

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 30L 35K XX AR4FX60 FO MW

Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Matte white finish

Test Number

SP-01170_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	1945
Efficacy	88.83 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	1.15

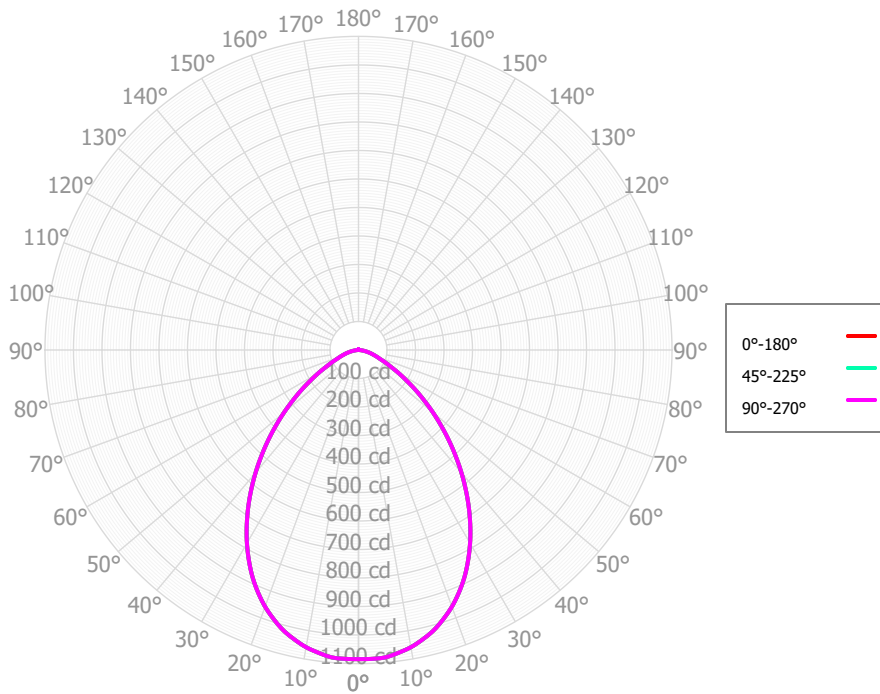
Full Beam Angle

0° - 180°	82°
90° - 270°	82°

IES File Header Contents

Keyword	Value
TEST	SP-01170_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 MW
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Matte white finish
OTHER	Beam angle: 81.7 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°	106.71	5.48%	90.00° - 100.00°	1.01	0.05%
10.00° - 20.00°	285.71	14.67%	100.00° - 110.00°	0.83	0.04%
20.00° - 30.00°	402.50	20.66%	100.00° - 120.00°	1.64	0.08%
30.00° - 40.00°	419.95	21.56%	120.00° - 130.00°	0.74	0.04%
40.00° - 50.00°	345.07	17.71%	130.00° - 140.00°	0.72	0.04%
50.00° - 60.00°	219.20	11.25%	140.00° - 150.00°	0.63	0.03%
60.00° - 70.00°	105.89	5.44%	150.00° - 160.00°	0.49	0.03%
70.00° - 80.00°	46.68	2.40%	160.00° - 170.00°	0.30	0.02%
80.00° - 90.00°	10.84	0.56%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	1,942.56	99.71%	0.00° - 180.00°	1,948.19	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,084.69	1,084.69	1,084.69
2.50°	1,084.69	1,084.69	1,084.69
5.00°	1,082.46	1,082.46	1,082.46
7.50°	1,071.65	1,071.65	1,071.65
10.00°	1,058.83	1,058.83	1,058.83
12.50°	1,040.12	1,040.12	1,040.12
15.00°	1,018.45	1,018.45	1,018.45
17.50°	990.00	990.00	990.00
20.00°	958.34	958.34	958.34
22.50°	920.90	920.90	920.90
25.00°	879.60	879.60	879.60
27.50°	832.68	832.68	832.68
30.00°	782.91	782.91	782.91
32.50°	729.75	729.75	729.75
35.00°	674.92	674.92	674.92
37.50°	618.47	618.47	618.47
40.00°	561.59	561.59	561.59
42.50°	504.37	504.37	504.37
45.00°	448.39	448.39	448.39
47.50°	393.24	393.24	393.24
50.00°	340.86	340.86	340.86
52.50°	289.93	289.93	289.93
55.00°	243.90	243.90	243.90
57.50°	199.90	199.90	199.90
60.00°	163.18	163.18	163.18
62.50°	128.79	128.79	128.79
65.00°	104.07	104.07	104.07
67.50°	81.62	81.62	81.62
70.00°	67.34	67.34	67.34
72.50°	54.41	54.41	54.41
75.00°	43.80	43.80	43.80
77.50°	33.41	33.41	33.41
80.00°	24.02	24.02	24.02
82.50°	14.71	14.71	14.71
85.00°	8.88	8.88	8.88
87.50°	3.32	3.32	3.32
90.00°	1.96	1.96	1.96
92.50°	0.75	0.75	0.75
95.00°	0.77	0.77	0.77
97.50°	0.80	0.80	0.80
100.00°	0.79	0.79	0.79
102.50°	0.78	0.78	0.78
105.00°	0.77	0.77	0.77
107.50°	0.78	0.78	0.78
110.00°	0.81	0.81	0.81
112.50°	0.83	0.83	0.83

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	2,318	2,318	2,318	2,318	2,263	2,263	2,263	2,263	2,162	2,162	2,162	2,068	2,068	2,068	1,983	1,983	1,943
	1	2,164	2,090	2,025	1,965	2,113	2,047	1,987	1,933	1,965	1,916	1,872	1,889	1,850	1,814	1,820	1,789	1,752
	2	2,007	1,877	1,769	1,679	1,959	1,841	1,743	1,659	1,774	1,692	1,621	1,712	1,644	1,584	1,654	1,599	1,565
	3	1,861	1,690	1,559	1,454	1,816	1,661	1,539	1,441	1,605	1,501	1,416	1,553	1,465	1,392	1,505	1,431	1,368
	4	1,727	1,530	1,385	1,274	1,686	1,505	1,370	1,266	1,458	1,341	1,249	1,414	1,314	1,232	1,374	1,288	1,216
	5	1,606	1,391	1,240	1,129	1,568	1,370	1,229	1,123	1,330	1,206	1,111	1,294	1,185	1,100	1,259	1,165	1,089
	6	1,497	1,271	1,119	1,009	1,463	1,253	1,110	1,005	1,220	1,092	997	1,188	1,075	989	1,159	1,059	980
	7	1,399	1,167	1,016	910	1,368	1,152	1,008	907	1,123	994	901	1,096	981	894	1,071	967	888
	8	1,311	1,076	928	826	1,283	1,063	922	823	1,038	910	819	1,015	899	814	993	888	810
	9	1,232	996	852	754	1,206	985	847	752	964	837	749	944	828	745	925	819	742
	10	1,160	926	786	693	1,137	916	782	691	898	774	689	880	766	686	864	759	683

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	35.9 fc	9.5 ft
6.5 ft	25.7 fc	11.2 ft
7.5 ft	19.3 fc	13.0 ft
8.0 ft	16.9 fc	13.8 ft
10.0 ft	10.8 fc	17.3 ft
12.0 ft	7.5 fc	20.7 ft
14.0 ft	5.5 fc	24.2 ft
16.0 ft	4.2 fc	27.7 ft
20.0 ft	2.7 fc	34.6 ft
24.0 ft	1.9 fc	41.5 ft
28.0 ft	1.4 fc	48.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	165,175	165,175	165,175
45.00°	96,563	96,563	96,563
55.00°	64,753	64,753	64,753
65.00°	37,499	37,499	37,499
75.00°	25,768	25,768	25,768
85.00°	15,519	15,519	15,519

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	23.9	25.3	24.3	25.7	26.0	23.9	25.3	24.3	25.7	26.0
	3H	24.7	25.9	25.1	26.2	26.6	24.7	25.9	25.1	26.2	26.6
	4H	24.9	26.1	25.3	26.4	26.8	24.9	26.1	25.3	26.4	26.8
	6H	25.1	26.2	25.5	26.5	26.9	25.1	26.2	25.5	26.5	26.9
	8H	25.1	26.1	25.6	26.5	26.9	25.1	26.1	25.6	26.5	26.9
	12H	25.1	26.1	25.6	26.5	26.9	25.1	26.1	25.6	26.5	26.9
4H	2H	24.2	25.3	24.6	25.7	26.1	24.2	25.3	24.6	25.7	26.1
	3H	25.1	26.0	25.5	26.4	26.9	25.1	26.0	25.5	26.4	26.9
	4H	25.4	26.3	25.9	26.7	27.2	25.4	26.3	25.9	26.7	27.2
	6H	25.7	26.4	26.2	26.9	27.4	25.7	26.4	26.2	26.9	27.4
	8H	25.7	26.4	26.2	26.9	27.4	25.7	26.4	26.2	26.9	27.4
	12H	25.8	26.4	26.3	26.9	27.3	25.8	26.4	26.3	26.9	27.3
8H	4H	25.5	26.2	26.0	26.7	27.1	25.5	26.2	26.0	26.7	27.1
	6H	25.9	26.4	26.4	26.9	27.4	25.9	26.4	26.4	26.9	27.4
	8H	25.9	26.4	26.5	27.0	27.5	25.9	26.4	26.5	27.0	27.5
	12H	26.0	26.4	26.5	26.9	27.5	26.0	26.4	26.5	26.9	27.5
12H	4H	25.5	26.1	26.0	26.6	27.1	25.5	26.1	26.0	26.6	27.1
	6H	25.9	26.4	26.4	26.8	27.4	25.9	26.4	26.4	26.8	27.4
	8H	26.0	26.4	26.5	26.9	27.5	26.0	26.4	26.5	26.9	27.5

Corrected UGR values based on total output lumens

SHR = 1.0