





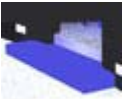















APPENDIX A











LUMINAIRE CUT-SHEETS

Lighting Fixture Schedule

University of California, San Diego Cal IT2

Type	Mfr/Catalog #	Lamping	Notes
B1	 Prudential Lighting LGD-P-2T8-SPL* Description: Suspended fluorescent up/downlight with 2-F32T8 (48in) lamps (in cross-section). Optics: 1-1/2" deep parabolic louver 2.5" o.c. , steel die-formed reflector.	2-F32T8 (48in) lamps (in cross-section)	Location: Open Office
B2	 Metalumen SD3-B-A-K-4* Description: 6" suspended fluorescent downlight with 2-F32T8 (48in) lamps (in cross-section). Optics: parabolic louver.	2-F32T8 (48in) lamps (in cross-section)	Location: Open Office
B3	 Lightolier 8037*** / 7132BU 32W Description: 7" recessed compact fluorescent downlight with 1-CFTR32W lamp. Optics: painted or anodized aluminum parabolic reflector.	1-CFTR32W lamp	Location: Open Office
B5	 Lightolier 8087*** / 7132BU 32W Description: 7" recessed compact fluorescent wallwasher with 1-CFTR32W lamp. Optics: painted or anodized aluminum parabolic reflector , single.	1-CFTR32W lamp	Location: Open Office
B6	 Lightolier CS8142HUCL 32W Description: 9" surface-mounted compact fluorescent downlight with 1-CFTR32W lamp. Optics: anodized aluminum parabolic reflector.	1-CFTR32W lamp	Location: Open Office
B7	 Bega 2286P Description: Recessed compact fluorescent step light with 1-CFT13W lamp. Optics: grill louver , tempered glass diffuser.	1-CFT13W lamp	Location: Black Box Theater
B8	 Zumtobelstaff Custom Fixture Description: Floor surface mounted as steps. Walk-over fixture with blue gelled lamp and 3form acylic glass overlay.	(1) 17W UT8	Location: Black-Box Theater
B9	 Lightolier CS8242HUCL 42W Description: 9" surface-mounted compact fluorescent downlight with 2-CFTR42W lamps. Optics: anodized aluminum parabolic reflector.	2-CFTR42W lamps	Location: Black Box Theater
B10	 Lithonia WW-ST-1-32-277-IRLS-1/4 Description: 4' linear recessed wall-washer with 1 32W T8 fluorescent	1 32W T8 FL	Location: Black Box Theater
B11	 Lightolier 1108 / 1104F1** Description: 6" recessed compact fluorescent downlight with 1-CFQ13W lamp. Optics: painted or anodized	1-CFQ13W lamp	Location: Black Box Theater

		aluminum cone reflector.		
B12		Cooper Ltg - Metalux 2M-XRD-2-U6T8-PBIS-*277-EB81-* Description: 24" surface-mounted fluorescent downlight with 2-F31T8/U (22.5in) lamps. Optics: acrylic prismatic lens.	2-F31T8/U (22.5in) lamps	Location: Black Box Theater
B13		Cooper Ltg - Metalux RWW-2-32-MI-277-EB81-* Description: 1x4" recessed fluorescent wallwasher with 2-F32T8 (48in) lamps. Optics: anodized aluminum reflector , single.	2-F32T8 (48in) lamps	Location: Black Box Theater
B14		Cooper Ltg - Corelite CI-SN-1T8-1-C-277-08 Description: Fluorescent cove light with 1-F32T8 (48in) lamp (in cross-section).	1-F32T8 (48in) lamp (in cross-section)	Location: Lobby
B15		Cooper Ltg - Corelite CI-SN-1T8-1-C-277-08 Description: Fluorescent cove light with blue gelled 1-F32T8 (48in) lamp (in cross-section).	1-F32T8 (48in) lamp (in cross-section)	Location: Lobby
B16		Edison Price TPX 132/6 Description: 6" recessed compact fluorescent downlight with 1-CFTR32W lamp. Optics: anodized aluminum parabolic reflector.	1-CFTR32W lamp	Location: Lobby
B17		Erco 88120.023 Description: 6" recessed halogen accent light with 1-MR16 50W max lamp.	1-MR16 50W max lamp	Location: Lobby
B18		Zumtobel Staff SLR2-*1285-* Description: Recessed fluorescent downlight with (1) 28W T5 lamp in cross section.	(1) 28W T5	Location: Lobby
B19		D'AC Custom Design Description: A 4' pendant with extruded aluminum body and blue opal glass inserts. Hung by aircraft cable with separated housings.	(2) 32W CFTR lamps	Location: Lobby Entrance
E1		Gardco LSA14-1-A-135LPS-277-BLP-LF Description:	(1) 135W LPS	Location: Academic Court
E2		Bega 8534MH Description: Metal halide bollard with 1-39W T6 single-ended base lamp. 10" length, 6" width, 43" height/depth.	1-39W T6 single-ended base lamp	Location: Academic Court
E3		Bega 2289P Description: Recessed compact fluorescent step light with 1-CFT9W	1-CFT9W lamp	Location: Academic Court

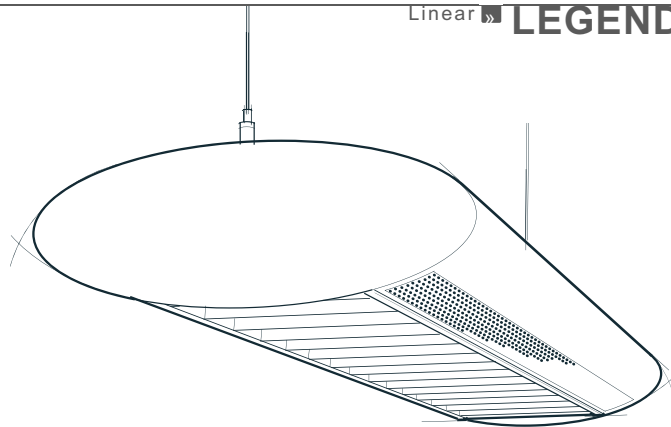
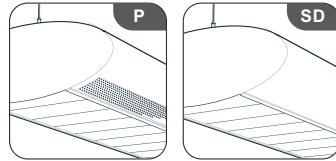
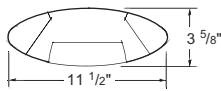
		lamp. Optics: tempered glass diffuse white lens.		
E4		Belfer 3510FPS-BHS-13-1-* Description: Recessed compact fluorescent step light with 1-CFQ13W lamp. Optics: micro louver , tempered glass clear lens.	1-CFQ13W lamp	Location: Academic Court
E5		B-K Lighting MC*-***-9-C Description: Surface-mounted halogen landscape light with 1-PAR20 50W max lamp. aluminum housing. Adjustability: 180° tilt, 360° rotation lockable.	1-PAR20 50W max lamp	Location: Academic Court
E6		Focal Point FAVB FL 1T5 1C * Description: 2" recessed fluorescent downlight with 1-F28T5 (48in) lamp (in cross-section). Optics: acrylic diffuse white lens , steel die-formed reflector.	1-F28T5 (48in) lamp (in cross-section)	Location: Academic Court
E7		Cole Lighting LR 2W Description: Wall-mounted fluorescent step light with 1-T8 lamp (in cross-section). Optics: acrylic prismatic lens.	1-T8 lamp (in cross-section)	Location: Academic Court
E8		io 0-03*-*-100-1-* Description: Surface-mounted LED strip light, rigid housing with LED (in cross-section). Optics: acrylic clear lens.	rigid housing LED (in cross-section)	Location: Academic Court
E9		Bega 8729MH Description: Semi-recessed metal halide path light with 1-39W T6 double-ended base lamp. Optics: borosilicate glass diffuser.	1-39W T6 double-ended base lamp	Location: Academic Court
E10		Elliptipar M-115-070G-E-99-2-000 Description: Canopy suspended wash light with 70W T6 metal halide lamp. Housing color to match ceiling. Optics: Clear glass lens	(1) 70W T6 MH	Location: Theater Lobby to Courtyard
E11		Zumtobel Staff Custom Fixture Description: Large custom acrylic boxes with 32W T8 lamps with dimming. Various orientations and positions.	(#) 32W T8 FL lamp	Location: Underground Tunnel
E12		Cooper Ltg - Metalux STN-132-* Description: Surface-mounted fluorescent strip light, rigid housing with blue gelled 1-F32T8 (48in) lamp.	rigid housing 1-F32T8 (48in) lamp	Location: Underground Tunnel

Note: Verify all product specifications and catalog numbers with manufacturer. Product data is subject to change without notice. While every effort has been made to ensure the accuracy and reliability of the data, eLumit does not directly or impliedly warrant or endorse the data provided.

This report was generated by eLumit. www.elumit.com

Type
 Job Name
 Catalog Number

Linear **LEGEND**



ordering

body series/style	lamp rows	nominal length	shielding	color/finish	circuiting	voltage	mounting	ceiling system	options
LGD-									
P perforated	2T8	04'	SPL* silver parabolic louver	TMW* textured matte white	SC single circuit	120	CA48** aircraft cable (adjustable)	X1* exposed T-bar	EML
SD* solid	3T8	08'			DC dual circuit (in-line)	277	CA96" aircraft cable (adjustable)	X3 hard ceiling	EMH
*standard		12'	PRA prismatic acrylic lens	YGW gloss white		347	CA144" aircraft cable (adjustable)	X6 slot grid	DM
		R__*		Y__ premium color			SSC__ top-swivel stem mount (specify length in inches)	*standard	RSE
		*row length	*standard	CC custom color					10THD
				GLV galvanized					B__
									FH
									AMP*
									BSH†

*for existing/variable mounting locations
 †stem-mounting only

Applications Classrooms, laboratories, open offices, small offices, mixed-use areas, retail.

Features A classic oval linear direct/indirect lighting system. The internal reflectors are die-formed steel (white). Semi-specular parabolic louver is 1 1/2" high, 2 3/8" on center and provides 32° longitudinal shielding. Using an adjustable mounting plate (AMP) and conveniently located ballast cover knockouts, the fixture can accommodate existing or variable mounting and feed locations. Finish plates can be removed for continuous row-installation. Fixtures are connected and secured together by aligning with and bolting through alignment holes in end plates. When row-mounting is specified, quick-connect circuit assemblies are supplied.

Construction The housing, available in 4-, 8- or 12-foot standard lengths, is made of 20-gauge steel. Finish plates are 18-gauge steel.

Finish The standard exterior body color is textured matte white (TMW) or optional gloss white (YGW) using polyester powder paint. Refer to ordering matrix for optional metal finishes or refer to **Defining**

Section for optional paint colors. Canopies and stems match body color unless otherwise specified. Galvanized fixtures come with galvanized canopies and pewter (YMP) stems when stem-mounting is specified.

Electrical T8 fixtures have instant-start electronic ballasts with less than 20% THD. Fixtures are U.L. Damp labeled (non-emergency) and I.B.E.W. manufactured. Maximum ballast size available: 2 3/8" width x 1 1/2" height.

Mounting Fixture is suspended with aircraft cables or stem-mounted.

Options EML: emergency battery (T8=600 lumens); EMH: emergency battery (T8=1200 lumens); DM: dimming (consult factory); RSE: rapid-start electronic; 10THD: ballast with < 10% total harmonic distortion; B__: specific ballast, specify manufacturer and catalog number (consult factory); FH: fixture fusing (slow blow); AMP: adjustable mounting plate; BSH: longitudinal body sway hanger (stem-mounting only).

Prudential Lighting phone 213.746.0360 fax 213.741.8590 www.prulite.com

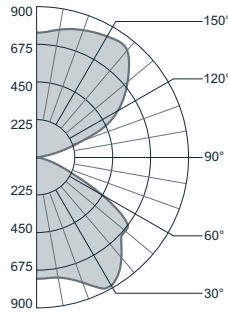
01 14

Prudential Lighting # LGD-P-2T8-*-SPL-*		B1
Brian Smith	UCSD Cal IT2	# of #

photometric data

LGD-SD-2T8-04-SPL-TMW

Report # LSH15345 D=43.7% I=6.3%
 Spacing Criteria: Along 1.2; Across 1.6
 Lamp Lumens: 2950 Input Watts: 61



Candlepower Summary

Vertical Angle	Horizontal Angle					Output Lumens
	0°	22.5°	45°	67.5°	90°	
0	726	726	726	726	726	70
5	722	723	724	723	726	70
15	684	689	712	741	752	203
25	620	643	726	820	857	338
35	529	591	751	821	849	443
45	403	517	636	675	711	459
55	229	345	442	562	636	386
65	61	90	160	221	248	166
75	9	13	21	44	68	35
85	0	0	1	5	7	5
90	0	0	0	0	0	0
95	22	30	31	31	30	39
105	107	218	214	170	153	197
115	227	382	432	461	457	394
125	351	475	593	612	634	488
135	471	566	705	767	776	511
145	576	640	736	813	846	453
155	656	691	751	799	821	344
165	713	729	753	778	794	213
175	743	748	747	750	754	73
180	745	745	745	745	745	745

Zonal Lumen Summary

Zone	% Lamp	% Luminaire
0-90	35.67	43.70
90-180	45.97	56.30

Efficiency = 81.6%

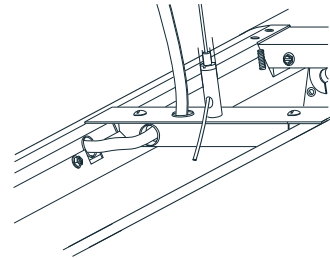
Luminance Summary (cd/m²)

Angle	Effective floor cavity reflectance = .20		
	0°	45°	90°
45	3372	5345	5970
55	2357	4576	6583
65	854	2254	3490
75	210	477	1551
85	0	94	499

Coefficients of Utilization (%)

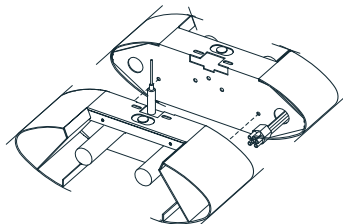
RCR	effective floor cavity reflectance = .20									
	Floor		Ceiling		Wall		0		10	
0	86	86	86	86	79	79	79	79	65	65
1	79	76	73	71	73	70	68	65	58	57
2	73	67	63	59	67	62	58	55	52	49
3	67	60	54	50	61	55	50	47	46	43
4	61	53	47	42	56	49	44	40	41	37
5	56	47	41	36	51	44	38	34	37	33
6	52	42	36	31	47	39	33	29	33	29
7	47	38	31	27	43	35	29	25	29	25
8	44	34	27	23	40	31	26	22	26	22
9	40	30	24	20	37	28	23	19	24	19
10	37	27	21	18	34	25	20	16	21	17

Adjustable Mounting Plate

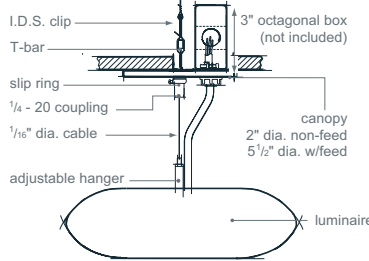


installation

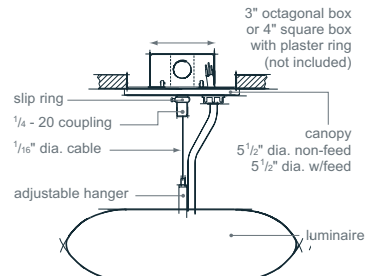
Adjoining Detail



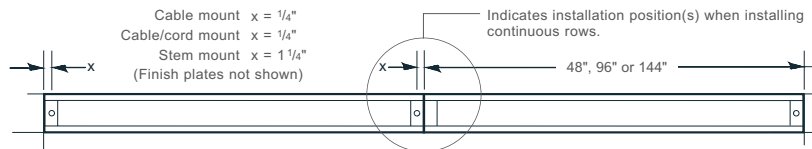
Suspension (x1)



Suspension (x3)



Mounting Locations



Note: When connecting two or more fixtures in a row, mounting assemblies are required on both ends of the first fixture, with only one mounting assembly required on each additional fixture.

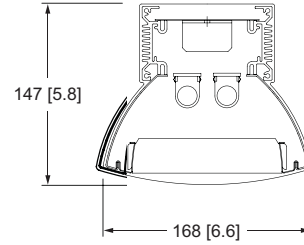
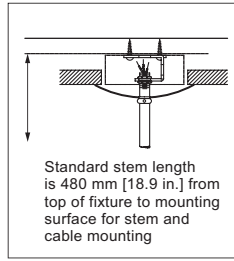
In an effort to continually provide the highest quality products, Prudential reserves the right to change design specifications and/or materials, without notice.

Prudential Lighting # LGD-P-2T8*-SPL-*		B1
Brian Smith	UCSD Cal IT2	# of #

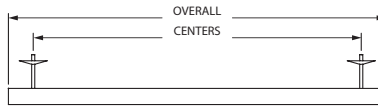
Mounting Information

Nominal Length	Overall mm [in]	Centers mm [in]
4' T5	1242 [48.9]	1219 [48.0]
8' T5	2436 [95.9]	2413 [95.0]
12' T5	3630 [142.9]	3607 [142.0]
4' T8	1291 [50.8]	1268 [49.9]
8' T8	2534 [99.8]	2511 [98.9]
12' T8	3776 [148.7]	3753 [147.8]

Mounting dimensions indicated above are for individual units only. For continuous row mounting dimensions consult factory.



Model Shown:
2 Lamps Direct



Photometrics on reverse

Series	Model	Length	Body	Control Up	Control Down	Mounting	Finish	Source	Voltage
SD3									
A 1 - lamp direct	4 4' long 8 8' long	D detailed S smooth 	Light Control Up A solid housing P perforated housing strip	Light Control Down	J solid cross blade baffle O solid cross blade baffle and opal overlay L perforated cross blade baffle M perforated cross blade baffle and opal overlay K specular parabolic louver Z specular parabolic louver and opal overlay	1 solid stem 4 aircraft cable <input type="checkbox"/> standard 480mm [18.9"] <input type="checkbox"/> or indicate length	Finish A anodized aluminum body with silver metallic paint finish on metal housing and metal end caps S special paint finish on metal housing and metal end caps, indicate paint # and manufacturer	Source 4 T8 5 T5 6 T5 HO	Voltage A 120 Volt B 277 Volt C 347 Volt

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www.metalumen.com

Approvals

Signature _____

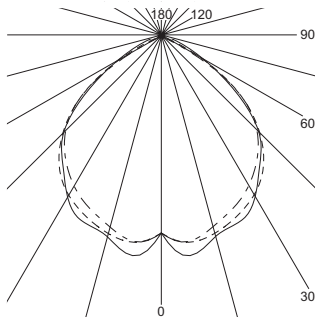
Date _____ OGARMSD3 200503-29

Metalumen # SD3-B-**-A-K-**-4*	B2
Brian Smith	UCSD Cal IT2
	# of #

Photometrics

Armatura SD3 Series **16**
Pendant

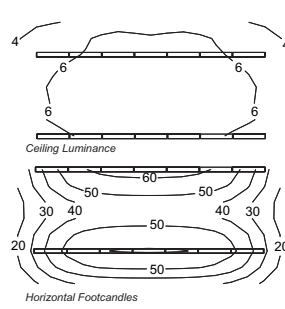
Distribution Curve



Candlepower Summary

Angle	0.0	22.5	45	67.5	90	Output Lumens
0	1462	1462	1462	1462	1462	8
5	1495	1513	1493	1465	1587	119
15	1422	1435	1473	1472	1495	364
25	1306	1345	1374	1407	1424	550
35	1148	1211	1227	1206	1190	632
45	940	984	985	949	955	577
55	574	600	587	556	540	370
65	35	67	147	208	231	95
75	3	4	9	54	88	17
85	2	3	9	37	46	8
90	2	3	17	50	59	9
95	2	3	24	53	66	18
105	3	4	23	46	57	23
115	4	5	17	32	38	17
125	4	6	13	19	23	9
135	5	8	12	16	15	5
145	7	9	13	13	13	4
155	8	9	11	12	11	3
165	8	11	10	9	10	1
175	7	9	11	10	6	0
180	7	7	7	7	7	0

Room Layout

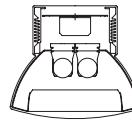


10.7(L) x 9.1(W) x 3.0(H)m [35 x 30 x 10 ft]
 Reflectances: 80/50/20
 Maintenance factor: 0.70
 Fixture spacing: 3.0m [10'-0"]
 Pendant length: 457mm [18"]

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1192	20.6	33.9
0-40	1948	33.6	55.5
0-60	3210	55.4	91.4
0-90	3400	58.6	96.8
90-120	76	1.3	.2
90-130	88	1.5	.5
90-150	104	1.8	.9
90-180	112	1.9	3.2
0-180	3512	60.5	100.0

T8 2 Lamp



Photometric report - file # SD3BPK-4
 Efficiency = 60.5%
 96.8% Direct / 3.2% Indirect
 Model Shown 2 - T8 Lamp
 Perforated housing with specular parabolic louver

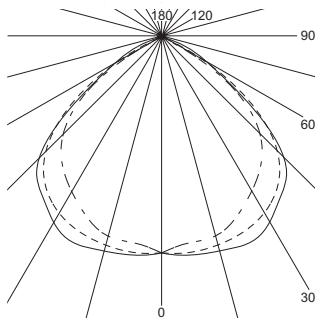
Coefficients of Utilization
Zonal Cavity Method

Effective Floor Cavity Reflectance = .20

RC	80				70				50			
RW	70	50	30	10	70	50	30	10	50	30	10	
RCR	0	71	71	71	69	69	69	69	66	66	66	
	1	66	64	62	60	65	63	61	59	60	58	
	2	61	57	54	51	60	56	53	50	54	51	
	3	57	51	47	44	55	50	46	43	48	45	
	4	52	46	41	38	51	45	41	38	43	40	
	5	48	41	37	33	47	41	36	33	39	35	
	6	45	38	33	29	44	37	32	29	36	32	
	7	42	34	29	26	41	34	29	26	33	28	
	8	39	31	26	23	38	31	26	23	30	26	
	9	36	29	24	21	35	28	24	21	27	23	
	10	34	26	22	19	33	26	22	19	25	21	

Laboratory results may not be representative of field performance. Ballast factors have not been applied.

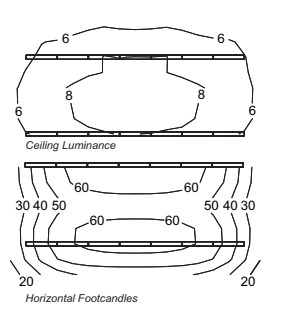
Distribution Curve



Candlepower Summary

Angle	0.0	22.5	45	67.5	90	Output Lumens
0	1368	1368	1368	1368	1368	8
5	1324	1366	1376	1364	1389	122
15	1300	1318	1360	1388	1401	384
25	1179	1244	1312	1363	1395	602
35	1035	1116	1205	1253	1250	741
45	836	935	982	1002	1033	746
55	466	555	560	522	495	475
65	16	41	111	186	222	113
75	1	1	6	33	53	18
85	1	2	5	11	15	5
90	1	3	11	25	27	7
95	1	4	22	46	56	21
105	2	3	20	47	61	27
115	2	3	11	25	34	14
125	3	5	8	11	12	7
135	3	5	9	10	9	6
145	4	4	10	9	9	5
155	5	5	7	8	8	3
165	4	5	5	5	6	1
175	7	5	6	4	4	0
180	8	8	8	8	8	0

Room Layout

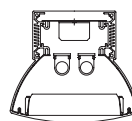


10.7(L) x 9.1(W) x 3.0(H)m [35 x 30 x 10 ft]
 Reflectances: 80/50/20
 Maintenance factor: 0.70
 Fixture spacing: 3.0m [10'-0"]
 Pendant length: 457mm [18"]

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1117	21.4	33.8
0-40	1857	35.6	56.2
0-60	3078	59.0	93.1
0-90	3218	61.7	97.3
90-120	65	1.2	.0
90-130	72	1.4	.2
90-150	83	1.6	.5
90-180	88	1.7	.7
0-180	3306	63.3	100.0

T5 2 Lamp



Photometric report - file # SD3BPK-5
 Efficiency = 63.3%
 97.3% Direct / 2.7% Indirect
 Model Shown 2 - T5 Lamp
 Perforated housing with specular parabolic louver

Coefficients of Utilization
Zonal Cavity Method

Effective Floor Cavity Reflectance = .20

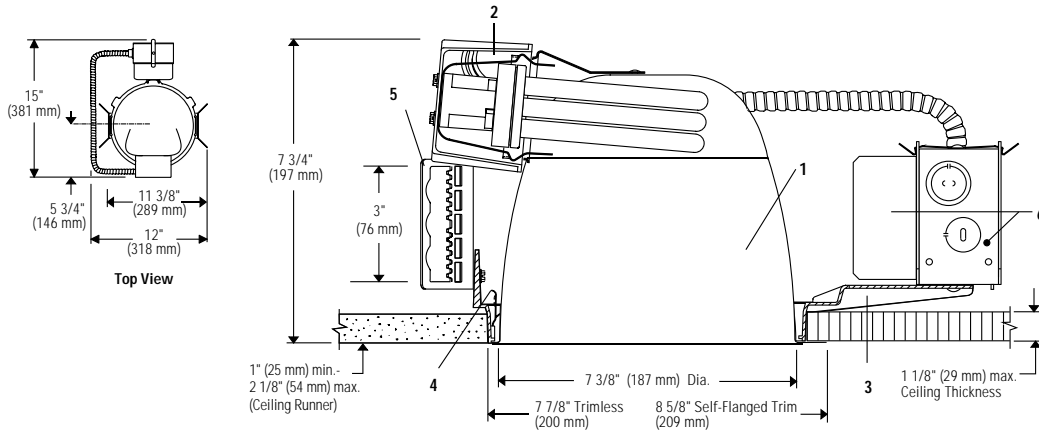
RC	80				70				50			
RW	70	50	30	10	70	50	30	10	50	30	10	
RCR	0	75	75	75	73	73	73	73	69	69	69	
	1	70	67	65	63	68	66	64	62	63	61	
	2	65	60	57	54	63	59	56	53	57	54	
	3	60	54	50	46	58	53	49	46	51	48	
	4	55	48	44	40	54	48	43	40	46	42	
	5	51	44	39	35	49	43	38	35	41	37	
	6	47	40	34	31	46	39	34	31	38	33	
	7	44	36	31	27	43	35	31	27	34	30	
	8	41	33	28	24	40	32	28	24	31	27	
	9	38	30	25	22	37	30	25	22	29	25	
	10	36	28	23	20	35	27	23	20	27	23	

Laboratory results may not be representative of field performance. Ballast factors have not been applied.

Metalumen # SD3-B-*-A-K-*-4*		B2
Brian Smith	UCSD Cal IT2	# of #



Calculite® Compact Fluorescent Open Downlight 8037



Ceiling Cutout: 8" (203 mm) Dia.

Reflector Trim	Frame-In Kit	Lamp
8037CLW Clear Iridescence Free, White Flange	7132BU Electronic 120V - 277V	26 or 32W Triple Tube
8037CLP Clear Iridescence Free, Polished Flange	7132BCU PowerSpec® Dimming 120V - 277V	4-Pin (Amalgam)
8037CL Clear Iridescence Free, Molded Trim Ring	7142BU Electronic 120V - 277V	42W Triple Tube
8037 <input type="checkbox"/> Add suffix. See options for other finishes.	7142BCU PowerSpec® Dimming 120V - 277V	4-Pin (Amalgam)
	Remodeler Frame-In Kit	Lamp
	7132BURM Electronic 120V - 277V	Same as 7132BU
	7142BURM Electronic 120V - 277V	Same as 7142BU

Features

- Reflector:** 16 ga. Alzak® aluminum, 55° visual cutoff to lamp and lamp image, wide distribution. Iridescence Free finish. Self-flanged or flangeless with molded white trim ring (field paintable).
- Socket Cup:** Die-cast aluminum cup effectively dissipates heat and positions lamp holder. Snaps onto reflector neck to assure consistently correct optical alignment without tools.
- Mounting Frame:** Die-cast aluminum for dry or plaster ceilings.
- Retaining Springs:** Precision-tooled steel friction springs secure reflector to mounting frame for quick, tool-less installation.
- Mounting Brackets:** 16 ga. steel. Adjust from inside of fixture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT, or optional mounting bars.
- Ballast/J-Box:** Outboard mounted to reduce heat transfer and maintain lamp efficacy and life. Service from below without tools.

Electrical

Note: For ballast electrical data and latest lamp/ballast compatibility refer to "Ballast" specification sheet for complete electrical data.
 7132BU, 7132BCU, 7142BU, 7142BCU: UL listed for through branch circuit wiring with max of (8) No. 12 AWG, 90°C supply conductors.
 7132BURM, 7142BURM: UL listed for No. 12 AWG, 90°C supply conductors.

Options and Accessories

Comfort Clear™ Finishes ¹		Other Finishes	
Clear	CCL	White	WH
Diffuse	CCD	Multigroove	MG
Champagne Bronze	CCZ		
Pewter	CPW		

¹Specify desired flange
 W White, P Polished
 Blank - Molded Ring

Options and Accessories (continued)

Emergency	Add suffix EM*
Chicago Plenum	Add suffix LC
Existing/Thk. Ceiling	FA EC7*
Emergency Ltg. Kit	FA EM3E*
	FA EM4E*
Fuse (Slow Blow)	Add Suffix F

*See Spec. Sheets: FAEC, FAEM

Mounting Bars & Accessories: see Specification Sheet MBA.
 Sloped Ceiling Adapters: see Specification Sheet SCA.

Labels

UL listed for damp locations, I.B.E.W.

Alzak® is a registered trademark of ALCOA.
 US Patent Pending.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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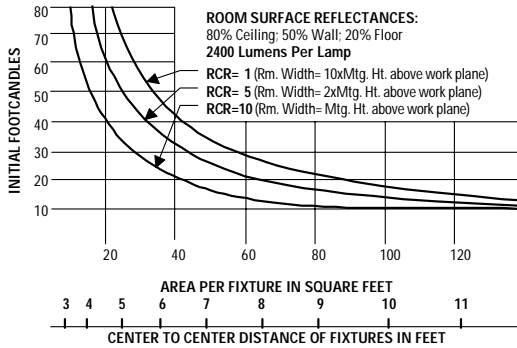
Lightolier # 8037*** / 7132BU 32W	B3
Brian Smith	UCSD Cal IT2
	# of #



Calculite® Compact Fluorescent Open Downlight 8037

32W

Quick Calculator



This quick calculator chart determines the number and spacing of 1 ft. - 32W PL-T units with clear reflector, for any level of illumination.

Spacing Ratio = 1.3

Report No.: LRL 796-1G

PREPARED BY: LIGHTING RESEARCH LABORATORY, INC

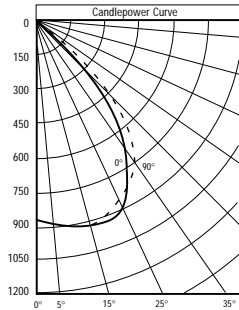
PREPARED FOR: LIGHTOLIER

DESCRIP.: 7-3/8" dia. x 7" Ht. recessed downlight

- open bottom spun semispecular reflector; tilted horizontal lamp

BALLAST: LIGHTOLIER GLT423-120L

LAMPS: 1 PLT-32W rated at 2400 LUMENS.



ZONE DEG.	CANDLEPOWER			
	0	22	45	67
90	0	0	0	0
85	1	1	1	1
80	1	1	1	1
75	1	1	1	1
70	2	2	2	2
65	3	3	3	3
60	6	6	6	6
55	57	58	49	47
50	240	241	238	153
45	424	425	425	459
40	546	557	561	599
35	667	690	696	738
30	781	776	761	811
25	895	862	823	885
20	921	923	870	904
15	947	984	927	922
10	918	937	909	909
5	888	891	892	894
0	870	870	870	870

** EFFICIENCY = 66.3% **

ZONE	LUMENS	%BARE LAMP	%LUMINAIRE
0-30	743	31.0	46.7
0-40	1178	49.1	74.1
0-60	1586	66.1	99.7
0-90	1591	66.3	100.0
40-90	413	17.2	25.9
60-90	5	0.2	0.3
90-120	0	0.0	0.0
90-150	0	0.0	0.0
90-180	0	0.0	0.0
0-180	1591	66.3	100.0

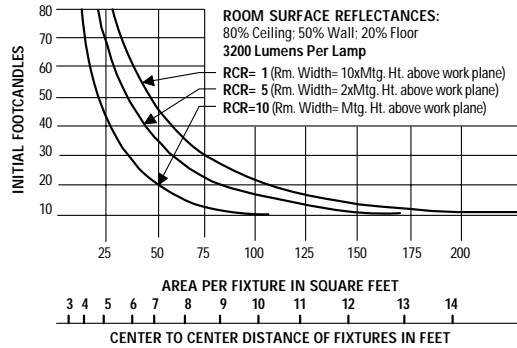
Coefficients Of Utilization

ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE															
	80				70				50				30			
	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0
1	.73	.72	.70	.72	.70	.69	.68	.67	.67	.66	.65	.64	.64	.63	.62	
2	.68	.66	.63	.67	.65	.63	.65	.63	.61	.60	.61	.60	.59	.59	.58	
3	.64	.61	.58	.63	.60	.58	.61	.59	.57	.60	.58	.56	.58	.56	.55	
4	.59	.56	.53	.59	.55	.52	.57	.54	.52	.56	.53	.51	.55	.52	.51	
5	.55	.51	.48	.55	.51	.48	.53	.50	.48	.52	.49	.47	.51	.49	.47	
6	.51	.47	.44	.51	.47	.44	.50	.46	.44	.49	.46	.44	.48	.45	.43	
7	.48	.43	.40	.47	.43	.40	.46	.43	.40	.45	.42	.40	.45	.42	.40	
8	.44	.40	.37	.44	.40	.37	.43	.39	.37	.42	.39	.36	.42	.39	.36	
9	.40	.36	.33	.40	.36	.33	.39	.36	.33	.39	.36	.33	.38	.35	.33	
10	.36	.31	.28	.35	.31	.28	.35	.31	.28	.34	.30	.28	.34	.30	.28	

20% FLOOR CAVITY REFLECTANCE

42W

Quick Calculator



This quick calculator chart determines the number and spacing of 1 ft. - 42W PL-T units with clear reflector, for any level of illumination.

Spacing Ratio = 1.4

Report No.: LRL 796-1F

PREPARED BY: LIGHTING RESEARCH LABORATORY, INC

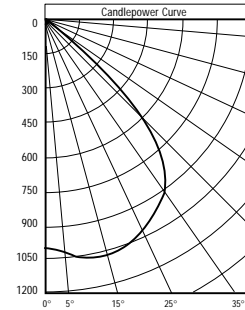
PREPARED FOR: LIGHTOLIER

DESCRIP.: 7-3/8" dia. x 7" Ht. recessed downlight

- open bottom spun semispecular reflector; tilted horizontal lamp

BALLAST: LIGHTOLIER GLT423-120L

LAMPS: 1 PLT-42W rated at 3200 LUMENS.



ZONE DEG.	CANDLEPOWER			
	0	22	45	67
90	0	0	0	0
85	1	1	1	1
80	1	1	1	1
75	3	3	3	3
70	3	3	3	3
65	4	4	4	4
60	9	9	9	9
55	93	89	80	77
50	436	409	436	398
45	634	622	634	663
40	737	758	800	850
35	866	905	920	951
30	975	964	923	1022
25	1045	1050	1030	1066
20	1053	1070	1077	1117
15	1074	1097	1148	1141
10	1046	1076	1091	1099
5	1004	1009	1017	1021
0	1002	1002	1002	1002

** EFFICIENCY = 65.4% **

ZONE	LUMENS	%BARE LAMP	%LUMINAIRE
0-30	896	28.0	42.8
0-40	1465	45.8	70.0
0-60	2084	65.1	99.6
0-90	2092	65.4	100.0
40-90	627	19.6	30.0
60-90	8	0.3	0.4
90-120	0	0.0	0.0
90-150	0	0.0	0.0
90-180	0	0.0	0.0
0-180	2092	65.4	100.0

Coefficients Of Utilization

ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE															
	80				70				50				30			
	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0
1	.72	.70	.69	.71	.69	.68	.68	.67	.66	.65	.64	.64	.63	.62	.61	
2	.67	.64	.62	.66	.63	.61	.64	.62	.60	.62	.60	.59	.60	.59	.57	
3	.62	.59	.56	.61	.58	.56	.60	.57	.55	.58	.56	.54	.57	.55	.53	
4	.57	.54	.51	.57	.53	.50	.55	.52	.50	.54	.51	.49	.53	.50	.49	
5	.53	.49	.46	.53	.49	.46	.51	.48	.46	.50	.47	.45	.49	.47	.45	
6	.49	.45	.42	.49	.45	.42	.48	.44	.42	.47	.44	.41	.46	.43	.41	
7	.45	.41	.38	.45	.41	.38	.44	.40	.38	.43	.40	.37	.42	.40	.37	
8	.42	.37	.34	.41	.37	.34	.40	.37	.34	.40	.36	.34	.39	.36	.34	
9	.38	.34	.31	.38	.34	.31	.37	.33	.31	.36	.33	.30	.36	.33	.30	
10	.33	.29	.26	.32	.29	.26	.32	.28	.26	.32	.28	.25	.31	.28	.25	

20% FLOOR CAVITY REFLECTANCE

Job Information

Type:

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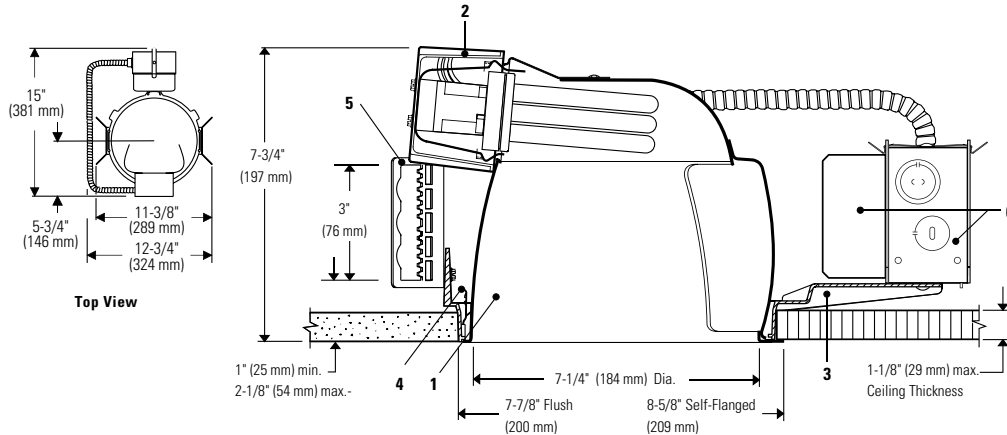
Lightolier # 8037*** / 7132BU 32W	B3
Brian Smith	# of #
UCSD Cal IT2	



Calculite® Compact Fluorescent Open Wall Washer 8087

Page 1 of 3

7 3/8" Aperture Triple Tube Horizontal Lamp



Ceiling Cutout: 8" (203 mm) Dia.

Reflector Trim	Frame-In Kit	Lamp
8087CLW Clear Iridescence Free, White Flange	7132BU Electronic 120V - 277V	26 or 32W Triple Tube
8087CLP Clear Iridescence Free, Polished Flange	7132BCU PowerSpec® Dimming 120V - 277V	4-Pin (Amalgam)
8087CL Clear Iridescence Free, Molded Trim Ring		
8087 <input type="checkbox"/> Add suffix. See options for other finishes.	7142BU Electronic 120V - 277V	42W Triple Tube
	7142BCU PowerSpec® Dimming 120V - 277V	4-Pin (Amalgam)

Features

- Downlight Wall Washer Reflector:** 16 ga. Specular Alzak® aluminum, 55° lamp cutoff to lamp and lamp image. Provides vertical surface wall wash and downlighting. Iridescence Free finish. Self-flanged or flangeless with molded white trim ring (field paintable).
- Socket Cup:** Die-cast aluminum cup effectively dissipates heat and positions lamp holder. Snaps onto reflector neck to assure consistently correct optical alignment without tools.
- Mounting Frame:** Die-cast aluminum for dry or plaster ceilings.
- Retaining Springs:** Precision-tooled steel friction springs secure reflector to mounting frame for quick, tool-less installation.
- Mounting Brackets:** 16 ga. steel. Adjust from inside of fixture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT, or optional mounting bars.
- Ballast/J-Box:** Outboard mounted to reduce heat transfer and maintain lamp efficacy and life. Service from below without tools.

Electrical

Note: For ballast electrical data and latest lamp/ballast compatibility refer to "Ballast" specification sheet for complete electrical data.

UL listed for through branch circuit wiring with max of (8) No. 12 AWG, 90° C supply conductors.

Options and Accessories

Comfort Clear™ Finishes'

Clear **CCL**
 Diffuse **CCD**
 Champagne Bronze **CCZ**
 Pewter **CPW**

Other Finishes

White **WH**

'Specify desired flange

W White, **P** Polished

Blank - Molded Ring

Options and Accessories (continued)

Emergency Add suffix **EM***
 Chicago Plenum Add suffix **LC**
 Existing/Thk. Ceiling **FA EC7***
 Emergency Ltg. Kit **FA EM3E***
FA EM4E*
 Fuse (Slow Blow) Add suffix **F**
 *See Spec. Sheets: FAEC, FAEM

Mounting Bars & Accessories; see Specification Sheet MBA.
Sloped Ceiling Adapters; see Specification Sheet SCA

Labels

UL listed for damp locations, I.B.E.W.

Alzak® is a registered trademark of ALCOA.

US Patent Pending.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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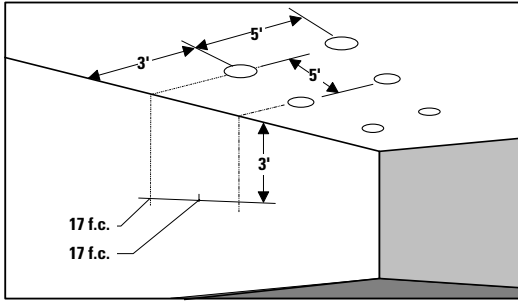
Lightolier # 8087*** / 7132BU 32W	B5
Brian Smith	UCSD Cal IT2
	# of #



Calculite® Compact Fluorescent Open Wall Washer 8087

Lighting Data

Footcandles On Wall: Multiple 32W Units



EXAMPLE: With multiple clear reflector units located 3' from wall and spaced 5' on center (matching downlights 5' on center), the illumination on the wall 3' down from ceiling will be 17 f.c. beneath units and 17 f.c. between units.

Footcandle values are averaged and rounded off and are based on a minimum of five units.

Conversion Factor: 26W: (Clear), f.c. x 0.9.

2' from Wall-2' On Center

Distance From Ceiling in Feet	1	46	51	46
2	58	55	58	
3	47	45	47	
4	35	34	35	
5	26	27	26	
6	20	21	20	
7	16	16	16	
8	13	13	13	
9	11	11	11	

2' from Wall-3' On Center

Distance From Ceiling in Feet	1	34	29	34
2	38	41	38	
3	34	30	34	
4	24	24	24	
5	19	19	19	
6	15	16	15	
7	13	13	13	
8	11	11	11	
9	9	10	9	

2' from Wall-4' On Center

Distance From Ceiling in Feet	1	31	16	31
2	33	26	33	
3	23	25	23	
4	19	17	19	
5	15	14	15	
6	12	12	12	
7	10	10	10	
8	9	9	9	
9	8	8	8	

3' from Wall-3' On Center

Distance From Ceiling in Feet	1	18	18	18
2	22	25	22	
3	27	25	27	
4	25	23	25	
5	20	20	20	
6	17	17	17	
7	14	15	14	
8	12	13	12	
9	11	11	11	

3' from Wall-4' On Center

Distance From Ceiling in Feet	1	15	12	15
2	17	18	17	
3	19	21	19	
4	20	17	20	
5	16	15	16	
6	13	13	13	
7	11	11	11	
8	10	10	10	
9	9	9	9	

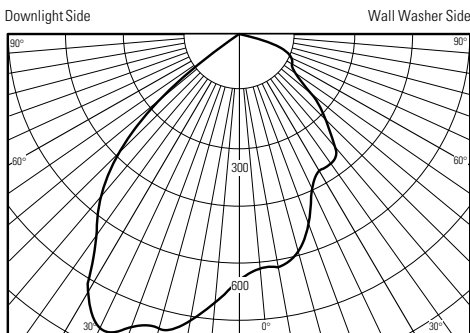
3' from Wall-5' On Center

Distance From Ceiling in Feet	1	14	8	14
2	15	13	15	
3	17	17	17	
4	15	15	15	
5	13	12	13	
6	11	10	11	
7	9	9	9	
8	8	8	8	
9	7	8	7	

3' from Wall-6' On Center

Distance From Ceiling in Feet	1	13	5	13
2	14	9	14	
3	15	12	15	
4	13	13	13	
5	10	10	10	
6	9	9	9	
7	8	8	8	
8	7	7	7	
9	6	6	6	

Candlepower Distribution Downlight Spacing Ratio 1.0



Coefficients of Utilization

ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE																																																																																																																																																															
	80				70				50				30				10				0																																																																																																																																											
	% WALL REFLECTANCE				% WALL REFLECTANCE				% WALL REFLECTANCE				% WALL REFLECTANCE				% WALL REFLECTANCE																																																																																																																																															
1	.72	.70	.68	.70	.68	.67	.67	.66	.65	.65	.64	.63	.63	.62	.61	.60	.65	.62	.59	.64	.61	.59	.62	.60	.57	.60	.58	.56	.56	.57	.55	.54	.60	.56	.52	.59	.55	.52	.57	.54	.51	.55	.53	.50	.54	.52	.50	.48	.55	.50	.47	.54	.50	.47	.52	.49	.46	.51	.48	.46	.50	.47	.45	.44	.50	.45	.42	.49	.45	.42	.48	.44	.41	.47	.44	.41	.46	.43	.41	.40	.46	.41	.38	.45	.41	.37	.44	.40	.37	.43	.40	.37	.42	.39	.37	.36	.42	.37	.34	.41	.37	.33	.40	.35	.33	.39	.36	.33	.39	.35	.33	.32	.38	.33	.30	.38	.33	.30	.37	.33	.30	.36	.32	.30	.35	.32	.29	.28	.35	.30	.27	.34	.30	.27	.34	.29	.27	.33	.29	.26	.32	.29	.26	.25	.32	.27	.24	.31	.27	.24	.31	.27	.24	.30	.26	.24	.30	.26	.23	.23

20% FLOOR CAVITY REFLECTANCE
For 26W units multiply C.U. by 1.0.

Job Information

Type:

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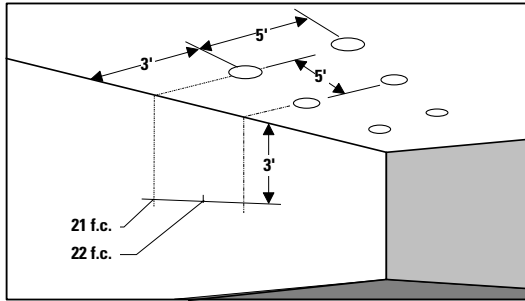
Lightolier # 8087*** / 7132BU 32W	B5
Brian Smith	# of #
UCSD Cal IT2	



Calculite® Compact Fluorescent Open Wall Washer 8087

Lighting Data

Footcandles On Wall: Multiple 42W Units



EXAMPLE: With multiple clear reflector units located 3' from wall and spaced 5' on center (matching downlights 5' on center), the illumination on the wall 3' down from ceiling will be 21 f.c. beneath units and 22 f.c. between units.

Footcandle values are averaged and rounded off and are based on a minimum of five units.

2' from Wall-2' On Center

2' from Wall-2' On Center			
Distance From Ceiling in Feet			
1	62	67	62
2	74	68	74
3	57	55	57
4	41	41	41
5	31	32	31
6	24	25	24
7	19	19	19
8	16	16	16
9	13	13	13

2' from Wall-3' On Center

2' from Wall-3' On Center			
Distance From Ceiling in Feet			
1	46	39	46
2	47	52	47
3	41	37	41
4	29	29	29
5	23	23	23
6	18	18	18
7	15	15	15
8	13	13	13
9	11	11	11

2' from Wall-4' On Center

2' from Wall-4' On Center			
Distance From Ceiling in Feet			
1	42	21	42
2	41	34	41
3	28	31	28
4	23	21	23
5	17	17	17
6	14	15	14
7	12	12	12
8	10	11	10
9	9	10	9

3' from Wall-3' On Center

3' from Wall-3' On Center			
Distance From Ceiling in Feet			
1	22	23	22
2	29	32	29
3	34	31	34
4	30	28	30
5	24	24	24
6	20	20	20
7	17	17	17
8	15	15	15
9	13	13	13

3' from Wall-4' On Center

3' from Wall-4' On Center			
Distance From Ceiling in Feet			
1	19	16	19
2	23	24	23
3	24	26	24
4	24	21	24
5	19	19	19
6	15	16	15
7	14	14	14
8	12	12	12
9	11	11	11

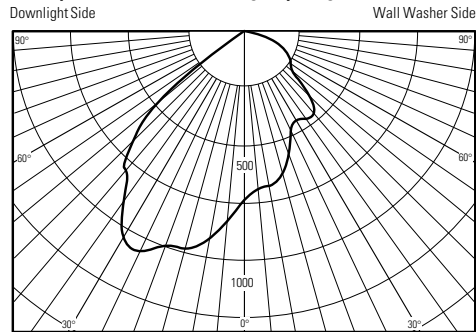
3' from Wall-5' On Center

3' from Wall-5' On Center			
Distance From Ceiling in Feet			
1	17	10	17
2	20	17	10
3	21	22	21
4	18	19	18
5	16	15	16
6	13	13	13
7	11	11	11
8	10	10	10
9	9	9	9

3' from Wall-6' On Center

3' from Wall-6' On Center			
Distance From Ceiling in Feet			
1	17	7	17
2	18	12	18
3	19	16	19
4	15	17	15
5	12	13	12
6	11	10	11
7	10	9	10
8	8	8	8
9	7	8	7

Candlepower Distribution Downlight Spacing Ratio 1.0



Coefficients of Utilization

ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE																							
	80				70				50				30				10				0			
	% WALL REFLECTANCE																							
	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10			
1	.67	.65	.63	.65	.64	.62	.63	.61	.60	.60	.59	.58	.58	.57	.57	.55	.55	.54	.52	.54	.53	.51	.50	
2	.61	.58	.55	.60	.57	.55	.58	.55	.53	.56	.54	.52	.54	.53	.51	.50	.48	.47	.44	.46	.45	.43	.41	
3	.55	.51	.49	.54	.51	.48	.53	.50	.47	.51	.49	.47	.50	.48	.46	.45	.44	.42	.44	.43	.41	.40		
4	.51	.46	.43	.50	.46	.43	.48	.45	.42	.47	.44	.42	.46	.43	.41	.40	.40	.38	.40	.39	.37	.36		
5	.46	.42	.38	.46	.41	.38	.44	.41	.38	.43	.40	.38	.42	.39	.37	.36	.36	.34	.39	.36	.33	.32		
6	.42	.38	.34	.41	.37	.34	.40	.37	.34	.40	.36	.34	.39	.36	.33	.32	.32	.30	.33	.32	.30	.29		
7	.38	.34	.30	.36	.33	.30	.37	.33	.30	.36	.32	.30	.33	.32	.30	.29	.29	.27	.32	.29	.26	.25		
8	.35	.30	.27	.34	.30	.27	.34	.30	.27	.33	.29	.27	.32	.29	.26	.25	.25	.24	.29	.26	.23	.23		
9	.32	.27	.24	.31	.27	.24	.31	.27	.24	.30	.26	.24	.29	.26	.23	.23	.23	.22	.27	.24	.21	.20		
10	.29	.24	.21	.28	.24	.21	.28	.24	.21	.27	.24	.21	.27	.23	.21	.20	.20	.20	.26	.23	.20	.20		

20% FLOOR CAVITY REFLECTANCE

LIGHTOLIER®

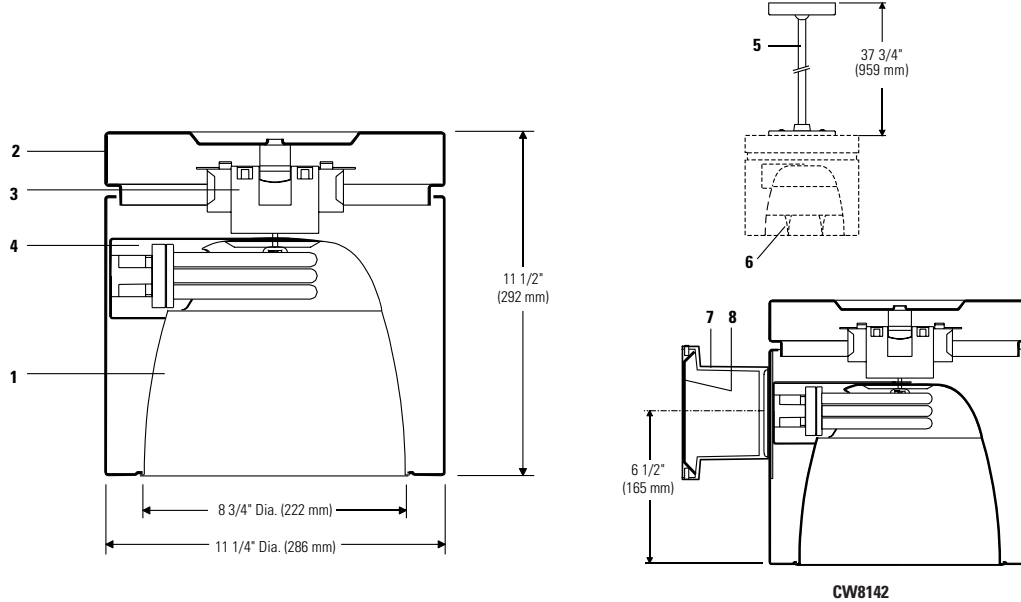
Job Information Type:

Lightolier a Genlyte Thomas Company www.lightolier.com
 631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710
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Lightolier # 8087*** / 7132BU 32W	B5
Brian Smith	UCSD Cal IT2 # of #



Calculite® Compact Fluorescent Surface Cylinder **CS8142**



Complete Fixture Ceiling Mount			Lamp
CS8142HUCL	Clear Iridescence Free Reflector, White Housing	120V - 277V	26W/32W/42W Triple Tube 4-Pin (Amalgam)
Complete Fixture Wall Mount			Lamp
CW8142HUCL	Clear Iridescence Free Reflector, White Housing	120V - 277V	26W/32W/42W Triple Tube 4-Pin (Amalgam)

Features

- Reflector:** 16 ga. Specular Alzak® aluminum, 55° visual cutoff to lamp and lamp image, wide distribution. Iridescence Free finish.
- Housing:** Seamless, heavy-gauge aluminum. Two part construction provides ventilation. Returned edge precisely seats reflector. Matte white finish.
- Ballast:** Mounted on support bracket, can be easily removed for service.
- Socket Bracket:** Die-formed steel. Attaches to reflector for correct optical alignment.
- Stem Kit:** Cat. No. FA CSA36: Provided with 1/2" dia. stem and 4 1/2" dia. canopy. Self aligning swivel provides maximum 38° vertical adjustment. Installs over 4" octagonal outlet box. Stem can be cut to length on site. Matte white baked enamel finish.
- (Optional) Turbo Louver:** (not shown) Specular clear Alzak® aluminum deep reflector with removable radial louver assembly combines good efficiency with a shield aperture, 50° cutoff to lamp.
- Crossbar:** Install over 4" octagonal or rectangular outlet box.
- Bracket:** One piece cast aluminum with integral backplate.

Electrical

Note: For complete ballast electrical data and latest lamp/ballast compatibility refer to "Ballast" specification sheet.
UL listed for 90°C supply conductors.

Options and Accessories

- Other Housing and Reflector Finishes**
Consult Factory
- Frame & Mounting**
Dimming Consult Factory
Fuse (Slow Blow) Add Suffix **F**
Turbo Louver Add Suffix **TB**

Labels

UL listed for damp locations, I.B.E.W.

Alzak® is a registered trademark of ALCOA.
US Patent Pending.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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LIGHTOLIER®

Lightolier # CS8142HUCL 32W	B6
Brian Smith	UCSD Cal IT2
	# of #

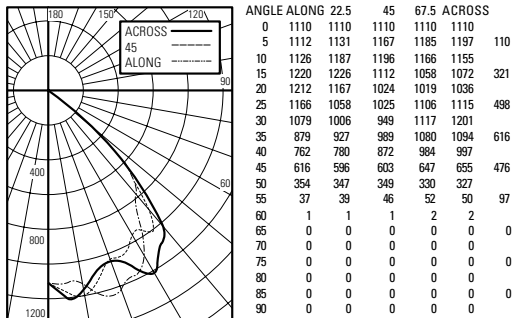


Calculite® Compact Fluorescent Surface Cylinder **CS8142**

Spacing Ratio = 1.5

CERTIFIED TEST REPORT NO. 0213FR (Based on Recessed fixture 8038CLW/8142HE120)
 COMPUTED BY LSC PROGRAM **TEST-LITE**
 CALCULITE 8 3/4" HORIZONTAL COMPACT FLUORESCENT RECESSED DOWNLIGHT
 WITH CLEAR IRIDESCENCE FREE FINISH REFLECTOR
 1-42W P-LT TRIPLE TUBE COMPACT FLUORESCENT LAMP. LUMEN RATING = 3200 LMS.

CANDLEPOWER SUMMARY



ANGLE	ALONG 22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	1110	1110	1110	1110	1110
5	1112	1131	1167	1185	1197
10	1126	1187	1196	1166	1155
15	1220	1226	1112	1058	1072
20	1212	1167	1024	1019	1036
25	1166	1058	1025	1106	1115
30	1079	1006	949	1117	1201
35	879	927	989	1080	1094
40	762	780	872	984	997
45	616	596	603	647	655
50	354	347	349	330	327
55	37	39	46	52	50
60	1	1	1	2	2
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	928	29.01	43.82
0-40	1544	48.26	72.91
0-60	2117	66.19	99.99
0-90	2118	66.20	100.00
40-90	573	17.93	27.09
60-90	0	.01	.01
90-180	0	.00	.00
0-180	2118	66.20	100.00

** EFFICIENCY = 66.2% **
 DATE: NOV 6, 1996
 PREPARED FOR: LIGHTOLIER, MA

TESTED ACCORDING TO IES PROCEDURES. TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST LUMINOUS OPENING OF LUMINAIRE.

Coefficients of Utilization

ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE																																						
	80						70						50						30						10						0								
	% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE			% WALL REFLECTANCE														
	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
1	.73	.71	.70	.72	.70	.69	.69	.68	.67	.66	.65	.64	.64	.63	.63	.61	.61	.61	.61	.59	.58	.57	.55	.53	.53	.51	.49	.48	.48	.48	.44	.44	.44	.44	.44	.44			
2	.68	.65	.63	.67	.64	.62	.64	.62	.61	.62	.61	.59	.61	.59	.58	.57	.55	.53	.53	.51	.49	.48	.48	.48	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44			
3	.62	.59	.56	.61	.58	.56	.60	.57	.55	.58	.56	.54	.57	.55	.53	.53	.51	.49	.48	.48	.48	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44			
4	.58	.54	.51	.57	.54	.51	.56	.53	.50	.54	.52	.50	.53	.51	.49	.48	.48	.48	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44			
5	.53	.49	.46	.53	.49	.46	.51	.48	.46	.50	.47	.45	.49	.47	.45	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44			
6	.49	.45	.42	.49	.45	.42	.48	.44	.41	.47	.43	.41	.46	.43	.41	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44			
7	.45	.41	.38	.45	.40	.37	.44	.40	.37	.43	.39	.37	.42	.39	.37	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41	.41			
8	.41	.37	.34	.41	.36	.33	.40	.36	.33	.39	.36	.33	.39	.35	.33	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38			
9	.38	.33	.30	.37	.33	.30	.37	.33	.30	.36	.32	.30	.35	.32	.29	.35	.32	.29	.35	.32	.29	.35	.32	.29	.35	.32	.29	.35	.32	.29	.35	.32	.29	.35	.32	.29			
10	.34	.30	.27	.34	.30	.27	.33	.29	.27	.33	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26	.32	.29	.26			

20% FLOOR CAVITY REFLECTANCE

LIGHTOLIER®

Job Information **Type:**

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Lightolier # CS8142HUCL 32W	B6
Brian Smith	UCSD Cal IT2
	# of #

Recessed wall luminaires

Housing: Constructed of die cast and extruded aluminum with integral wiring compartment. Mounting tabs provided.

Enclosure: One piece die cast aluminum louvered faceplate, 1/8" thick. Tempered etched glass. Faceplate is secured by two (2) socket head, stainless steel, captive screws threaded into stainless steel inserts in the housing casting. Continuous high temperature O-ring gasket for weather tight operation.

Electrical (Fluorescent): Lampholder; GX23 (13W) rated 75W, 250V.

Ballast is magnetic, HPF, available 120V or 277V - specify.

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.

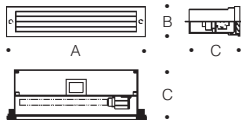
Finish: These luminaires are available in five standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV); Eurocoat™ (URO).

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

U.L. listed, suitable for wet locations and for installation within 3 feet of ground. Suitable for all types of construction including poured concrete.

Type non-IC. Protection class: IP 64

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



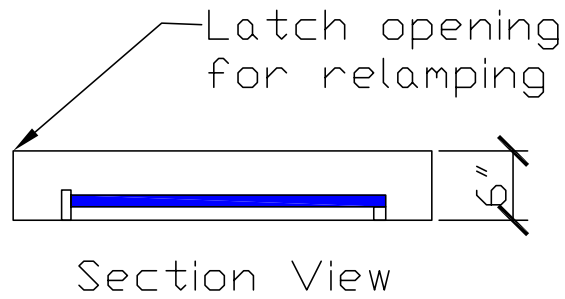
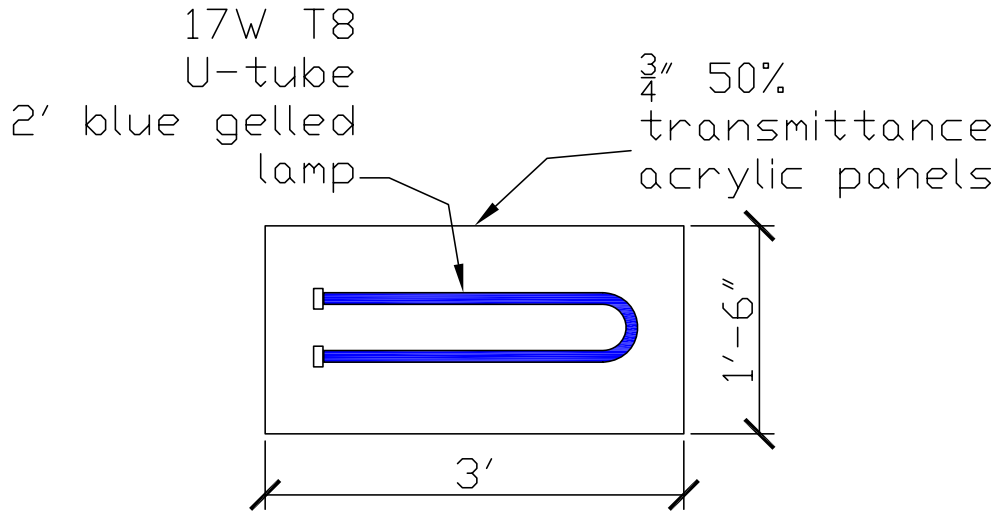
Recessed luminaires with die cast aluminum louvers and etched tempered diffusers. U.L. listed, suitable for wet locations. IP 64. Color: Standard BEGA finishes. Opening: 11 1/2" x 2 7/16" x 4"



	Lamp	Lumen	A	B	C
2286P Recessed	ADA 1 13W CF twin-2p	825	11 1/4"	2 9/16"	4 1/4"

BEGA/US 1000 BEGA Way, Carpinteria, CA 93013 [P] 805-684-0533 [F] 805-684-6682
 ©Copyright BEGA/US 2005 updated 4/05

Bega # 2286P		B7
Brian Smith	UCSD Cal IT2	# of #

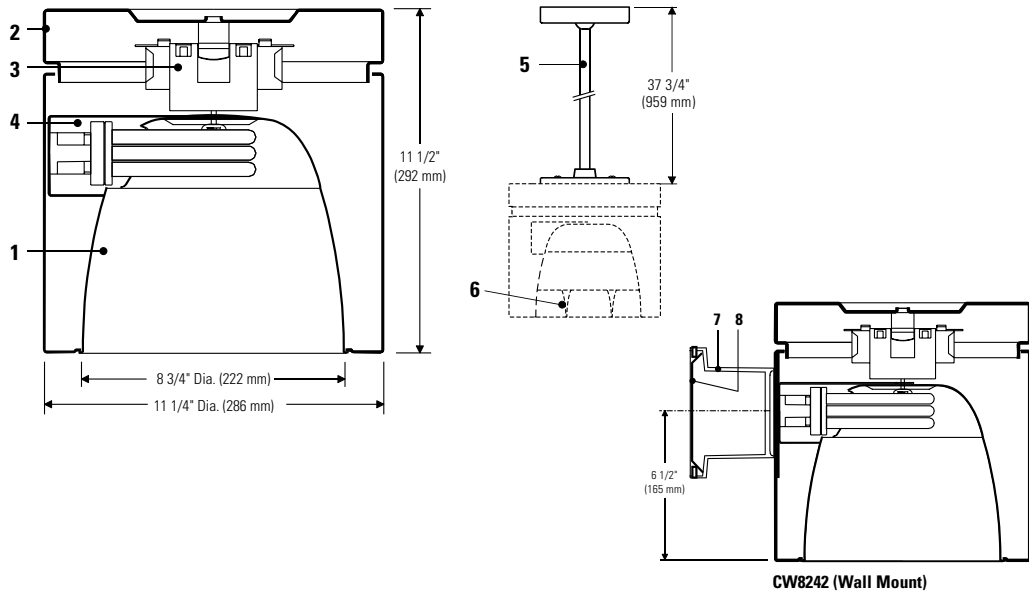


Black Box Theater Fixture B8
Custom Glowing Floor Box

Zumtobelstaff # Custom Fixture	B8
Brian Smith	UCSD Cal IT2 # of #



Calculite® Compact Fluorescent Surface Cylinder **CS8232/42**



CW8242 (Wall Mount)

Complete Fixture Ceiling Mount		Lamp
CS8242HUCL	Clear Iridescence Free Reflector, White Housing 120V - 277V	(2) 26/32/42W Triple Tube 4-Pin (Amalgam)
Complete Fixture Wall Mount		Lamp
CW8242HUCL	Clear Iridescence Free Reflector, White Housing 120V - 277V	(2) 26/32/42W Triple Tube 4-Pin (Amalgam)

Features

- Reflector:** 16 ga. Specular Alzak® aluminum, 55° visual cutoff to lamp and lamp image, wide distribution. Iridescence Free finish.
- Housing:** Seamless, heavy-gauge aluminum. Two part construction provides ventilation. Returned edge precisely seats reflector. Matte white finish.
- Ballast:** Mounted on support bracket, can be easily removed for service.
- Socket Bracket:** Die-formed steel. Attaches to reflector for correct optical alignment.
- Stem Kit:** Cat. No. FA CSA36: Provided with 1/2 dia. stem and 5 1/2 dia. canopy. Self aligning swivel provides maximum 40° vertical adjustment. Installs over 4" octagonal outlet box. Stem can be cut to length on site. Matte white baked enamel finish.
- (Optional) Turbo Louver:** (not shown) Specular clear Alzak® aluminum deep reflector with removable radial louver assembly combines good efficiency with a shield aperture, 50° cutoff to lamp.
- Crossbar:** Install over 4 octagonal or rectangular outlet box.
- Bracket:** One piece cast aluminum with integral backplate.

Electrical

Note: For ballast electrical data and latest lamp/ballast compatibility refer to "Ballast" specification sheet for complete electrical data.

UL listed for 90° C supply conductors.

Options and Accessories

- Fuse (Slow Blow) Add Suffix **F**
- Turbo Louver Add Suffix **TB**

Reflector Finishes: Consult Factory

Other Housing Finishes: Consult Factory

Labels

UL listed for damp locations, I.B.E.W.

Alzak® is a registered trademark of ALCOA.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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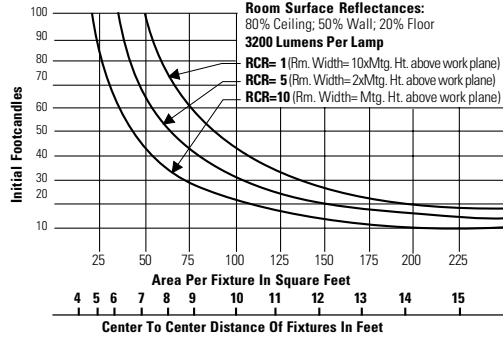
LIGHTOLIER®

Lightolier # CS8242HUCL 42W	B9
Brian Smith	UCSD Cal IT2
	# of #



42W

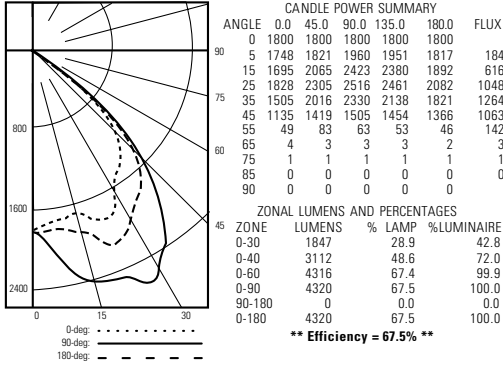
Quick Calculator



This quick calculator chart determines the number and spacing of 2 ft. - 42 Watt PL-T units with clear reflector. for any level of illumination.

Spacing Ratio: Along=1.4 Across=1.7

Certified Test Report NO. ITL44463
Independent Testing Laboratories, Inc.
Recessed Calculite Downlight 8038CLIF/8242HE120
8" Aperture Specular Clear Reflector
Two Philips 42-Watt PL-T 42W/4P Triple U-Tube. Compact Fluorescents.
Horizontal Position. Lumen Rating =3200 Lms



Date: Jan 3, 1996
Prepared For: Lightolier, Fall River, MA

Tested According To IES Procedures.
Test Distance Exceeds Five Times the
Greatest Luminous Opening Of Luminaire.

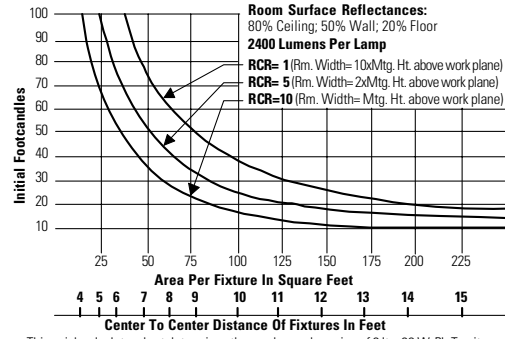
Coefficients Of Utilization

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80				70				50				10				0
	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	0
1	.74	.72	.70	.72	.70	.69	.69	.68	.67	.67	.66	.65	.65	.64	.63	.62	
2	.67	.64	.61	.66	.63	.61	.64	.61	.59	.62	.60	.58	.60	.58	.57	.56	
3	.61	.57	.54	.60	.57	.54	.58	.55	.53	.57	.54	.52	.55	.53	.51	.50	
4	.56	.51	.48	.55	.51	.48	.54	.50	.47	.52	.49	.46	.51	.48	.46	.45	
5	.51	.46	.43	.50	.46	.43	.49	.45	.42	.48	.44	.42	.47	.44	.41	.40	
6	.47	.42	.38	.46	.42	.38	.45	.41	.38	.44	.40	.38	.43	.40	.37	.36	
7	.43	.41	.37	.46	.41	.37	.45	.40	.37	.44	.40	.37	.43	.39	.36	.35	
8	.39	.35	.31	.39	.34	.31	.38	.34	.31	.37	.34	.31	.37	.33	.31	.30	
9	.36	.32	.28	.36	.31	.28	.35	.31	.28	.35	.31	.28	.34	.31	.28	.27	
10	.34	.29	.26	.33	.29	.26	.33	.29	.26	.32	.28	.26	.32	.28	.26	.25	

20% Floor Cavity Reflectance

32W

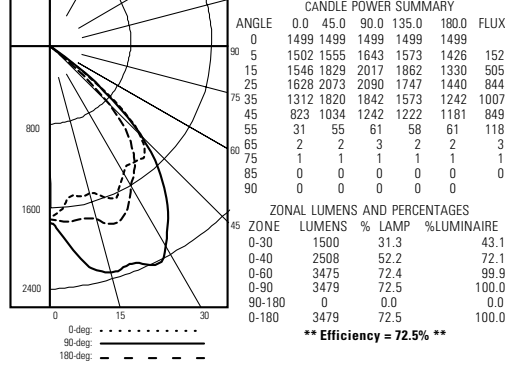
Quick Calculator



This quick calculator chart determines the number and spacing of 2 ft. - 32 W PL-T units with clear reflector. for any level of illumination.
For 26W lamps, multiply F.C. by 0.8.

Spacing Ratio: Along=1.4 Across=1.6

Certified Test Report NO. ITL44462
(Based on recessed fixture 8038CLW/8232HE120)
Independent Testing Laboratories, Inc.
Recessed Calculite Downlight 8038CLIF/8232HE120
8" Aperture Specular Clear Reflector
Two Philips 32-Watt 32W/35/4P Triple U-Tube. Compact Fluorescents.
Horizontal Position. Lumen Rating =2400 Lms



Date: Dec 4, 1995

Tested According To IES Procedures.
Test Distance Exceeds Five Times the
Greatest Luminous Opening Of Luminaire.

Coefficients Of Utilization

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80				70				50				10				0
	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	0
1	.79	.77	.75	.78	.76	.74	.75	.73	.72	.72	.71	.70	.69	.68	.68	.66	
2	.72	.69	.66	.71	.68	.65	.69	.66	.64	.66	.64	.62	.64	.62	.61	.60	
3	.66	.62	.58	.65	.61	.58	.63	.59	.57	.61	.58	.56	.59	.57	.55	.54	
4	.60	.55	.52	.59	.55	.51	.58	.54	.51	.56	.53	.50	.55	.52	.49	.48	
5	.55	.50	.46	.54	.49	.46	.53	.49	.45	.51	.48	.45	.50	.47	.44	.43	
6	.50	.45	.41	.50	.45	.41	.48	.44	.41	.47	.43	.40	.46	.43	.40	.39	
7	.46	.41	.37	.46	.41	.37	.45	.40	.37	.44	.40	.37	.43	.39	.36	.35	
8	.42	.37	.34	.42	.37	.34	.41	.37	.33	.40	.36	.33	.40	.36	.33	.32	
9	.39	.34	.31	.39	.34	.31	.38	.34	.30	.37	.33	.30	.37	.33	.30	.29	
10	.36	.31	.28	.36	.31	.28	.35	.31	.28	.35	.31	.28	.34	.30	.28	.26	

20% Floor Cavity Reflectance. For 26W lamps, multiply C.U. by 1.1.

Job Information

Type:

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LIGHTOLIER®

Lightolier # CS8242HUCL 42W	B9
Brian Smith	# of #
UCSD Cal IT2	

Perceiva®

WW



Linear Wallwash

Intended Use

Developed to provide high performance, uniform, wall illumination. Use to highlight merchandise, artwork and signage.

Features

Recessed fluorescent wallwash system provides energy-efficient accent lighting. Provides maximum wall illumination with minimum brightness.

Eliminates hot spots, scalloping and shadows on vertical surfaces.

Highlights artwork, signage and merchandise.

High performance — 92% of light output illuminates wall. Asymmetric-throw reflector completely surrounds lamp cavity.

Choice of one or two T8 lamps or compact lamp versions.

Ballast accessible from room side.

Reversible end trim accommodates both grid and screw-slot ceiling systems.

GF trim provides ceiling-tile support trims on long sides, grid trim on ends. Continuous row (grid trim only) or unit installation.

T-bar hold-down clips supplied standard. DGA accessory available to provide trim flange and fixture support in plaster or plasterboard ceilings. For use with G trim fixture.

UL Listed (standard). CSA Certified (see Options).

Ordering Information

Example: **WW G 2 32 120 IRLS GEB**

Series	Trim type	Number of lamps	Lamp type	Voltage	Reflector finish	Options
WW 12" wide For tandem double-length unit, add prefix T. Example: TWW	G Lay-in grid ¹ GF Grid flanged ² ST Screw slot	1, 2 Not included.	17 17W T8 (24") 32 32W T8 (48") CF18 18W TT5 (12") CF40 40W TT5 RS (24") CF50 50W TT5 RS (24") CF55 55W TT5 (24") 25 25W T8 (36") 60T8 40W T8 (60")	120 277 347 MVOLT* Others available. * 120-277V. Must specify GEB10IS.	IRLS Low iridescent specular silver IRLD Low iridescent diffuse silver	1/4 One 4-lamp ballast GEB Electronic ballast, ≤20% THD GEB10IS T8 electronic ballast, ≤10% THD, instant start GEB10RS T8 electronic ballast, ≤10% THD, rapid start CSA CSA Certified See pages 91 for others.

Accessories (Order separately)

DGA Flanged grid to drywall adapter, unit installation³

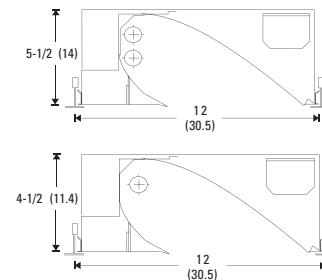
NOTES:

- 1 Use G trim plus DGA accessory for fixture-trim flange and fixture support in plaster or plasterboard ceilings.
- 2 Flanged sides, grid ends used in grid applications only.
- 3 Insert fixture width and length (in feet). Example: **DGA12**.

Availability and Dimensions

Series	Nominal length	Lamps per cross section	Lamps per fixture	Lamp type	Height in.(cm)
WW	1'	1	1	CF18	4½ (11.4)
WW	2'	1	1	17, CF40, CF50	4½ (11.4)
		2	2	17	5½ (14.0)
WW	4'	1	1	32	4½ (11.4)
		2	2	32	5½ (14.0)
TWW	4'	1	2	CF40, CF50	4½ (11.4)
WW	3'	1	1	25	4½ (11.4)
		2	2	25	5½ (14.0)
WW	5'	1	1	60T8	4½ (11.4)
		2	2	60T8	5½ (14.0)

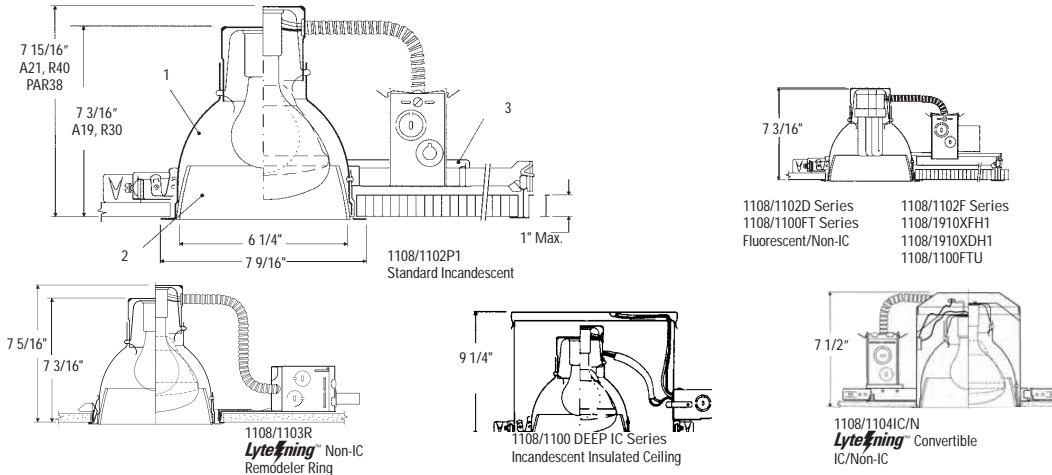
Dimensions are shown in inches (centimeters) unless otherwise noted.



Lithonia # WW-ST-1-32-277-IRLS-1/4	B10
Brian Smith	UCSD Cal IT2
	# of #



Lytecaster® Recessed Downlighting 1108



Complete Fixture consists of Reflector Trim & Frame-In Kit. Select each separately.

Reflector Trim	Frame-In Kit — See Individual Frame-In Kit Specification Sheets							
	Incandescent				Fluorescent			
	Frame-In Kit	Installation Type	Lamping	Height	Frame-In Kit	Installation Type	Lamping	Height
1108* Brushed Gold	1102P1 1103R	Non-IC Non-IC	100W A19 150W A21, PAR38, BR40	7 3/16" 7 15/16" 7 3/16" 7 15/16"	1102F1 1102FH1	Non-IC Non-IC		7 3/16" 7 3/16"
1110* Brushed Clear	1100IC	IC	75W A19	7 5/16"	1102FH2	Non-IC	1 Lamp Quad Tube	7 3/16"
1112* Specular Gold	1100AICM	IC	90W PAR38	7 5/16"	1102FH1R	Non-IC Remodeler	13W (GX23-2)	7 3/16"
1113* Specular Clear	1100DICM	IC	100W BR40	9 1/4"	1104F1R	Non-IC Remodeler		7 1/2"
1113BK* Specular Black	1100DAICM	IC		9 1/4"	1104F1/N	IC		7 1/2"
1113CD* Clear Diffuse	1104ICX/N	IC	60W A19 120W BR40 100W PAR38 90W w/1113BK	7 1/4"	1910XFH1	Conversion		7 3/16"
1113WH Matte White	1104IC/N	IC	60W A19*	7 1/2"	1102D1	Non-IC	2 Lamp Quad Tube	7 3/16"
	1104ICR	IC Remodeler	75W PAR38	7 1/2"	1102DH1	Non-IC	13W (GX23-2)	7 3/16"
			65W BR40 *52W w/1113BK		1102DH1R	Non-IC Remodeler		7 3/16"
					1102DH2	Non-IC		7 3/16"
					1910XDH1	Conversion		7 3/16"
					1102DM1	Non-IC Emergency		7 3/16"
					1102DM2	Non-IC Emergency		7 3/16"
					1100FTU	Non-IC	1 Lamp Triple Tube	7 3/16"
					1100FTUEM	Non-IC Emergency	26W or 32W	7 3/16"
					1100FTURM	Non-IC Remodeler	(GX24q-3)	7 3/16"
					1100AICMFT	AirSeal-IC		6 7/8"
	1104IC/N	Non-IC	100W A19*, PAR38	7 1/2"				
	1104ICR	Non-IC Remodeler	150W BR40 *75W w/1113BK	7 1/2"				

*Add "NM" to SKU for Natural Metal™ Flange

Features

1. Reflector: Hydroformed aluminum, .040" minimum thickness; Anobrite® (anodic-processed) semi-specular finish for permanent reflectivity; matte white or Natural Metal™ trim flange.
2. Aperture Cone: Aluminum cone painted or anodized finish.
3. Frame-In Kit: (1102P1 standard frame shown). Other frames listed above and shown on the right. See Frame-In Kit specification sheets for more details.

Options & Accessories

- Lytegems®: See 1500 Series Specification Sheets
 Retaining Clips: 1955 - For installing in existing ceiling
 Extra Wide Flange Trim Ring: 1954 - 8-5/8" O.D.

Labels

U.L. (Suitable for Damp Locations); I.B.E.W.

US Patent Numbers: 4,751,624; 5,045,985
 Other US & Foreign Patents Pending.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

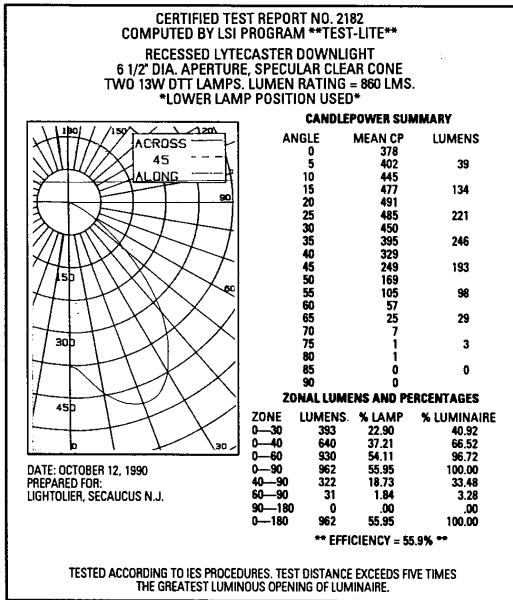
Lightolier a Genlyte company www.lightolier.com
 631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710
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LIGHTOLIER®

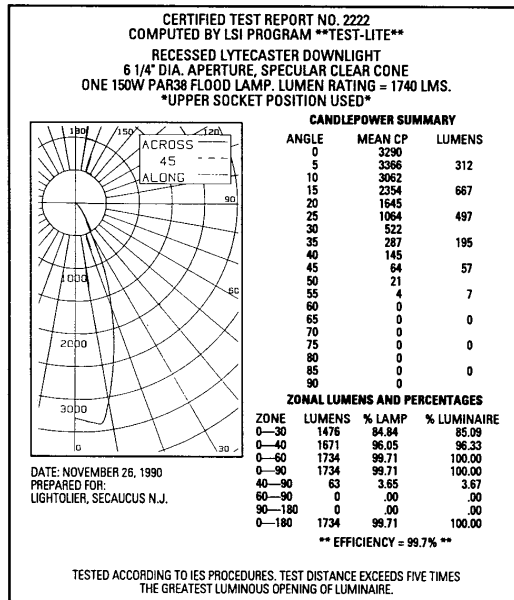
Lightolier # 1108 / 1104F1**	B11
Brian Smith	UCSD Cal IT2
	# of #



SPACING RATIO = 1.5



SPACING RATIO = 0.7



COEFFICIENTS OF UTILIZATION

% EFFECTIVE CEILING CAVITY REFLECTANCE

ROOM CAVITY RATIO	% WALL REFLECTANCE															
	80		70		50		30		10		0					
	50	30	10	50	30	10	50	30	10	50	30	10	0			
1	.61	.60	.58	.60	.59	.57	.58	.57	.56	.56	.55	.54	.54	.53	.52	.51
2	.56	.54	.52	.55	.53	.51	.53	.52	.50	.52	.50	.49	.50	.49	.48	.47
3	.52	.48	.46	.51	.48	.46	.49	.47	.45	.48	.46	.44	.47	.45	.43	.42
4	.47	.44	.41	.47	.44	.41	.46	.43	.40	.44	.42	.40	.43	.41	.39	.38
5	.43	.40	.37	.43	.39	.37	.42	.39	.36	.41	.38	.36	.40	.38	.36	.35
6	.40	.36	.33	.39	.35	.33	.38	.35	.33	.37	.35	.32	.37	.34	.32	.31
7	.36	.32	.29	.36	.32	.29	.35	.31	.29	.34	.31	.29	.34	.31	.29	.28
8	.33	.29	.26	.33	.29	.26	.32	.28	.26	.31	.28	.26	.31	.28	.26	.25
9	.30	.26	.23	.30	.26	.23	.29	.25	.23	.29	.25	.23	.28	.25	.23	.22
10	.28	.24	.21	.27	.24	.21	.27	.23	.21	.26	.23	.21	.26	.23	.21	.20

20% FLOOR CAVITY REFLECTANCE

Conversion Factors: 2 Lt. 13W Quad Tube: White, C.U. x 0.7; Black, C.U. x 0.65. 1 Lt. 13 Quad Tube: Clear & Gold, C.U. x 1.15; White, C.U. x 1; Black, C.U. x 0.85. 100W A19 and 150W A21: Clear & Gold, C.U. x 1.15; White, C.U. x 1.1; Black, C.U. x 0.8.

COEFFICIENTS OF UTILIZATION

% EFFECTIVE CEILING CAVITY REFLECTANCE

ROOM CAVITY RATIO	% WALL REFLECTANCE															
	80		70		50		30		10		0					
	50	30	10	50	30	10	50	30	10	50	30	10	0			
1	1.13	1.11	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	1.00	.99	.98	.97
2	1.08	1.05	1.02	1.06	1.03	1.01	1.03	1.01	.99	1.00	.98	.97	.97	.95	.93	.92
3	1.03	1.00	.97	1.02	.99	.96	.99	.97	.95	.97	.95	.93	.95	.93	.92	.91
4	.99	.95	.92	.98	.95	.92	.96	.93	.91	.94	.92	.90	.93	.90	.89	.88
5	.95	.91	.88	.94	.90	.88	.93	.89	.87	.91	.88	.86	.90	.87	.85	.84
6	.92	.88	.85	.91	.87	.84	.90	.87	.84	.89	.86	.83	.87	.85	.83	.82
7	.88	.84	.81	.88	.84	.81	.86	.83	.81	.85	.82	.80	.85	.82	.80	.79
8	.85	.81	.78	.84	.81	.78	.84	.80	.77	.83	.79	.77	.82	.79	.77	.76
9	.82	.78	.75	.81	.78	.75	.81	.77	.74	.80	.76	.74	.79	.76	.74	.73
10	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.72	.77	.74	.71	.70

Conversion Factor: 150W PAR38 FL: White, C.U. x 0.95; Black, C.U. x 0.9. 150W BR40 FL: Clear and Gold, C.U. x 1.0; White, C.U. x 0.95; Black, C.U. x 0.85.

To convert lighting data for a lower wattage incandescent lamp of the same type, multiply the footcandle (or candlepower) values by the ratio of the lumens of the two lamps. The coefficients of utilization remain the same.

Job Information **Type:**

Lightolier a Genlyte company www.lightolier.com
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LIGHTOLIER[®]

Lightolier # 1108 / 1104F1**	B11
Brian Smith	UCSD Cal IT2
	# of #

TYPE:

CATALOG#:

METALUX®

DESCRIPTION

The M Series combines a low profile, surface modular design with the latest in energy-efficient technology. The dihedral recessed top design allows for cooler fixture operation. Other features include a die-formed housing, surface or stem mounting (single or continuous row), full seam -welded corners and a broad selection of attractive door frames.

APPLICATION

The versatile modular M Series can be the perfect solution when used in applications such as commercial office spaces, schools, hospitals, and retail merchandising areas.

SPECIFICATION FEATURES

A... Construction

Housing die formed code gauge prime cold rolled steel. Smooth sides permit flush joint for continuous row mounting. Dihedral recessed top design insures cooler ballast operation. Die formed captive lampholder bracket fully encloses wiring permitting easy lampholder replacement. Ballast covers easily removed without tools.

B... Electrical*

Ballasts are CBM/ETL Class "P" and are positively secured by mounting bolts. Pressure lock lampholders. UL/CUL listed. Suitable for damp locations.

C... Finish

Painted after fabrication. Electrostatically applied baked white polyester powder enamel finish. Multistage cleaning cycle, iron phosphate coating with rust inhibitor. ConveyORIZED application and baking timing accurately controlled at an elevated temperature.

D... Hinging/Latching

Positive cam action steel latches with baked white enamel finish. Safety lock T-hinges allow hinging and latching either side.

E... Frame/Shielding

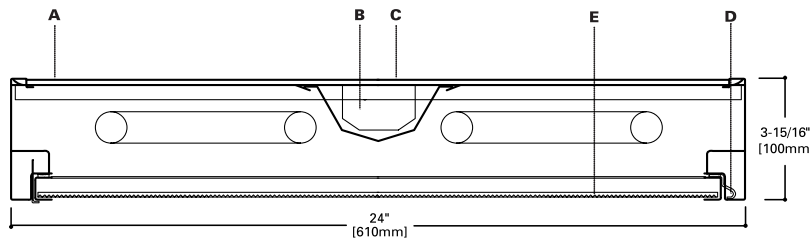
Die formed, flat white extruded aluminum door with reinforced corners and baked white enamel finish. Door frame quadrasealed to prevent light spillage. Light stabilized 100% virgin acrylic prismatic shielding. Standard #12 pattern. Optional shielding available.



2M420
417
2U6
2U6T8
2U1-5/8
2BX40
3U1-5/8
3BX40

2' X 2' SURFACE
4 LAMPS LTS
2' X 2' SURFACE
2 LAMPS

Surface Modular



ENERGY DATA

Input Watts:
EB Ballast & STD Lamps
417 (45)
2U6 (72)
2U6T8 (61)
2U1-5/8 (61)
2BX40 (67)
3U1-5/8 (91)
3BX40 (110)

ES Ballast & STD Lamps
420 (116)
417 (90)
2U6 (86)
2U6T8 (71)
2U1-5/8 (71)
3U1-5/8 (108)

STD Ballast & STD Lamps
2BX40 (82)
3BX40 (128)

Luminaire Efficacy Rating
LER = FL-58
Catalog Number: 2M-2U6T8A

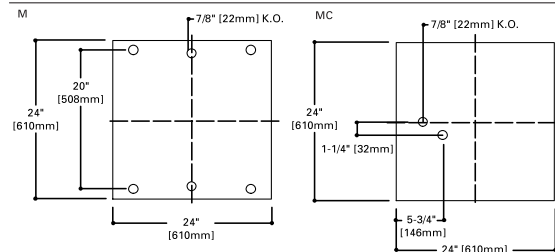
Yearly Cost of 1000 lumens,
3000 hrs at .08 KWH = \$4.14

*Reference the lamp/ballast data in the Technical Section for specific lamp/ballast requirements.

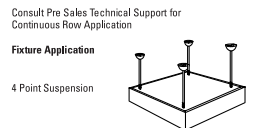
ADF020659
(Supersedes ADF991783)



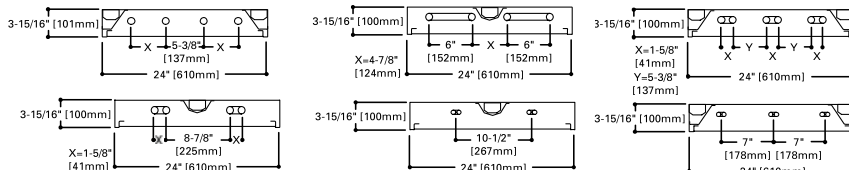
MOUNTING DATA



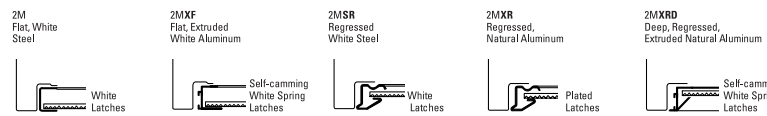
STEM MOUNTING METHODS



LAMP CONFIGURATIONS



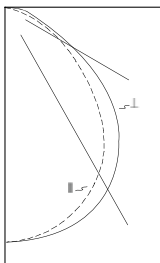
DOOR FRAMES



COOPER LIGHTING

Table with 3 columns: Product description (Cooper Ltg - Metalux # 2M-XRD-2-U6T8-PBIS*-277-EB81-*), Location (UCSD Cal IT2), and Quantity (# of #).

PHOTOMETRICS



2M-2U6T8A
Energy Saving Ballast
FB31T8/TL735/6 Lamps
2600 Lumens
Spacing criterion: (H) 1.2 x mounting height, (L) 1.3 x mounting height
Efficiency 71.0%
Test Report #132P115
LER = FL-58
Yearly Cost of 1000 lumens, 3000 hrs at .08 KWH = \$4.14

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	80%		70%		50%		30%		10%		0%							
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
RCR																		
0	85	85	85	85	83	83	83	83	79	79	79	76	76	76	72	72	72	71
1	78	75	73	70	76	74	71	69	71	69	67	68	66	65	65	64	63	62
2	72	67	63	59	70	66	62	59	63	60	57	61	58	56	59	57	55	53
3	67	60	55	51	65	59	54	51	57	53	50	55	52	49	53	50	48	47
4	62	54	48	44	60	53	48	44	51	47	43	50	46	43	48	45	42	41
5	57	48	42	38	55	47	42	38	46	41	37	45	40	37	43	40	37	35
6	52	43	38	33	51	43	37	33	42	37	33	40	36	33	39	35	32	31
7	48	39	33	29	47	39	33	29	38	33	29	37	32	29	36	32	28	27
8	45	35	29	25	43	35	29	25	34	29	25	33	28	25	32	28	25	24
9	41	32	26	22	40	31	26	22	30	25	22	30	25	22	29	25	22	20
10	38	29	23	19	37	28	23	19	28	23	19	27	22	19	26	22	19	18

Candela

Angle	Along H	45°	Across L
0	1485	1485	1485
5	1479	1478	1485
10	1455	1460	1477
15	1413	1430	1460
20	1357	1388	1432
25	1286	1331	1387
30	1197	1255	1315
35	1089	1152	1227
40	961	1023	1122
45	807	868	999
50	643	721	845
55	507	580	662
60	395	427	470
65	305	295	320
70	228	191	237
75	166	131	192
80	123	105	147
85	66	60	82
90	0	0	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1169	22.5	31.7
0-40	1905	36.6	51.6
0-60	3138	60.3	85.0
0-90	3692	71.0	100.0
0-180	3692	71.0	100.0

Typical VCP Percentages

Room Size (Ft.)	Height Along			
	8.5'	10.0'	8.5'	10.0'
20 x 20	63	67	59	64
30 x 30	56	60	53	57
30 x 60	48	50	43	46
60 x 30	58	62	56	60
60 x 60	48	51	45	48

ORDERING INFORMATION

SAMPLE NUMBER: 2M-2U6T8A

2	M																
2' Width																	
Series																	
Standard=Flat White Steel Door (Leave Blank) XF=Flat White Extruded Aluminum Door SR=5/16" Regressed White Steel Door XR=5/16" Regressed Natural Anodized Aluminum Door XRD=5/8" Deep Regressed Natural Anodized, Extruded Aluminum Door* (*Self-camming spring loaded latches on XF and XRD)		Number of Lamps 2, 3 or 4 Lamps (Not included) Wattage (Length) 20=20W (24") 17=17W (24") U6=40W (24") U6T8=31W (24") U1-5/8=31W T8 (24") BX40=40W Biaxial (24")															
ACCESSORIES (Order Separately) SCF=Fixed Stem Set (Specify Length) SCS=Swivel Stem Set (Specify Length) SCA=Adjustable 48" Stem Set (Additional Accessories Available, See Options and Accessories Section.)		Voltage LTS=Low Trigger Start (20 Watt) HTS=High Trigger Start (20 Watt) Voltage* 120=120V 277=277V 347=347V UNV=Universal Voltage 120-277V															
NOTE See option/accessories sections for additional detailed product data, Specifications and Dimensions subject to change without notice. 1 Flat Natural Aluminum Door Available - NDF (See Options). 2 Standard Ballast (Non-LE3) 3 2M-420 and 2M-417 Must Use Side Mounted Ballast Pattern. 4 Consult Pre Sales Technical Support. 5 Available on flat doors only.		Ballast Type Standard Magnetic Ballast Leave Blank LE3= Energy Saving Magnetic Ballast LE0C8= Energy Saving Magnetic Ballast (T-8 Lamp Only) EB = Generic Electronic Ballast No. of Ballasts 1 or 2 Lamp Size 2=T12 8=T8 5=T5 (For Specific Electronic Ballast, Specify Brand and Catalog Number) Leave Blank for LTS and HTS Fixtures.															
Options (add as suffix) Options GL=Internal Single Element Fusing GM=Dual Element Fusing EL4=Emergency Lighting self-contained. SMB=Side Mounted Ballast For Stem Applications. (Recommended For 4 Point Suspension) RIF1=Radio Interference Suppressor VRS=Vandal Resistant* EKO=End Plate with 7/8" KO (Required for Continuous Row Mounting) RLS=Rotor-Lock Socket (T8 Lamps Only) (Additional options available. See Accessory Section)		SHIPPING INFORMATION <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Catalog No.</th> <th>Wt.</th> </tr> </thead> <tbody> <tr><td>2M-417A-LTS*</td><td>23 lbs.</td></tr> <tr><td>2M-2U6T8A</td><td>20 lbs.</td></tr> <tr><td>2M-2U1-5/8A</td><td>20 lbs.</td></tr> <tr><td>2M-2BX40A</td><td>20 lbs.</td></tr> <tr><td>2M-3U1-5/8A</td><td>21 lbs.</td></tr> <tr><td>2M-3BX40A</td><td>21 lbs.</td></tr> </tbody> </table>		Catalog No.	Wt.	2M-417A-LTS*	23 lbs.	2M-2U6T8A	20 lbs.	2M-2U1-5/8A	20 lbs.	2M-2BX40A	20 lbs.	2M-3U1-5/8A	21 lbs.	2M-3BX40A	21 lbs.
Catalog No.	Wt.																
2M-417A-LTS*	23 lbs.																
2M-2U6T8A	20 lbs.																
2M-2U1-5/8A	20 lbs.																
2M-2BX40A	20 lbs.																
2M-3U1-5/8A	21 lbs.																
2M-3BX40A	21 lbs.																



Visit our web site at www.cooperlighting.com
Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770.486.4801 ADF020659

Cooper Ltg - Metalux # 2M-XRD-2-U6T8-PBIS*-277-EB81-*		B12
Brian Smith	UCSD Cal IT2	# of #

TYPE:

CATALOG#:

METALUX®

DESCRIPTION

The Metalux Horizon Recessed Wall Wash Series features recessed aesthetics and the latest in Energy Efficient Technology. The clean architectural design incorporates precision-formed aluminum reflector features that produces efficient, uniform and continuous vertical wall illumination.

APPLICATION

The Horizon Recessed Wall Wash Series is specifically designed for effective use in various retail, merchandising and commercial wall washing environments. Horizon is ideal for retail displays, showrooms, corridor walls, art lighting and the elimination of the "Cave Effect" in office lighting applications.

SPECIFICATION FEATURES

A...Construction

Nominal 4-1/2" deep 10"x4" housing designed for use with T8 and biaxial lamps. The housing is constructed of die formed code gauge prime cold rolled steel. Housing incorporates a longitudinal flange for grid installation or ceiling tile support. KO's for continuous row mounting.

B...Electrical*

Ballasts are CBM/ETL Class "P" and are positively secured. Biax models use 2G11 base lampholders with double-edge wiping action pressure lock contacts and lamp support clips. T8 models use pressure-lock lampholders. UL/CUL listed. Suitable for damp locations.

C...Finish

Electrostatically applied baked white polyester powder enamel finish. Multistage cleaning cycle, iron phosphate coating with rust inhibitor. Conveyorized application and baking timing accurately controlled at an elevated temperature.

D...Reflector Optical Assembly

The internal aluminum reflector optical assembly incorporates an upper "Scoop" and lower "Kick" reflector design. This design produces uniform even illumination on vertical surfaces. Continuous illumination is maintained to the junction of the wall and the ceiling. Reflectors are precision manufactured from specular low iridescent aluminum in a computer-controlled operation.

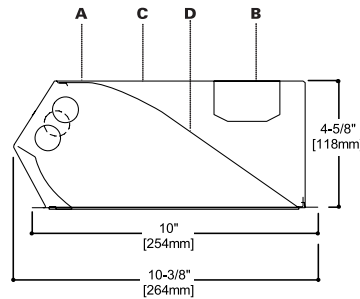


**RWW132
232
T1BX40**

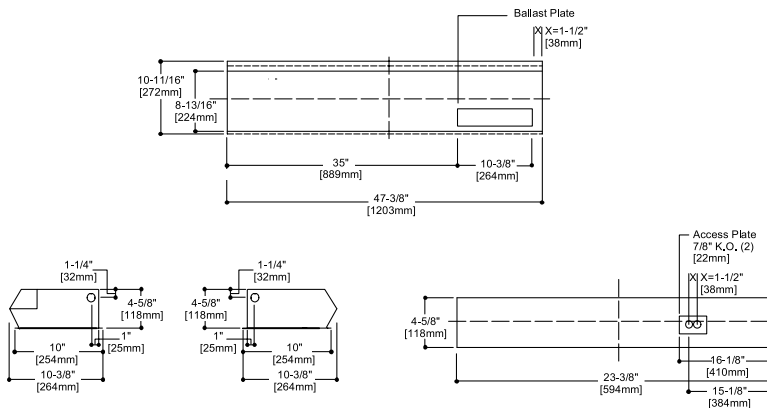
**1' X 4'
RECESSED
WALL WASH**

Vertical Illumination
Luminaire

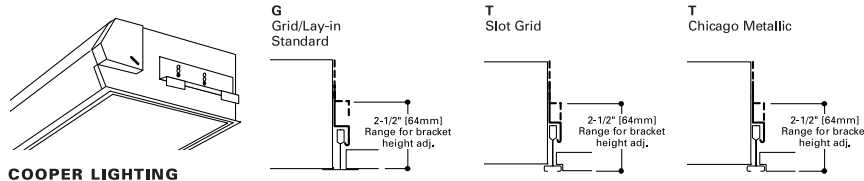
T8 or Biaxial Lamps



MOUNTING DATA



INSTALLATION DATA



ENERGY DATA

Input Watts:
Electronic Ballast & STD Lamps
132 (32)
232 (58)
T1BX40 (71)
T1BX50 (106)
T1BX55 (117)

ES Ballast & STD Lamps
132 (30)
232 (55)
1BX50 (54 Watts)
T2BX50 (106 Watts)

STD Ballast & STD Lamps
T1BX40 (77)

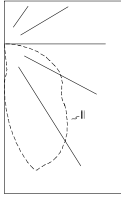
*Reference the lamp/ballast data in the Technical Section for specific lamp/ballast requirements.

ADF020635
(Supersedes ADF991761)



Cooper Ltg - Metalux # RWW-2-32-MI-277-EB81-*	B13
Brian Smith	UCSD Cal IT2
	# of #

PHOTOMETRICS



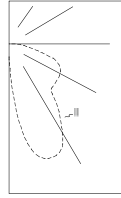
RWW-232MI
Electronic Ballast
F32T8/835 Lamps
2800 Lumens
Efficiency 69.7%
Test Report
#167P115

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	959	17.1	24.6
0-40	1640	29.3	42.0
0-60	2973	53.1	76.2
0-90	3902	69.7	100.0
0-180	3902	69.7	100.0

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	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
0	83	83	83	83	81	81	81	81	77	77	77	74	74	74	71	71	71	70
1	76	73	70	67	74	71	68	66	68	66	64	65	64	62	63	61	60	59
2	69	63	59	55	67	62	58	54	60	56	53	57	54	52	55	53	51	49
3	63	56	50	46	61	55	50	45	53	48	45	51	47	44	49	46	43	42
4	58	49	43	39	56	49	43	38	47	42	38	45	41	37	44	40	37	35
5	53	43	37	32	51	43	37	32	41	36	32	40	35	32	39	34	31	30
6	48	39	32	28	47	38	32	28	37	31	27	36	31	27	35	30	27	26
7	44	35	28	24	43	34	28	24	33	28	24	32	27	24	31	27	23	22
8	41	31	25	21	40	30	25	21	30	24	20	29	24	20	28	23	20	19
9	37	28	22	18	36	27	22	18	26	21	18	26	21	17	25	21	17	16
10	35	25	19	15	34	25	19	15	24	19	15	23	19	15	23	18	15	14



RWW-T1BX40
Electronic Ballast
F40BX/835/RS Lamps
3150 Lumens
Efficiency 79.9%
Test Report
#167P114

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1095	17.4	21.8
0-40	1998	31.7	39.7
0-60	3648	57.9	72.5
0-90	5031	79.9	100.0
0-180	5031	79.9	100.0

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	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
0	95	95	95	95	93	93	93	93	89	89	89	85	85	85	81	81	81	80
1	86	82	79	76	84	81	77	74	77	74	72	74	72	70	71	69	68	66
2	78	71	66	61	76	70	65	60	67	63	59	64	61	57	62	59	56	54
3	71	62	56	50	69	61	55	50	59	53	49	57	52	48	54	51	47	45
4	65	55	48	42	63	54	47	42	52	46	41	50	45	41	48	44	40	38
5	59	48	41	35	57	47	40	35	45	39	34	44	38	34	42	38	34	32
6	54	43	35	30	52	42	35	30	40	34	29	39	33	29	38	33	29	27
7	50	38	31	26	48	37	30	25	36	30	25	35	29	25	34	29	25	23
8	45	34	27	22	44	33	26	22	32	26	22	31	26	21	30	25	21	20
9	42	30	23	18	40	30	23	18	29	23	18	28	22	18	27	22	18	16
10	39	27	20	16	37	27	20	16	26	20	16	25	20	16	24	19	16	14

Wall Illuminance

Individual Unit*										Multiple Units*										Continuous Row*									
0' 1' 2' 3' 4' 5' 6' 7' 8'										0' 1' 2' 3' 4' 5' 6' 7' 8'										0' 1' 2' 3' 4' 5' 6' 7' 8'									
Ceiling										Ceiling										Ceiling									
8'	65	59	42	24	13	7	4	2	2	8'	69	63	48	33	27	33	48	63	69	8'	95	95	95	95	95	95	95	95	95
7'	82	74	56	35	20	11	7	4	3	7'	88	81	65	49	42	49	65	81	88	7'	128	129	129	129	129	129	129	129	129
6'	64	59	47	33	21	13	8	5	3	6'	72	68	58	48	44	48	58	68	72	6'	113	113	114	114	114	114	114	114	115
5'	50	46	38	28	19	13	8	6	4	5'	59	56	50	44	42	44	50	56	59	5'	96	97	98	98	99	99	99	99	99
4'	35	33	29	23	17	12	8	6	4	4'	45	43	40	37	36	37	40	43	45	4'	76	78	78	79	79	79	80	79	79
3'	25	24	21	18	14	10	8	6	4	3'	34	34	33	31	31	31	33	34	34	3'	60	62	62	63	63	63	64	64	64
2'	18	18	16	14	11	9	7	5	4	2'	28	27	27	26	26	26	27	27	28	2'	49	50	51	51	52	52	52	52	52
1'	14	14	13	11	10	8	6	5	4	1'	23	23	23	23	23	23	23	23	23	1'	41	43	43	44	44	44	45	45	45
Floor										Floor										Floor									

*Units located 3' from wall
Data provided for RWW-232MI Unit

ORDERING INFORMATION

SAMPLE NUMBER: RWW-232MI

RWW Series Horizon Wall Wash	2 Number of Lamps (Not included) 1=1- Lamp (T8 Only) 2=2- Lamp (T8 Only) T1=4' Fixture with one Biax Lamp at each end	32 Reflector Finish MI=Specular Low Iridescent (Standard) I=Semi-Specular Low Iridescent	MI Voltage ³ 120=120V 277=277V 347=347V UNV= Universal Voltage 120-277V	Options (add as suffix) Options TBW2= Thin White Baffle Accessory (2' Fixture) ¹ TBW4= Thin White Baffle Accessory (4' Fixture) ¹ CAL2= Clear Acrylic Lens (2' Fixture) ¹ CAL4= Clear Acrylic Lens (4' Fixture) ¹ GL=Internal Single Element Fusing GM=Dual Element Fusing RIF1=Radio Interference Suppressor REP=Approved by City of New York Bureau of Electrical Control (S-104-W-Drywall Frame Kit (Order Individually as Accessory) RLS=Rotor-Lock Socket (T8 Lamps Only) (Additional options available. See Accessory Section)
	Wattage (Length) 32=32W T8 BX40=40W Biax BX50=50W Biax ² BX55=55W Biax ²		Ballast Type Standard Magnetic Ballast Leave Blank (40W Biax Only) LEOCB= Energy Saving Magnetic Ballast (T8 Lamp Only) EB= Generic Electronic Ballast No. of Ballasts 1 or 2' Lamp Size 8=T8 5=Biax (For Specific Electronic Ballast Specify Brand and Catalog Number)	

NOTE See option/accessories sections for additional detailed product data.
Specifications and Dimensions subject to change without notice.
¹ Field installed accessory ships in separate carton.
² Electronic Ballast Only.
³ Consult Pre Sales Technical Support
⁴ Above ceiling ballast access for 1 ballast only

SHIPPING INFORMATION

Catalog No.	Wt.
RWW-132	17.5
RWW-232	17.5
RWW-T1BX40	18.0



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Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770.486.4801 ADF020635

Cooper Ltg - Metalux # RWW-2-32-MI-277-EB81-*		B13
Brian Smith	UCSD Cal IT2	# of #

TYPE:

CATALOG#:

Corelite™

DESCRIPTION

Corelite's small scale 'Cove 2x6' is an asymmetric lighting solution for the interior environment that offers flexibility in application and installation. The Cove 2x6 optimizes four different lamp configurations with an engineered optical system that produces a smooth even gradient of light onto room surfaces. This small scale luminaire may serve to either accent architectural details or simply create an ambient layer of light.

SPECIFICATION FEATURES

A...Construction

Housing one piece die formed 18 gauge corrosion resistant steel forming a 2" deep ballast channel. Standard 2'-0", 3'-0", 4'-0", 8'-0", and 12'-0" fixture lengths combine for continuous rows.

B...Reflectors

Reflectors are die formed high reflectance aluminum. Reflector pan high reflectance white finish.

C...Electrical

Fixtures are pre-wired with quick wire connectors and use instant start UL listed Class P, 265 ma T8 electronic ballasts, Power Factor of 95% with less than 20% THD. Fixtures and electrical components certified to UL standards.

D...Mounting

Fixture mounts directly to architectural cove or to wall structure. Refer to installation section for details.

E...Finish

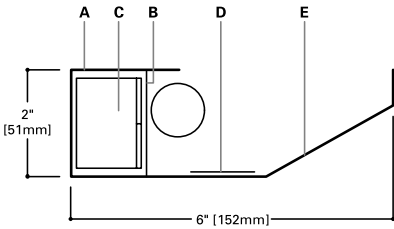
Reflector pans are standard white using a baked polyester powder coating electrostatically applied. Ballast channels are corrosion resistant steel.



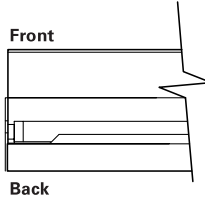
Cove 2x6

1T8

ARCHITECTURAL COVE ASYMMETRIC INDIRECT



TOP VIEW



LENGTHS

- 24" [610mm]
36" [914mm]
48" [1219mm]
96" [2438mm]
144" [3658mm]

ORDERING INFORMATION

SAMPLE NUMBER: CI-SN-1T8-1C-120-12

Ordering code breakdown: CI (Series), S (Reflector), N (Number of Lamps), 1 (Number of Circuits), T8 (Wattage), 1 (Voltage), Run Length options.

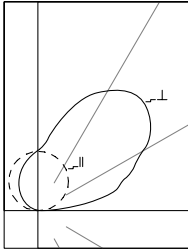
Not all options available, Please consult your Cooper Lighting Representative for availability. Specifications and Dimensions subject to change without notice.

COOPER LIGHTING

ADE000700

Table with 3 columns: Product/Person, Location, and Identifier. Row 1: Cooper Ltg - Corelite # CI-SN-1T8-1C-277-08, B14. Row 2: Brian Smith, UCSD Cal IT2, # of #.

PHOTOMETRICS



CI-SN-1T8
 (1) F32T8/TL841
 3000 Lumens
 Efficiency 70.5%
 Test Report
 #LS114516

Coefficients of Utilization

rc	Effective floor cavity reflectance								20%								0%	
	80%				70%				50%				30%					
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	67	67	67	67	57	57	57	57	39	39	39	23	23	23	07	07	07	00
1	61	58	56	53	52	50	48	45	34	33	32	20	19	18	06	06	06	00
2	55	51	47	43	47	43	40	37	30	28	26	17	16	15	05	05	05	00
3	51	45	40	36	43	38	34	31	26	24	22	15	14	13	05	05	04	00
4	46	39	34	30	39	34	29	26	23	21	19	13	12	11	04	04	04	00
5	42	34	29	26	36	30	26	22	21	18	16	12	10	09	04	03	03	00
6	39	31	26	22	33	27	22	19	18	16	14	11	09	08	03	03	03	00
7	36	28	22	19	30	24	19	16	16	14	12	10	08	07	03	03	02	00
8	33	25	20	16	28	21	17	14	15	12	10	09	07	06	03	02	02	00
9	30	22	17	14	26	19	15	12	13	11	09	08	06	05	03	02	02	00
10	28	20	16	13	24	17	14	11	12	10	08	07	06	05	02	02	02	00

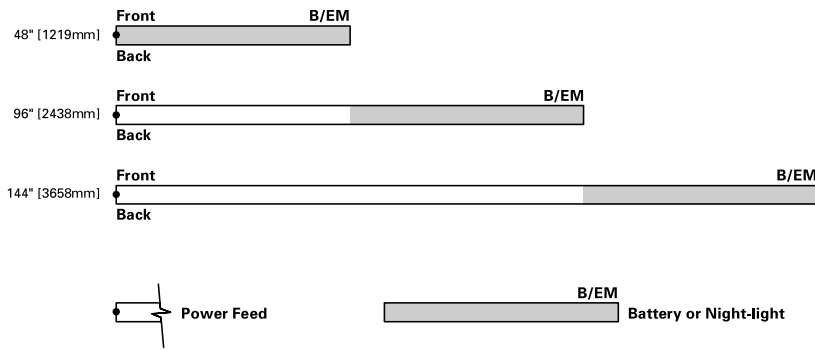
Candela

Angle	Along II	45°	Across I
180	393	393	393
175	408	432	449
170	437	497	554
165	464	566	659
160	491	627	755
155	513	695	843
150	534	741	914
145	554	789	951
140	570	816	962
135	573	809	946
130	559	777	903
125	541	727	839
120	503	665	701
115	450	596	646
110	387	472	552
105	310	386	490
100	208	290	331
95	113	147	171
90	0	0	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
180-150	391	13.51	19.16
180-140	702	24.23	34.36
180-120	1426	49.20	69.78
180-90	2044	70.51	100.00
140-90	1342	46.28	65.64
120-90	617	21.31	30.22
0-90	0	.00	.00
0-180	2044	70.51	100.00

STANDARD BATTERY AND EMERGENCY/NIGHT LIGHT LOCATIONS



QUANTITY OF FIXTURE LENGTH PER CONTINUOUS RUNS

FIXTURE LENGTH	4'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'	56'	60'	64'	68'	72'	76'	80'	84'	88'	92'	96'	100'	104'	108'	
4'	1																											
8'		1		2	1		2	1		2	1		2	1		2	1		2	1		2	1		2	1		
12'			1		1	2	1	2	3	2	3	4	3	4	5	4	5	6	5	6	7	6	7	8	7	8	9	

NOTE: Specifications and dimensions subject to change without notice.



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 Corelite 4675 A Holly Street Denver, CO 80216 303.393.1522 FAX 303.393.1477 ADE000700

Cooper Ltg - Corelite # CI-SN-1T8-1-C-277-08		B14
Brian Smith	UCSD Cal IT2	# of #

TYPE:

CATALOG#:

Corelite™

DESCRIPTION

Corelite's small scale 'Cove 2x6' is an asymmetric lighting solution for the interior environment that offers flexibility in application and installation. The Cove 2x6 optimizes four different lamp configurations with an engineered optical system that produces a smooth even gradient of light onto room surfaces. This small scale luminaire may serve to either accent architectural details or simply create an ambient layer of light.

SPECIFICATION FEATURES

A...Construction

Housing one piece die formed 18 gauge corrosion resistant steel forming a 2" deep ballast channel. Standard 2'-0", 3'-0", 4'-0", 8'-0", and 12'-0" fixture lengths combine for continuous rows.

B...Reflectors

Reflectors are die formed high reflectance aluminum. Reflector pan high reflectance white finish.

C...Electrical

Fixtures are pre-wired with quick wire connectors and use instant start UL listed Class P, 265 ma T8 electronic ballasts, Power Factor of 95% with less than 20% THD. Fixtures and electrical components certified to UL standards.

D...Mounting

Fixture mounts directly to architectural cove or to wall structure. Refer to installation section for details.

E...Finish

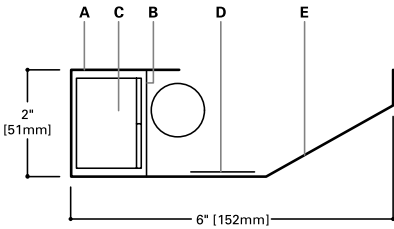
Reflector pans are standard white using a baked polyester powder coating electrostatically applied. Ballast channels are corrosion resistant steel.



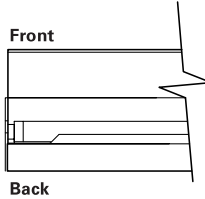
Cove 2x6

1T8

ARCHITECTURAL COVE ASYMMETRIC INDIRECT



TOP VIEW



LENGTHS

- 24" [610mm]
36" [914mm]
48" [1219mm]
96" [2438mm]
144" [3658mm]

ORDERING INFORMATION

SAMPLE NUMBER: CI-SN-1T8-1C-120-12

Ordering code breakdown: CI (Series), S (Reflector), N (Number of Lamps), 1 (Number of Circuits), T8 (Wattage), 1 (Voltage), 120 (Run Length).

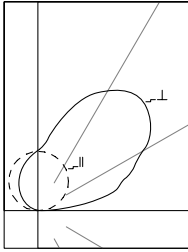
Not all options available, Please consult your Cooper Lighting Representative for availability. Specifications and Dimensions subject to change without notice.

COOPER LIGHTING

ADE000700

Table with 3 columns: Product/Person, Location, and Quantity. Row 1: Cooper Ltg - Corelite # CI-SN-1T8-1C-277-08, B15. Row 2: Brian Smith, UCSD Cal IT2, # of #.

PHOTOMETRICS



CI-SN-1T8
 (1) F32T8/TL841
 3000 Lumens
 Efficiency 70.5%
 Test Report
 #LS114516

Coefficients of Utilization

rc	Effective floor cavity reflectance								20%								0%	
	80%				70%				50%				30%					
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	67	67	67	67	57	57	57	57	39	39	39	23	23	23	07	07	07	00
1	61	58	56	53	52	50	48	45	34	33	32	20	19	18	06	06	06	00
2	55	51	47	43	47	43	40	37	30	28	26	17	16	15	05	05	05	00
3	51	45	40	36	43	38	34	31	26	24	22	15	14	13	05	05	04	00
4	46	39	34	30	39	34	29	26	23	21	19	13	12	11	04	04	04	00
5	42	34	29	26	36	30	26	22	21	18	16	12	10	09	04	03	03	00
6	39	31	26	22	33	27	22	19	18	16	14	11	09	08	03	03	03	00
7	36	28	22	19	30	24	19	16	16	14	12	10	08	07	03	03	02	00
8	33	25	20	16	28	21	17	14	15	12	10	09	07	06	03	02	02	00
9	30	22	17	14	26	19	15	12	13	11	09	08	06	05	03	02	02	00
10	28	20	16	13	24	17	14	11	12	10	08	07	06	05	02	02	02	00

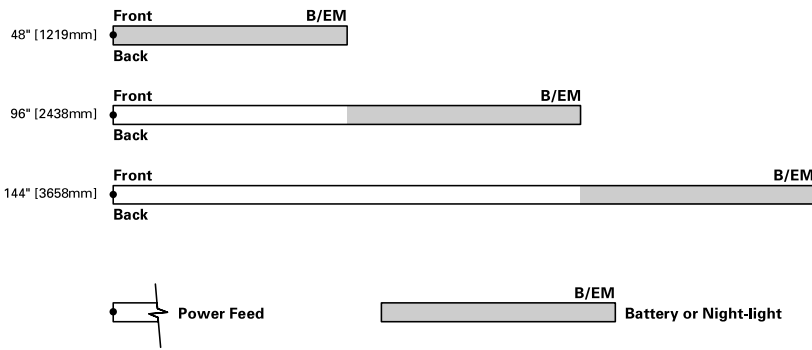
Candela

Angle	Along II	45°	Across I
180	393	393	393
175	408	432	449
170	437	497	554
165	464	566	659
160	491	627	755
155	513	695	843
150	534	741	914
145	554	789	951
140	570	816	962
135	573	809	946
130	559	777	903
125	541	727	839
120	503	665	701
115	450	596	646
110	387	472	552
105	310	386	490
100	208	290	331
95	113	147	171
90	0	0	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
180-150	391	13.51	19.16
180-140	702	24.23	34.36
180-120	1426	49.20	69.78
180-90	2044	70.51	100.00
140-90	1342	46.28	65.64
120-90	617	21.31	30.22
0-90	0	.00	.00
0-180	2044	70.51	100.00

STANDARD BATTERY AND EMERGENCY/NIGHT LIGHT LOCATIONS



QUANTITY OF FIXTURE LENGTH PER CONTINUOUS RUNS

FIXTURE LENGTH	4'	8'	12'	16'	20'	24'	28'	32'	36'	40'	44'	48'	52'	56'	60'	64'	68'	72'	76'	80'	84'	88'	92'	96'	100'	104'	108'	
4'	1																											
8'		1		2	1		2	1		2	1		2	1		2	1		2	1		2	1		2	1		
12'			1		1	2	1	2	3	2	3	4	3	4	5	4	5	6	5	6	7	6	7	8	7	8	9	

NOTE: Specifications and dimensions subject to change without notice.



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Cooper Ltg - Corelite # CI-SN-1T8-1-C-277-08		B15
Brian Smith	UCSD Cal IT2	# of #

TRIPLES-H 132/6

recessed compact fluorescent downlight/wallwasher

COMPACT
FLUORESCENT
1-371

FEATURES

Triples-H 132/6 is an efficient 6" aperture low brightness downlight, for use with one 32-watt, 4-pin, triple tube compact fluorescent lamp by GE, OSRAM/Sylvania or Philips. Triples-H 132/6 provides shielding angles of 40° parallel to and 40° perpendicular to the lamps. Recess depth is only 6 1/2".

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

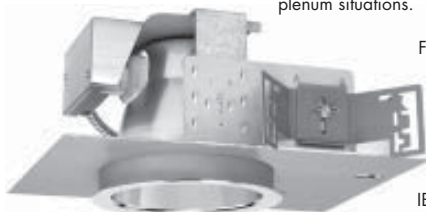
Triples-H 132/6 uses one 32-watt, 4-pin, triple tube lamp providing 2400 lumens (more than a 100-watt incandescent), a 10,000-hour life, a color rendering index (CRI) of 82, and color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).


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

Triples-H 132/6 includes a pair of mounting bars (3/4" x 27" C channel). Specialty bars for wood joist and T-bar installations are available as accessories.

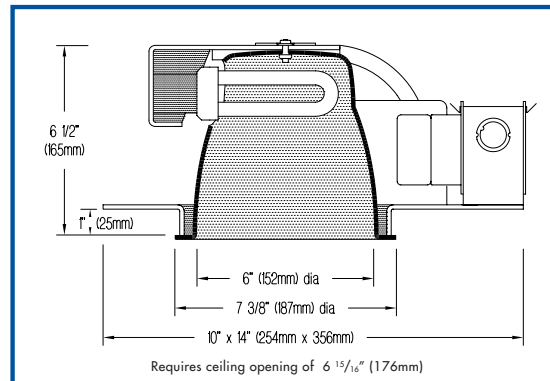
APPLICATIONS

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



Fixture is  listed for Damp Location (may not be suitable for some outdoor environments). Fixture is union made IBEW and in compliance with the component based efficiency standards of the 1995 New York State Energy Conservation Code.

Fixture is prewired with high power factor Class P electronic ballast and approved for eight #12 wire 75°C branch circuit pull-through wiring. Removal of the reflector allows access to the ballast and junction box.



PRODUCT CODE

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

Basic Unit TRPH 132/6

Reflector Type
Downlight no suffix
Wallwash WW
Double Wallwash DWW

Voltage
120 volt service 120 277 volt service 277

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

Other reflector finishes are available on special order.

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

OPTIONS

Specify by adding to the basic unit.

Dimmable 3-wire ballast; not for outdoor application - DM
Emergency battery pack operates one lamp in event of power outage. Fixture footprint increases to 10 x 16 3/4" (254 x 425mm). Additional 1 1/4" (32mm) is required to remove EM pack through aperture. Not for outdoor application or double wallwasher (DWW) - EM
 1/8" (3mm) thick **clear acrylic shield**, spring-mounted within reflector - PS

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



41-50 22ND STREET, LIC NY 11101 TEL 718.685.0700 FAX 718.786.8530 www.epl.com
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Edison Price # TPX 132/6		B16
Brian Smith	UCSD Cal IT2	# of #

TRIPLES-H 132/6

PHOTOMETRIC REPORT

(LTL) Luminaire Testing Laboratory Report No. 05281. Original test report furnished upon request.

Luminaire recessed compact fluorescent downlight with spun aluminum reflector
 Lamp Philips 32-watt triple-tube compact fluorescent, 4-pin, GX24q-3 base, 2400 lumens
 Efficiency 54.4%
 Spacing Criteria .. 0°- 1.3, 90°-1.4, 180°-1.4
 Axis orientation ... 0° plane is parallel to lamps, opposite sockets

BALLAST INFORMATION

Voltage	120	277
Input Watts	37	34
Line Current (A)	.31	.12
Power Factor (%)	>99	>99
THD (%)	<10	<10
Min. Starting Temp* (°F)	-5	-5

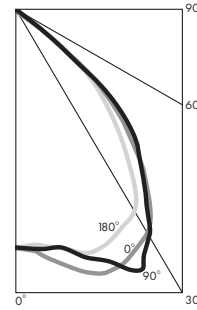
*Consult lamp manufacturers for specific temperatures.

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0 - 30°	622	25.9	47.1
0 - 40°	998	41.6	76.5
0 - 60°	1301	54.2	99.8
0 - 90°	1304	54.4	100.0
90 - 180°	0	0.0	0.0
0 - 180°	1304	54.4	100.0

CANDLEPOWER DISTRIBUTION (Candela)

Vertical Angle	Horizontal Angle				
	0.0	45.0	90.0	135.0	180.0
0	665	665	665	665	665
5	657	672	670	689	677
15	698	724	711	775	756
25	673	740	799	782	748
35	546	578	613	614	629
45	318	362	408	377	368
55	6	7	6	6	6
65	3	3	3	3	4
75	0	0	0	0	0
85	0	0	0	0	0
95	0	0	0	0	0



LUMINANCE DATA (Candela/m²)

Vertical Angle	Average 0° Longitude	Average 90° Longitude	Average 180° Longitude
45	24652	28063	31629
55	573	669	573
65	389	389	389
75	0	0	0
85	0	0	0

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

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 20%

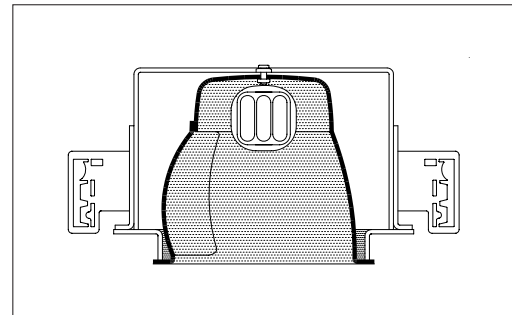
Ceiling Reflectance (%)	80				70				50				30				10				0			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	
Room Cavity Ratio																								
0	65	65	65	65	63	63	63	63	60	60	60	58	58	58	55	55	55	54	54	54	54	54	54	
1	61	60	58	57	60	59	57	56	56	55	54	54	54	53	53	52	51	50	50	50	50	50	50	
2	58	55	53	51	57	54	52	50	53	51	49	51	50	48	49	48	47	46	46	46	46	46	46	
3	55	51	48	46	54	50	48	45	49	47	45	47	46	44	46	45	43	42	42	42	42	42	42	
4	52	47	44	41	50	46	43	41	45	42	40	44	42	40	43	41	39	39	39	39	39	39	39	
5	48	43	40	37	47	43	39	37	42	39	36	41	38	36	40	38	36	35	35	35	35	35	35	
6	45	40	36	34	44	39	36	34	39	36	33	38	35	33	37	35	33	32	32	32	32	32	32	
7	42	37	33	30	42	36	33	30	35	32	30	35	32	30	34	32	30	29	29	29	29	29	29	
8	39	33	29	27	39	33	29	27	32	29	27	32	29	27	31	28	26	26	26	26	26	26	26	
9	36	30	26	24	36	30	26	24	29	26	24	29	26	23	28	25	23	23	23	23	23	23	23	
10	34	27	24	21	33	27	24	21	27	23	21	26	23	21	26	23	21	20	20	20	20	20	20	

TRIPLES-H 132/6 WW

WALLWASH INFORMATION

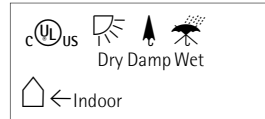
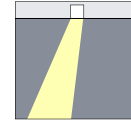
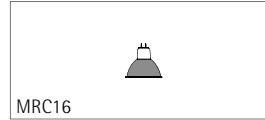
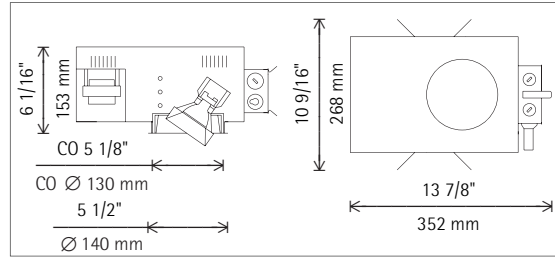
Distance From Ceiling (Feet)	2'6" From Wall; 2'6" O.C.		3' From Wall; 3' O.C.		3'6" From Wall; 3'6" O.C.	
	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures
1	12	10	7	6	4	4
2	16	16	11	10	7	7
3	23	24	14	15	9	9
4	25	25	17	17	12	12
5	21	22	17	17	13	13
6	18	17	15	15	12	13
7	14	14	13	13	11	11
8	11	11	11	10	10	10
9	9	8	9	9	8	8
10	7	7	7	7	7	7

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



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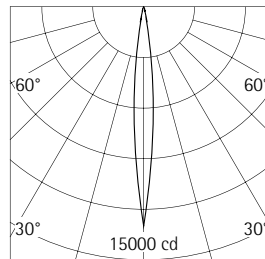
Edison Price # TPX 132/6		B16
Brian Smith	UCSD Cal IT2	# of #



88120.023
 MRC16 50W 12V GU5.3 10°
 MRC16 50W 12V GU5.3 55°

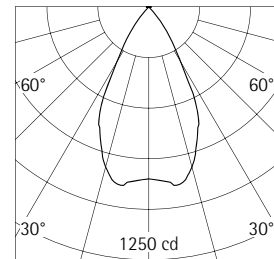
Product description

Size 4
 Luminaire: cast aluminum, black powder-coated.
 Mounting ring: plastic, white (RAL9002), with multigroove baffle, cast aluminum, black powder-coated. Fixing springs. Cardanic suspension of the luminaire in the mounting ring. 0°-40° tilt. Pivots are to be locked.
 Mounting box for preinstallation with junction box for through-wiring. Magnetic transformer 120/12V, 60Hz inside mounting box.
 Snap-in plug for connection between transformer and luminaire.
 Anti-glare ring as lamp retainer: plastic, black.
 Type Non IC luminaire.
 Insulation materials must be kept away from the luminaire by a minimum of 3". Thermally protected luminaire. Suitable for damp location. Removal of luminaire allows access to transformer and junction box from below.
 Max. ceiling thickness 3/4".
 Weight 8.82lbs / 4.00kg



MRC16 50W 12V GU5.3 10°

h(ft)	E(fc)	D
3	1444	10° 0'6"
6	361	1'1"
9	160	1'7"
12	90	2'1"
15	58	2'7"



MRC16 50W 12V GU5.3 55°

h(ft)	E(fc)	D
3	94	55° 3'1"
6	24	6'3"
9	10	9'4"
12	6	12'6"
15	4	15'7"

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

Technical Region: 120V/60Hz
 Edition: December 21, 2005
 Please download latest version from
www.erco.com/88120.023

Erco # 88120.023		B17
Brian Smith	UCSD Cal IT2	# of #

ERCO

Gimbal Directional spotlight

Accessories



83980.000

Cover ring

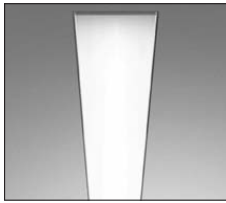
Metal, white. For covering the gap where ceiling cut-outs are too big. Inner and outer diameter to be specified when placing order.

Erco # 88120.023		B17
Brian Smith	UCSD Cal IT2	# of #

SLOTLIGHT PRO

Fluorescent
One or Two Lamp,
28W T5 or 54W T5 HO

2 1/2" Recessed
Custom Length



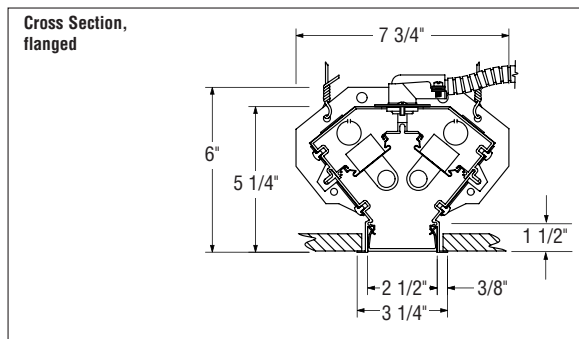
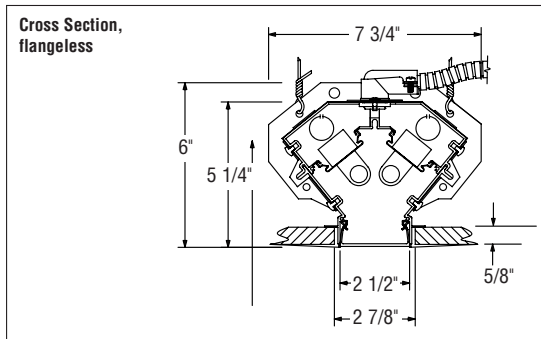
Applications: SLOTLIGHT is a lighting solution as unobtrusive as it is sophisticated. Because of its streamlined design, the luminaire itself is nearly absorbed into the architecture; slim, contemporary "ribbons of light" seem to glow out of the ceiling. Ideal for educational facilities, financial institutions, offices, retail spaces, lobbies and conference centers. Choose SLOTLIGHT PRO wherever long continuous runs or custom lengths of SLOTLIGHT are required.

online Find it Fast 269

Type: _____
Project: _____

ORDERING NOTE: Specify ceiling type, lampping, run length and voltage/ballast.

▼Fixture	▼Ceiling Type	▼Lamping (Cross Section)	▼Run Length	▼Voltage/Ballast
SLR2				
SLR2 SLOTLIGHT PRO, 2 1/2" Recessed, Custom Length	<p>E Concealed ceilings, flangeless</p> <p>F Concealed ceilings, flanged</p>	<p>1285 (1) 28W T5</p> <p>2285 (2) 28W T5</p> <p>1545 (1) 54W T5 HO</p> <p>2545 (2) 54W T5 HO</p>	<p><i>Rough-in extrusion will allow adjustability of +/- 1/4" from run length. End of run finishing extrusion to be field cut by contractor.</i></p>	<p>U Universal 120/277V</p> <p>347 Consult factory</p> <p>DA_* Dimming, Analog (0-10V)</p> <p>DD_* Dimming, DALI</p> <p>DE_* Dimming, Lutron ECO-10</p> <p>DH_* Dimming, Lutron HiLume</p> <p><i>* Indicate 120V (1) or 277V (2) Not available for 28W</i></p>



IBEW Union Made

1. Housing - Extruded aluminum in standard lengths of 4', 8' and 12', as well as custom length units. Aluminum end caps. Standard finish is clear anodized aluminum.

2. Sockets - Lamp configurations allow for twist lock installation. Sockets are adjustable to allow for perfect lamp overlap at custom lengths.

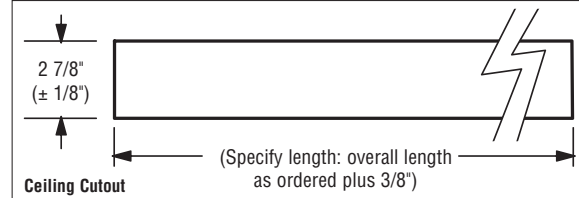
3. Lamping - One or two lamp cross section 28W T5 or 54W T5 HO fluorescent lamps, supplied by others. For custom lengths, a combination of 2', 3', 4' and 5' lamps will be used. Lamps overlap. Remove lens for access to lamp.

4. Upper reflector - White high efficiency paint powder coat finish.

5. Ballast - Universal voltage electronic 120/277V ballast.

6. Lens - Extruded white opal acrylic lens.

7. Mounting - Fixture installs from behind ceiling. Use 1/2" trade-size fitting to attach feed to the fixture. Fixture length will be as specified with built-in adjustability of +/- 4".



Note: for lengths other than 4', 8' or 12', we will supply drawings prior to approval. Sign-off is required prior to production.

8. Junction Box - 4" octagonal junction box supplied by others.

9. Dimming - Consult factory for specific dimming requirements other than those listed above.

10. Weight - 16.0 lbs. (4' fixture).

In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product. Technical specification sheets that appear on www.zumtobelstaff.us are the most recent version and supersede all other versions that exist in any other printed or electronic form.

Zumtobel Staff Lighting Inc. ©2006
3300 Route 9W • Highland, NY 12528-2630
www.zumtobelstaff.us
TEL (845) 691-6262 • (800) 932-0633 • FAX (845) 691-6289
1/16/06

SL-3

ZUMTOBEL STAFF

Zumtobel Staff # SLR2-*-1285-*	B18
Brian Smith	UCSD Cal IT2 # of #

Photometric Data

SLR2 2395 3' (2) 39W T5HO

3' RECESSED FLUORESCENT, 2-1/2" WIDE, TRANSLUCENT WHITE ACRYLIC

LTL 08208

Total Luminaire Efficiency 19%

0% Uplight 100% Downlight

Spacing Criteria

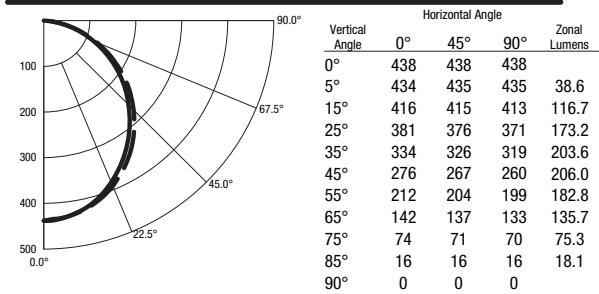
Lateral Plane 0° 90°

 1.2 1.2

TOTAL LAMP LUMENS = 6160

INPUT WATTS = 75

Candela Distribution



Luminance Data in Candela / Sq. Meter

Angle in Vertical°	Average 0°	Average 45°	Average 90°
45°	5393	5217	5080
55°	5106	4914	4793
65°	4642	4479	4348
75°	3950	3790	3737
85°	2536	2536	2536

Coefficients of Utilization

Effective Floor Cavity Reflectance = 20%

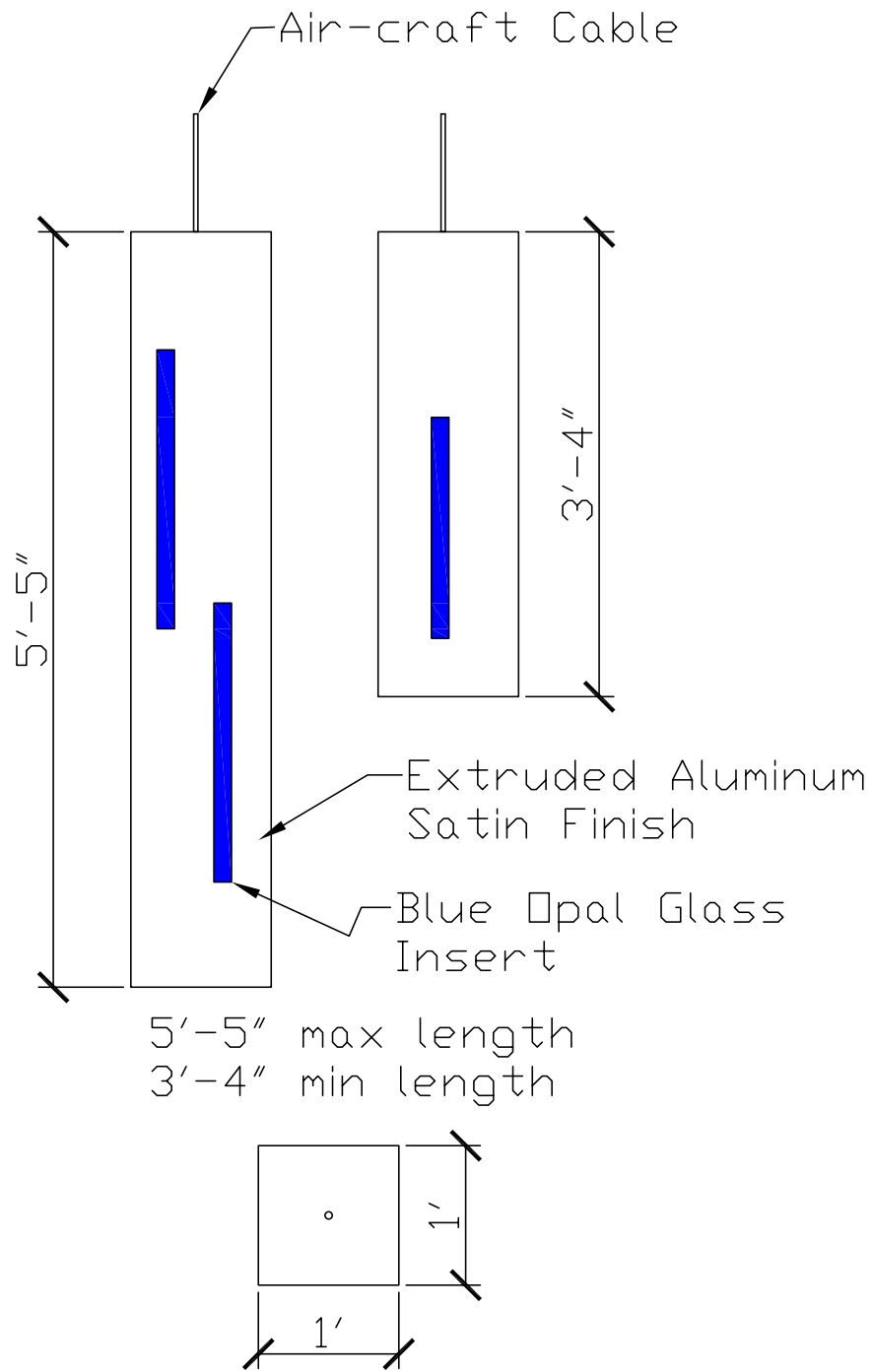
pcc	0.8				0.7				0.5				0.3				
	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1
0	22	22	22	22	22	22	22	22	21	21	21	20	20	20	20	20	20
1	20	20	19	18	20	19	18	18	18	18	17	18	17	17	17	17	17
2	19	17	16	15	18	17	16	15	16	15	14	15	15	14	14	14	14
3	17	15	14	12	17	15	13	12	14	13	12	14	13	12	12	12	12
4	16	13	12	10	15	13	12	10	13	11	10	12	11	10	10	10	10
5	14	12	10	9	14	12	10	9	11	10	9	11	10	9	9	9	9
6	13	11	9	8	13	11	9	8	10	9	8	10	9	8	8	8	8
7	12	10	8	7	12	10	8	7	9	8	7	9	8	7	7	7	7
8	11	9	7	6	11	9	7	6	9	7	6	8	7	6	6	6	6
9	11	8	7	6	10	8	7	6	8	7	6	8	6	6	6	6	6

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SL-3A

ZUMTOBEL STAFF

Zumtobel Staff # SLR2-*-1285-*		B18
Brian Smith	UCSD Cal IT2	# of #



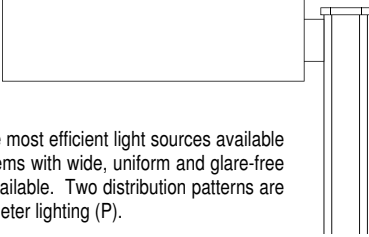
Lobby Entrance Pendant B19
(2) 32W Triple Tube CFL

D'AC # Custom Design		B19
Brian Smith	UCSD Cal IT2	# of #

Notes:	Job: Type:
--------	---------------

FORM 10

LPS - LOW PRESSURE SODIUM



GENERAL DESCRIPTION: The Form 10 low pressure sodium luminaire combines one of the most efficient light sources available with advanced optical technology. Through Gardco's leadership in sharp cutoff reflector systems with wide, uniform and glare-free light distribution, a lamp and luminaire package unequaled in performance and efficiency is available. Two distribution patterns are offered; a rectangular pattern for area applications (A) and an asymmetric distribution for perimeter lighting (P).

ORDERING

PREFIX	CONFIGURATION	DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS

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

PREFIX

- | | |
|--|--|
| <p>LA14⁷ End Arm Mount, Pole</p> <p>LSA14⁶ Side Arm Mount, Pole</p> <p>LP14^{2,5,7} End Direct Mount, Pole</p> <p>LSP14⁶ Side Direct Mount, Pole</p> <p>LJ14^{1,3,4} Post Top Mount</p> <p>LW14^{1,6} Side Wall Mount</p> | <ol style="list-style-type: none"> 1. Single configuration only. 2. LP Style luminaires should be mounted to CA5, CA6 or SSA poles only. 3. LJ Style luminaires furnished with Gardco Poles will be supplied with a square fitter for cruciform, SSA and SSS poles. A round fitter will be supplied for round poles. 4. LJ Style luminaires furnished for poles by others will be supplied with a 5" O.D. fitter for a 4" x 6" tenon or a 3.5" O.D. fitter for a 2 3/8" x 4" tenon. 5. LP, LSP and LSA luminaires may not be ordered in 2-way @ 90°, 3-way or 4-way configurations. 6. LW luminaires are available with Type P-Perimeter optics only. 7. LA and LP with Type P, Perimeter optics permit 180° optical system rotation to provide light in the desired direction. |
|--|--|

CONFIGURATION

- | | |
|----------|-------------------------------------|
| 1 | Single Assembly |
| 2 | Twin Assembly |
| 3 | Triple at 90°
<i>(LA14 only)</i> |
| 4 | Quad Assembly
<i>(LA14 only)</i> |

DISTRIBUTION

- A** Area Distribution, Type V
- P** Perimeter Distribution, Type IV

WATTAGE

- 55LPS**
- 90LPS**
- 135LPS**
- 180LPS**

VOLTAGE

- 120**
- 208**
- 240**
- 277**
- 480**

FINISH

- | | |
|-------------------------------------|---|
| BRP Bronze Paint | OC Optional Color Paint
<i>Specify RAL designation
ex: OC-RAL7024</i> |
| BLP Black Paint | |
| WP White Paint | SC Special Color Paint
<i>Specify Color. Must supply color chip.</i> |
| NP Natural Aluminum Paint | |
| BLA Black Anodized | |
| BRA Bronze Anodized | |
| NA Natural Aluminum Anodized | |

OPTIONS

- | | |
|--|---|
| <p>F Fusing <i>(In Head)</i></p> <p>LF In-Line/In-Pole Fusing</p> <p>PC Photocontrol and Receptacle
<i>(N/A with 480V)</i></p> <p>PCR Photocontrol Receptacle only</p> <p>POLY Polycarbonate Lens <i>(In lieu of Acrylic)</i></p> | <p>PTF2 Pole Top Fitter - 2 3/8" Dia. Tenon</p> <p>PTF3 Pole Top Fitter - 3-3 1/2" Dia. Tenon</p> <p>PTF4 Pole Top Fitter - 3 1/2-4" Dia. Tenon</p> <p>MF Mast Arm Fitter</p> |
|--|---|

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A Genlyte Company

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San Leandro, CA 94577

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510/357-6900 in California
Fax: 510/357-3088
www.siteighting.com



Gardco # LSA14-1-A-135LPS-277-BLP-LF	E1
Brian Smith	UCSD Cal IT2
	# of #

FORM 10

LPS - LOW PRESSURE SODIUM

SPECIFICATIONS

GENERAL DESCRIPTION: Each Gardco Form 10 LPS unit is a rectilinear luminaire that meets all criteria of the Illuminating Engineering Society's cutoff classification.

HOUSING: Housing side sections are composed of precisely mitered and welded aluminum extrusions. Tops are press-formed and internally welded to the housing sides. Pressure injected silicone provides a continuous weather-tight seal at all miters and points of material transition.

DOOR/LENS ASSEMBLY: The door frame is constructed of mitered and welded anodized aluminum sections. The optically clear, non-yellowing, impact-resistant acrylic lens is secured in the door frame. Corrosion resistant, hollow core, memory retentive silicone gaskets seal both the lens to the door frame and the door frame to the housing.

REFLECTOR ASSEMBLY: The Form 10 reflector systems are constructed of homogeneous sheet aluminum that is electrochemically

brightened, anodized and sealed. The highly specular reflector segments are precisely positioned to produce either an area distribution pattern (A) that conforms to an IES Type V or a perimeter distribution pattern (P) that conforms to an IES Type IV. Luminaires have lamp stabilizers positioned to secure LPS lamps irrespective of lamp length that may vary by manufacturer.

ELECTRICAL: All luminaires utilize magnetic ballasts that are high power factor and designed for reliable lamp starting to -20°F. The electrical components are mounted on a unitized tray and prewired with quick electrical disconnects.

FINISH: Housings are finished with an Architectural Class 1 anodizing or TGIC polyester powdercoat.

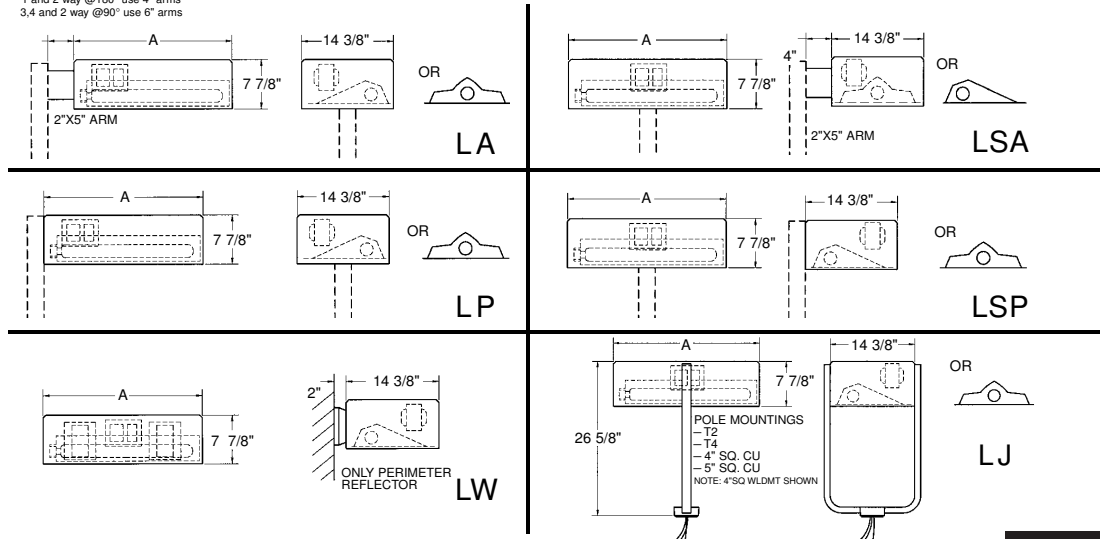
LABELS: All fixtures bear UL or CUL (where applicable) Wet Location labels.

LUMINAIRE EPAS

Wattage	Dimension "A"	LP14		LA14		LJ14 1 Way	LSA14, LSP14 1 & 2 Way
		1 Way	2 Way	1 Way	2 Way		
180	48"	2.90	5.80	2.97	5.94	3.03	2.90
135	34 3/8"	2.08	4.16	2.15	4.30	2.21	2.08
90	24 5/8"	1.49	2.98	1.56	3.12	1.62	1.49
55	24 5/8"	1.49	2.98	1.56	3.12	1.62	1.49

DIMENSIONS

1 and 2 way @180° use 4" arms
3,4 and 2 way @90° use 6" arms



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A Genlyte Company

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



79115-13/0804

Gardco # LSA14-1-A-135LPS-277-BLP-LF		E1
Brian Smith	UCSD Cal IT2	# of #

Bollards for illuminating horizontal surfaces

Post construction: One piece trapezoidal extruded aluminum, 3/16" wall thickness with one piece die cast aluminum top housing and base, internally welded into an assemble.

Lamp enclosure: Clear tempered safety glass with an internal spread optical texture, 1/8" thick. One piece die cast aluminum faceplate secured by four (4) flush, flathead stainless steel screws threaded into stainless steel inserts. Internal reflector of pure anodized aluminum. Fully gasketed using a molded silicone, high temperature gasket.

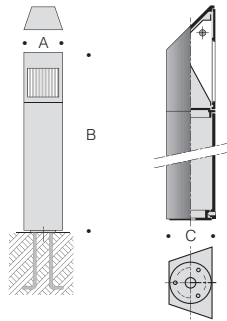
Electrical: Lampholders Incandescent: Metal Halide; Single ended porcelain, G12 bi-pin with nickel plated contacts. HID sockets are supplied with 180°C high temperature leads. HID Ballasts are magnetic, located on an upright bracket attached to the anchor base and are available in 120V or 277V - specify.

Anchor Base: Heavy die cast aluminum, slotted for precise alignment. Provided with three anchor bolts provided for installation on an existing concrete pad (Kit F). Mounts to BEGA # 895A anchorage kit (supplied).

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

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

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



Bollards for surface washing ground surfaces. Extremely rugged construction with clear tempered safety glass with an internal optical spread texture. U.L. listed, suitable for wet locations. IP 65. Colors: Standard BEGA finishes.



	Lamp	Lumen	A	B	C
8533MH	Bollard 1 39W T6 G12 MH	3300	9 7/8	43 1/16	5 1/2
895A	Anchorage included				

BEGA/US 1000 BEGA Way, Carpinteria, CA 93013 [P] 805-684-0533 [F] 805-684-6682
 ©Copyright BEGA/US 2005 updated 1/05

Bega # 8534MH		E2
Brian Smith	UCSD Cal IT2	# of #

Recessed wall luminaires - stainless steel

Housing: Constructed of die cast and extruded aluminum with integral wiring compartment. Mounting tabs provided.

Enclosure: All stainless steel faceplate, $\frac{3}{16}$ " thick. $\frac{1}{8}$ " thick, tempered clear glass with white translucent coating. Faceplate is secured by two (2) flat socket head, stainless steel, captive screws threaded into stainless steel inserts in the housing casting. Continuous high temperature O-ring gasket for weather tight operation.

Electrical: Lampholder: G23 (7W/9W), 2-pin, rated 75W, 600V.

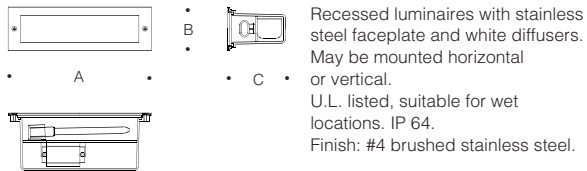
Ballast: Magnetic, HPF available in 120V or 277V - specify.

Through Wiring: Maximum of four (4) No. 12 AWG conductors (plus ground) suitable for 75°C. Two $\frac{7}{8}$ " knockouts provided for $\frac{1}{2}$ " conduit.

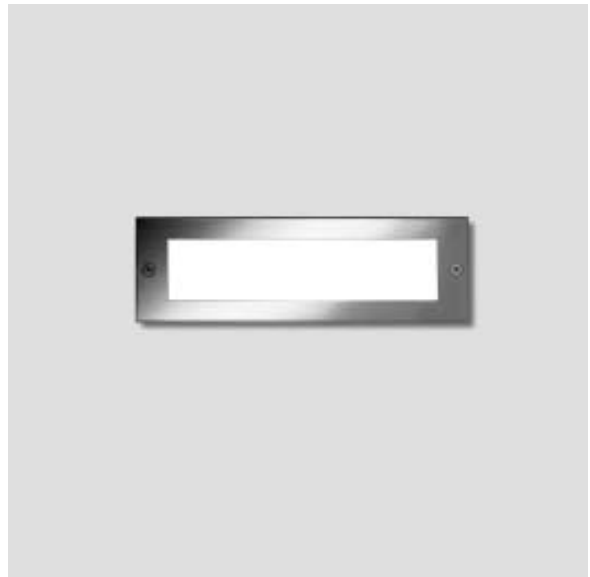
Finish: #4, brushed stainless steel. Stainless steel requires regular cleaning and maintenance, much like household appliances, to maintain its luster and to prevent tarnishing or the appearance of rust like stains.

U.L. listed, suitable for wet locations and for installation within 3 feet of ground. Suitable for all types of construction including poured concrete. Type non-IC. Protection class: IP 64.

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



Recessed luminaires with stainless steel faceplate and white diffusers. May be mounted horizontal or vertical. U.L. listed, suitable for wet locations. IP 64. Finish: #4 brushed stainless steel.



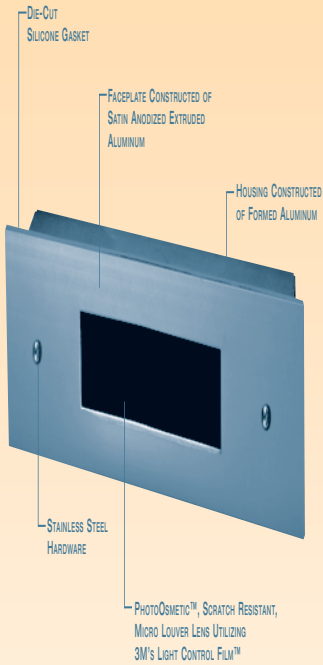
	Lamp	Lumen	A	B	C
2031P Recessed	1 7/9W CF twin-2p	400/600	10 $\frac{3}{8}$	3 $\frac{3}{16}$	4

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Bega # 2289P		E3
Brian Smith	UCSD Cal IT2	# of #

Features

ORIGINALLY DESIGNED FOR PATIENT ROOM LIGHTING, THIS UNOBTRUSIVE, GLARE FREE LUMINAIRE ALLOWS PATIENTS TO SLEEP WHILE MAINTAINING A WELL ILLUMINATED WALKWAY AREA IN HOSPITALS AND HEALTHCARE FACILITIES. NEARLY INVISIBLE AND EASY TO MAINTAIN, THE 3510 HAS FOUND APPLICATIONS IN THEATRES, NIGHTCLUBS, AUDITORIUMS, BANQUET FACILITIES AND CASINOS. ENERGY EFFICIENT COMPACT FLUORESCENT LAMPS PROVIDE LONG LIFE AND HIGH OUTPUT FROM THESE ADA APPROVED FIXTURES. POWERFUL, COMPACT AND FLUSH TO THE WALL, THE 3510 DRAWS ATTENTION TO THE WALKWAY SURFACE AND NOT ITSELF.



- SUITABLE FOR CONCRETE POUR
- CUSTOM FINISHES AVAILABLE, CONSULT FACTORY
- OPTIONAL TAMPER-PROOF HARDWARE KIT
ORDER # 3510TPK
- OPTIONAL GLR FUSE KIT
ORDER # GLR FUSE KIT
- UL AND CUL LISTED DAMP LOCATION
- UL AND CUL LISTED WET LOCATION KIT AVAILABLE
ORDER # 3510LWL OR 3510SWL



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FAX: (732) 493-2941
Toll Free in Canada: 1-800-726-5759
www.belfer.com

All Belfer products are designed, engineered, fabricated and manufactured in our own facilities in the United States

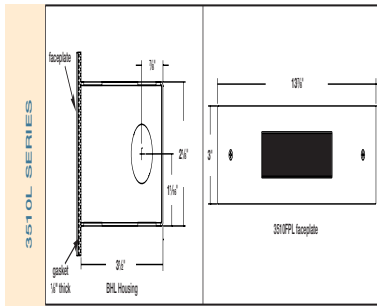
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STEP & AISLE LIGHTING
WITH PHOTOOSMETIC™ LENS

BELFER Lighting For Architecture
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Belfer # 3510FPS-BHS-13-1-*		E4
Brian Smith	UCSD Cal IT2	# of #



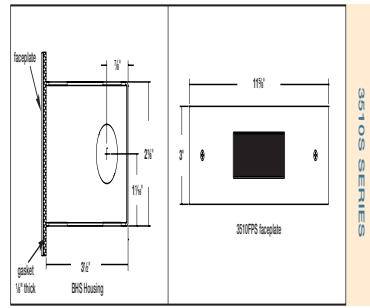
3510L Series

STEP & CORRIDOR LIGHT WITH PHOTOÖSMETIC™ LENS
9 WATT, 13 WATT, 18 WATT QUAD & 26 WATT QUAD

- Housing Cutout (nominal):
12 3/4" W x 2 3/4" H x 3 1/2" D
- Compact Fluorescent Lamp Options:
 - 9 Watt (c2)
 - 13 Watt (c22)
 - 18 Watt Quad (c24q-2)
 - 26 Watt Quad (c24q-3)
- Voltage Options:
 - 120 Volt
 - 277 Volt
- Standard Ballast Options:
 - High Power Factor (120 volt only)
 - Normal Power Factor (120 volt only)
 - Electronic (120 volt and 277 volt)
(4 pin 18 watt and 26 watt quad lamps only)
- UL and CUL Listed Lamp Location Standard
Wet Location Kit Available # 3510LWL



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3510S Series

STEP & CORRIDOR LIGHT WITH PHOTOÖSMETIC™ LENS
5 WATT, 7 WATT, 9 WATT QUAD & 13 WATT QUAD

- Housing Cutout (nominal):
10 1/4" W x 2 3/4" H x 3 1/2" D
- Compact Fluorescent Lamp Options:
 - 5 Watt (c2)
 - 7 Watt (c2)
 - 9 Watt Quad (c2-2)
 - 13 Watt Quad (c22-2)
 - 13 Watt Quad (c24q-1)
- Voltage Options:
 - 120 Volt
 - 277 Volt
- Standard Ballast Options:
 - High Power Factor (120 volt only)
 - Normal Power Factor (120 volt only)
 - Electronic (120 volt and 277 volt)
(4 pin 13 watt quad c24q-1 lamp only)
- UL and CUL Listed Lamp Location Standard
Wet Location Kit Available # 3510SWL



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3510L Series

Ordering Format

Please specify both faceplate and housing. Choose one from each category

FACEPLATE	HOUSING	LAMP	VOLTAGE	BALLAST
3510FPL faceplate	BHL housing	9 9 watt compact fluorescent (c2)	1 120 volt	N normal power factor
		13 13 watt compact fluorescent (c22)		H high power factor
		18 18 watt quad compact fluorescent (c24q-2)	1 120 volt	E electronic
		26 26 watt quad compact fluorescent (c24q-3)	2 277 volt	

UL LISTED
DAMP LOCATION
WET LOCATION
KIT AVAILABLE

3510S Series

Ordering Format

Please specify both faceplate and housing. Choose one from each category

FACEPLATE	HOUSING	LAMP	VOLTAGE	BALLAST
3510FPS faceplate	BHS housing	5 5 watt compact fluorescent (c2)	1 120 volt	N normal power factor
		7 7 watt compact fluorescent (c2)		H high power factor
		9 9 watt quad compact fluorescent (c2-2)		
		13 13 watt quad compact fluorescent (c22-2)		
		13 13 watt quad compact fluorescent (c24q-1)	1 120 volt	E electronic
			2 277 volt	

UL LISTED
DAMP LOCATION
WET LOCATION
KIT AVAILABLE

Step Light Lamp Specifications

LAMP NUMBER	DESCRIPTION	LUMENS (nominal)	LIFE HOURS (nominal)
For use with	CF9/5K 9W Twin Tube 5000°K G23 Base Compact Fluorescent	600	10,000
Housing BHL	CF13/5K 13W Twin Tube 5000°K G23 Base Compact Fluorescent	900	10,000
	CF18Q/5K/4 18W Quad Tube 5000°K G24q-2 Base Compact Fluorescent	1,250	10,000
	CF26Q/5K/4 26W Quad Tube 5000°K G24q-3 Base Compact Fluorescent	1,800	10,000
For use with	CF5/5K 5W Twin Tube 5000°K G23 Base Compact Fluorescent	250	10,000
Housing BHS	CF7/5K 7W Twin Tube 5000°K G23 Base Compact Fluorescent	400	10,000
	CF9Q/5K 9W Quad Tube 5000°K G23-2 Base Compact Fluorescent	550	10,000
	CF13Q/5K/2 13W Quad Tube 5000°K G23-2 Base Compact Fluorescent	860	10,000
	CF13Q/5K/4 13W Quad Tube 5000°K G24q-1 Base Compact Fluorescent	900	10,000

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Belfer # 3510FPS-BHS-13-1-*

E4

Brian Smith

UCSD Cal IT2

of

Just a word about ballasts

Belfer works closely with ballast manufacturers to test and select quality ballasts in order to assure the most reliable fixture operation. There are four different types of ballasts utilized in our fluorescent products.

Normal Power Factor (N or NPF) Ballasts:

Quality Normal Power Factor ballasts are primarily used in installations where minimum space is available.

High Power Factor (H or HPF) Ballasts:

Our standard High Power Factor ballasts carry a Class A sound rating and offer a Power Factor rating of .90 or better. High Power Factor ballasts consume less energy than Normal Power Factor (NPF) ballasts, due to capacitive power factor correction.

Electronic (E or ELB) Ballasts:

Our standard Electronic ballasts also carry a Class A sound rating and are quieter and less expensive to operate than High Power Factor (HPF) or Normal Power Factor (NPF) ballasts. Electronic ballasts are able to start lamps at lower temperatures and are more efficient than High Power Factor ballasts due to high frequency operation.

Dimming (D or DMB) Ballasts:

Belfer is an authorized Lutron Dimming ballast OEM. Lutron provides one of the most popular and reliable dimming ballasts in the industry. The Lutron Eco-10™ ballasts provide a dimming range of 100% to 10%. Although Lutron Eco-10™ dimming ballasts are standard in many of our products, other quality dimming sources are available. Please consult our sales department for more information.

Substitution of Ballasts:

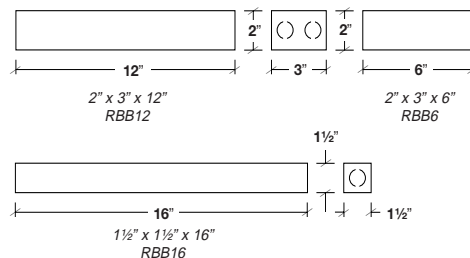
Based on our quality assured testing of ballasts, unless specified, we select ballasts at our discretion. Of course, the specification may indicate a particular type or brand of ballast suitable for the installation. This may adjust costs and lead times for our products. At the customers request, we will also install ballasts supplied to us by an authorized ballast distributor. If requested, we may also ship fluorescent products without ballasts.

Ballast Warranties:

At Belfer, we supply the best grade of ballasts from top rated manufacturers. Ballasts are covered by warranties issued by the ballast manufacturer. This warranty is passed through to our customer. There are varying terms and conditions that may apply to your specific installation. Copies of respective ballast warranties are available upon request.

Remote Ballast Boxes:

Belfer remote ballast boxes are constructed of white formed aluminum for superior heat transfer and corrosion resistance. Ballast box sizes are listed on each product page.



phone: (732) 493-2666

fax: (732) 493-2941

canada: (800) 726-5759

BELFER

Belfer # 3510FPS-BHS-13-1-*	E4
Brian Smith	UCSD Cal IT2
	# of #

McKinley Series™

The **McKinley Series™** utilizes the PAR20, 50 watt halogen lamp; no need for a low voltage transformer. The use of the McKinley Series with the 120V PAR20 halogen lamp makes an economical system for outdoor lighting and yet when specified with one or more of the many optical accessories available, it can provide very dramatic lighting effects. Like all B-K Lighting fixtures, the McKinley is machined from solid aluminum and is finished in one of eight polyester powder coat finishes. The exclusive B-K Lighting Posilock™ Knuckle is utilized to ensure its aiming integrity.



Features

- Tamper proof design.
- Completely sealed optical compartment.
- Clear, tempered glass lens, factory sealed.
- Machined aluminum construction with stainless steel hardware.
- Mounting knuckle allows vertical to horizontal aiming, provides integral wireway and has Posilock™ feature.
- Medium base lamp holder with 250° C, 18 ga., wire leads.
- & Listed with PAR20 lamps to 50 watts.
- For use with 120V, no transformer required.

CATALOG NUMBER LOGIC

Example: MC - 49 - VER - 10 - 11 - B

Series _____

Lamp Type _____

0 - By others
 47 - 50 PAR20/H/NSP(50W), 9° N. Spot
 48 - 50 PAR20/H/SP(50W), 16° Spot
 49 - 50 PAR20/H/NFL(50W), 30° N. Flood

Finish _____

Powder Coat Color	Satin	Wrinkle
Bronze	BZP	BZW
Black	BLP	BLW
White(Gloss)	WHP	WHW
Aluminum	SAP	---
Verde	---	VER

Lens Type _____

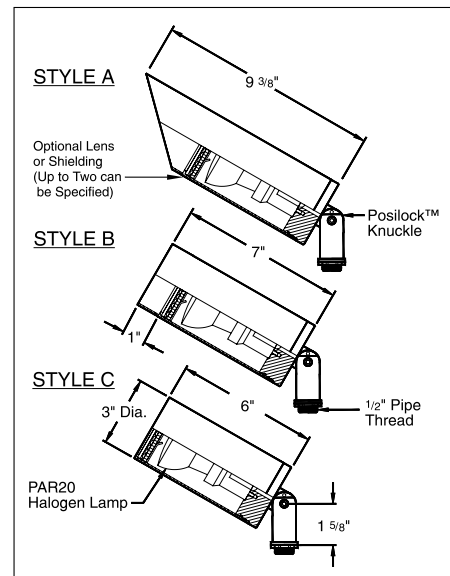
9 - Clear (Standard), 10 - Spread, 13 - Rectilinear

Shielding _____

11 - Honeycomb Baffle

Cap Style _____

A - 45°, B - 90°, C - Flush



B-K LIGHTING

B-K Lighting # MC-* - *** -9-C		E5
Brian Smith	UCSD Cal IT2	# of #

avenue® b



FEATURES

Narrow 3" slot T5 fluorescent with opaque satin lens.

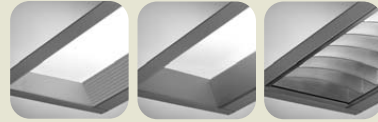
Shielding options include corrugated, solid regressed trim, concave louver as well as flush lens.

Universal mounting allows compatibility for multiple grid types.

Drywall installation is available, which allows for both individual or continuous row mount capability.

Avenue® B is a great solution for general illumination in a narrow aperture.

shielding options



corrugated regressed trim

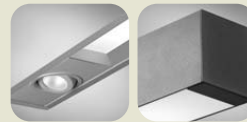
solid regressed trim

concave louver



flush lens

companion luminaire



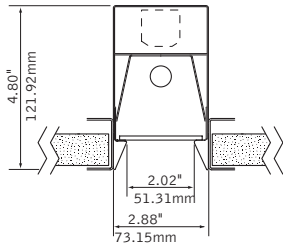
mr16

linear

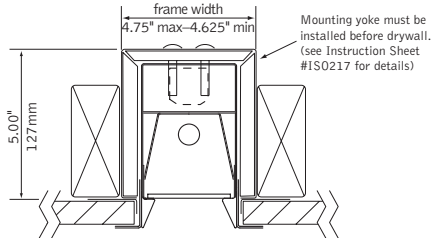
november 2005

DIMENSIONAL DATA

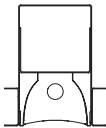
Grid Mount (Regress Trim Shown)



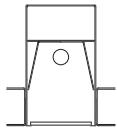
Drywall Flange (Regress Trim Shown)



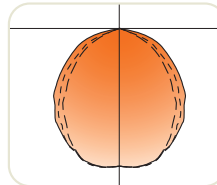
Louver



Flush Lens



PERFORMANCE



1-Lamp T5
60% Efficiency
709 cd @ 5°

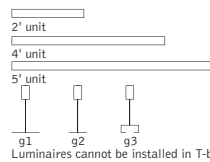
See Photometric section for additional performance data.

Focal Point # FAVB FL 1T5 1C *		E6
Brian Smith	UCSD Cal IT2	# of #

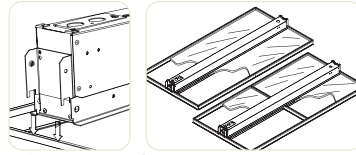
fixture type:
project name:

DETAILS

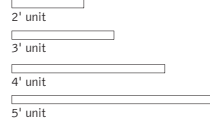
grid



Luminaires cannot be installed in T-bar ceiling systems over 1.5".



drywall



Drywall flange version provided with mounting yoke.

SPECIFICATIONS

construction

One-piece 20 Ga. steel housing
Corrugated and solid regress trim constructed of 6063-T5 extruded aluminum finished in Matte Stain White.
Grid fixtures include 20 Ga. steel, .5" wide universal flange rail finished in Matte Satin White.
Drywall flange option is provided with 20 Ga. steel, .5" wide flange kit and 20 Ga. galvanized steel mounting yoke.
Surface mount 20 Ga. housing is also available.

2' unit weight:	5 lbs.
3' unit weight:	6 lbs.
4' unit weight:	7 lbs.
5' unit weight:	8 lbs.

optic

22 Ga. steel reflectors finished in High Reflectance White powder coat.
Acrylic lens diffuser .125" thick with opal white finish.
Concave parabolic louver: 1"H x 1" frequency fabricated of low iridescent, semi-specular premium grade aluminum.
Louder can be specified with matte white finish.

electrical

Luminaires are individually wired for specified circuits.
Thru-wiring not available.
Electronic ballasts are thermally protected and have a Class "P" rating.
Optional DALI and other dimming ballasts available.
Consult factory for dimming specifications and availability.
UL and cUL listed.

emergency

Emergency battery packs provide 90 minutes of illumination.
Initial lumen output for lamp types are as follows:

T5 Lamp:	Up to 550 lumens
T5H0 Lamps:	Up to 825 lumens

Battery pack requires unswitched hot from same branch circuit as AC ballast.

finish

Polyester powder coat applied over a 5-stage pre-treatment.
Standard luminaire housing finished in Matte Satin White.

ORDERING

luminaire series	FAVB	<u>FAVB</u>
Avenue B	FAVB	
shielding		
Corrugated Regressed Trim with Lens	CR	
Solid Regressed Trim with Lens	SR	
Flush Lens	FL	
Concave Parabolic Louver	PL	
White Concave Parabolic Louver	PW	
lamping		
One Lamp T5	1T5	
One Lamp T5H0	1T5H0	
circuits		<u>1C</u>
Single Circuit	1C	
voltage		
120 Volt	120	
277 Volt	277	
347 Volt	347	
(Consult factory for availability)		
ballast		
Electronic Program Start <10% THD	S	
Electronic Dimming Ballast	D	
(Consult factory for dimming availability)		
mounting		
15/16" Grid	G1	
9/16" Grid	G2	
9/16" Slot Tee	G3	
Drywall Flange	F	
Cut out dimensions:		
2': 3.5" x 23.6"		
3': 3.5" x 35.6"		
4': 3.5" x 47.6"		
5': 3.5" x 59.6"		
Surface Mount	SM	
factory options		
Chicago Plenum	CP	
Emergency Circuit	EC	
Emergency Battery Pack	EM	
(3' & 4' Fixtures Only)		
Seismic Brackets	EQ	
HLR/GLR Fuse	FU	
Include 3000K Lamp	L830	
Include 3500K Lamp	L835	
Include 4100K Lamp	L841	
finish		<u>WH</u>
Matte White Housing	WH	
luminaire length		
2' Nominal Housing	2'	
3' Nominal Housing	3'	
4' Nominal Housing	4'	
5' Nominal Housing	5'	
(For continuous row mount in drywall ceiling, specify luminaire run length, ie 24')		

RECESSED

Focal Point L.L.C. 4201 South Pulaski Rd, Chicago, Illinois 60632 | T: 773.247.9494 | F: 773.247.8804 | info@focalpointlights.com | www.focalpointlights.com
Focal Point L.L.C. reserves the right to change specifications for product improvement without notification.

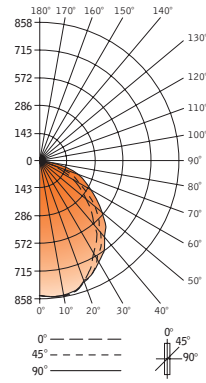
Focal Point # FAVB FL 1T5 1C *		E6
Brian Smith	UCSD Cal IT2	# of #

regress with lens
avenue® b



Filename: FAVBSR1T5.IES
Catalog #: FAVB-SR-1T5-1C-120-S-G1-WH-4'
Efficiency: 60%
Test #: 12373.0

CANDLEPOWER DISTRIBUTION



Spacing 1.3
Criterion: 1.2

Vertical Angle	Horizontal Angle				Zonal Lumens	
	0°	22.5°	45°	67.5°		
0°	703	703	703	703	703	
5°	706	707	707	707	68	
15°	705	705	703	702	199	
25°	646	646	640	623	294	
35°	573	572	541	511	340	
45°	482	470	420	385	330	
55°	365	340	285	250	264	
65°	253	216	163	128	112	171
75°	136	97	43	39	37	70
85°	32	11	11	11	11	15
90°	0	0	0	0	0	0
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0°-30°	561	19.3	32.0
0°-40°	900	31.0	51.4
0°-60°	1494	51.5	85.4
0°-90°	1750	60.3	100.0
Total Luminaire	0°-180° 1750	60.3	100.0

LUMINANCE DATA (CD/M²)

Vertical Angle	0°	45°	90°
45°	8112	7068	6261
55°	7573	5913	4938
65°	7124	4590	3154
75°	6253	1977	1701
85°	4369	1502	1502

CO-EFFICIENTS OF UTILIZATION

Floor	80				70				20					
	70	50	30	10	70	50	30	10	50	30	10	00		
RCR 0	72	72	72	72	70	70	70	67	67	64	64	62	62	60
1	67	64	62	60	65	63	59	61	57	58	56	56	54	53
2	62	57	54	51	60	56	50	54	49	52	48	51	47	46
3	57	51	47	44	56	51	43	49	43	47	42	46	41	40
4	53	46	41	38	51	45	37	44	37	42	36	41	36	35
5	48	41	36	32	47	40	32	39	32	38	32	37	31	30
6	44	37	32	28	43	36	28	35	28	34	28	33	28	26
7	41	33	28	25	40	33	25	32	25	31	24	30	24	23
8	38	30	25	22	37	30	22	29	21	28	21	27	21	20
9	35	27	22	19	34	27	19	26	19	25	19	25	18	17
10	32	24	20	17	32	24	17	24	19	23	16	22	16	15

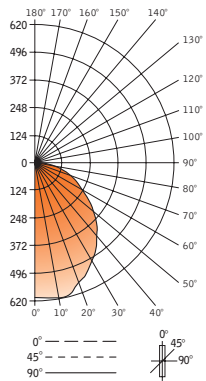
Numbers indicate percentage values of reflectivity.

flush lens
avenue® b



Filename: FAVBFL1T5.IES
Catalog #: FAVB-FL-1T5-1C-120-S-G1-WH-4'
Efficiency: 59%
Test #: 12397.0

CANDLEPOWER DISTRIBUTION



Spacing 1.3
Criterion: 1.3

Vertical Angle	Horizontal Angle				Zonal Lumens	
	0°	22.5°	45°	67.5°		
0°	610	610	610	610	610	
5°	613	613	613	613	59	
15°	616	616	616	615	175	
25°	559	558	556	553	257	
35°	490	489	487	484	306	
45°	405	403	402	399	311	
55°	304	302	299	299	269	
65°	206	204	201	200	198	200
75°	110	108	108	107	108	114
85°	29	29	25	22	21	28
90°	0	0	0	0	0	0
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0°-30°	490	16.9	28.5
0°-40°	796	27.4	46.3
0°-60°	1376	47.5	80.1
0°-90°	1718	59.3	100.0
Total Luminaire	0°-180° 1718	59.3	100.0

LUMINANCE DATA (CD/M²)

Vertical Angle	0°	45°	90°
45°	7474	7418	7363
55°	6916	6802	6779
65°	6360	6206	6113
75°	5546	5445	5445
85°	4342	3743	3144

CO-EFFICIENTS OF UTILIZATION

Floor	80				70				20					
	70	50	30	10	70	50	30	10	50	30	10	00		
RCR 0	71	71	71	71	69	69	69	66	66	63	63	60	60	59
1	65	62	60	58	63	61	57	59	55	56	54	54	52	51
2	60	55	51	48	58	54	48	52	46	50	45	48	44	43
3	55	49	44	41	53	48	40	46	40	45	39	43	38	37
4	50	44	39	35	49	43	35	41	34	40	34	39	33	32
5	46	39	33	30	45	38	29	37	29	35	29	34	28	27
6	42	35	29	26	41	34	26	33	25	32	25	31	25	24
7	39	31	26	22	38	31	22	30	22	29	22	28	22	21
8	36	28	23	19	35	27	19	27	19	26	19	25	19	18
9	33	25	20	17	32	25	17	24	17	23	17	23	16	15
10	31	23	18	15	30	22	15	22	15	21	15	21	15	14

Numbers indicate percentage values of reflectivity.

Go to www.focalpointlights.com for additional photometric data.

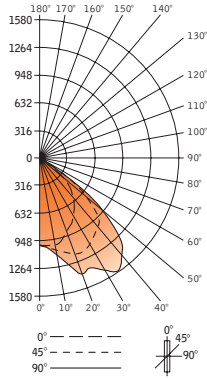
Focal Point # FAVB FL 1T5 1C *	E6
Brian Smith	UCSD Cal IT2
	# of #

louver
avenue® b



Filename: FAVBPL1T5H.IES
 Catalog #: FAVB-PL-1T5HO-1C-120-S-G1-WH-4'
 Efficiency: 54%
 Test #: 12387.0

CANDLEPOWER DISTRIBUTION



Spacing 1.1
 Criterion: 1.9

Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	
0°	1012	1012	1012	1012	1012
5°	1017	1024	1030	1037	1041
15°	984	1026	1127	1235	1279
25°	849	940	1188	1330	1386
35°	681	861	1107	1404	1583
45°	473	646	957	1165	1326
55°	115	202	381	446	392
65°	18	24	35	55	44
75°	7	8	9	9	11
85°	1	1	1	2	2
90°	0	0	0	0	0
95°	0	0	0	0	0
105°	0	0	0	0	0
115°	0	0	0	0	0
125°	0	0	0	0	0
135°	0	0	0	0	0
145°	0	0	0	0	0
155°	0	0	0	0	0
165°	0	0	0	0	0
175°	0	0	0	0	0
180°	0	0	0	0	0

LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt
0°-30°	948	19.0	35.1
0°-40°	1655	33.1	61.3
0°-60°	2653	53.1	98.3
0°-90°	2700	54.0	100.0
Total Luminaire	2700	54.0	100.0

LUMINANCE DATA (CD/M²)

Vertical Angle	0°	45°	90°
45°	8729	17660	2447
55°	2616	8668	8918
65°	556	1081	1359
75°	353	454	555
85°	150	150	299

CO-EFFICIENTS OF UTILIZATION

Floor	20				30				10				00						
Ceiling	80	70	50	10	80	70	50	10	80	70	50	10	80	70	50	10			
Wall	70	50	30	10	70	50	10	50	10	50	10	50	10	50	10	50	10		
RCR	0	64	64	64	64	63	63	63	60	60	57	57	55	55	54	54	54	54	54
1	61	59	57	56	59	58	55	55	53	53	52	51	50	49	49	49	49		
2	57	54	51	49	56	53	48	51	47	49	46	48	45	44	44	44	44		
3	53	49	46	43	52	48	43	47	42	45	41	44	41	40	40	40	40		
4	49	44	41	38	48	44	38	42	37	41	37	40	36	35	35	35	35		
5	46	40	36	33	45	40	33	38	33	37	32	37	32	31	31	31	31		
6	42	36	32	29	41	36	29	35	29	34	29	33	29	28	28	28	28		
7	39	33	29	26	38	32	26	32	25	31	25	30	25	24	24	24	24		
8	36	29	25	22	35	29	22	28	22	28	22	27	22	21	21	21	21		
9	33	26	22	19	32	26	19	25	19	25	19	24	19	18	18	18	18		
10	30	24	20	17	30	23	17	23	17	22	17	22	17	16	16	16	16		

Numbers indicate percentage values of reflectivity.

Go to www.focalpointlights.com for additional photometric data.

Focal Point # FAVB FL 1T5 1C *		E6
Brian Smith	UCSD Cal IT2	# of #

Illuminated Handrails

LIGHTRAIL · LR 2

LR 2W Wall Mounted
LR 2P Post Mounted



Description

LR 2 Series Lightrail is a flexible system of wall or post mounted illuminated handrails with a symmetrical design. It projects illumination equally to both sides. LR 2 Series Lightrail is complementary to the LR 1 Series, which should be used when an asymmetrical light pattern is required. Companion non-illuminated Lightrail is also available for this series. Design features comply with ADA and other codes.

Features

A high impact acrylic lens provides a symmetrical illumination pattern that effectively washes walkways with light to both sides. To ease maintenance the lens prisms are on the lamp side. Illumination is provided by T8 fluorescent lamps with the ballasts positioned above the lamps to maximize continuous uninterrupted light. The heavy extruded aluminum rail is welded at all intersections and features cast and extruded aluminum wall mounting brackets or extruded aluminum posts. The optional grip rail with smaller dimensions meets ADA requirements.

Applications

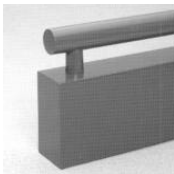
LR 2 Lightrail is ideal as guardrails, stair and ramp railings as well as elevator railings.

Custom

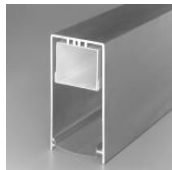
We would be pleased to discuss the production of modified standard Lightrail or custom railings to suit your specific conditions. Modifications possible include custom extrusions, alternate finishes or materials, mounting adaptations, end treatments and alternate light sources.

To learn more about our custom capabilities and standard product lines call us directly or contact your local Cole representative.

LR 2 Lightrail produces a symmetrical light distribution pattern that washes walkways with light to both sides.



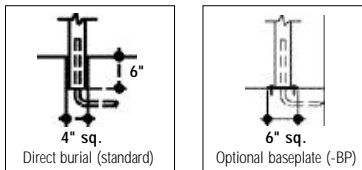
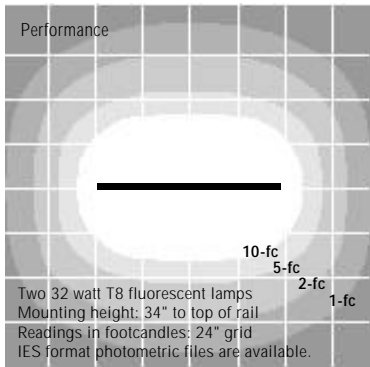
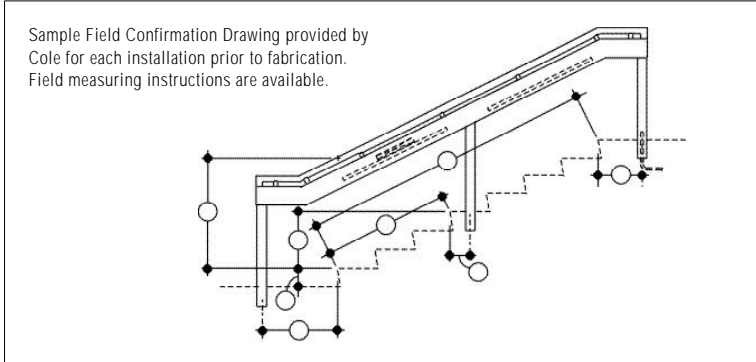
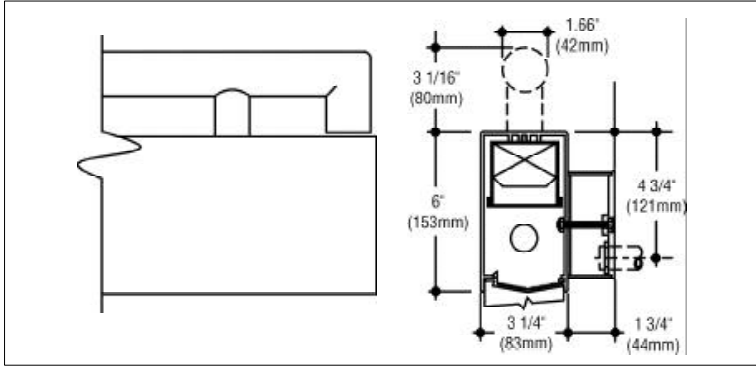
Optional grip rail may be specified for mounting on the top of the Lightrail when required by ADA or other codes.



C. W. Cole & Company, Inc.
 2560 N. Rosemead Boulevard
 South El Monte, CA 91733-1593

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 Tel. (626) 443-2473
 info@colelighting.com
 www.colelighting.com

Cole Lighting # LR 2W		E7
Brian Smith	UCSD Cal IT2	# of #



Illuminated Handrails

LIGHTRAIL - LR 2

LR 2W Wall Mounted
LR 2P Post Mounted

Specifications

Construction

- Railing is extruded .125" wall, 6063-T5 aluminum
- Posts are 3" square, .125" wall extruded aluminum tubing
- Wall brackets are 4" square at electrical feed locations, 4" x 2" at other locations
- Brackets are .125" wall extruded aluminum tube with cast aluminum wall plate
- Clear, prismatic snap-in lens is extruded high-impact acrylic with prisms on the inside for better maintenance
- Ends and all railing miters are welded and ground smooth
- Optional grip rail is 1.66" diameter x 0.19" wall aluminum pipe
- Medium bronze polyester coating is the standard finish; other colors and finishes are available.

Electrical

- Prewired for T8 rapid start fluorescent lamps with 120V-277V standard (347V available), 0° F (-18° C) electronic ballasts
- Lamping will be determined by the factory to ensure maximum even illumination
- Other lamping available for special applications
- Ballasts in LR 2 models are above lamps, permitting uninterrupted illumination
- UL/cUL listed suitable for wet locations.

Mounting

- Posts are provided to a maximum of 8' centers, wall brackets provided up to 6' centers, subject to spacing requirements of the particular installation
- Posts are provided with extra 6" length for direct burial and 4" square x 6" styrofoam forms for pre-casting hole; contractor to finish with quick-setting concrete
- 6" x 6" x 3/8" baseplate with four 5/8" holes is available as an option
- 4" square wall bracket allows mounting over conduit stub
- Wall bracket mounting bolts (by others) are concealed.

Options

Grip rail: 1.90" diameter. To specify, add suffix **-H**.
Baseplate: 6" x 6" x 3/8" baseplate with four 5/8" holes. To specify, add suffix **-BP**.
Pickets: 3/4" pickets, 4 3/4" on center, top rail 4" below bottom of Lightrail, bottom rail 4" above ground. To specify, add suffix **-K**.
Non-illuminated: Without lighting components. To specify, add suffix **-U**.
Finishes: Special finishes are available; contact factory.
Emergency Battery: Provides battery operation for up to 90 minutes during power outage for all or selected lamps. To specify, add suffix **-EM**.

How to Specify

Every Lightrail is custom designed and fabricated to your specific project conditions. Architectural drawings are required that clearly show the desired configurations and locations. A detailed drawing (similar to the sample above) will be provided by Cole prior to fabrication for your field verification.

1. Give catalog number, options, and voltage. Example: LR 2W-H-277. Lamping will be determined by the factory to maximize even illumination.
2. Select desired options and add appropriate suffixes.



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www.colelighting.com

OB 6M F02

Cole Lighting # LR 2W	E7
Brian Smith	UCSD Cal IT2
	# of #

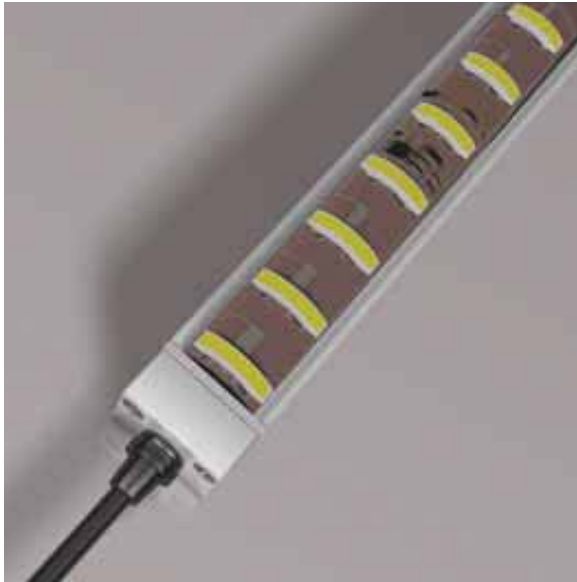
line

series .75

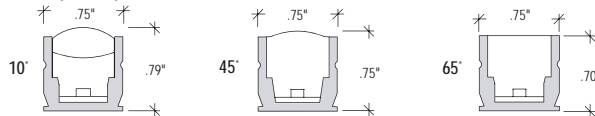


10', 45', 65'

PATENT PENDING



Beam Spread Options



Power Supply (Driver) Information

Standard Light Output

TYPE	SUPPLIES	REMOTE DISTANCE
24v20w	UP TO 78"	32'-0" (w/18AWG)
24v100w	UP TO 35'-0"	18'-0" (w/18AWG)
	(2) RUNS UP TO 49' WITH (1) RUN NTE 35'-0"	46'-0" (w/14AWG) 71'-0" (w/12AWG)

High Output

TYPE	SUPPLIES	REMOTE DISTANCE
24v100w	UP TO 12'-0"	18'-0" (w/18AWG) 46'-0" (w/14AWG) 71'-0" (w/12AWG)

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, handrails & 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. Average rated life for series .75 is 50,000 hours. Lamp lumen depreciation at 50,000 hrs. is 30%.

Light Output

line series .75 is available with two lumen outputs for white light only. Red, green, blue and amber are available in standard output only:

Standard:

- Warm White: 38 lms/ft
- Cool White: 48 lms/ft

High Output:

- Warm White: 127 lms/ft
- Cool White: 145 lms/ft

Refer to light output tables for footcandle values at various distances. IES format files may be obtained from the factory or downloaded from iolighting.com.

Construction

The light weight, yet durable extruded aluminum housing provides recommended heat sink requirements for LEDs. Precision optic is composed of a customized acrylic material that offers very high transmissivity, UV stability, and excellent longevity. series .75 is UL listed for dry locations only.

Electrical

Universal 120 or 277 Volt supply required for 24 volt remote driver. 4'-0" 22 AWG, 600 volt TFFN rated power cords are supplied with strain reliefs for both electric feed and connectors (for continuous row application).

Power Consumption

- standard: 2 w/ft
- high output: 8 w/ft

Finish

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

370 Corporate Woods Pkwy Vernon Hills, IL 60061-3107
 T 847.735.7000 F 847.735.7001 E info@iolighting.com W iolighting.com



January 2016. io reserves the right to change specifications for product improvement without notification.

io # 0-03-**-100-1-*		E8
Brian Smith	UCSD Cal IT2	# of #



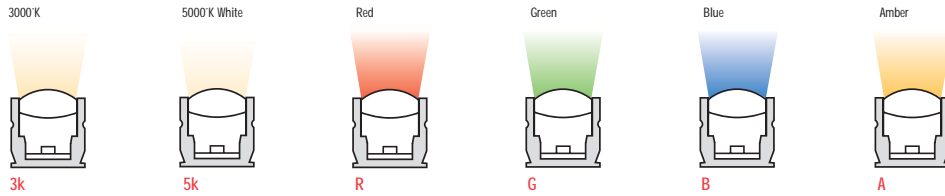
line

series .75

10', 45', 65'

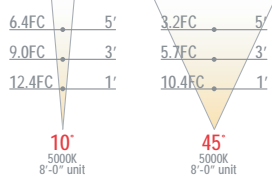
PATENT PENDING

Color Options

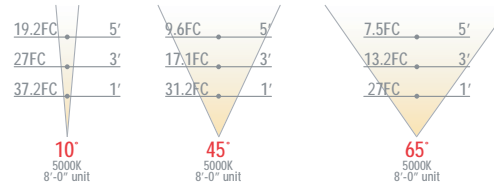


Applications / Light Output

Standard Light Output

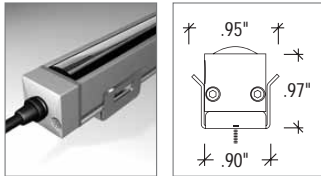


High Output

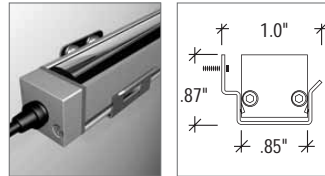


Mounting Options

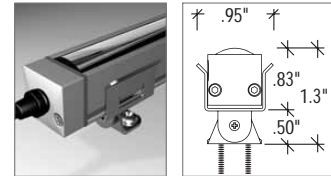
100 surface



101 side surface



102 field adjustable



Electrical End Feed Options

2 end feed



3 right side feed



4 left side feed



5 bottom feed



Order Code

io	Line	location	Color	Distribution	Mounting	Finish	Length	Electrical Feed	Voltage/Dimming	Driver Enclosure
	.03	Interior only	3k 3000 K 3kHO 3000 K High Output 5k 5000 K 5kHO 5000 K High Output R Red G Green B Blue A Amber	10 10 degree 45 45 degree 65 65 degree	100 Surface 101 Side surface 102 Field adjustable	1 Anodized Aluminum 2 Anodized Custom Color	UNITS (actual) 01 6" (6.15") 02 12" (11.84") 03 18" (17.59") 04 24" (23.15") 05 30" (28.84") 06 36" (34.59") 07 42" (40.15") 08 48" (45.84") 09 54" (51.59") 10 60" (57.15") 11 66" (62.84") 12 72" (68.59") 13 78" (79.84") 14 84" (85.59") 15 90" (91.15") 16 96" (96.84")	2 End feed 3 Right side feed 4 Left side feed 5 Bottom feed FOR CONTINUOUS ROW 2-2 Right end feed Left end feed 3-4 Right side feed Left side feed 5-5 Right bottom feed Left bottom feed	1 120v 2 277v 3 120v w/dim 4 277v w/dim 5 other	OPTIONAL I Interior Rated N Not Req'd by io Supplied by others

Note: "Actual" length provided includes end feed and non-feed endcaps. Add .27 when electrical feed occurs on both ends (for continuous row mounting).

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io # 0-03-**-100-1-*		E8
Brian Smith	UCSD Cal IT2	# of #

Drive over luminaires for special applications

Outer housing: Constructed of high tensile strength, copper free die cast aluminum alloy.

Inner housing: Constructed of copper free die cast aluminum alloy, with two piece die cast aluminum clamping ring/cover/guard, removable for relamping, secured together with four (4) heavy stainless steel bolts which provide a pressure seal to gasket and glass. Two (2) captive socket head stainless steel screws secure inner housing cover to outer housing.

Enclosure: One piece heavy die cast aluminum cover with clear borosilicate focusing lens with cast aluminum guard. Molded, one piece, high temperature silicone rubber gasket.

Electrical: G12 porcelain bi-pin lampholder with stainless steel contacts. Magnetic HPF ballast available 120V or 277V - specify.

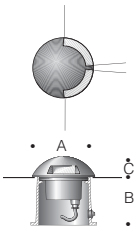
Inner housing pre-wired with three (3) feet of 18/3 waterproof cable, cable clamp, and waterproof cable gland entry into housing. A separate waterproof wiring box for power supply must be provided (by contractor).

Finish: Standard finish is an eight step process consisting of two coats of black high solids, UV stabilized polyurethane, one with light texture over a phosphate base. Custom colors are not available.

U.L. listed, suitable for wet locations and vehicle drive over. Protection class: IP 67.

Luminaires are designed to withstand loads of up to 8800 lbs. at speeds up to 12 mph when installed on a proper foundation. Proper drainage must be provided.

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



High strength aluminum alloy, stainless steel and bronze construction. Optical lens made from clear crystal glass. U.L. listed, suitable for wet locations. IP 67. Finish: Black.

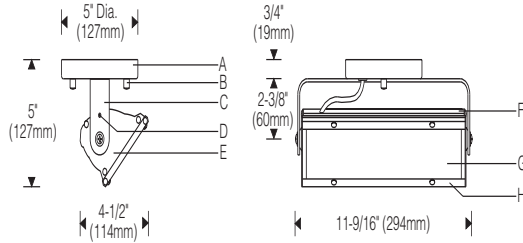


	Lamp	Lumen	A	B	C
8729MH	Single 180° 1 39W T6 G12 MH	3300	10 ¹ / ₁₆	6 ⁷ / ₁₆	3

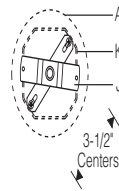
BEGA/US 1000 BEGA Way, Carpinteria, CA 93013 [P] 805-684-0533 [F] 805-684-6682
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Bega # 8729MH		E9
Brian Smith	UCSD Cal IT2	# of #

E Mount 1:8 Scale



Canopy



Specifications

- A Aluminum canopy
- B Chrome cap nuts
- C Aluminum yoke
- D Locking set screw
- E Contoured aluminum end plates
- F Specular extruded aluminum reflector
- G Micro-prismatic tempered glass lens
- H Overlapping aluminum door frame
- J Pivoting hanger bar
- K Recessed outlet box (by others)

Features

- **KO Series** - high performance wall lighting for cost conscious projects
- Compact yet powerful - up to 250W halogen, 150W MH
- Extruded reflector - will not deform during maintenance
- Non-corrosive construction - aluminum and stainless steel
- No light leaks - overlapping door; sealed end plates



Finish:

Bright clear anodized aluminum reflector with semi-gloss black door frame, end plates, yoke and canopy or all parts semi-gloss white.

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. All mounting hardware - zinc or cadmium plated.

Mounting:

Canopy mounts over recessed outlet box.

Pendant or cantilever mounting assembly ordered separately; specify **X** mount.

Electrical:

Use 90°C wire for supply connections.

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

Metal halide - G12 lampholder for use with single ended lamp. Remote encapsulated high reactance autotransformer (HX-HPF) ballast.

35-150W metal halide - optional electronic ballast provides improved voltage regulation, energy savings and automatic shut-off feature to eliminate end-of-life lamp cycling.

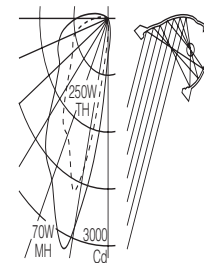
For complete ballast specifications, see Accessories Section.

Standard:

UL listed or CSA certified for damp locations. (Style 102 painted model with gasketed lens recommended for damp location use; see page W-2.0.)

Performance

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



For complete photometrics, visit www.elliptipar.com.

elliptipar

REV. 6/04

Elliptipar # M-115-070G-E-99-2-000	E10
Brian Smith	UCSD Cal IT2 # of #

To Order

KO Series® Style 115

To form a Catalog Number

1 1 5 - - - - -
1 2 3 4 5 6 7 8

1 Source

M = Metal halide
T = Tungsten halogen

2 Style

115 = Small KO Series contoured, remote ballast

3 Lamp

Lamp Code	Wattage	Lamp Number	Voltage(s)	Ballast	Distance
Ceramic Metal Halide*					
035G	35	CMH35/T6/G12	A, B	HX-HPF	10'(3m)
			1, 2	Electr.	15'(4.5m)
070G	70	CMH70/T6/G12	A, B, H	HX-HPF	20'(6m)
			1, 2	Electr.	15'(4.5m)
150G	150	CMH150/T6/G12	A, B, H	HX-HPF	10'(3m)
			1, 2	Electr.	15'(4.5m)

Tungsten Halogen

0100	100	Q100DC	A	
0150	150	Q150DC	A	
0250	250	Q250DC	A	

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

4 Mounting

E = External yoke on canopy
X = External yoke for use with accessory pendant or cantilever mounting assembly (order separately)

5 Finish

81 = Bright clear anodized reflector with semi-gloss black door frame, end plates, yoke and canopy
02 = Semi-gloss white
99 = Custom RAL or computer matched color to be specified, consult sales representative

Project:

6 Voltage/Ballast

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

* Not available for 35W metal halide

7 Option (See Accessories Section for specifications)

00 = No options
0H = Long distance remote ballast (encapsulated HX-HPF magnetic ballast only).
35W: 15' min. up to 50' max. (4.5m - 15m),
70W: up to 50' max. (15m),
150W: up to 50' max. (15m)
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

M115 - 070G - E - 81 - A - 00J

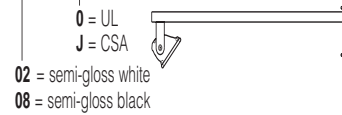
Small KO Series for use with 70W metal halide lamp. Mounted with external yoke on canopy. Bright clear anodized reflector with semi-gloss black door frame, end plates, yoke and canopy. Remote 120V magnetic ballast. CSA.

Type:

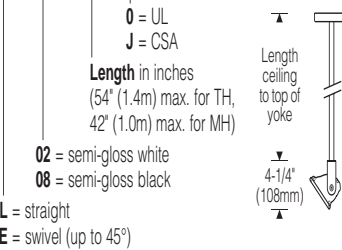
Accessories

Order separately. See Accessories Section for specifications.

VCS 30 = Cantilever, 30" (760mm) setback



VP = Wallwash pendant



AFK000X = Ballast fuse kit

0 = UL
J = CSA



REV. 4/04

elliptipar

elliptipar

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Voice 203.931.4455 • Fax 203.931.4464 • www.elliptipar.com

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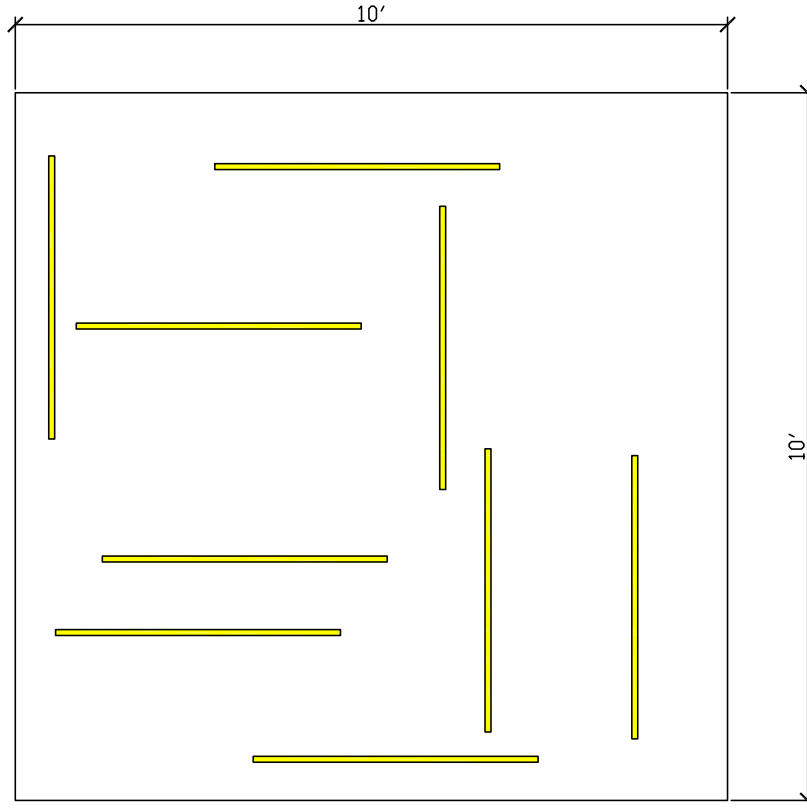
Elliptipar # M-115-070G-E-99-2-000

E10

Brian Smith

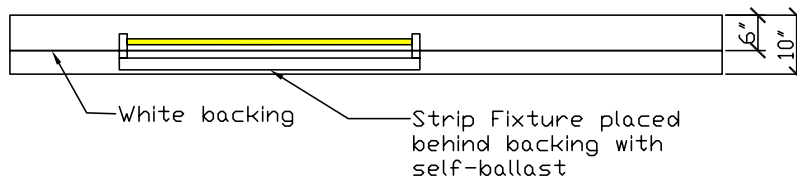
UCSD Cal IT2

of



Tunnel Wall Fixture E11

Randomly placed 32W T8 lamps
 Fixture comes in custom sizes to fit tunnel walls
 Suggested size is 10' x 10'
 Ballasts placed in cavity behind fixture and tandem wired
 3/4" diffuse temperature treated acrylic with 60% transmittance
 Panels can be re-lamped by taking front panel off with latch



Zumtobel Staff # Custom Fixture		E11
Brian Smith	UCSD Cal IT2	# of #

TYPE:

CATALOG#:

METALUX®

DESCRIPTION

The STN Series is a functional and multi-purpose heavy duty strip family that incorporates premium performance and construction durability. The performance and application versatility of this series can be increased by incorporating symmetrical or asymmetrical reflectors. The STN Series can be installed using various mounting methods and numerous options and accessories are available.

APPLICATION

The STN Series can be the illumination solution in commercial, industrial, retail and residential applications. Fixtures can be used in storage/utility areas, coves, display cases, shops, task and general area lighting.

SPECIFICATION FEATURES

A...Construction

Channel die formed code gauge Channel die formed code gauge prime cold rolled steel. Deep V-Groove for tong hanger. Die formed channel connector, sleeve type, assures straight rows and continuity of ground through set screws. Numerous KOs for ease of installation. Lampholder mounting brackets easily installed with snap-in action. Channel/wireway cover secured with quarter-turn fasteners.

B...Electrical*

Ballasts are CBM/ETL Class "P" and are positively secured by mounting bolts. Spring loaded lampholders. UL/CUL listed. Suitable for damp locations.

C...Finish

Multistage, iron phosphate pre-treatment ensures maximum bonding and rust inhibitor. Lighting grade, baked white enamel finish.

D...Channel/Wireway Cover

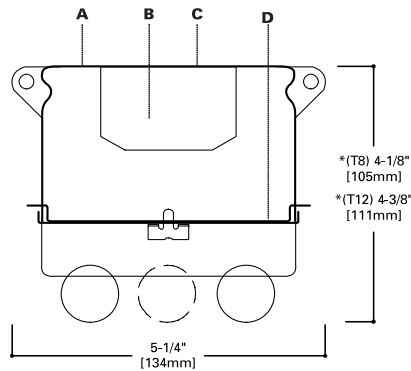
Die formed heavy gauge steel. Tight fit for ease of maintenance. Easily removed without use of tools. Optional reflector available incorporating silver technology enhancements. (SilverLining) Consult Pre Sales Technical Support.



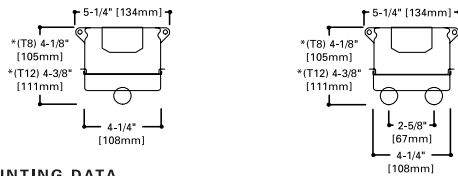
STN140
132
240
232

4' STRIP
1 OR 2 LAMP

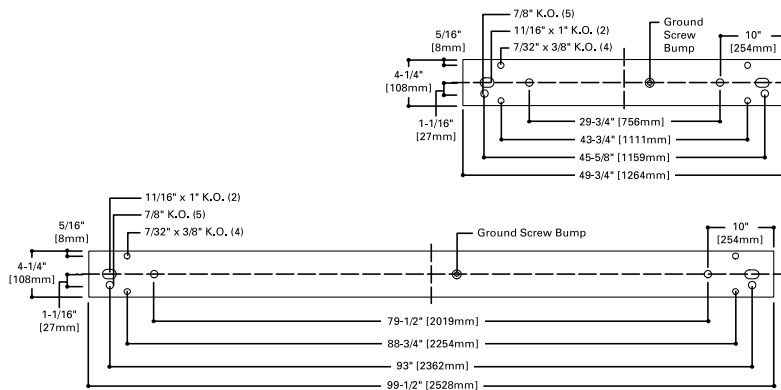
Medium-Duty Striplight



LAMP CONFIGURATIONS



MOUNTING DATA



COOPER LIGHTING

ENERGY DATA

Input Watts:
EB Ballast & STD Lamps
140 (38)
132 (30)
240 (72)
232 (61)

ES Ballast & STD Lamps
140 (50)
132 (37)
240 (86)
232 (71)

Luminaire Efficacy Rating
LER = FS-80
Catalog Number: STN-232

Yearly Cost of 1000 lumens,
3000 hrs at .08 KWH = \$3.00

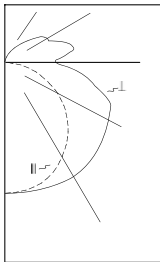
*Reference the lamp/ballast data in the Technical Section for specific lamp/ballast requirements.

ADF020715
(Supersedes ADF991969)



Cooper Ltg - Metalux # STN-132-*	E12
Brian Smith	UCSD Cal IT2
	# of #

PHOTOMETRICS



STN-232
 Electronic Ballast
 F32T8/35K Lamps
 2850 Lumens
 Spacing criterion:
 (II) 1.3 x mounting
 height, (L) 1.5 x
 mounting height
 Efficiency 93.5%
 Test Report
 #101P101
 LER = FS-80
 Yearly Cost of 1000
 lumens, 3000 hrs at
 .08 KWH = \$3.00

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	80%				70%				20%									
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	102	102	102	102	93	93	93	85	85	85	78	78	78	75
1	95	90	86	81	91	86	82	78	79	75	72	72	69	67	65	63	61	58
2	86	77	70	64	81	74	67	62	67	62	58	61	57	53	56	53	50	46
3	78	67	59	52	74	64	57	51	59	53	47	54	49	44	49	45	41	38
4	71	59	50	44	67	56	48	42	52	45	40	47	42	37	43	38	35	32
5	64	52	43	36	61	49	41	35	45	38	33	41	35	31	38	33	29	26
6	59	46	37	31	56	44	36	30	40	33	28	37	31	26	34	29	25	22
7	54	41	32	26	51	39	31	26	36	29	24	33	27	23	30	25	21	19
8	50	37	28	23	47	35	27	22	32	26	21	30	24	19	27	22	18	16
9	46	33	25	19	43	31	24	19	29	22	18	27	21	17	24	19	16	14
10	43	30	22	17	40	29	21	17	26	20	16	24	19	15	22	17	14	12

Candela

Angle	Along II	45°	Across L
0	1009	1009	1009
10	996	1001	1009
20	942	979	1014
30	853	945	1026
40	735	898	1008
50	593	823	959
60	432	721	906
70	260	633	824
80	100	460	600
90	9	248	381
100	7	336	527
110	7	255	448
120	7	211	364
130	7	142	276
140	7	76	175
150	7	18	79
160	7	5	5
170	0	0	0
180	0	0	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	822	14.4	15.4
0-40	1397	24.5	26.2
0-60	2724	47.8	51.1
0-90	4250	74.6	79.8
90-180	1078	18.9	20.2
0-180	5328	93.5	100.0

ORDERING INFORMATION

SAMPLE NUMBER: STN-232

STN					Options (add as suffix)
Tandem 8T=8" Length	Number of Lamps 1 or 2 lamps (Not included)	Voltage ² 120=120V 277=277V 347=347V UNV= Universal Voltage 120-277V	Ballast Type LE3= Energy Saving Magnetic Ballast ³ LEOC8= Energy Saving Magnetic Ballast (T-5 Lamp Only) EB = Generic Electronic Ballast No. of Ballasts 1 or 2 Lamp Size 2=T12 8=T8 (For Specific Electronic Ballast Specify Brand and Catalog Number)	Options GL=Internal Single Element Fusing GM=Dual Element Fusing EL4=Emergency Lighting self-contained ^{2,3} EL8=Emergency Lighting self-contained ^{1,5} RIF1=Radio Interference Suppressor 6-3/18 SJT-C&P- 515P=Cord & Plug (120V) 6-3/18 SJT-C&P- L715P=Cord & Plug (277V) PI/CPI=Plug-In Option TILW=Tandem In-Line Wiring Option (Consult TILW Option Catalog Page) RLS=Rotor-Lock Socket (T8 Lamps Only) (Additional options available. See Accessory Section)	
Series	Wattage (Length) 40=40W (48") 32=32W T8 (48")				

ACCESSORIES

(Order Separately)
A1B=Spacer
GRP-STN=Gripper Hanger (Use 2 Per Fixture)
AVC-Chain/Set=36" Chain Hanger (Use 1 Set Per Fixture)
SCF=Fixed Stem Set (Specify Length)
SCS=Swivel Stem Set (Specify Length)
ATG-4=Tong Hanger (Use 2 Per Fixture)
D12=Long Connector
STN/SS-ASY-3=3" Asymmetric Reflector (Specify 2', 3', or 4')
STN/SS-ASY/REV-3=3" Asymmetric Reverse Reflector
 (Specify 2', 3', or 4')
STN/SS-SYM-6=6" Symmetric Reflector (Specify 2', 3', or 4')
STN/SS-ASY-6=6" Asymmetric Reflector (Specify 2', 3', or 4')
IC-4FT-REFL=12" Symmetric Reflector
WG/SS-4FT=Wire Guard
 (Additional Accessories Available. See Options and Accessories Section.)

NOTE See option/accessories sections for additional detailed product data. Specifications and Dimensions subject to change without notice.
¹ For SilverLining Reflector Add SR in Catalog Number, Example STN/SS-SR-SYM-6
² Consult Pre Sales Technical Support.
³ Operates rapid start and slimline lamps up to 48".
⁴ Operates all lamps up to 96".
⁵ For fixtures greater than 8' use Master Sattelite Options.

SHIPPING INFORMATION

Catalog No.	Wt.
STN-132	12 lbs.
8TSTN-132	20 lbs.
STN-232	12 lbs.
8TSTN-232	24 lbs.



Visit our web site at www.cooperlighting.com
 Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770.486.4801 ADF020715

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