base front catalog number.
- ⑨ Consists of two lockable doors – one over panel interior and one over box wiring gutters. Yale locks not available.
- ⑩ Flush only. Available with C and N options.

Box Extensions

Bolts to box with or without endwall in place. Extensions can be combined.

Box Width and Depth	Box Mounting	Box Extension Length (Inches)	Box Extension Catalog Number	List Price, GO-101
20 x 5.81	Flush	9	ABX2509F	\$145.00
		18	ABX2518F	167.00
		24	ABX2524F	194.00
	Surface	9	ABX2509S	145.00
		18	ABX2518S	167.00
		24	ABX2524S	194.00
		31	ABX2531S	220.00
		37	ABX2537S	240.00
		43	ABX2543S	271.00
		49	ABX2549S	311.00
		55	ABX2555S	358.00
		64	ABX2564S	353.00
76	ABX2576S	440.00		
20 x 7.81	Flush	18	ABX2718F	184.00
		24	ABX2724F	206.00
	Surface	18	ABX2718S	184.00
		24	ABX2724S	206.00
30 x 5.81	Flush	18	ABX3518F	194.00
		24	ABX3524F	223.00
	Surface	18	ABX3518S	194.00
		24	ABX3524S	223.00
30 x 7.81	Flush	18	ABX3718F	223.00
		24	ABX3724F	250.00
	Surface	18	ABX3718S	223.00
		24	ABX3724S	250.00

Box Extensions Covers Only – 10 covers per kit

Description	Catalog Number	List Price, GO-101
9" Covers Surface	ASPABX09S	\$145.00
9" Covers Flush	ASPABX09F	155.00
18" Covers Surface	ASPABX18S	285.00
18" Covers Flush	ASPABX18F	300.00

AD Plus Lighting Panelboards

Accessories – Field Installed Kits/Replacement Parts (continued)

Filler Plates

Breaker Type	Catalog Number	List Price
THQB, THHQB, THQL, THHQL, TEY	TQLFP1	\$2.50 (GO-137A)
TQD, THQD, TED4	TEDFP1	1.00 (GO-101)

Breaker Mounting Hardware Kits

Use to mount breaker in existing space.

Breaker Type	Catalog Number	List Price, GO-134B
TED, THED4	ASPTED3P	\$83.50
TQD, THQD	ASPTQD3P	83.50

Endwall Kits

1 each, field installed, for standard 20"W x 5.81"D boxes.

Description	Catalog Number	List Price, GO-134B
Blank	ABEW2	\$31.00
Knockout	ASKEW2	21.00

Panelboard Parts

Description	Catalog Number	List Price, GO-101
Directory Card	139C5612P1	\$ 2.00
Replacement Panel Lock	569B737P1	22.00
Additional Keys for Above Lock	569B737P5	2.00
Circuit Numbering Strips 1-48	569B806G1	4.00
Circuit Numbering Strips 49-84	569B806G2	4.00
Circuit Numbering Strips 85-120	569B806G3	4.00
Adhesive Backed Lamicoid Nameplate 1 in. x 3 in.	315A7190P1	27.00
Metal Directory Card Holder	139C5491G1	50.00
Directory Card Holder	139C5491P4	10.00
Screw and Clip Kit to Convert Up to 12 Poles of Old Style THQB Breakers to Captive Screw Construction	139C5703G20	5.00
Delta Hi-leg Conversion Kit to Add B-Phase to Plug on AL Panels	APHBL	60.00
Delta Hi-leg Conversion Kit to Add B-Phase to Bolt on AE/AQ Panels	APHBQ	60.00
NEMA 3R/12 Tamper Proof Tork Screw Kit	NEMATRX	30.00
2P to 3P TQD Conv. Kit	ASP2PTQD3P	100.00
2P to 3P TFJ Conv. Kit for horizontal subfeed	ASP2PTFJ3P	100.00
125/225A MLO Dual Lug Kit	ASPFT225	100.00
Barrier Kit [Ⓢ]	ASP25AD65KA	100.00
Service Entrance Kit	ASPSERENT	50.00

[Ⓢ] Included in factory assembled panels. Panels retrofitted with Spectra branch breakers require barrier kit.

Permanent Circuit Number Kits

Description	Catalog Number	List Price, GO-134B
Numbers 1-48	APN48AD	\$116.00
Numbers 49-84	APN84AD	116.00

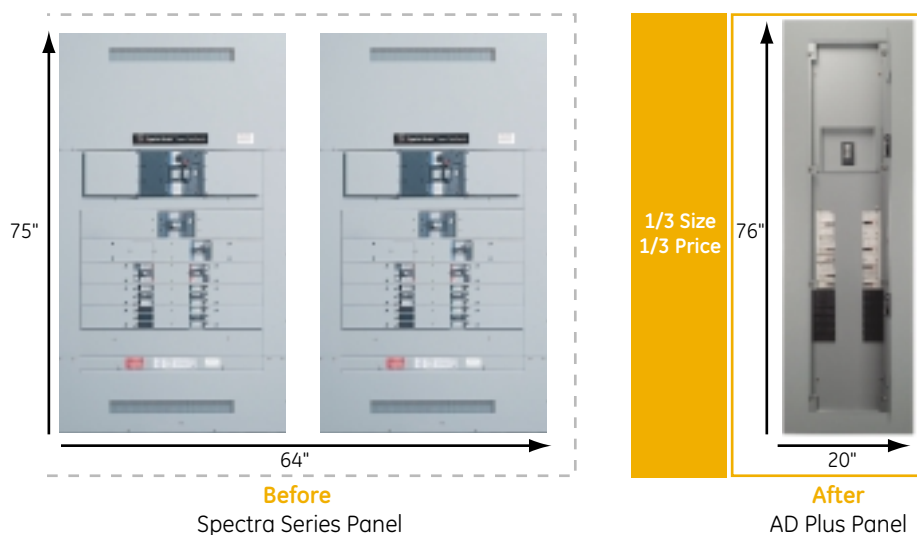
A-Series AD Plus Lighting Panelboard

- **As little as 1/3 the size and price of prior offering**
- 35kAIC @ 600Y/347V (fully rated)
- 100kAIC @ 480Y/277V (fully rated)
- 1, 2 and 3 pole current limiting Record Plus FB branch breakers
- Double branch rated at 220A (UL & CSA)
- Up to 78 circuits in single section (CSA)



A-Series AD Plus Lighting Panelboard

GE introduces AD Plus – the first A-Series panel that incorporates a specially designed line of 1, 2 & 3 pole current limiting Record Plus FB circuit breakers. With high-tier interrupting ratings (fully rated) of 35kAIC @ 600Y/347V and 100kAIC @ 480Y/277V, this offering meets or exceeds that of all major makers in both the Canadian and US markets. It is an ideal choice for all commercial and industrial project construction.



The lighting panel you need – in 1/3 the space, for 1/3 the cost!

Short circuit ratings	35kAIC @ 600Y/347V, 100kAIC @ 480Y/277V (fully rated)
Main bus ratings	Up to 800A UL (600A CSA)
Mains	Breaker or lug
Enclosures	NEMA 3R, 12, 4X (stainless steel)
Dimensions	20" wide x 5 3/4" deep standard, 30" wide available
Mounting	Flush or surface, concealed hardware and hinges standard, door-within-door and front-hinged-to-box options available
Approvals	UL & CSA

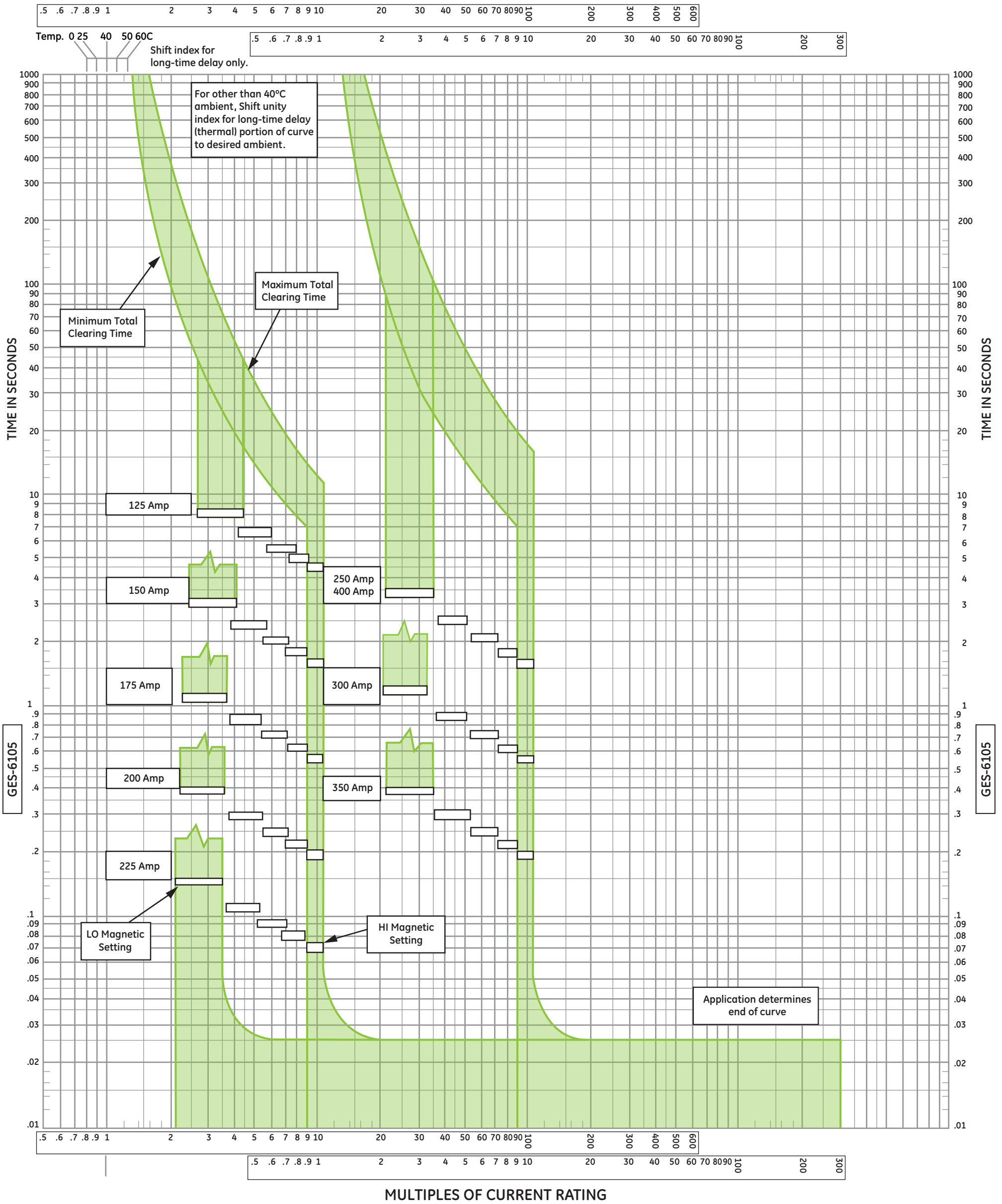
For more information

A-Series AD Plus Catalog/Selection Guide	DEP-134
Record Plus FB 100 Circuit Breakers Catalog/Selection Guide	DEP-131
Record Plus FB 100 Circuit Breakers Fact Sheet	DET-406

GE Consumer & Industrial
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MULTIPLES OF CURRENT RATING



GE Consumer & Industrial -
Electrical Distribution

Current Ratings

125, 150, 175, 200, 225, 250, 300, 350,
and 400 Amperes

Voltage Ratings

600 Vac, 250 Vdc

Frequency Ratings

Dc or 60 cycles

**Molded Case Circuit Breaker
K 1000 LINE**

Types TKM & THKM (125–400 Amperes)

**Long-time Delay and Instantaneous
Time-current Curves**

Curves show circuit breaker in open air, 40°C ambient,
wired with conductors of corresponding rating, no
prior load. For all other ambients, use rating shift
index at top of sheet.

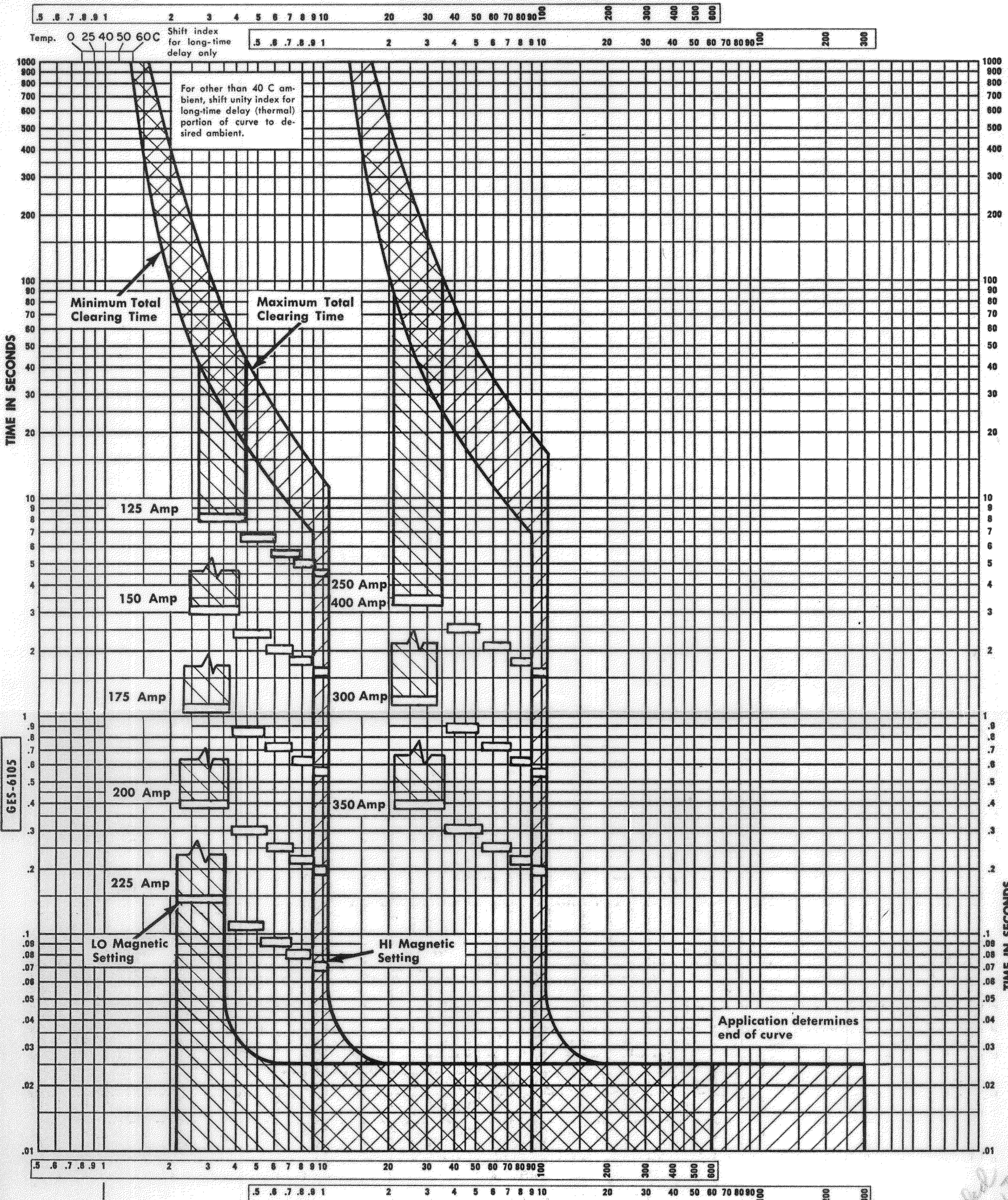
GES-6105

Adjustments

Long-time delay thermal trip: not adjustable.
Instantaneous magnetic trip, five settings, factory
set on HI. Blocks show trip range at each setting.

APPENDIX P

MULTIPLES OF CURRENT RATING



MULTIPLES OF CURRENT RATING

GENERAL ELECTRIC

MOLDED-CASE CIRCUIT BREAKERS

K-1000 LINE

GES-6105

Types TKM and THKM (125-400 Amperes)
 Long-time Delay and Instantaneous
 Time-current Curves

Adjustments

Long-time delay thermal trip: not adjustable.

Instantaneous magnetic trip, five settings, factory set on HI. Blocks show trip range at each setting.

Current Ratings
 125, 150, 175, 200, 225, 250,
 300, 350 and 400 Amperes
Voltage Ratings
 600 Volts, A-c (250 Volts, D-c)
Frequency Ratings
 D-c or 60 Cycles

(Curves show circuit breaker in open air, 40 C ambient, wired with conductors of corresponding rating, no prior load. For all other ambients use rating shift index at top of sheet.)



PL-T Triple 4-Pin Base

PL-T 18W/830 /4PALTO 1CT

Philips Linear Compact Fluorescent Lamps offer designers, specifiers and end-users new levels of efficiencies and versatility in sizes, configurations and application possibilities. With so many elegant fixtures available to complement their small size, high light output and advanced technology, Philips Energy Advantage lamps are fast becoming the preferred choice when maximum efficiency and sleek design solutions are required.

Product data

• Product Data

Product number	268029
Full product name	PL-T 18W/830 /4PALTO 1CT
Short product name	PL-T 18W/30/4P/ALTO 12PK
Pieces per Sku	1
eop_pck_cfg	12
Skus/Case	12
Bar code on pack	46677268022
Bar code on case	50046677268027
Logistics code(s)	927910608313
tpd_ilcos_cd	FSM-18/30/1B-E-GX24q=2
eop_net_weight_pp	68.000 gr

• General Characteristics

Base	GX24q-2
Base Information	4P
RatedAvgLife(See Family Notes)	8000 hr
Avg. Hrs. Life	16000 hr

• Electrical Characteristics

Watts	18 W
Lamp Wattage	18 W
Lamp Wattage EL	16.5 W
Lamp Voltage	100 V
Lamp Voltage EL	80 V
Lamp Current	0.220 A
Lamp Current EL	0.210 A
Dimmable	Yes

• Environmental Characteristics

Energy Efficiency Label (EEL)	B
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• Light Technical Characteristics

Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Temperature	3000 K
Chromaticity Coordinate X	438 -
Chromaticity Coordinate Y	394 -
Initial Lumens	1200 Lm
Initial Lumens Lamp EL	1200 Lm
Luminous Efficacy Lamp EM	67 Lm/W
Luminous Efficacy Lamp EL	73 Lm/W
Lumen Maintenance 2000h	90 %
Lumen Maintenance EL 2000h	93 %
Lumen Maintenance 5000h	81 %
Lumen Maintenance EL 5000h	86 %
Lumen Maintenance EM 10000h	73 %
Lumen Maintenance EL 10000h	79 %

• Product Dimensions

Base Face to Base Face A	77 mm
Insertion Length B	101.5 mm
Overall Length C	116.4 mm

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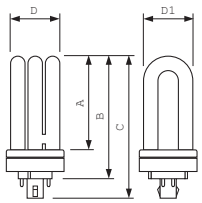
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PL-T Triple 4-Pin Base

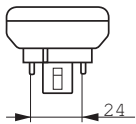
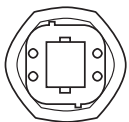
Diameter D 39.85 mm

Diameter D1 39.65 mm

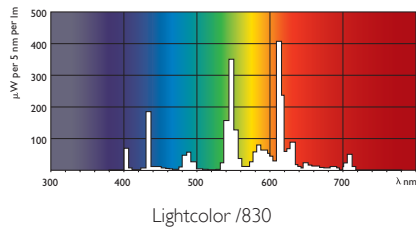
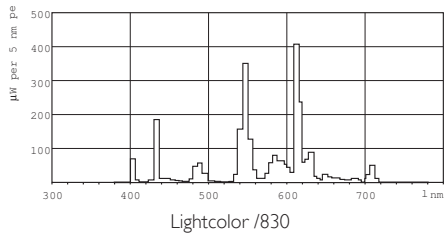
Dimensional drawing



Product	A (Max)	B (Max)	C (Max)	D (Max)	D1 (Max)
PL-T 18W/830/4P	77	101.5	116.4	39.85	39.65



Photometric data







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Bulb Shape	Base Type	Watts	Order Code	Description	Volts	Case Qty	Filament Type	MOL (in)	LCL (in)	Rated Life (hrs)	Initial Lumens	Initial Color Temp	CBCP	Reduced Wattage	Warning and Caution Notices	Additional Information
Quartzline®																
HIR™ Recessed Single Contact (R7s)																
	R7s	350	13894	Q350T3/CL/HIR	120	6	C-8	4.69	2.25	2000	10000	3075		↗	1a,2a,2j,2k,4a,4c,4d, 4e,4f,4g,8a,9a,9d, 10b,10c,12b	IR, Clear, Horizontal
		350	14311	Q350T3/CL/HIR	130/120	6	C-8	4.69	2.25	2000	9600	3000		↗	1a,2a,2j,2k,4a,4c,4d, 4e,4f,4g,8a,9a,9d, 10b,10c,12b	IR, Clear, Horizontal
		900	13642	Q900T3/CL/HIR	240	6	C-8	10.06	6.13	2000	32000	3160		↗	1a,2a,2j,2k,4a,4c,4d, 4e,4f,4g,8a,9a,9d, 10b,10c,12b	IR, Clear, Horizontal
		900	14335	Q900T3/CL/HIR	277	6	C-8	10.06	6.13	2000	31000	3160		↗	1a,2a,2j,2k,4a,4c,4d, 4e,4f,4g,8a,9a,9d, 10b,10c,12b	IR, Clear, Horizontal, Halogen
Halogen G9																
	G9	25	16754	Q25G9/CD	120	5	CC-8	1.77	1.26	3000	240	6250			1a,2a,2b,2e,4f,4i,9a, 10b,10c	Carded
		25	81300	Q25G9/F/CD	120	5	CC-8	1.77	1.26	3000					1a,2a,2b,2e,4f,4i, 9a,10b,10c	Frosted, Carded
		40	16755	Q40G9/CD	120	5	CC-8	1.77	1.26	3000	480	2750			1a,2a,2b,2e,4f,4i,9a, 10b,10c	Carded
		40	81301	Q40G9/F/CD	120	5	CC-8	1.77	1.26	3000					1a,2a,2b,2e,4f,4i,9a, 10b,10c	Frosted, Carded
		60	16756	Q60G9/CD	120	5	CC-8	1.77	1.26	3000	780	2800			1a,2a,2b,2e,4f,4i,9a, 10b,10c	Carded
		60	81468	Q60G9/F/CD	120	5	CC-8	1.77	1.26	3000					1a,2a,2b,2e,4f,4i,9a, 10b,10c	Frosted, Carded
		75	16759	Q75G9/CD	120	5	CC-8	1.77	1.26	3000	1100	2850			1a,2a,2b,2e,4f,4i,9a, 10b,10c	Carded
		75	81469	Q75G9/F/CD	120	5	CC-8	1.77	1.26	3000					1a,2a,2b,2e,4f,4i,9a, 10b,10c	Frosted, Carded
Halogen Double Contact Bayonet (BA15d)																
	D C Bay BA15d	100	16451	Q100DC	120	6	CC-8	2.44	1.38	2000	1550	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Frosted
		100	15508	Q100CL/DC	120	6	CC-8	2.44	1.38	2000	1600	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		100	44386	Q100CL/DC/2V	120	6	CC-2V	2.44	1.38	750 h	1800	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		150	44653	Q150DC	120	6	CC-8	2.50	1.38	2000	2700	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Frosted
		150	43693	Q150CL/DC	120	6	CC-8	2.50	1.38	2000	2800	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		150	44384	Q150CL/DC/2V	120	6	CC-2V	2.44	1.38	1000	2800	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		250	43701	Q250DC	120	6	CC-8	3.00	1.63	2000	4850	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Frosted
		250	43702	Q250DC	130/120	6	CC-8	3.00	1.63	2000	4850	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Frosted
		250	43697	Q250CL/DC	120	6	CC-8	3.00	1.63	2000	5000	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		250	43698	Q250CL/DC	130/120	6	CC-8	3.00	1.63	2000	5000	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
		500	43709	Q500DC	120	6	CC-8	3.44	2.13	2000	10100	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Frosted
		500	43710	Q500CL/DC	120	6	CC-8	3.44	2.13	2000	10450	2950			1a,2a,2j,4a,4c,4e,4f, 4g,8a,9a,9d,10b,10c	Clear
Halogen Recessed Single Contact (R7s)																
	R7s	100	73286	Q100T3/SCD-5PK	210	5	C-8	3.13	1.25	1500	1650	2950			1a,2a,2j,4a,4c,4e,4f, 4g,9a,9d,10b,10c,11a	Torchiere, Motion-Sensing and Security, Small Card
		100	22489	Q100T3/CL/CD 5PK	210	60	C-8	3.13	1.25	1500	1650	2950			1a,2a,2j,4a,4c,4e,4f, 4g,9a,9d,10b,10c,11a	Clear, Horizontal, Carded
		150	27449	Q150T3/117/CL/CD	120	60	C-8	4.69	2.25	1500	2400	2950			1a,2a,2j,4a,4c,4e,4f, 4g,9a,9d,10b,10c,11a	Clear, Horizontal, Carded
		150	19378	Q150T3/CL/CD 5PK	120	60	C-8	3.13	1.25	1500	2400	2950			1a,2a,2j,4a,4c,4e,4f, 4g,9a,9d,10b,10c,11a	Clear, Horizontal, Carded
		150	97672	Q150T3/HD/SCD2	120	25	C-8	3.13	1.25	2000	2400	2950			1a,2a,2j,4a,4c,4e,4f, 4g,9a,9d,10b,10c,11a	Torchiere, Motion-Sensing and Security, Small Card



Low Voltage Capsules

LV Capsule 10W G4 12V T3 CL 1BC

Philips Halogen Low Voltage Capsules provide sparkling, white light. These lamps offer an average rated life of 2000 hours making them perfect for undercabinet or task lighting.

Product data

• Product Data

Product number	203612
Full product name	LV Capsule 10W G4 12V T3 CL 1BL
Pieces per Sku	1
eop_pck_cfg	12
Skus/Case	12
Bar code on pack	46677203610
Bar code on case	50046677203615
Logistics code(s)	924062117191
eop_net_weight_pp	0.001 kg

• General Characteristics

Base	G4
Base Information	na [-]
Bulb	T3 [Diameter: 9 mm /.354 inch]
Bulb Finish	Clear
Operating Position	Universal [Any or Universal (U)]
RatedAvgLife(See Family Notes)	2000 hr

• Electrical Characteristics

Watts	10 W
Lamp Wattage Technical	10 W

Voltage	12 V
Lamp Current	0.83 A
Dimmable	Yes

• Light Technical Characteristics

Color Rendering Index	100 Ra8
Color Temperature	3000 K
Color Temperature technical	3000 K
Initial lumen	100 Lm
Luminous Efficacy Lamp	10 Lm/W

• Product Dimensions

Overall Length C	33 mm
Diameter D	10 mm
Light Center Length L	22.2 mm

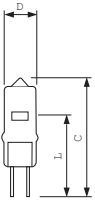
• Luminaire Design Requirements

Pinch Temperature	350 C
Bulb Temperature	220 C

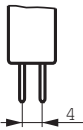
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Dimensional drawing



Product	C (Max)	D (Max)	L (Norm)
CAP Fighter 10W G4 12V CL	33	10	22.2



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Low Voltage Capsules

LV Capsule 10W G4 12V T3 CL 1BC

Philips Halogen Low Voltage Capsules provide sparkling, white light. These lamps offer an average rated life of 2000 hours making them perfect for undercabinet or task lighting.

Product data

• Product Data

Product number	203612
Full product name	LV Capsule 10W G4 12V T3 CL 1BL
Pieces per Sku	1
eop_pck_cfg	12
Skus/Case	12
Bar code on pack	46677203610
Bar code on case	50046677203615
Logistics code(s)	924062117191
eop_net_weight_pp	0.001 kg

• General Characteristics

Base	G4
Base Information	na [-]
Bulb	T3 [Diameter: 9 mm /.354 inch]
Bulb Finish	Clear
Operating Position	Universal [Any or Universal (U)]
RatedAvgLife(See Family Notes)	2000 hr

• Electrical Characteristics

Watts	10 W
Lamp Wattage Technical	10 W

Voltage	12 V
Lamp Current	0.83 A
Dimmable	Yes

• Light Technical Characteristics

Color Rendering Index	100 Ra8
Color Temperature	3000 K
Color Temperature technical	3000 K
Initial lumen	100 Lm
Luminous Efficacy Lamp	10 Lm/W

• Product Dimensions

Overall Length C	33 mm
Diameter D	10 mm
Light Center Length L	22.2 mm

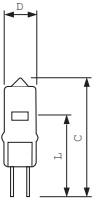
• Luminaire Design Requirements

Pinch Temperature	350 C
Bulb Temperature	220 C

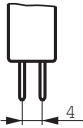
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Dimensional drawing



Product	C (Max)	D (Max)	L (Norm)
CAP Fighter 10W G4 12V CL	33	10	22.2



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PL-T Triple 4-Pin Base

PL-T 26W/830/4P 1CT

Philips Linear Compact Fluorescent Lamps offer designers, specifiers and end-users new levels of efficiencies and versatility in sizes, configurations and application possibilities. With so many elegant fixtures available to complement their small size, high light output and advanced technology, Philips Energy Advantage lamps are fast becoming the preferred choice when maximum efficiency and sleek design solutions are required.

Product data

• Product Data

Product number	268235
Full product name	PL-T 26W/830/4P 1CT
Short product name	PL-T 26W/30/4P/ALTO 12PK
Pieces per Sku	1
eop_pck_cfg	12
Skus/Case	12
Bar code on pack	46677268237
Bar code on case	50046677268232
Logistics code(s)	927911608313
tpd_ilcos_cd	FSM-26/30/1B-E-GX24q=3
eop_net_weight_pp	74.000 gr

• General Characteristics

Base	GX24q-3
Base Information	4P
RatedAvgLife(See Family Notes)	8000 hr
Avg. Hrs. Life	16000 hr

• Electrical Characteristics

Watts	26 W
Lamp Wattage	26.0 W
Lamp Wattage EL	24.0 W
Lamp Voltage	105 V
Lamp Voltage EL	80 V
Lamp Current	0.325 A
Lamp Current EL	0.300 A
Dimmable	Yes

• Environmental Characteristics

Energy Efficiency Label (EEL)	B
-------------------------------	---

• Light Technical Characteristics

Color Code	830 [CCT of 3000K]
Color Rendering Index	82 Ra8
Color Designation	Warm White
Color Temperature	3000 K
Chromaticity Coordinate X	440 -
Chromaticity Coordinate Y	403 -
Initial Lumens	1800 Lm
Initial Lumens Lamp EL	1800 Lm
Luminous Efficacy Lamp EM	69 Lm/W
Luminous Efficacy Lamp EL	75 Lm/W
Lumen Maintenance 2000h	90 %
Lumen Maintenance EL 2000h	93 %
Lumen Maintenance 5000h	81 %
Lumen Maintenance EL 5000h	86 %
Lumen Maintenance EM 10000h	73 %
Lumen Maintenance EL 10000h	79 %

• Product Dimensions

Base Face to Base Face A	87 mm
Insertion Length B	111.5 mm
Overall Length C	126.4 mm

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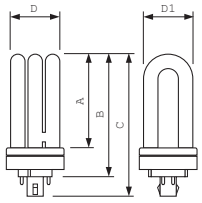
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PL-T Triple 4-Pin Base

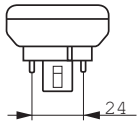
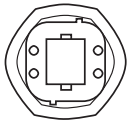
Diameter D 39.85 mm

Diameter D1 39.65 mm

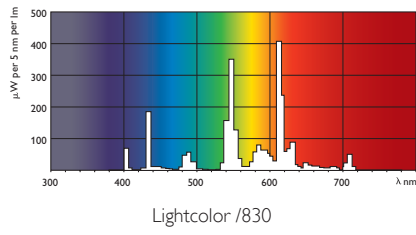
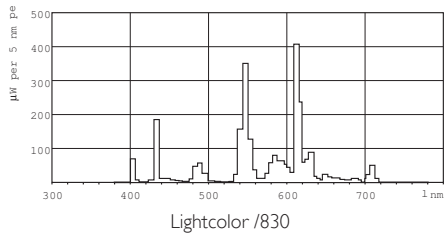
Dimensional drawing



Product	A (Max)	B (Max)	C (Max)	D (Max)	D1 (Max)
PL-T 26W/830/4P	87	111.5	126.4	39.85	39.65



Photometric data



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T5 Retail Sales

F28T5/835 ALTO UPC

Product data

• Product Data

Product number	206136
Full product name	F28T5/835 ALTO UPC
Short product name	F28T5/835 ALTO UPC
Pieces per Sku	1
Skus/Case	15
Bar code on pack	046677206130
Bar code on case	50046677206135
Logistics code(s)	927876083503

• General Characteristics

System Description	High Efficiency
Base	Miniature Bipin
Base Information	Green [Green Base]
Bulb	T5 [16 mm]
Rated Avg. Life	24000 hr
Life to 10% fail	19000 hr
Preheat EL,3h	
LSF HF Preheat	85 %
20000h Rated,3h	
LSF HF Preheat	95 %
12000h Rated,3h	
LSF HF Preheat	97 %
8000h Rated,3h	
LSF HF Preheat	98 %
6000h Rated,3h	
LSF HF Preheat	98 %
4000h Rated,3h	
LSF HF Preheat	99 %
2000h Rated,3h	
LSF HF Preheat	94 %
16000h Rated,3h	

• Electrical Characteristics

Watts	28 W
-------	------

Lamp Voltage EL	166 V
25°C	
Lamp Current EL	0.170 A
25°C	
Dimmable	Yes
Lamp Wattage EL	27.8 W
35°C	
Lamp Current EL	0.170 A
35°C	
Lamp Voltage EL	167 V
35°C	
Lamp Wattage EL	28.2 W
25°C, Rated	
Lamp Wattage EL	28 W
25°C, Nominal	

• Environmental Characteristics

Energy Efficiency	A
Label (EEL)	
Mercury (Hg)	1.4 mg
Content	

• Light Technical Characteristics

Color Code	835 [CCT of 3500K]
Color Rendering	85 Ra8
Index	
Color Designation	835
Color Temperature	3500 K
Chromaticity Coordinate X	409 -
Chromaticity Coordinate Y	397 -
Initial Lumens	2900 Lm
Luminance Average	1.5 cd/cm2
EL 25°C	

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T5 Retail Sales

Lum Efficacy Rated HF 25°C	93 Lm/W
Lum Efficacy Rated HF 35°C	104 Lm/W
LLMF HF 20000h Rated	88 %
LLMF HF 16000h Rated	90 %
LLMF HF 12000h Rated	91 %
LLMF HF 8000h Rated	93 %
LLMF HF 6000h Rated	94 %
LLMF HF 4000h Rated	95 %
LLMF HF 2000h Rated	96 %
Luminous Flux EL 25°C, Rated	2625 Lm

Luminous Flux EL 25°C, Nominal	2625 Lm
Design Temperature	35 C

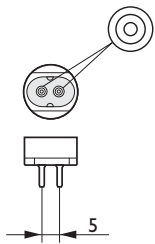
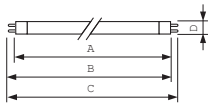
• Product Dimensions

Base Face to Base Face A	1149.0 mm
Insertion Length B	1153.7 (min), 1156.1 (max) mm
Overall Length C	1163.2 mm
Diameter D	17 mm

• Measuring Conditions

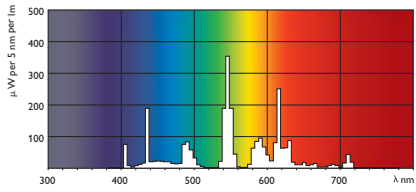
Calibration Current	0.170 A
HF Generator Rated Voltage	329 V
Resistor	950 ohm

Dimensional drawing



Product	A (Max)	B (Min)	B (Max)	C (Max)	D (Max)
TL5 F28T5 28W/835 ALTO	1149.0	1153.7	1156.1	1163.2	17

Photometric data



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2011, March 18
data subject to change



T5 High Output

F54T5/835 ALTO HO A

Philips T5 HO lamps are environmentally-responsible, ultra-slim and have extraordinary light output and longer life.

Product data

• Product Data

Product number	217661
Full product name	F54T5/835 ALTO HO A
Short product name	F54T5/835/HO/A/ALTO 40/1
Pieces per Sku	1
Skus/Case	40
Bar code on pack	46677217662
Bar code on case	50046677217667
Logistics code(s)	927993383534
tpd_ilcos_cd	FDH-54/35/1B-L/P-G5-16/850
eop_net_weight_pp	162.900 gr

• General Characteristics

System Description	High Output
Base	Miniature Bipin
Base Information	Green [Green Base]
Bulb	T5 [16 mm]
Rated Avg. Life	24000 hr
Life to 10% fail	19000 hr
Preheat EL,3h	
LSF HF Preheat	85 %
20000h Rated,3h	
LSF HF Preheat	95 %
12000h Rated,3h	
LSF HF Preheat	97 %
8000h Rated,3h	
LSF HF Preheat	98 %
6000h Rated,3h	
LSF HF Preheat	98 %
4000h Rated,3h	
LSF HF Preheat	99 %
2000h Rated,3h	
LSF HF Preheat	94 %
16000h Rated,3h	

• Electrical Characteristics

Watts	54 W
Lamp Voltage EL	118 V
25°C	
Lamp Current EL	0.460 A
25°C	
Dimmable	Yes
Lamp Wattage EL	53.8 W
35°C	
Lamp Current EL	0.460 A
35°C	
Lamp Voltage EL	118 V
35°C	
Lamp Wattage EL	54.3 W
25°C, Rated	
Lamp Wattage EL	54 W
25°C, Nominal	

• Environmental Characteristics

Energy Efficiency	A
Label (EEL)	
Mercury (Hg)	2.2 mg
Content	

• Light Technical Characteristics

Color Code	835 [CCT of 3500K]
Color Rendering	85 Ra8
Index	
Color Designation	White
Color Temperature	3500 K
Chromaticity Coordinate X	409 -
Chromaticity Coordinate Y	397 -
Initial Lumens	5000 Lm

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T5 High Output

Luminance Average EL 25°C	2.8 cd/cm ²
Lum Efficacy Rated HF 25°C	88 Lm/W
Lum Efficacy Rated HF 35°C	93 Lm/W
LLMF HF 20000h Rated	88 %
LLMF HF 16000h Rated	90 %
LLMF HF 12000h Rated	91 %
LLMF HF 8000h Rated	93 %
LLMF HF 6000h Rated	94 %
LLMF HF 4000h Rated	95 %
LLMF HF 2000h Rated	96 %

Luminous Flux EL 25°C, Rated	4750 Lm
Luminous Flux EL 25°C, Nominal	4750 Lm
Design Temperature	20 (min), 75 (max) C

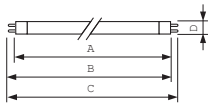
• Product Dimensions

Base Face to Base Face A	1149.0 mm
Insertion Length B	1153.7 (min), 1156.1 (max) mm
Overall Length C	1163.2 mm
Diameter D	17 mm

• Measuring Conditions

Calibration Current	0.460 A
HF Generator Rated Voltage	235 V
Resistor	255 ohm

Dimensional drawing



Product	A (Max)	B (Min)	B (Max)	C (Max)	D (Max)
TL5 F54T5 54W/835/GC ALTO® HO A	1149.0	1153.7	1156.1	1163.2	17



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CDM

CDM-SA/R 150W/942 UNP

CDM short arc reflector lamps – perfect colors, long life
 The perfect color rendering and long life of these Ceramic Discharge Metal-halide lamps make them ideal for fiber optics lighting systems in shop displays, decorative lighting and swimming pool illumination. They can be mounted in color changing projectors.

Product data

• Product Data

Product number	382788
Full product name	CDM-SA/R 150W/942 UNP
Short product name	CDM-SA/R 150W/942 UNP/1
Pieces per Sku	1
eop_pck_cfg	1
Skus/Case	1
Bar code on pack	8711500201508
Bar code on case	8711500201508
Logistics code(s)	928086805303
eop_net_weight_pp	0.192 kg

• General Characteristics

Cap-Base	Ceramic Cap-Cable
Cap-Base Information	Cable 250mm
Operating Position	any
Main Application	Fiber Optics
Life to 50% failures	6000 hr

• Electrical Characteristics

Watts	150 W
Lamp Wattage Technical	152 W
Lamp Current	1.8 A
Ignition Supply Voltage	198 V
Dimmable	No

• Light Technical Characteristics

Color Code	942
Color Rendering Index	96 Ra8
Color Designation (text)	Cool White
Color Temperature Technical	4200 K
Color Temperature	4000 K
Chromaticity Coordinate X	361 -
Chromaticity Coordinate Y	351 -
Luminous Flux Lamp EM	2300 (min), 2750 (nom) Lm
Luminous Efficacy Lamp EM	19 Lm/W

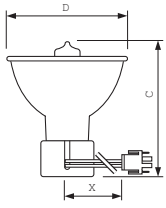
• Product Dimensions

Overall Length C	106 mm
Diameter D	95.3 mm
Cable Length X	280 mm

• Luminaire Design Requirements

Pinch Temperature	350 C
Bulb Temperature	650 C

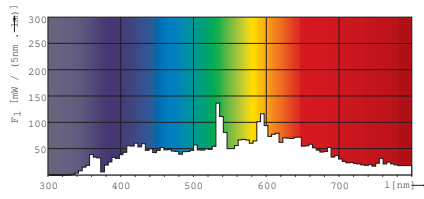
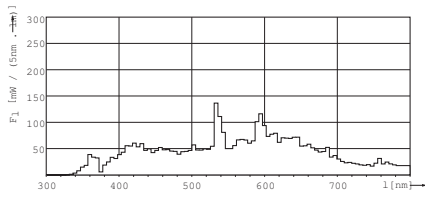
Dimensional drawing



Product	C (Max)	D (Max)	X (Norm)
CDM-SA/R 150W/942	106	95.3	280



Photometric data



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2011, March 18
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MasterColor® CDM-T T6 Elite

MasterColor CDM-T Elite 70W/930 T6 1CT

The Elite family is at the very top of the MasterColor® CDM range, and gives a unique combination of unbeatable light quality and consistent performance over lifetime. While keeping running costs low. MasterColor metal halide lamps deliver consistent white light and higher color rendering than any standard metal halide source for architectural lighting.

Product data

• Product Data

Product number	148361
Full product name	MasterColor CDM-T Elite 70W/930 T6 1CT
Short product name	CDM T6 70W ELITE 930
Pieces per Sku	1
eop_pck_cfg	12
Skus/Case	12
Bar code on pack	46677148362
Bar code on case	50046677148367
Logistics code(s)	928092605117
tpd_ilcos_cd	MT-70/30/1A-H-G12
eop_net_weight_pp	0.029 kg

• General Characteristics

Base	G12
Bulb	T6 [Diameter: 6/8 inch /19mm]
Bulb Finish	Clear
Operating Position	Universal [Any or Universal (U)]
Life to 5% failures	9000 hr
Life to 10% failures	10000 hr
Life to 20% failures	11000 hr
Avg. Hrs. Life	12000 hr
Life to 5% failures EL	6000 hr
Life to 20% failures EL	9000 hr

• Electrical Characteristics

System Power EL	80 W
Watts	70 W
Lamp Wattage	75 W
Lamp Wattage EL	73 W
Lamp Voltage	87 V
Lamp Current EM	0.840 A
Lamp Current EL	0.840 A

Ignition Time	30 s
Run-up time 90%	3 min
Ignition Peak Voltage	3500 V
Re-ignition Time [min]	15 min
Dimmable	No

• Environmental Characteristics

Mercury (Hg) Content	8.5 mg
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• Light Technical Characteristics

Color Code	930 [CCT of 3000K]
Color Rendering Index	90 Ra8
Color Designation	Warm White
Color Temperature	3000 K
Color Temperature technical	3000 K
Chromaticity Coordinate X	0.434 -
Chromaticity Coordinate Y	0.395 -
Initial Lumens	7300 Lm
Luminous Efficacy Lamp EM	98 Lm/W
Luminous Efficacy Lamp EL	100 Lm/W
Lumen Maintenance EM 2000h	95 %
Lumen Maintenance EL 2000h	95 %
Lumen Maintenance EM 5000h	88 %

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MasterColor® CDM-T T6 Elite

Lumen Maintenance EL 5000h	88 %
Lumen Maintenance 10000h	83 %
Lumen Maintenance 12000h	80 %

Diameter D	20 mm
Light Center Length L	55 (min), 56 (nom), 57 (max) mm
Arc Length O	6 mm
Light Center Length L	2.2 in
Max Overall Length (MOL) - C	3.94 in
Diameter D	0.75 in

• UV-related Characteristics

PET (NIOSH)	64 h.klx
Damage Factor D/fc	0.22 -

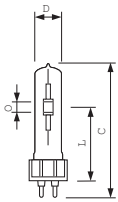
• Product Dimensions

Reference Length A	90 mm
Overall Length C	103 mm

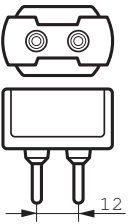
• Luminaire Design Requirements

Cap-Base Temperature	250 C
Pinch Temperature	350 C
Bulb Temperature	500 C

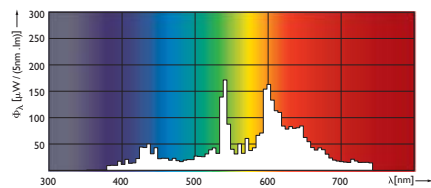
Dimensional drawing



Product	C (Max)	D (Max)	L (Min)	L (Norm)	L (Max)	O (Min)	O (Norm)	O (Max)
CDM-T 70W/930 G12	103	20	55	56	57	-	6	-



Photometric data



MASTERColour CDM-T Elite 70W /930



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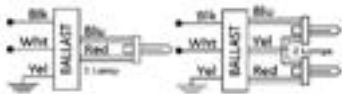
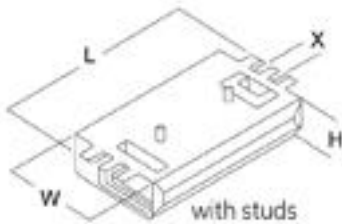


GE
Lighting

71432 - GEC218-MVPS-BES

GE CFL Multi-Volt ProLine™ Electronic Program / Rapid Start Ballast

- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Programmed starting for extended lamp life
- End-of-Lamp-Life Protection
- Color Coded Poke-In Connectors simplifies wiring



GENERAL CHARACTERISTICS

Application	2 or 1- CFQ18W/G24q Bottom Exit with Studs 120-277V Proline PS
Category	Compact Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Series
Line Voltage Regulation (+/-)	10 %
Case Temperature	70 °C(158 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Enclosure Type	Metal
Additional Info	Auto-restart/Thermally protected/Universal voltage

PRODUCT INFORMATION

Product Code	71432
Description	GEC218-MVPS-BES
Standard Package	Case
Standard Package GTIN	10043168714324
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard	10
Package	
UPC	043168714327

DIMENSIONS

Case dimensions	
Length (L)	5.0 in(127.00 mm)
Width (W)	2.4 in(60.96 mm)
Height (H)	1.0 in(25.40 mm)
Mounting dimensions	
Mount Length (M)	4.6 in(117.60 mm)
Weight	1.1 lb
Exit Type	Poke-in
Remote Mounting Distance	20 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60 Hz
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SAFETY & PERFORMANCE

- CSA
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- FCC Part 18 Class B at 120 volts

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)(<=)	Crest Factor	THD% (<=)	Min. Starting Temp (°F/°C)
CFTR26W/4P	1	120	28	0.24 A	1.00	3.57	99	1.6	12	-20.0 / -29
CFTR26W/4P	1	277	28	0.1 A	1.00	3.57	96	1.6	12	-20.0 / -29
CFTR18W/4P	1	120	20	0.17 A	1.05	NaN	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	1	277	20	0.08 A	1.05	NaN	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	2	120	39	0.33 A	1.05	2.69	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	2	277	39	0.14 A	1.05	2.69	97	1 1/2	10	-20.0 / -29
CFS28W/4P	1	120	31	0.26 A	1.00	3.23	99	1 1/2	10	-20.0 / -29
CFS28W/4P	1	277	31	0.11 A	1.00	3.23	97	1 1/2	10	-20.0 / -29
CFS21W/4P	1	120	20	0.16 A	0.90	NaN	97	1 1/2	15	-20.0 / -29
CFS21W/4P	1	277	20	0.07 A	0.90	NaN	97	1 1/2	15	-20.0 / -29
CFS21W/4P	2	120	40	0.33 A	0.91	2.28	99	1 1/2	10	-20.0 / -29
CFS21W/4P	2	277	40	0.14 A	0.91	2.28	99	1 1/2	10	-20.0 / -29
CFS16W/4P	2	120	37	0.31 A	1.00	2.70	99	1 1/2	10	-20.0 / -29
CFS16W/4P	2	277	37	0.13 A	1.00	2.70	99	1 1/2	10	-20.0 / -29
CFQ26W/4P	1	120	28	0.24 A	1.00	3.57	99	1.6	12	-20.0 / -29
CFQ26W/4P	1	277	28	0.1 A	1.00	3.57	96	1.6	12	-20.0 / -29
CFQ18W/4P	1	120	19	0.16 A	0.95	5.00	99	1 1/2	10	-20.0 / -29
CFQ18W/4P	1	277	19	0.07 A	0.95	5.00	99	1 1/2	10	-20.0 / -29
CFQ18W/4P	2	120	35	0.3 A	1.00	2.86	97	1 1/2	10	-20.0 / -29
CFQ18W/4P	2	277	35	0.13 A	1.00	2.86	97	1 1/2	10	-20.0 / -29

WARRANTY INFORMATION

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

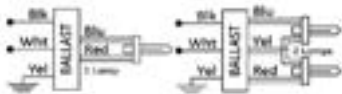
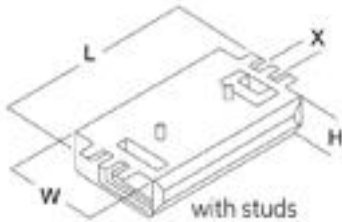


GE
Lighting

71432 - GEC218-MVPS-BES

GE CFL Multi-Volt ProLine™ Electronic Program / Rapid Start Ballast

- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Programmed starting for extended lamp life
- End-of-Lamp-Life Protection
- Color Coded Poke-In Connectors simplifies wiring



GENERAL CHARACTERISTICS

Application	2 or 1- CFQ18W/G24q Bottom Exit with Studs 120-277V Proline PS
Category	Compact Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Series
Line Voltage Regulation (+/-)	10 %
Case Temperature	70 °C(158 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Enclosure Type	Metal
Additional Info	Auto-restart/Thermally protected/Universal voltage

PRODUCT INFORMATION

Product Code	71432
Description	GEC218-MVPS-BES
Standard Package	Case
Standard Package GTIN	10043168714324
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard	10
Package	
UPC	043168714327

DIMENSIONS

Case dimensions	
Length (L)	5.0 in(127.00 mm)
Width (W)	2.4 in(60.96 mm)
Height (H)	1.0 in(25.40 mm)
Mounting dimensions	
Mount Length (M)	4.6 in(117.60 mm)
Weight	1.1 lb
Exit Type	Poke-in
Remote Mounting Distance	20 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60 Hz
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SAFETY & PERFORMANCE

- CSA
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- FCC Part 18 Class B at 120 volts

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)(<=)	Crest Factor	THD% (<=)	Min. Starting Temp (°F/°C)
CFTR26W/4P	1	120	28	0.24 A	1.00	3.57	99	1.6	12	-20.0 / -29
CFTR26W/4P	1	277	28	0.1 A	1.00	3.57	96	1.6	12	-20.0 / -29
CFTR18W/4P	1	120	20	0.17 A	1.05	NaN	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	1	277	20	0.08 A	1.05	NaN	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	2	120	39	0.33 A	1.05	2.69	97	1 1/2	10	-20.0 / -29
CFTR18W/4P	2	277	39	0.14 A	1.05	2.69	97	1 1/2	10	-20.0 / -29
CFS28W/4P	1	120	31	0.26 A	1.00	3.23	99	1 1/2	10	-20.0 / -29
CFS28W/4P	1	277	31	0.11 A	1.00	3.23	97	1 1/2	10	-20.0 / -29
CFS21W/4P	1	120	20	0.16 A	0.90	NaN	97	1 1/2	15	-20.0 / -29
CFS21W/4P	1	277	20	0.07 A	0.90	NaN	97	1 1/2	15	-20.0 / -29
CFS21W/4P	2	120	40	0.33 A	0.91	2.28	99	1 1/2	10	-20.0 / -29
CFS21W/4P	2	277	40	0.14 A	0.91	2.28	99	1 1/2	10	-20.0 / -29
CFS16W/4P	2	120	37	0.31 A	1.00	2.70	99	1 1/2	10	-20.0 / -29
CFS16W/4P	2	277	37	0.13 A	1.00	2.70	99	1 1/2	10	-20.0 / -29
CFQ26W/4P	1	120	28	0.24 A	1.00	3.57	99	1.6	12	-20.0 / -29
CFQ26W/4P	1	277	28	0.1 A	1.00	3.57	96	1.6	12	-20.0 / -29
CFQ18W/4P	1	120	19	0.16 A	0.95	5.00	99	1 1/2	10	-20.0 / -29
CFQ18W/4P	1	277	19	0.07 A	0.95	5.00	99	1 1/2	10	-20.0 / -29
CFQ18W/4P	2	120	35	0.3 A	1.00	2.86	97	1 1/2	10	-20.0 / -29
CFQ18W/4P	2	277	35	0.13 A	1.00	2.86	97	1 1/2	10	-20.0 / -29

WARRANTY INFORMATION

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

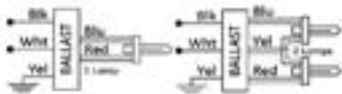
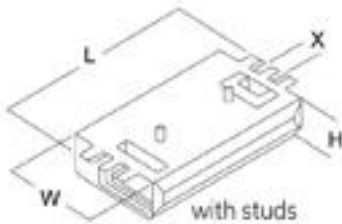


GE
Lighting

71443 - GEC226-MVPS-BES

GE CFL Multi-Volt ProLine™ Electronic Program / Rapid Start Ballast

- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Programmed starting for extended lamp life
- End-of-Lamp-Life Protection
- Color Coded Poke-In Connectors simplifies wiring



GENERAL CHARACTERISTICS

Application	2-CFQ26W, FT24 or 1-42W, CFTR32 Bottom Exit w Studs 120-277V Proline PS Compact Fluorescent
Category	Electronic - Program / Rapid Start
Ballast Type	Programmed start
Starting Method	Series
Lamp Wiring	10 %
Line Voltage Regulation (+/-)	75 °C(167 °F)
Case Temperature	Normal
Ballast Factor	Active
Power Factor Correction	A (20-24 decibels)
Sound Rating	Metal
Enclosure Type	Auto-restart/Thermally protected/Universal voltage
Additional Info	

PRODUCT INFORMATION

Product Code	71443
Description	GEC226-MVPS-BES
Standard Package	Case
Standard Package GTIN	10043168714430
Standard Package Quantity	10
Sales Unit	Individual Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard	10
Package	
UPC	043168714433

DIMENSIONS

Case dimensions	
Length (L)	5.0 in(127.00 mm)
Width (W)	2.4 in(60.96 mm)
Height (H)	1.0 in(25.40 mm)
Mounting dimensions	
Mount Length (M)	4.6 in(117.60 mm)
Weight	0.57 lb
Exit Type	Poke-in
Remote Mounting Distance	12 ft
Remote Mounting Wire Gauge	18 AWG

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60 Hz
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SAFETY & PERFORMANCE

- CSA
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- FCC Part 18 Class B at 120 volts

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)(<=)	Crest Factor THD% (<=)	Min. Starting Temp (°F/°C)
FT24W/2G10	2	120	48	0.41 A	0.93	NaN	99	1 1/2 10	-20.0 / -29
FT24W/2G10	2	277	48	0.18 A	0.93	NaN	99	1 1/2 10	-20.0 / -29
FC16T9/40W	1	120	43	0.16 A	1.00	2.33	97	1 1/2 10	-20.0 / -29
FC16T9/40W	1	277	43	0.16 A	1.00	2.33	97	1 1/2 10	-20.0 / -29
FC16T9	1	120	43	0.16 A	1.00	2.33	97	1 1/2 10	-20.0 / -29
FC16T9	1	277	43	0.16 A	1.00	2.33	97	1 1/2 10	-20.0 / -29
F24T5/HO	2	120	51	0.44 A	1.00	1.96	99	1 1/2 10	-20.0 / -29
F24T5/HO	2	277	51	0.19 A	1.00	1.96	98	1 1/2 10	-20.0 / -29
CFTR42W/4P	1	120	46	0.38 A	0.98	2.13	98	1 1/2 10	-20.0 / -29
CFTR42W/4P	1	277	46	0.17 A	0.98	2.13	98	1 1/2 10	-20.0 / -29
CFTR32W/4P	1	120	36	0.31 A	0.98	2.72	98	1 1/2 10	-20.0 / -29
CFTR32W/4P	1	277	36	0.13 A	0.98	2.72	98	1 1/2 10	-20.0 / -29
CFTR26W/4P	1	120	29	0.24 A	1.10	3.79	98	1 1/2 10	-20.0 / -29
CFTR26W/4P	1	277	29	0.11 A	1.10	3.79	98	1 1/2 10	-20.0 / -29
CFTR26W/4P	2	120	54	0.45 A	1.00	1.85	99	1 1/2 10	-20.0 / -29
CFTR26W/4P	2	277	54	0.2 A	1.00	1.85	99	1 1/2 10	-20.0 / -29
CFS21W/4P	2	120	51	0.42 A	1.12	2.20	99	1 1/2 10	-20.0 / -29
CFS21W/4P	2	277	51	0.18 A	1.12	2.20	99	1 1/2 10	-20.0 / -29
CFQ26W/4P	1	120	27	0.23 A	1.00	3.70	99	1 1/2 10	-20.0 / -29
CFQ26W/4P	1	277	27	0.1 A	1.00	3.70	99	1 1/2 10	-20.0 / -29

CFQ26W/4P	2	120	51	0.43 A	1.00	1.96	98	1 1/2	10	-20.0 / -29
CFQ26W/4P	2	277	51	0.19 A	1.00	1.96	98	1 1/2	10	-20.0 / -29

WARRANTY INFORMATION

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

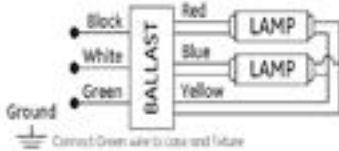


GE
Lighting

99653 - GE228MVPSH-A

GE LFL UltraStart® Electronic Program / Rapid Start Ballast

- High Efficiency T5 ballast with Continuous Cathode Cutout Technology
- Lower Maintenance Costs with Parallel Lamp Operation
- Fast Starting Time <700ms
- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Auto-Restart withstands temporary losses in power without the need to cycle power
- UltraCool™ Operation 90C case rating
- Anti-Striation Control for better light quality, with no striations.



GENERAL CHARACTERISTICS

Application	2 or 1 - F14-F35HE 120 to 277 UltraStart PRS High Light 1.15 BF A Can
Category	Linear Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Parallel
Line Voltage Regulation (+/-)	10 %
Case Temperature	90 °C(194 °F)
Ballast Factor	High (1.18)
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Enclosure Type	Metal
Additional Info	Auto-restart/End of Life Protection (EOL)/Thermally protected/Universal voltage

PRODUCT INFORMATION

Product Code	99653
Description	GE228MVPSH-A
Standard Package	Case
Standard Package GTIN	10043168996539
Standard Package Quantity	10
Sales Unit	Standard Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168996532

DIMENSIONS

Case dimensions			
Length (L)		9.5 in(241.30 mm)	
Width (W)		1.7 in(43.18 mm)	
Height (H)		1.2 in(30.48 mm)	
Mounting dimensions			
Mount Length (M)		8.9 in(226.06 mm)	
Mount Slots (MS)		0.2 in(6.35 mm)	
Weight		1.49 lb	
Exit Type		Side	
Remote Mounting Distance		8 ft	
Remote Mounting Wire Gauge		18 AWG	
Lead lengths	Qty	Exit	Length (± 1 in.)
Black	1	Left/Right	25.0 (635mm)
Blue	2	Left/Right	34.0 (864mm)
Green	1	Left/Right	3.5 (89mm)
Red	2	Left/Right	34.0 (864mm)
White	1	Left/Right	25.0 (635mm)
Yellow	2	Left/Right	45 (1143mm)

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60 Hz
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SAFETY & PERFORMANCE

- CSA
- FCC - CLASS A Non-Consumer
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- RoHs Compliant
- Meets ANSI Standard C82.11-Cons 2002
- Meets ANSI Standard C62.41-1991
- High Temperature Rated: Suitable for high temperature applications
- 70C max case temp 5 yr warranty or 90C max case temp 3 yr warranty

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)(<=)	Crest Factor	THD% (<=)	Min. Starting Temp (°F/°C)
F28T5/WM	1	120	43	0.36 A	1.22	2.84	99	1 1/2	9	5.0 / -15
F28T5/WM	1	277	43	0.17 A	1.22	2.84	92	1 1/2	9	5.0 / -15
F28T5/WM	2	120	68	0.57 A	1.16	1.71	99	1 1/2	9	5.0 / -15
F28T5/WM	2	277	67	0.25 A	1.16	1.73	96	1 1/2	10	5.0 / -15
F28T5/HL	1	120	45	0.37 A	1.21	2.69	99	1 1/2	9	5.0 / -15
F28T5/HL	1	277	45	0.17 A	1.21	2.69	93	1 1/2	9	5.0 / -15
F28T5/HL	2	120	72	0.6 A	1.16	1.61	99	1.6	9	5.0 / -15

F28T5/HL	2	277	70	0.25 A	1.16	1.66	97	1.6	10	5.0 / -15
F28T5/HE	1	120	45	0.37 A	1.21	2.69	99	1 1/2	9	5.0 / -15
F28T5/HE	1	277	45	0.17 A	1.21	2.69	93	1 1/2	9	5.0 / -15
F28T5/HE	2	277	70	0.25 A	1.16	1.66	97	1.6	10	5.0 / -15
F28T5/HE	2	120	72	0.6 A	1.16	1.61	99	1.6	9	5.0 / -15
F21T5/WM	1	120	34	0.29 A	NaN	3.68	99	1 1/2	9	5.0 / -15
F21T5/WM	1	277	34	0.15 A	NaN	3.68	86	1 1/2	9	5.0 / -15
F21T5/WM	2	120	54	0.45 A	1.17	2.17	99	1 1/2	9	5.0 / -15
F21T5/WM	2	277	53	0.21 A	1.17	2.21	95	1 1/2	8	5.0 / -15
F21T5/HE	1	120	36	0.3 A	1.24	3.44	99	1 1/2	10	5.0 / -15
F21T5/HE	1	277	36	0.14 A	1.24	3.44	90	1 1/2	10	5.0 / -15
F21T5/HE	2	120	57	0.47 A	1.17	2.05	99	1 1/2	8	5.0 / -15
F21T5/HE	2	277	56	0.21 A	1.17	2.09	95	1 1/2	8	5.0 / -15
F14T5/WM	1	120	25	0.21 A	1.26	5.04	99	1 1/2	9	5.0 / -15
F14T5/WM	1	277	25	0.12 A	1.26	5.04	78	1 1/2	9	5.0 / -15
F14T5/WM	2	120	38	0.32 A	1.17	3.08	99	1 1/2	10	5.0 / -15
F14T5/WM	2	277	38	0.15 A	1.17	3.08	91	1 1/2	10	5.0 / -15
F14T5/HE	1	120	26	0.22 A	1.28	4.92	99	1.7	10	5.0 / -15
F14T5/HE	1	277	26	0.12 A	1.28	4.92	81	1 1/2	9	5.0 / -15
F14T5/HE	2	120	40	0.34 A	1.18	2.95	99	1 1/2	9	5.0 / -15
F14T5/HE	2	277	40	0.16 A	1.18	2.95	92	1 1/2	9	5.0 / -15

WARRANTY INFORMATION

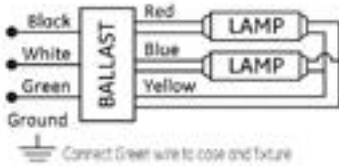
GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.



99651 - GE254MVPS90-F

GE LFL UltraStart® Electronic Program / Rapid Start Ballast

- High Efficiency T5 ballast with Continuous Cathode Cutout Technology
- Lower Maintenance Costs with Parallel Lamp Operation
- Fast Starting Time <700ms
- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Auto-Restart withstands temporary losses in power without the need to cycle power
- UltraCool™ Operation 90C case rating
- Anti-Striation Control for better light quality, with no striations.



GENERAL CHARACTERISTICS

Application	2 or 1 - F54T5HO 120 to 277 UltraStart PRS High Temp F Can
Category	Linear Fluorescent
Ballast Type	Electronic - Program / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Parallel
Line Voltage Regulation (+/-)	10 %
Case Temperature	90 °C(194 °F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Enclosure Type	Metal
Additional Info	Auto-restart/End of Life Protection (EOL)/Thermally protected/Universal voltage

PRODUCT INFORMATION

Product Code	99651
Description	GE254MVPS90-F
Standard Package	Case
Standard Package GTIN	10043168996515
Standard Package Quantity	10
Sales Unit	Standard Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168996518

DIMENSIONS

Case dimensions			
Length (L)			11.8 in(298.45 mm)
Width (W)			1.7 in(43.18 mm)
Height (H)			1.2 in(30.48 mm)
Mounting dimensions			
Mount Length (M)			11.1 in(282.96 mm)
Mount Slots (MS)			0.2 in(6.35 mm)
Weight			1.85 lb
Exit Type			Side
Remote Mounting Distance			8 ft
Remote Mounting Wire Gauge			18 AWG
Lead lengths	Qty	Exit	Length (± 1 in.)
Black	1	Left/Right	25.0 (635mm)
Blue	2	Left/Right	34.0 (864mm)
Green	1	Left/Right	3.5 (89mm)
Red	2	Left/Right	34.0 (864mm)
White	1	Left/Right	25.0 (635mm)
Yellow	1	Left/Right	45.0 (1143mm)
Yellow	2	Left/Right	45 (1143mm)

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	50 Hz/60 Hz
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SAFETY & PERFORMANCE

- CSA
- FCC - CLASS A Non-Consumer
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- RoHs Compliant
- Meets ANSI Standard C82.11-Cons 2002
- Meets ANSI Standard C62.41-1991
- High Temperature Rated: Suitable for high temperature applications
- 70C max case temp 5 yr warranty or 90C max case temp 3 yr warranty

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)(<=)	Crest Factor THD% (<=)	Min. Starting Temp (°F/°C)	
FT55W/4P	1	120	67	0.56 A	1.04	1.55	99	1.6	6	5.0 / -15
FT55W/4P	2	120	106	0.89 A	0.86	0.81	99	1.7	9	5.0 / -15
FT55W/4P	1	277	67	0.25 A	1.04	1.55	97	1.6	6	5.0 / -15
FT55W/4P	2	277	105	0.39 A	0.86	0.82	98	1.7	7	5.0 / -15
FT50W/4P	1	120	72	0.61 A	1.21	1.68	99	1.6	5	5.0 / -15
FT50W/4P	1	277	72	0.27 A	1.21	1.68	97	1.6	7	5.0 / -15

FT50W/4P	2	120	117	0.99 A	1.05	0.90	99	1.7	10	5.0 /-15
FT50W/4P	2	277	115	0.43 A	1.05	0.91	98	1.7	8	5.0 /-15
FT39W/4P	1	120	51	0.43 A	1.29	2.53	99	1.6	4	5.0 /-15
FT39W/4P	1	277	51	0.19 A	1.28	2.51	96	1.6	7	5.0 /-15
FT39W/4P	2	120	85	0.71 A	1.17	1.38	99	1.6	4	5.0 /-15
FT39W/4P	2	277	84	0.31 A	1.17	1.39	98	1.6	8	5.0 /-15
FC12T5HO	1	120	69	0.58 A	1.04	1.51	99	1.6	6	5.0 /-15
FC12T5HO	1	277	69	0.26 A	1.04	1.51	97	1.6	7	5.0 /-15
FC12T5HO	2	120	111	0.92 A	0.90	0.81	99	1.7	7	5.0 /-15
FC12T5HO	2	277	109	0.4 A	0.90	0.83	98	1.7	7	5.0 /-15
F58T8	2	120	106	0.89 A	0.95	0.90	99	1.6	9	5.0 /-15
F58T8	1	120	65	0.55 A	1.09	1.68	99	1.6	5	5.0 /-15
F58T8	2	277	104	0.38 A	0.95	0.91	98	1.6	10	5.0 /-15
F58T8	1	277	65	0.24 A	1.09	1.68	97	1.6	7	5.0 /-15
F54T5/WM	2	277	107	0.4 A	1.00	0.93	97	1.7	8	5.0 /-15
F54T5/WM	1	277	66	0.25 A	1.12	1.70	97	1.6	7	5.0 /-15
F54T5/WM	2	120	109	0.91 A	1.00	0.92	99	1.7	8	5.0 /-15
F54T5/WM	1	120	66	0.56 A	1.12	1.70	99	1.6	5	5.0 /-15
F54T5/HO	1	120	71	0.6 A	1.11	1.56	99	1.6	4	5.0 /-15
F54T5/HO	1	277	71	0.26 A	1.11	1.56	97	1.6	7	5.0 /-15
F54T5/HO	2	120	116	0.98 A	1.00	0.86	99	1.7	10	5.0 /-15
F54T5/HO	2	277	114	0.43 A	1.00	0.88	98	1.7	8	5.0 /-15
F54T5/47W	1	120	64	0.54 A	1.10	NaN	99	1.7	8	32.0 /0
F54T5/47W	1	277	63	0.24 A	1.10	1.75	99	1.6	5	32.0 /0
F54T5/47W	2	120	105	0.9 A	1.00	0.95	97	1.7	8	32.0 /0
F54T5/47W	2	277	103	0.38 A	1.00	0.97	97	1.6	7	32.0 /0

WARRANTY INFORMATION

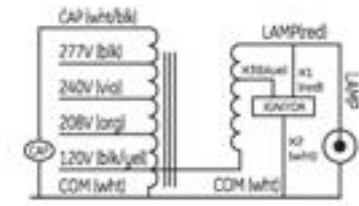
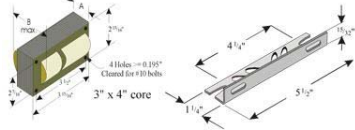
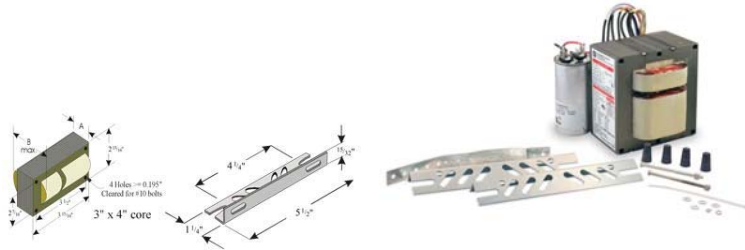
GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.



86718 - GEM150MLTLC3D-5

GE HID Distributor Replacement Kit Magnetic Core & Coil Ballast

- Magnetic ballast construction ideal for a wide variety of lighting applications.
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity.
- Distributor replacement kit contains the appropriate core & coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (120, 208, 240, 277)



GENERAL CHARACTERISTICS

Application	1- 150w MH M102 or M142
Category	Quad
Ballast Type	High Intensity Discharge
Type	Magnetic - Core & Coil
Line Voltage Regulation (+/-)	Replacement kit
Ballast Factor	5 %
Circuit Type	Normal
Insulation Class	HX-HPF
Enclosure Type	180C
Capacitance	None
Capacitor Temperature Rating	16 µF
Distance to Lamp	90 °C(194 °F)
	5 ft

PRODUCT INFORMATION

Product Code	86718
Description	GEM150MLTLC3D-5
Standard Package	Master
Standard Package GTIN	
Standard Package Quantity	6
Sales Unit	Distributor Kit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	6
UPC	043168867184

DIMENSIONS

Case dimensions	
Length (L)	4.0 in(101.60 mm)
Width (W)	2.8 in(71.45 mm)
Mounting dimensions	
Bracket Length (BL)	5.5 in(139.70 mm)
Mount Length (M)	3.5 in(88.90 mm)
Mount Width (X or F)	2.4 in(61.93 mm)
Mount Slots (MS)	0.2 in(4.95 mm)
Weight	7 lb
Exit Type	Side
Diameter	1.6 in
Nominal Length	2.7 in
Frame size (H x L)	2.813 x 3.939 in

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	60 Hz
Voltage	300

SAFETY & PERFORMANCE

- cUL Listed
- UL Listed

SPECIFICATIONS BY LAMP & LINE VOLTAGE

Lamp # of Lamps by Line	Specifications Voltage	System Wattage	Nominal Current	Ballast Factor	Ballast Efficiency	Max.Input Current	Starting Current	Open Circuit Voltage	Drop Out Voltage	Power factor	Min.starting temperature	Fuse rating	UL bench top rise
M142 1	120	186.0	1.6A	1	0.806	3.37A	1.86A	257V	75V	0.9	-22.0°F	10	A
M142 1	208	186.0	1.0A	1	0.806	1.95A	1.03A	257V	125V	0.9	-22.0°F	5	B
M142 1	240	186.0	0.8A	1	0.806	1.68A	0.89A	257V	150V	0.9	-22.0°F	5	A
M142 1	277	186.0	0.7A	1	0.806	1.39A	0.77A	257V	160V	0.9	-22.0°F	4	A
M102 1	120	186.0	1.6A	1	0.806	3.37A	1.86A	257V	75V	0.9	-22.0°F	10	A
M102 1	208	186.0	1.0A	1	0.806	1.95A	1.03A	257V	125V	0.9	-22.0°F	5	B
M102 1	240	186.0	0.8A	1	0.806	1.68A	0.89A	257V	150V	0.9	-22.0°F	5	A
M102 1	277	186.0	0.7A	1	0.806	1.39A	0.77A	257V	160V	0.9	-22.0°F	4	A

CAUTIONS & WARNINGS

Warning

ACCESSORIES

Ignitors	
Product Code	86864
Description	MH100-3A
Dry Film Capacitor	
Product Code	75428
Description	GE CAP-16/280V-D
Ignitors	
Product Code	75440
Description	MH350-1A

NOTES

- Kit contains the appropriate core & coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- For additional information, visit www.gelighting.com

WARRANTY INFORMATION

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

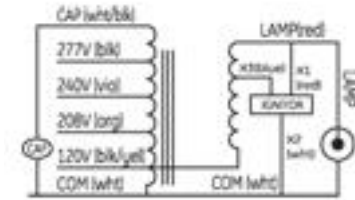
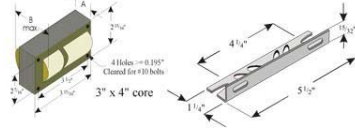
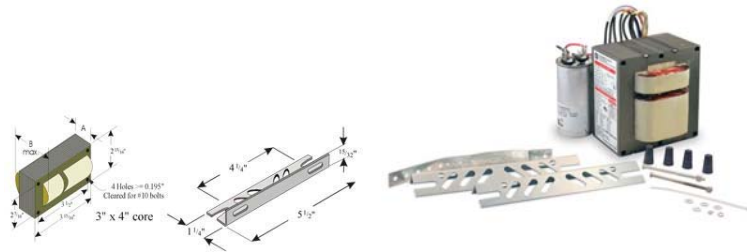


GE
Lighting

86847 - GEM70MLTLC3D-5

GE HID Distributor Replacement Kit Magnetic Core & Coil Ballast

- Magnetic ballast construction ideal for a wide variety of lighting applications.
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity.
- Distributor replacement kit contains the appropriate core & coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (120, 208, 240, 277)



GENERAL CHARACTERISTICS

Application	1- 70w MH M 98 or M143 Quad
Category	High Intensity Discharge
Ballast Type	Magnetic - Core & Coil
Type	Replacement kit
Line Voltage Regulation (+/-)	5 %
Ballast Factor	Normal
Circuit Type	HX-HPF
Insulation Class	180C
Enclosure Type	None
Capacitance	8 µF
Capacitor Temperature Rating	100 °C(212 °F)
Distance to Lamp	5 ft

PRODUCT INFORMATION

Product Code	86847
Description	GEM70MLTLC3D-5
Standard Package	Master
Standard Package GTIN	
Standard Package Quantity	6
Sales Unit	Distributor Kit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	6
UPC	043168868471

DIMENSIONS

Case dimensions	
Length (L)	4.0 in(101.60 mm)
Width (W)	2.8 in(71.45 mm)
Mounting dimensions	
Bracket Length (BL)	5.5 in(139.70 mm)
Mount Length (M)	3.5 in(88.90 mm)
Mount Width (X or F)	2.4 in(61.93 mm)
Mount Slots (MS)	0.2 in(4.95 mm)
Weight	5 lb
Exit Type	Side
Diameter	1.6 in
Nominal Length	2.7 in
Frame size (H x L)	2.813 x 3.939 in

ELECTRICAL CHARACTERISTICS

Supply Current Frequency	60 Hz
Voltage	280

SAFETY & PERFORMANCE

- cUL Listed
- UL Listed

SPECIFICATIONS BY LAMP & LINE VOLTAGE

Lamp # of Lamps by Line Voltage	Specifications	System Wattage	Nominal Current	Ballast Factor	Ballast Efficiency	Max.Input Current	Starting Current	Open Circuit Voltage	Drop Out Voltage	Power factor	Min.starting temperature	Fuse rating	UL bench top rise
M98 1 120		88.0	0.9A	1	0.795	1.51A	0.96A	257V	30V	0.9	-22.0°F	4	A
M98 1 208		88.0	0.5A	1	0.795	0.88A	0.59A	257V	150V	0.9	-22.0°F	3	A
M98 1 240		88.0	0.4A	1	0.795	0.75A	0.49A	257V	175V	0.9	-22.0°F	3	A
M98 1 277		88.0	0.4A	1	0.795	0.66A	0.44A	257V	208V	0.9	-22.0°F	2	A

CAUTIONS & WARNINGS

Warning

ACCESSORIES

Dry Film Capacitor	
Product Code	75426
Description	GECAP-8/280V-D
Ignitors	
Product Code	75440
Description	MH350-1A

NOTES

- Kit contains the appropriate core & coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

WARRANTY INFORMATION

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