

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 10L 35K XX AR4FX60 SO MW
Nom 4" diam Chicago Plenum downlight, Solite lens, Matte white finish

Test Number

SP-01168_M-10L

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	6.6 W
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Lumen Output

Output Lumens	710
Efficacy	107.54 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.94
Two luminaires, plane 90°	0.94
Four luminaires	0.94

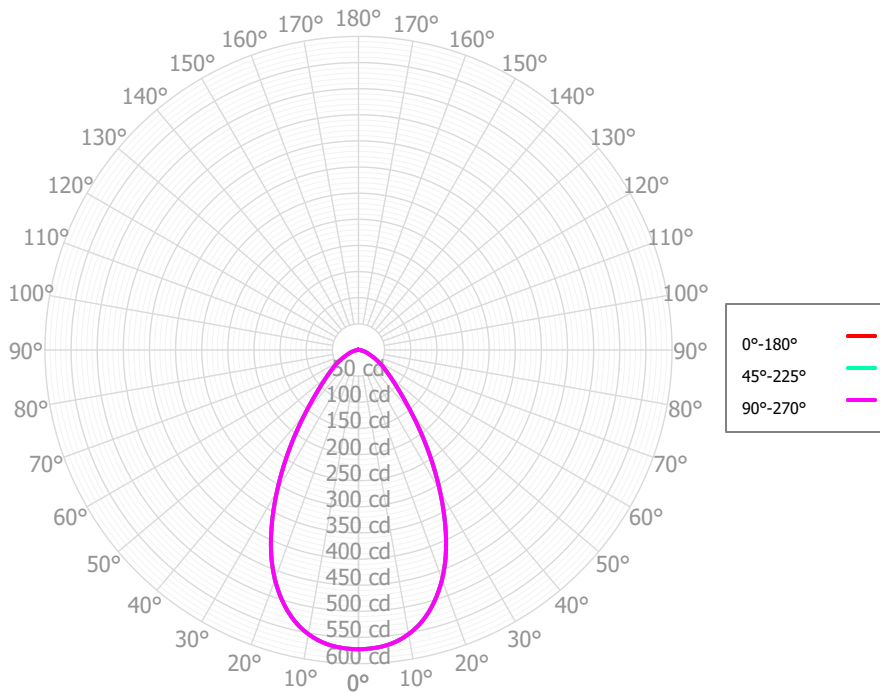
Full Beam Angle

0° - 180°	63°
90° - 270°	63°

IES File Header Contents

Keyword	Value
TEST	SP-01168_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/15/2020
LUMCAT	SGECS4FX 10L 35K XX AR4FX60 SO MW
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Solite lens, Matte white finish
OTHER	Beam angle: 63 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°	55.96	7.87%	90.00° - 100.00°	0.31	0.04%
10.00° - 20.00°	144.68	20.34%	100.00° - 110.00°	0.28	0.04%
20.00° - 30.00°	179.67	25.26%	100.00° - 120.00°	0.60	0.09%
30.00° - 40.00°	143.11	20.12%	120.00° - 130.00°	0.28	0.04%
40.00° - 50.00°	86.62	12.18%	130.00° - 140.00°	0.26	0.04%
50.00° - 60.00°	53.14	7.47%	140.00° - 150.00°	0.24	0.03%
60.00° - 70.00°	29.21	4.11%	150.00° - 160.00°	0.18	0.03%
70.00° - 80.00°	13.66	1.92%	160.00° - 170.00°	0.12	0.02%
80.00° - 90.00°	3.12	0.44%	170.00° - 180.00°	0.04	0.01%
0.00° - 90.00°	709.17	99.71%	0.00° - 180.00°	711.21	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	572.70	572.70	572.70
2.50°	571.61	571.61	571.61
5.00°	568.43	568.43	568.43
7.50°	562.24	562.24	562.24
10.00°	552.09	552.09	552.09
12.50°	538.13	538.13	538.13
15.00°	519.22	519.22	519.22
17.50°	495.52	495.52	495.52
20.00°	467.61	467.61	467.61
22.50°	434.58	434.58	434.58
25.00°	396.27	396.27	396.27
27.50°	354.64	354.64	354.64
30.00°	311.72	311.72	311.72
32.50°	269.47	269.47	269.47
35.00°	229.18	229.18	229.18
37.50°	191.84	191.84	191.84
40.00°	158.94	158.94	158.94
42.50°	131.32	131.32	131.32
45.00°	109.60	109.60	109.60
47.50°	92.73	92.73	92.73
50.00°	79.09	79.09	79.09
52.50°	67.97	67.97	67.97
55.00°	58.87	58.87	58.87
57.50°	50.77	50.77	50.77
60.00°	42.96	42.96	42.96
62.50°	35.50	35.50	35.50
65.00°	28.65	28.65	28.65
67.50°	23.22	23.22	23.22
70.00°	19.26	19.26	19.26
72.50°	16.03	16.03	16.03
75.00°	12.85	12.85	12.85
77.50°	9.87	9.87	9.87
80.00°	7.00	7.00	7.00
82.50°	4.44	4.44	4.44
85.00°	2.34	2.34	2.34
87.50°	0.98	0.98	0.98
90.00°	0.45	0.45	0.45
92.50°	0.35	0.35	0.35
95.00°	0.25	0.25	0.25
97.50°	0.22	0.22	0.22
100.00°	0.21	0.21	0.21
102.50°	0.25	0.25	0.25
105.00°	0.28	0.28	0.28
107.50°	0.29	0.29	0.29
110.00°	0.30	0.30	0.30
112.50°	0.32	0.32	0.32

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%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	846	846	846	846	826	826	826	826	789	789	789	755	755	755	724	724	724	709
	1	796	771	749	730	777	755	736	718	726	710	695	699	686	674	673	663	654	650
	2	745	702	666	636	728	689	656	629	665	638	615	643	620	601	622	604	588	591
	3	697	641	597	563	681	630	590	558	610	576	548	592	563	539	575	551	530	540
	4	653	588	540	504	639	579	535	500	563	524	494	547	514	488	533	505	482	495
	5	613	542	492	455	600	534	488	453	520	480	448	508	472	444	496	464	440	455
	6	576	501	451	414	565	495	447	413	483	441	410	472	435	406	462	429	403	421
	7	543	465	415	380	532	460	413	379	450	407	376	441	403	374	432	398	372	391
	8	513	434	384	350	503	429	382	349	421	378	348	413	374	346	405	370	344	364
	9	485	406	357	325	476	402	356	324	395	352	323	388	349	321	381	346	320	340
	10	459	381	334	302	451	377	332	302	371	329	301	365	327	300	359	324	299	319

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	18.9 fc	6.7 ft
6.5 ft	13.6 fc	8.0 ft
7.5 ft	10.2 fc	9.2 ft
8.0 ft	8.9 fc	9.8 ft
10.0 ft	5.7 fc	12.3 ft
12.0 ft	4.0 fc	14.7 ft
14.0 ft	2.9 fc	17.2 ft
16.0 ft	2.2 fc	19.6 ft
20.0 ft	1.4 fc	24.5 ft
24.0 ft	1.0 fc	29.4 ft
28.0 ft	0.7 fc	34.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	87,210	87,210	87,210
45.00°	23,604	23,604	23,604
55.00°	15,629	15,629	15,629
65.00°	10,324	10,324	10,324
75.00°	7,561	7,561	7,561
85.00°	4,085	4,085	4,085

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	18.1	19.4	18.5	19.7	20.0	18.1	19.4	18.5	19.7	20.0
	3H	19.0	20.1	19.4	20.5	20.8	19.0	20.1	19.4	20.5	20.8
	4H	19.3	20.4	19.8	20.7	21.1	19.3	20.4	19.8	20.7	21.1
	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	20.0	20.9	21.3	19.6	20.5	20.0	20.9	21.3
	12H	19.6	20.5	20.0	20.8	21.3	19.6	20.5	20.0	20.8	21.3
4H	2H	18.4	19.4	18.8	19.8	20.2	18.4	19.4	18.8	19.8	20.2
	3H	19.5	20.3	19.9	20.7	21.1	19.5	20.3	19.9	20.7	21.1
	4H	19.9	20.7	20.4	21.1	21.5	19.9	20.7	20.4	21.1	21.5
	6H	20.2	20.9	20.7	21.3	21.8	20.2	20.9	20.7	21.3	21.8
	8H	20.3	20.9	20.8	21.3	21.8	20.3	20.9	20.8	21.3	21.8
	12H	20.3	20.8	20.8	21.3	21.8	20.3	20.8	20.8	21.3	21.8
8H	4H	20.0	20.6	20.5	21.1	21.6	20.0	20.6	20.5	21.1	21.6
	6H	20.4	20.9	20.9	21.4	21.9	20.4	20.9	20.9	21.4	21.9
	8H	20.5	21.0	21.0	21.5	22.0	20.5	21.0	21.0	21.5	22.0
	12H	20.6	21.0	21.1	21.5	22.0	20.6	21.0	21.1	21.5	22.0
12H	4H	20.0	20.5	20.5	21.0	21.5	20.0	20.5	20.5	21.0	21.5
	6H	20.4	20.9	20.9	21.3	21.9	20.4	20.9	20.9	21.3	21.9
	8H	20.5	20.9	21.1	21.4	22.0	20.5	20.9	21.1	21.4	22.0

Corrected UGR values based on total output lumens

SHR = 1.0