

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4SQFX 30L 35K XX CA4FX SO MW
Nom 4" square Chicago Plenum downlight, Solite lens, Matte white finish

Test Number

SP-01174_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	2374
Efficacy	108.4 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.1
Two luminaires, plane 90°	1.1
Four luminaires	1.07

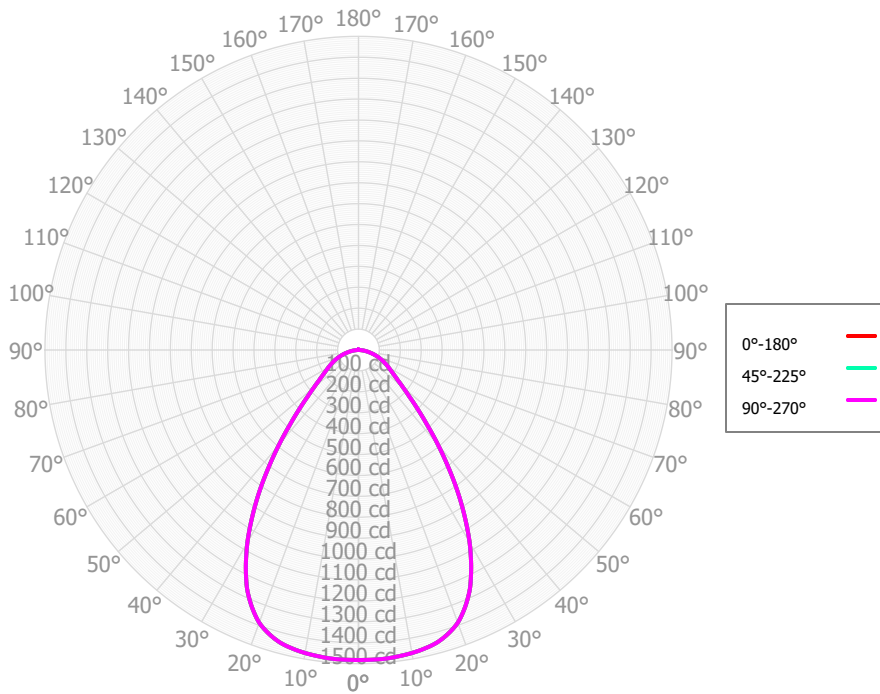
Full Beam Angle

0° - 180°	73°
90° - 270°	73°

IES File Header Contents

Keyword	Value
TEST	SP-01174_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 MW
LUMINAIRE	Nom 4" square Chicago Plenum downlight, Solite lens, Matte white finish
OTHER	Beam angle: 73.5 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°	146.99	6.18%	90.00° - 100.00°	1.64	0.07%
10.00° - 20.00°	407.16	17.12%	100.00° - 110.00°	0.84	0.04%
20.00° - 30.00°	571.60	24.04%	100.00° - 120.00°	1.68	0.07%
30.00° - 40.00°	511.92	21.53%	120.00° - 130.00°	0.93	0.04%
40.00° - 50.00°	315.96	13.29%	130.00° - 140.00°	0.85	0.04%
50.00° - 60.00°	189.54	7.97%	140.00° - 150.00°	0.76	0.03%
60.00° - 70.00°	131.42	5.53%	150.00° - 160.00°	0.55	0.02%
70.00° - 80.00°	74.45	3.13%	160.00° - 170.00°	0.38	0.02%
80.00° - 90.00°	21.67	0.91%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	2,370.70	99.71%	0.00° - 180.00°	2,377.63	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,483.35	1,483.35	1,483.35
2.50°	1,483.35	1,483.35	1,483.35
5.00°	1,482.48	1,482.48	1,482.48
7.50°	1,477.86	1,477.86	1,477.86
10.00°	1,472.15	1,472.15	1,472.15
12.50°	1,462.94	1,462.94	1,462.94
15.00°	1,449.18	1,449.18	1,449.18
17.50°	1,424.16	1,424.16	1,424.16
20.00°	1,388.62	1,388.62	1,388.62
22.50°	1,332.12	1,332.12	1,332.12
25.00°	1,261.28	1,261.28	1,261.28
27.50°	1,167.27	1,167.27	1,167.27
30.00°	1,063.30	1,063.30	1,063.30
32.50°	946.20	946.20	946.20
35.00°	826.69	826.69	826.69
37.50°	704.57	704.57	704.57
40.00°	591.54	591.54	591.54
42.50°	486.66	486.66	486.66
45.00°	401.29	401.29	401.29
47.50°	330.24	330.24	330.24
50.00°	277.88	277.88	277.88
52.50°	236.80	236.80	236.80
55.00°	207.62	207.62	207.62
57.50°	184.23	184.23	184.23
60.00°	165.50	165.50	165.50
62.50°	148.57	148.57	148.57
65.00°	132.65	132.65	132.65
67.50°	117.04	117.04	117.04
70.00°	101.28	101.28	101.28
72.50°	85.50	85.50	85.50
75.00°	70.26	70.26	70.26
77.50°	55.10	55.10	55.10
80.00°	42.23	42.23	42.23
82.50°	29.58	29.58	29.58
85.00°	18.71	18.71	18.71
87.50°	7.99	7.99	7.99
90.00°	4.59	4.59	4.59
92.50°	1.37	1.37	1.37
95.00°	1.10	1.10	1.10
97.50°	0.85	0.85	0.85
100.00°	0.81	0.81	0.81
102.50°	0.78	0.78	0.78
105.00°	0.79	0.79	0.79
107.50°	0.80	0.80	0.80
110.00°	0.83	0.83	0.83
112.50°	0.84	0.84	0.84

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	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%
	0	2,829	2,829	2,829	2,829	2,762	2,762	2,762	2,762	2,638	2,638	2,638	2,524	2,524	2,524	2,420	2,420	2,371
	1	2,642	2,553	2,473	2,401	2,580	2,500	2,428	2,362	2,400	2,341	2,287	2,308	2,261	2,217	2,223	2,186	2,151
	2	2,459	2,303	2,175	2,067	2,400	2,260	2,142	2,043	2,178	2,080	1,995	2,102	2,021	1,950	2,033	1,966	1,907
	3	2,289	2,088	1,932	1,808	2,235	2,052	1,908	1,792	1,984	1,862	1,761	1,922	1,818	1,731	1,863	1,777	1,702
	4	2,135	1,902	1,732	1,602	2,086	1,873	1,714	1,591	1,816	1,679	1,570	1,764	1,646	1,550	1,715	1,614	1,530
	5	1,996	1,742	1,565	1,435	1,950	1,717	1,551	1,427	1,670	1,524	1,413	1,626	1,498	1,398	1,584	1,473	1,384
	6	1,869	1,603	1,424	1,296	1,828	1,582	1,413	1,291	1,542	1,392	1,280	1,504	1,371	1,270	1,469	1,352	1,260
	7	1,754	1,481	1,304	1,180	1,717	1,463	1,295	1,176	1,429	1,278	1,168	1,397	1,261	1,160	1,367	1,245	1,153
	8	1,650	1,374	1,200	1,080	1,617	1,358	1,193	1,077	1,329	1,179	1,071	1,301	1,165	1,066	1,275	1,152	1,060
	9	1,556	1,279	1,109	994	1,525	1,266	1,103	992	1,240	1,092	988	1,216	1,081	983	1,194	1,070	979
	10	1,470	1,195	1,030	920	1,442	1,183	1,025	918	1,161	1,015	915	1,140	1,006	911	1,120	997	908

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	49.0 fc	8.2 ft
6.5 ft	35.1 fc	9.7 ft
7.5 ft	26.4 fc	11.2 ft
8.0 ft	23.2 fc	11.9 ft
10.0 ft	14.8 fc	14.9 ft
12.0 ft	10.3 fc	17.9 ft
14.0 ft	7.6 fc	20.9 ft
16.0 ft	5.8 fc	23.9 ft
20.0 ft	3.7 fc	29.9 ft
24.0 ft	2.6 fc	35.8 ft
28.0 ft	1.9 fc	41.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	177,407	177,407	177,407
45.00°	67,874	67,874	67,874
55.00°	43,291	43,291	43,291
65.00°	37,540	37,540	37,540
75.00°	32,466	32,466	32,466
85.00°	25,670	25,670	25,670

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	22.8	24.1	23.2	24.5	24.8	22.8	24.1	23.2	24.5	24.8
	3H	24.5	25.7	24.9	26.0	26.4	24.5	25.7	24.9	26.0	26.4
	4H	25.1	26.2	25.5	26.6	27.0	25.1	26.2	25.5	26.6	27.0
	6H	25.6	26.6	26.0	27.0	27.4	25.6	26.6	26.0	27.0	27.4
	8H	25.7	26.7	26.1	27.1	27.5	25.7	26.7	26.1	27.1	27.5
	12H	25.8	26.7	26.2	27.1	27.5	25.8	26.7	26.2	27.1	27.5
4H	2H	23.4	24.5	23.8	24.8	25.2	23.4	24.5	23.8	24.8	25.2
	3H	25.3	26.2	25.7	26.6	27.0	25.3	26.2	25.7	26.6	27.0
	4H	26.0	26.8	26.5	27.3	27.7	26.0	26.8	26.5	27.3	27.7
	6H	26.6	27.3	27.0	27.7	28.2	26.6	27.3	27.0	27.7	28.2
	8H	26.8	27.4	27.2	27.9	28.3	26.8	27.4	27.2	27.9	28.3
	12H	26.9	27.5	27.4	28.0	28.4	26.9	27.5	27.4	28.0	28.4
8H	4H	26.3	26.9	26.7	27.4	27.9	26.3	26.9	26.7	27.4	27.9
	6H	26.9	27.5	27.4	28.0	28.5	26.9	27.5	27.4	28.0	28.5
	8H	27.2	27.7	27.7	28.2	28.7	27.2	27.7	27.7	28.2	28.7
	12H	27.4	27.8	27.9	28.3	28.9	27.4	27.8	27.9	28.3	28.9
12H	4H	26.3	26.9	26.8	27.3	27.8	26.3	26.9	26.8	27.3	27.8
	6H	27.0	27.5	27.5	27.9	28.5	27.0	27.5	27.5	27.9	28.5
	8H	27.3	27.7	27.8	28.2	28.8	27.3	27.7	27.8	28.2	28.8

Corrected UGR values based on total output lumens

SHR = 1.0