

semi-indirect • indirect

PENDANT



Low profile pendant with adjustable optics



SOLANA



Indirect lighting reduces glare and harsh shadows creating a comfortable environment and improving human performance.





Pendant



Chandelier



Arm Sconce



ADA Sconce



Ceiling Mount

Solana is a low profile, contemporary indirect and semi-indirect luminaire available as a pendant, chandelier, wall mount, ADA sconce or a ceiling mount.

The high performance optical systems, with many combinations of up and down light and efficiencies up to 89%, minimize the power density required to provide appropriate lighting levels for a variety of space types and activities.

The soft light created by the direct/indirect system increases visual comfort and human performance.

Solana also offers higher lumen packages in smaller diameter housings which significantly reduces the amount of raw materials required in manufacturing the luminaire.



Project: Philips Santa Ana office
Photography: Vladimir Paperny

Solana 20-inch and 28-inch models with CFL lamping can be field adjusted to vary the amount of up and down light. 20-inch models vary from 5% to 35% down light and 28-inch models vary from 5% to 30% downlight. After the lamp is positioned it can be locked into place.



Indirect – maximum uplight



Semi-indirect – maximum downlight



Project: Lam engineering office
Photography: Vladimir Paperny



CEILING CANOPY WITH STEM



CEILING CANOPY WITH CABLE

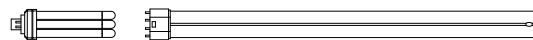




Solana pendants are offered in 20-inch, 28-inch and 35-inch diameters. Stem or cable suspensions are available as are a drop opal acrylic lens or a drop perforated lens. An internal dust shield protects the lens from dirt and debris and allows for easy cleaning.

To complement the pendants, Solana is also available in a two, three or four fixture chandelier, an arm mounted sconce, a ceiling mounted unit or an ADA compliant sconce. This allows the same luminaire style to be used in adjacent spaces with a variety of ceiling heights and mounting needs.





SPECIFICATIONS



Housing: Housing is 18-gauge spun steel with no visible hardware.
Lens: Drop diffuser is formed white opal acrylic. Drop perforated steel diffuser is also available. An internal dust shield between the lamps and the diffuser keeps dirt and debris from the diffuser and allows for easy cleaning. The dust shield is clear stippled acrylic for the opal acrylic lens or white opal acrylic for the perforated diffuser. Diffuser and internal dust shield are mechanically held in place. Dust cover is optional.

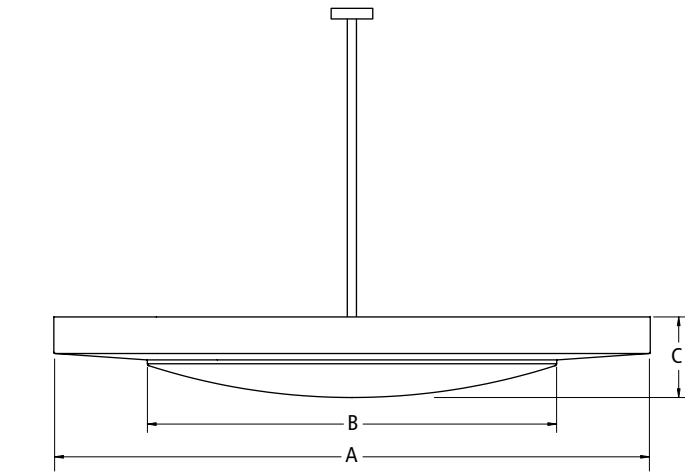
Optics: Biaxial lamps provide a wide beam spread and are available in five wattages. CFL lamps are available in three wattages and can be adjusted on 20" and 28" models to vary the amount of direct illumination. Biaxial lamps will provide more even illumination of the diffuser compared to the CFL lamps.

Suspension: 5/8" OD stem with 30 degree swivel at canopy. Stem and canopy finish to be specified. Aircraft cable suspension is optional and is provided with white cord with pigtail approximately 6-inches longer than the suspension length. Recommended suspension is 18" or more for best ceiling uniformity. (Cable suspension is adjustable)

Electrical: Fluorescent ballasts are instant start, normal light output, high power factor, and sound rated A. Ballast factor varies between 0.86 and 1.13 depending on lamp wattage, number of lamps, and voltage. See application data on pages 11 and 12 or consult factory for specific ballast factor.

Finish: Standard colors are available from color chart. Custom colors are available. Specify finish of housing and suspension with canopy.

Certification: UL and CUL listed and IBEW labeled.



DIMENSIONAL DATA TABLE

Diameter	A	B	C
20"	20-1/2"	12-1/2"	3-3/8"
	520	318	86
28"	28-3/8"	18-3/8"	4-1/8"
	721	466	104
35"	35-3/8"	24-3/8"	4-3/4"
	899	619	122

EXAMPLE

fixture series	lamps	lens	suspension type	length	housing finish	suspension finish	voltage	options
SL28	4/42	DRA	SO	XX"	NAP	NAP	120	EM1
SL20	4/32CFL 4/42CFL 2/27BX 2/39BX	DRA-drop white opal acrylic lens DRP-drop white perforated metal diffuser	SO-stem only CB-aircraft cable with white cord DBSO-double chandelier, stem only TRSO-triple chandelier, stem only QDSO-quad chandelier, stem only	Ceiling to top of fixture in inches	NAP-natural aluminum paint (refer to color chart in Product Selection Guide for other standard colors) CC-custom color	NAP-natural aluminum paint (refer to color chart in Product Selection Guide for other standard colors) CC-custom color	120 277	GLR-GLR fuse and HLR holder GMF-GMF slow blow fuse and holder DC -dust cover HBF-high ballast factor ballast (1.13, for 3 or 6 lamp 40W only) EM1-B70A or equal EM2-B50 or equal EM3-B100 or equal EM4-B60 or equal EM9-B75C or equal (remote 70W CFL only) DIM1-Advance Mark VII dimming DIM2-Advance Mark X dimming DIM3-Lutron ECO-10 dimming ballast DIM4-Lutron Hi-Lume dimming ballast DIM5-Lutron TVE dimming ballast (for 35" 40W BX only, see opposite page for emergency and dimming limitations)
SL28	4/32CFL 4/42CFL 4/70CFL 3/39BX 3/40BX 3/50BX 3/55BX							
SL35	4/32CFL 4/42CFL 4/70CFL 8/32CFL 8/42CFL 4/39BX 4/40BX 4/50BX 4/55BX 6/39BX 6/40BX 6/50BX 6/55BX							

Note:
35-inch diameter models do not have adjustable optics

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

ORDER

project name: _____ type: _____ quantity: _____

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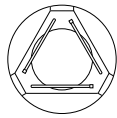
LAMP CONFIGURATIONS



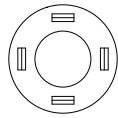
SL20-2BX



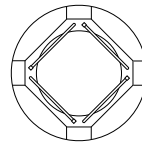
SL20-4CFL



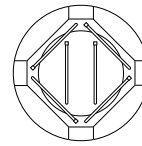
SL28-3BX



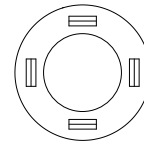
SL28-4CFL



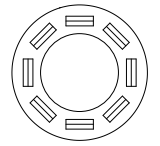
SL35-4BX



SL35-6BX

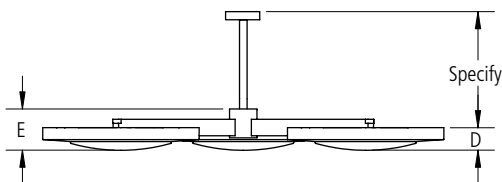
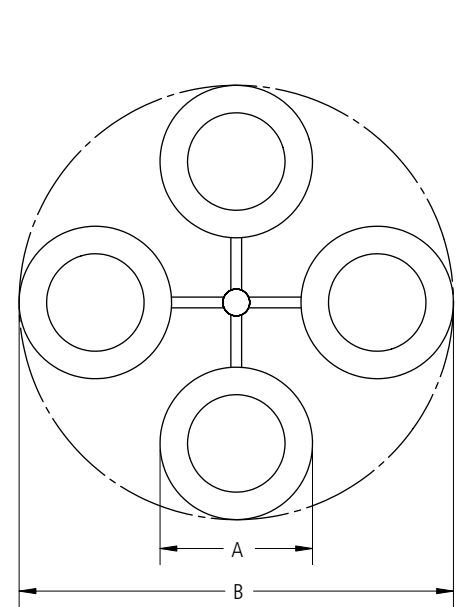
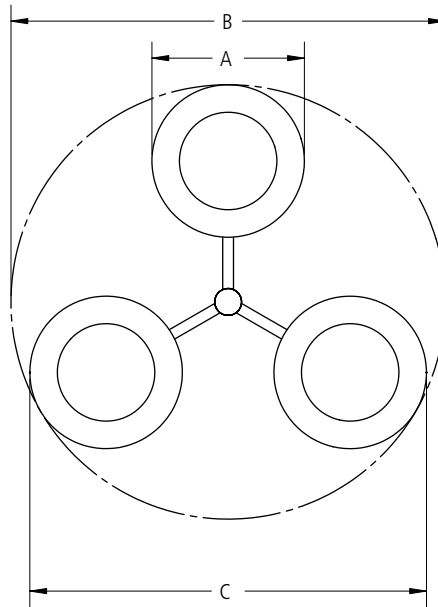
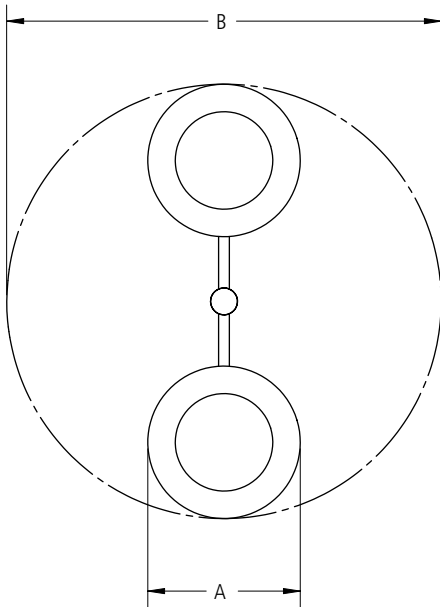


SL35-4CFL



SL35-8CFL

CHANDELIERS



ARM CHANDELIER DIMENSION DATA

Diameter	A	B	C	D	E
20"	20-1/2"	60"	54-5/8"	3-1/4"	6-5/8"
	521	1524	1387	83	168
28"	28-3/8"	80"	73"	4-1/8"	7-1/2"
	721	2032	1854	105	191
35"	35-3/8"	100"	86-3/8"	4-3/4"	8-1/8"
	898	2540	2194	121	206

EMERGENCY POWER

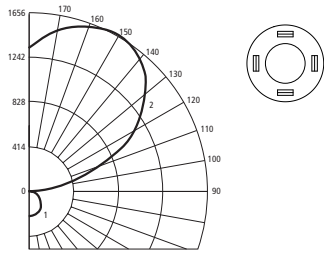
Fixture Diameter	Lamps	Battery Location	Limitations
20	4/32	Remote	3-feet maximum remote distance
20	4/42	Remote	3-feet maximum remote distance
20	2/27	Integral	1 circuit (1 ballast) (EM1,3,4 only)
20	2/39	Integral	1 circuit (1 ballast) (EM1,3,4 only)
28	4/32	Integral	2 circuit (2 ballasts) (EM1,3,4 only)
28	4/42	Integral	2 circuit (2 ballasts) (EM1,3,4 only)
28	4/70	Remote	3-feet maximum remote distance
28	3/39	Integral	2 circuit (2 ballasts) (EM1,2,3,4 only)
28	3/40	Integral	2 circuit (2 ballasts) (EM1,2,3,4 only)
28	3/50	Integral	2 circuit (2 ballasts) (EM1,2,3,4 only)
28	3/55	Integral	2 circuit (2 ballasts) (EM1,2,3,4 only)
35	4/32	Integral	2 circuit (2 ballasts) (EM1,3,4 only)
35	4/42	Integral	2 circuit (2 ballasts) (EM1,3,4 only)
35	4/70	Remote	3-feet maximum remote distance
35	8/32	Remote	3-feet maximum remote distance
35	8/42	Remote	3-feet maximum remote distance
35	4/39	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	4/40	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	4/50	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	4/55	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	6/39	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	6/40	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	6/50	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)
35	6/55	Integral	3 circuit (3 ballast) (EM1,2,3,4 only)

DIMMING

Fixture Diameter	Lamps	DIM1	DIM2	DIM3	DIM4	DIM5
20	4/32	No	No	No	No	No
20	4/42	No	No	No	No	No
20	2/27	No	No	No	No	No
20	2/39	Yes	Yes	No	Yes	No
28	4/32	Yes	Yes	No	Yes	No
28	4/42	Yes	Yes	No	Yes	No
28	4/70	Yes	Yes	No	No	No
28	3/39	No	Yes	Yes	No	No
28	3/40	Yes	Yes	Yes	No	No
28	3/50	No	No	Yes	No	No
28	3/55	No	No	No	No	No
35	4/32	Yes	Yes	No	Yes	No
35	4/42	Yes	Yes	No	Yes	No
35	4/70	Yes	Yes	No	No	No
35	8/32	Yes	Yes	No	Yes	No
35	8/42	Yes	Yes	No	Yes	No
35	4/39	Yes	Yes	Yes	No	No
35	4/40	Yes	Yes	Yes	No	Yes
35	4/50	No	No	Yes	No	No
35	4/55	Yes	Yes	No	No	No
35	6/39	Yes	Yes	Yes	No	No
35	6/40	Yes	Yes	Yes	No	Yes
35	6/50	No	No	Yes	No	No
35	6/55	Yes	Yes	No	No	No

PHOTOMETRICS

SL20-4/42CFL-DRA-INDIRECT



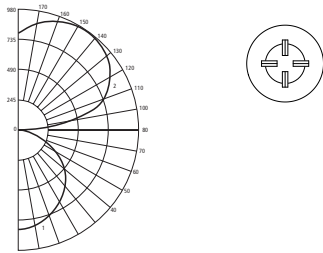
CANDELA DISTRIBUTION

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0°	277
5°	280
15°	266
25°	237
35°	202
45°	157
55°	113
65°	77
75°	51
85°	40
90°	36
95°	392
105°	1552
115°	2364
125°	2883
135°	3128
145°	3405
155°	3557
165°	3628
175°	3347
180°	3133

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	738	3.6	4.9
90-180°	14483	69.6	95.1
0-180°	15221	74.2	100.0

SL20-4/42CFL-DRA-SEMI INDIRECT



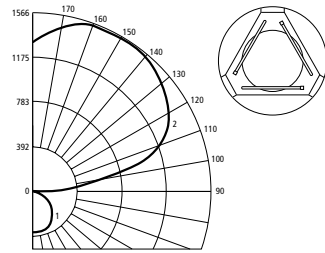
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25°	718
35°	648
45°	552
55°	441
65°	316
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85°	95
90°	93
95°	232
105°	623
115°	815
125°	913
135°	963
145°	980
155°	969
165°	922
175°	828
180°	784

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	2485	25.9	34.8
90-180°	4653	48.5	65.2
0-180°	7138	74.4	100.0

SL28-3/40BX-DRA



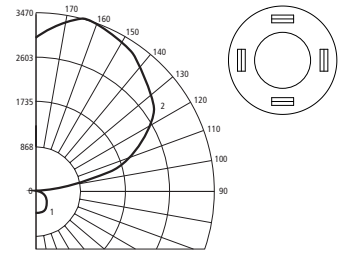
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15°	351
25°	326
35°	294
45°	251
55°	202
65°	147
75°	92
85°	53
90°	42
95°	368
105°	978
115°	1308
125°	1454
135°	1519
145°	1555
155°	1566
165°	1529
175°	1390
180°	1307

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	1147	11.6	13.4
90-180°	7397	74.7	86.6
0-180°	8544	86.3	100.0

SL28-4/70CFL-DRA-INDIRECT



CANDELA DISTRIBUTION

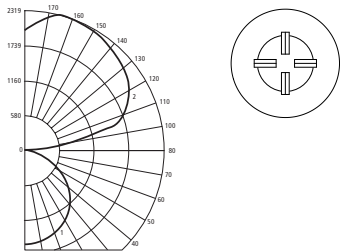
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15°	413
25°	383
35°	347
45°	296
55°	240
65°	177
75°	114
85°	68
90°	53
95°	402
105°	1492
115°	2327
125°	2824
135°	3037
145°	3280
155°	3414
165°	3470
175°	3184
180°	2980

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	1368	6.6	8.9
90-180°	14065	67.6	91.1
0-180°	15434	74.2	100.0

PHOTOMETRICS

SL28-4/70CFL-DRA-SEMI INDIRECT



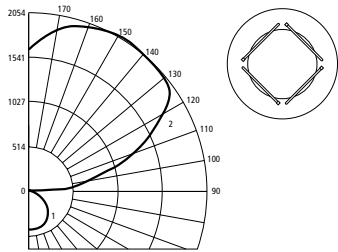
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35°	1254
45°	1064
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65°	598
75°	357
85°	180
90°	122
95°	425
105°	1472
115°	1883
125°	2081
135°	2156
145°	2255
155°	2302
165°	2319
175°	2131
180°	1994

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	4761	22.9	30.8
90-180°	10695	51.4	69.2
0-180°	15456	74.3	100.0

SL35-4/40BX-DRA



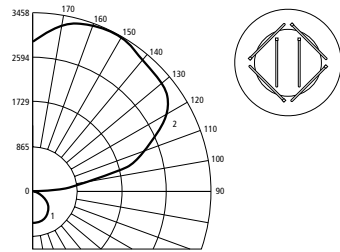
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25°	402
35°	362
45°	307
55°	245
65°	176
75°	108
85°	62
90°	77
95°	384
105°	980
115°	1548
125°	1961
135°	2038
145°	2054
155°	2038
165°	1946
175°	1728
180°	1613

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	1402	10.6	13.2
90-180°	9201	69.7	86.8
0-180°	10603	80.3	100.0

SL35-6/40BX-DRA



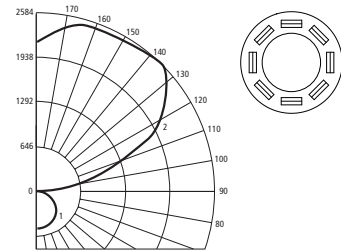
CANDELA DISTRIBUTION

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15°	610
25°	566
35°	509
45°	433
55°	347
65°	250
75°	153
85°	85
90°	70
95°	640
105°	1907
115°	2708
125°	3230
135°	3321
145°	3422
155°	3458
165°	3387
175°	3100
180°	2922

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	1967	9.9	11.1
90-180°	15735	79.5	88.9
0-180°	17702	89.4	100.0

SL35-8/42CFL-DRA-INDIRECT



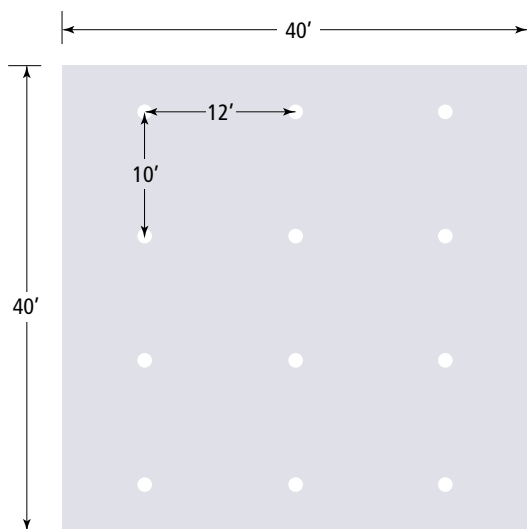
CANDELA DISTRIBUTION

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15°	527
25°	490
35°	441
45°	377
55°	302
65°	219
75°	135
85°	74
90°	64
95°	428
105°	1039
115°	1748
125°	2332
135°	2584
145°	2538
155°	2483
165°	2495
175°	2274
180°	2146

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp Output	% Fixture Output
0-90°	1712	8.9	13.5
90-180°	10974	57.2	86.5
0-180°	12686	66.1	100.0

APPLICATION DATA



12' ceiling height

4-Lamp 42-Watt, Minimum downlight

SL20-4/42CFL-DRA, 3200 lumens per lamp, 0.97 ballast factor, 0.74 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	29	2.3:1	7.1:1

POWER DENSITY IS 1.4 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.85 lamp depreciation, 0.97 ballast factor = 0.74 total LLF

4-Lamp 42-Watt, Maximum downlight

SL20-4/42CFL-DRA, 3200 lumens per lamp, 0.97 ballast factor, 0.74 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	31	2.4:1	4.8:1

POWER DENSITY IS 1.4 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.85 lamp depreciation, 0.97 ballast factor = 0.74 total LLF

3-Lamp 40-Watt, Normal ballast factor

SL28-3/40BX-DRA, 3300 lumens per lamp, 0.86 ballast factor, 0.70 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	28	2.2:1	5.3:1

POWER DENSITY IS 0.8 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.90 lamp depreciation, 0.86 ballast factor = 0.70 total LLF

3-Lamp 40-Watt, High ballast factor

SL28-3/40BX-DRA-HBF, 3300 lumens per lamp, 1.13 ballast factor, 0.92 LLF

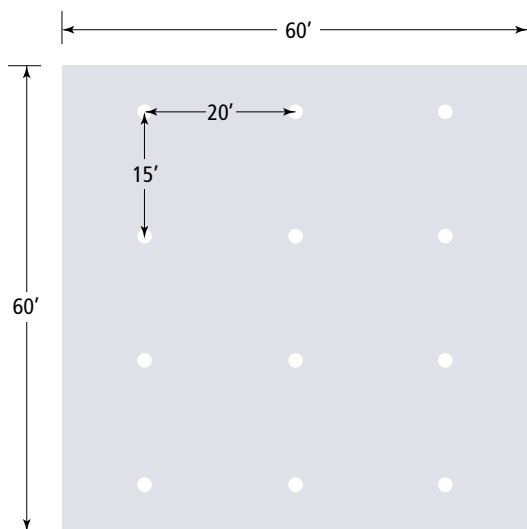
Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	36	2.2:1	5.3:1

POWER DENSITY IS 0.95 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.90 lamp depreciation, 1.13 ballast factor = 0.92 total LLF

APPLICATION DATA



14' ceiling height

4-Lamp 70-Watt, Minimum downlight

SL28-4/70CFL-DRA, 5200 lumens per lamp, 1.0 ballast factor, 0.78 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	30	2.4:1	10.8:1

POWER DENSITY IS 1.0 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.86 lamp depreciation, 1.0 ballast factor = 0.78 total LLF

4-Lamp 70-Watt, Maximum downlight

SL28-4/70CFL-DRA, 5200 lumens per lamp, 1.0 ballast factor, 0.78 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	32	3.2:1	8.2:1

POWER DENSITY IS 1.0 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.86 lamp depreciation, 1.0 ballast factor = 0.78 total LLF

8-Lamp 42-Watt

SL35-8/42CFL-DRA, 3200 lumens per lamp, 0.97 ballast factor, 0.74 LLF

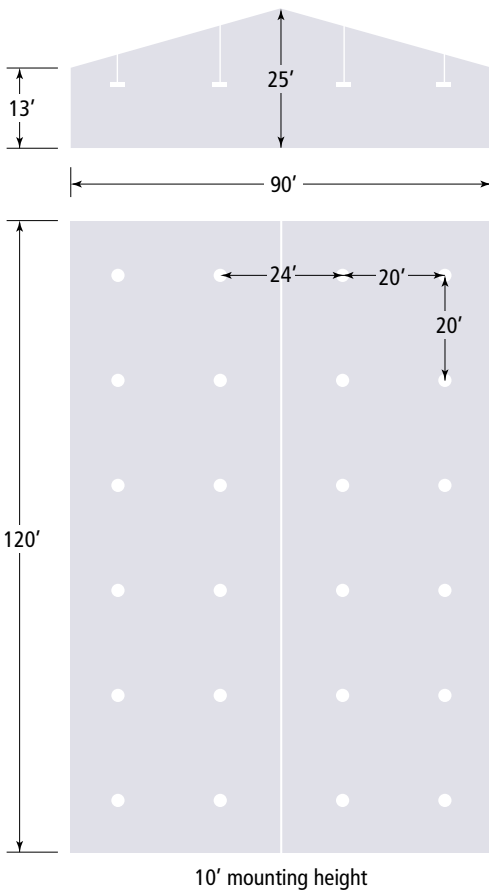
Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	24	2.5:1	9.8:1

POWER DENSITY IS 1.2 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.85 lamp depreciation, 0.97 ballast factor = 0.74 total LLF

APPLICATION DATA



4-Lamp 70-Watt, Minimum downlight

SL28-4/70CFL-DRA, 5200 lumens per lamp, 1.0 ballast factor, 0.78 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	21	3.2:1	7.8:1

POWER DENSITY IS 0.7 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.86 lamp depreciation, 1.0 ballast factor = 0.78 total LLF

4-Lamp 70-Watt, Maximum downlight

SL28-4/70CFL-DRA, 5200 lumens per lamp, 1.0 ballast factor, 0.78 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	23	4.6:1	5.6:1

POWER DENSITY IS 0.7 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.86 lamp depreciation, 1.0 ballast factor = 0.78 total LLF

8-Lamp 42-Watt

SL35-8/42CFL-DRA, 3200 lumens per lamp, 0.97 ballast factor, 0.74 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	21	3.5:1	4.3:1

POWER DENSITY IS 0.5 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.85 lamp depreciation, 0.97 ballast factor = 0.74 total LLF

4-Lamp 40-Watt

SL35-4/40BX-DRA, 3300 LUMENS PER LAMP, 0.86 BALLAST FACTOR, 0.70LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	13	2.6:1	3.7:1

POWER DENSITY IS 0.3 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.90 lamp depreciation, 0.86 ballast factor = 0.70 total LLF

6-Lamp 40-Watt

SL35-6/40BX-DRA, 3300 lumens per lamp, 0.86 ballast factor, 0.70 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	22	2.6:1	3.4:1

POWER DENSITY IS 0.5 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.90 lamp depreciation, 0.86 ballast factor = 0.70 total LLF

6-Lamp 50-Watt

SL35-6/50BX-DRA, 4300 lumens per lamp, 0.93 ballast factor, 0.76 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	31	2.6:1	3.4:1

POWER DENSITY IS 0.6 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.90 lamp depreciation, 0.93 ballast factor = 0.76 total LLF

6-Lamp 55-Watt

SL35-6/55BX-DRA, 4800 lumens per lamp, 0.93 ballast factor, 0.71 LLF

Mounting Height	Foot Candle Average	Uniformity (Max/Min)	Ceiling Uniformity (Max/Min)
10'	33	2.6:1	3.4:1

POWER DENSITY IS 0.7 WATTS PER SQUARE FOOT

Reflectance: 80/50/20

Light Loss Factor: 0.95 room depreciation, 0.95 fixture depreciation, 0.85 lamp depreciation, 0.93 ballast factor = 0.71 total LLF