

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 30L 35K XX AR4FX60 FO SG
Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish

Test Number

SP-01171_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	2040
Efficacy	93.14 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.09
Two luminaires, plane 90°	1.09
Four luminaires	1.09

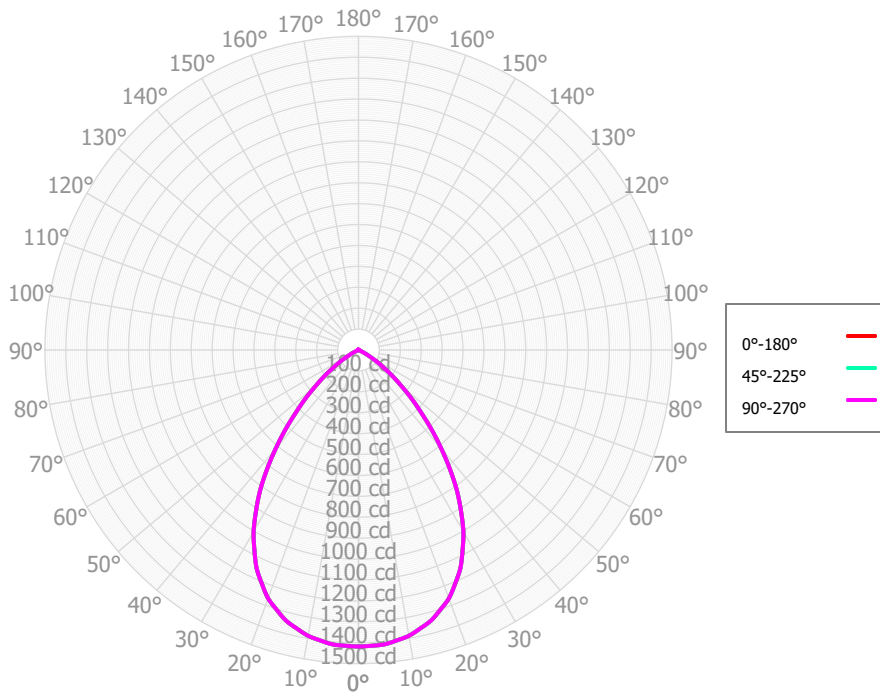
Full Beam Angle

0° - 180°	75°
90° - 270°	75°

IES File Header Contents

Keyword	Value
TEST	SP-01171_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/16/2020
LUMCAT	SGECS4FX 30L 35K XX AR4FX60 FO SG
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish
OTHER	Beam angle: 75.5 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°	139.58	6.83%	90.00° - 100.00°	0.89	0.04%
10.00° - 20.00°	375.80	18.39%	100.00° - 110.00°	0.87	0.04%
20.00° - 30.00°	525.05	25.70%	100.00° - 120.00°	1.71	0.08%
30.00° - 40.00°	506.50	24.79%	120.00° - 130.00°	0.91	0.04%
40.00° - 50.00°	330.56	16.18%	130.00° - 140.00°	0.79	0.04%
50.00° - 60.00°	137.10	6.71%	140.00° - 150.00°	0.70	0.03%
60.00° - 70.00°	20.90	1.02%	150.00° - 160.00°	0.55	0.03%
70.00° - 80.00°	0.93	0.05%	160.00° - 170.00°	0.34	0.02%
80.00° - 90.00°	0.88	0.04%	170.00° - 180.00°	0.12	0.01%
0.00° - 90.00°	2,037.29	99.71%	0.00° - 180.00°	2,043.28	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,418.68	1,418.68	1,418.68
2.50°	1,416.47	1,416.47	1,416.47
5.00°	1,413.93	1,413.93	1,413.93
7.50°	1,401.73	1,401.73	1,401.73
10.00°	1,388.38	1,388.38	1,388.38
12.50°	1,364.78	1,364.78	1,364.78
15.00°	1,340.25	1,340.25	1,340.25
17.50°	1,302.86	1,302.86	1,302.86
20.00°	1,264.61	1,264.61	1,264.61
22.50°	1,209.20	1,209.20	1,209.20
25.00°	1,153.13	1,153.13	1,153.13
27.50°	1,078.59	1,078.59	1,078.59
30.00°	1,003.69	1,003.69	1,003.69
32.50°	912.44	912.44	912.44
35.00°	820.86	820.86	820.86
37.50°	718.58	718.58	718.58
40.00°	616.60	616.60	616.60
42.50°	519.68	519.68	519.68
45.00°	424.08	424.08	424.08
47.50°	344.87	344.87	344.87
50.00°	267.43	267.43	267.43
52.50°	206.00	206.00	206.00
55.00°	146.76	146.76	146.76
57.50°	103.27	103.27	103.27
60.00°	62.19	62.19	62.19
62.50°	35.68	35.68	35.68
65.00°	12.56	12.56	12.56
67.50°	6.24	6.24	6.24
70.00°	1.11	1.11	1.11
72.50°	0.96	0.96	0.96
75.00°	0.84	0.84	0.84
77.50°	0.80	0.80	0.80
80.00°	0.78	0.78	0.78
82.50°	0.84	0.84	0.84
85.00°	0.85	0.85	0.85
87.50°	0.77	0.77	0.77
90.00°	0.72	0.72	0.72
92.50°	0.77	0.77	0.77
95.00°	0.81	0.81	0.81
97.50°	0.86	0.86	0.86
100.00°	0.88	0.88	0.88
102.50°	0.84	0.84	0.84
105.00°	0.81	0.81	0.81
107.50°	0.80	0.80	0.80
110.00°	0.80	0.80	0.80
112.50°	0.79	0.79	0.79

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	2,431	2,431	2,431	2,431	2,374	2,374	2,374	2,374	2,267	2,267	2,267	2,169	2,169	2,169	2,079	2,079	2,037
	1	2,299	2,234	2,176	2,124	2,247	2,189	2,137	2,089	2,104	2,062	2,024	2,026	1,993	1,962	1,955	1,929	1,889
	2	2,160	2,044	1,948	1,868	2,112	2,007	1,920	1,846	1,939	1,866	1,804	1,876	1,816	1,764	1,817	1,769	1,726
	3	2,025	1,871	1,752	1,657	1,981	1,841	1,731	1,643	1,785	1,692	1,615	1,732	1,654	1,589	1,684	1,619	1,563
	4	1,897	1,716	1,584	1,482	1,857	1,691	1,568	1,473	1,644	1,538	1,454	1,601	1,509	1,436	1,560	1,482	1,418
	5	1,778	1,578	1,438	1,335	1,741	1,557	1,426	1,329	1,518	1,403	1,315	1,481	1,381	1,303	1,447	1,360	1,290
	6	1,668	1,456	1,313	1,210	1,635	1,438	1,303	1,206	1,405	1,285	1,196	1,373	1,268	1,187	1,344	1,251	1,178
	7	1,568	1,347	1,204	1,103	1,537	1,332	1,196	1,100	1,303	1,182	1,093	1,277	1,167	1,086	1,251	1,154	1,079
	8	1,475	1,250	1,108	1,011	1,448	1,237	1,102	1,008	1,213	1,090	1,003	1,190	1,079	998	1,168	1,068	993
	9	1,391	1,164	1,025	931	1,366	1,153	1,020	929	1,132	1,010	925	1,111	1,001	921	1,093	991	917
	10	1,314	1,087	951	861	1,291	1,077	947	859	1,059	939	856	1,041	931	853	1,025	923	850

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	46.9 fc	8.5 ft
6.5 ft	33.6 fc	10.1 ft
7.5 ft	25.2 fc	11.6 ft
8.0 ft	22.2 fc	12.4 ft
10.0 ft	14.2 fc	15.5 ft
12.0 ft	9.9 fc	18.6 ft
14.0 ft	7.2 fc	21.7 ft
16.0 ft	5.5 fc	24.8 ft
20.0 ft	3.5 fc	30.9 ft
24.0 ft	2.5 fc	37.1 ft
28.0 ft	1.8 fc	43.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	216,033	216,033	216,033
45.00°	91,328	91,328	91,328
55.00°	38,964	38,964	38,964
65.00°	4,524	4,524	4,524
75.00°	492	492	492
85.00°	1,494	1,494	1,494

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	20.8	21.2	19.3	20.5	19.7	20.8	21.2
	3H	19.2	20.2	19.6	20.6	20.9	19.2	20.2	19.6	20.6	20.9
	4H	19.1	20.1	19.5	20.4	20.8	19.1	20.1	19.5	20.4	20.8
	6H	19.0	19.9	19.4	20.3	20.7	19.0	19.9	19.4	20.3	20.7
	8H	19.0	19.8	19.4	20.2	20.6	19.0	19.8	19.4	20.2	20.6
	12H	18.9	19.7	19.3	20.1	20.5	18.9	19.7	19.3	20.1	20.5
4H	2H	19.1	20.1	19.5	20.4	20.8	19.1	20.1	19.5	20.4	20.8
	3H	19.0	19.8	19.4	20.2	20.6	19.0	19.8	19.4	20.2	20.6
	4H	18.9	19.6	19.3	20.0	20.4	18.9	19.6	19.3	20.0	20.4
	6H	18.8	19.4	19.2	19.8	20.3	18.8	19.4	19.2	19.8	20.3
	8H	18.7	19.3	19.2	19.7	20.2	18.7	19.3	19.2	19.7	20.2
	12H	18.7	19.1	19.2	19.6	20.1	18.7	19.1	19.2	19.6	20.1
8H	4H	18.7	19.3	19.2	19.7	20.2	18.7	19.3	19.2	19.7	20.2
	6H	18.6	19.0	19.1	19.6	20.0	18.6	19.0	19.1	19.6	20.0
	8H	18.5	18.9	19.1	19.5	20.0	18.5	18.9	19.1	19.5	20.0
	12H	18.5	18.8	19.0	19.3	19.9	18.5	18.8	19.0	19.3	19.9
12H	4H	18.7	19.1	19.1	19.6	20.1	18.7	19.1	19.1	19.6	20.1
	6H	18.5	18.9	19.1	19.4	20.0	18.5	18.9	19.1	19.4	20.0
	8H	18.5	18.8	19.0	19.3	19.9	18.5	18.8	19.0	19.3	19.9

Corrected UGR values based on total output lumens

SHR = 1.0