

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4SQFX 30L 35K XX CA4FX SO SG

Nom 4" square Chicago Plenum downlight, Solite lens, Soft glow finish

Test Number

SP-01175_M-30L

Test Date

6/16/2020

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	21.9 W
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Lumen Output

Output Lumens	2345
Efficacy	107.06 lm/W

Luminous Dimensions

0° - 180° Size	0.3
90° - 270° Size	0.3
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.25
Two luminaires, plane 90°	1.25
Four luminaires	1.15

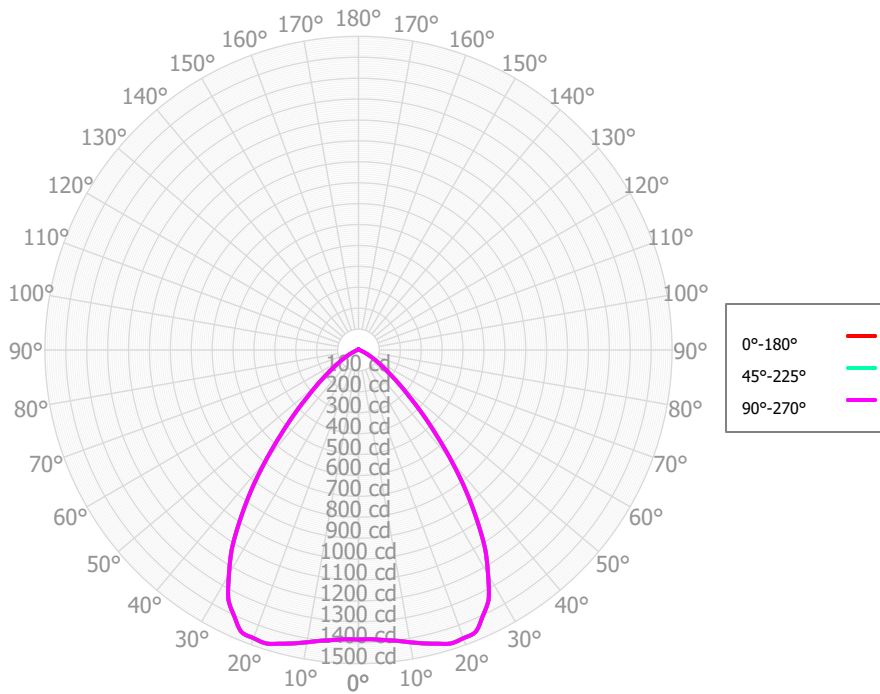
Full Beam Angle

0° - 180°	78°
90° - 270°	78°

IES File Header Contents

Keyword	Value
TEST	SP-01175_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/17/2020
LUMCAT	SGECS4SQFX 30L 35K XX CA4FX SO SG
LUMINAIRE	Nom 4" square Chicago Plenum downlight, Solite lens, Soft glow finish
OTHER	Beam angle: 78.5 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	Total luminaire wattage is approximate
OTHER	CCT Output Multipliers: 30K x 0.97, 40K x 1.03, 50K x 1.03
OTHER	This report prepared by Spectrum Lighting, scaled from 40L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	139.38	5.94%	90.00° - 100.00°	1.15	0.05%
10.00° - 20.00°	412.46	17.57%	100.00° - 110.00°	1.01	0.04%
20.00° - 30.00°	640.52	27.28%	100.00° - 120.00°	2.01	0.09%
30.00° - 40.00°	606.49	25.83%	120.00° - 130.00°	1.02	0.04%
40.00° - 50.00°	340.09	14.48%	130.00° - 140.00°	0.96	0.04%
50.00° - 60.00°	136.34	5.81%	140.00° - 150.00°	0.84	0.04%
60.00° - 70.00°	45.81	1.95%	150.00° - 160.00°	0.62	0.03%
70.00° - 80.00°	14.24	0.61%	160.00° - 170.00°	0.40	0.02%
80.00° - 90.00°	5.60	0.24%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	2,340.94	99.70%	0.00° - 180.00°	2,348.07	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,385.21	1,385.21	1,385.21
2.50°	1,385.21	1,385.21	1,385.21
5.00°	1,392.92	1,392.92	1,392.92
7.50°	1,403.42	1,403.42	1,403.42
10.00°	1,419.87	1,419.87	1,419.87
12.50°	1,437.82	1,437.82	1,437.82
15.00°	1,454.95	1,454.95	1,454.95
17.50°	1,471.94	1,471.94	1,471.94
20.00°	1,467.33	1,467.33	1,467.33
22.50°	1,461.00	1,461.00	1,461.00
25.00°	1,406.03	1,406.03	1,406.03
27.50°	1,347.81	1,347.81	1,347.81
30.00°	1,239.75	1,239.75	1,239.75
32.50°	1,127.45	1,127.45	1,127.45
35.00°	983.46	983.46	983.46
37.50°	838.74	838.74	838.74
40.00°	690.72	690.72	690.72
42.50°	550.28	550.28	550.28
45.00°	433.37	433.37	433.37
47.50°	329.45	329.45	329.45
50.00°	254.56	254.56	254.56
52.50°	190.96	190.96	190.96
55.00°	146.48	146.48	146.48
57.50°	109.67	109.67	109.67
60.00°	82.80	82.80	82.80
62.50°	60.68	60.68	60.68
65.00°	43.30	43.30	43.30
67.50°	30.51	30.51	30.51
70.00°	21.30	21.30	21.30
72.50°	15.90	15.90	15.90
75.00°	12.77	12.77	12.77
77.50°	10.47	10.47	10.47
80.00°	8.54	8.54	8.54
82.50°	6.81	6.81	6.81
85.00°	5.13	5.13	5.13
87.50°	3.47	3.47	3.47
90.00°	1.81	1.81	1.81
92.50°	1.26	1.26	1.26
95.00°	0.84	0.84	0.84
97.50°	0.80	0.80	0.80
100.00°	0.79	0.79	0.79
102.50°	0.88	0.88	0.88
105.00°	0.97	0.97	0.97
107.50°	1.04	1.04	1.04
110.00°	1.09	1.09	1.09
112.50°	0.98	0.98	0.98

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
RCR	0	2,794	2,794	2,794	2,794	2,728	2,728	2,728	2,728	2,605	2,605	2,605	2,493	2,493	2,493	2,389	2,389	2,341
	1	2,636	2,559	2,490	2,429	2,576	2,507	2,445	2,389	2,410	2,360	2,314	2,320	2,280	2,243	2,237	2,206	2,161
	2	2,473	2,337	2,224	2,130	2,418	2,295	2,192	2,105	2,215	2,130	2,057	2,142	2,072	2,011	2,075	2,018	1,967
	3	2,317	2,137	1,997	1,886	2,266	2,102	1,974	1,870	2,037	1,928	1,838	1,976	1,885	1,808	1,921	1,844	1,778
	4	2,169	1,958	1,804	1,685	2,123	1,929	1,786	1,674	1,875	1,751	1,653	1,825	1,718	1,632	1,778	1,687	1,612
	5	2,033	1,800	1,637	1,517	1,990	1,776	1,623	1,509	1,730	1,597	1,494	1,688	1,571	1,480	1,648	1,547	1,465
	6	1,906	1,659	1,493	1,374	1,868	1,639	1,482	1,369	1,600	1,461	1,358	1,564	1,441	1,347	1,530	1,422	1,337
	7	1,791	1,534	1,368	1,251	1,755	1,517	1,359	1,247	1,484	1,343	1,240	1,453	1,326	1,232	1,424	1,311	1,224
	8	1,684	1,423	1,258	1,146	1,652	1,408	1,251	1,143	1,380	1,238	1,137	1,353	1,225	1,131	1,328	1,212	1,125
	9	1,587	1,324	1,162	1,053	1,558	1,311	1,156	1,051	1,286	1,145	1,046	1,263	1,134	1,042	1,241	1,124	1,038
	10	1,498	1,235	1,077	972	1,471	1,224	1,073	971	1,202	1,063	967	1,182	1,054	964	1,163	1,045	960

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	45.8 fc	9.0 ft
6.5 ft	32.8 fc	10.6 ft
7.5 ft	24.6 fc	12.2 ft
8.0 ft	21.6 fc	13.1 ft
10.0 ft	13.9 fc	16.3 ft
12.0 ft	9.6 fc	19.6 ft
14.0 ft	7.1 fc	22.9 ft
16.0 ft	5.4 fc	26.1 ft
20.0 ft	3.5 fc	32.7 ft
24.0 ft	2.4 fc	39.2 ft
28.0 ft	1.8 fc	45.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	165,670	165,670	165,670
45.00°	73,300	73,300	73,300
55.00°	30,544	30,544	30,544
65.00°	12,253	12,253	12,253
75.00°	5,901	5,901	5,901
85.00°	7,037	7,037	7,037

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	19.3	20.5	19.7	20.9	21.2	19.3	20.5	19.7	20.9	21.2
	3H	19.6	20.6	20.0	21.0	21.3	19.6	20.6	20.0	21.0	21.3
	4H	19.6	20.6	20.0	20.9	21.3	19.6	20.6	20.0	20.9	21.3
	6H	19.6	20.5	20.0	20.9	21.3	19.6	20.5	20.0	20.9	21.3
	8H	19.6	20.5	20.1	20.9	21.3	19.6	20.5	20.1	20.9	21.3
	12H	19.6	20.4	20.1	20.8	21.3	19.6	20.4	20.1	20.8	21.3
4H	2H	19.4	20.3	19.8	20.7	21.1	19.4	20.3	19.8	20.7	21.1
	3H	19.7	20.5	20.1	20.9	21.3	19.7	20.5	20.1	20.9	21.3
	4H	19.7	20.4	20.2	20.9	21.3	19.7	20.4	20.2	20.9	21.3
	6H	19.8	20.4	20.3	20.9	21.3	19.8	20.4	20.3	20.9	21.3
	8H	19.8	20.4	20.3	20.8	21.3	19.8	20.4	20.3	20.8	21.3
	12H	19.9	20.3	20.3	20.8	21.3	19.9	20.3	20.3	20.8	21.3
8H	4H	19.7	20.2	20.1	20.7	21.2	19.7	20.2	20.1	20.7	21.2
	6H	19.8	20.2	20.3	20.7	21.2	19.8	20.2	20.3	20.7	21.2
	8H	19.8	20.2	20.4	20.8	21.3	19.8	20.2	20.4	20.8	21.3
	12H	19.9	20.3	20.5	20.8	21.4	19.9	20.3	20.5	20.8	21.4
12H	4H	19.6	20.1	20.1	20.6	21.1	19.6	20.1	20.1	20.6	21.1
	6H	19.8	20.2	20.3	20.6	21.2	19.8	20.2	20.3	20.6	21.2
	8H	19.8	20.2	20.4	20.7	21.3	19.8	20.2	20.4	20.7	21.3

Corrected UGR values based on total output lumens

SHR = 1.0