

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 10L 35HK XX AR4FX60 SO SG
Nom 4" diam Chicago Plenum downlight, Solite lens, Soft glow finish

Test Number

SP-01180_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	8.1 W
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Lumen Output

Output Lumens	808
Efficacy	99.81 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.83
Two luminaires, plane 90°	0.83
Four luminaires	0.86

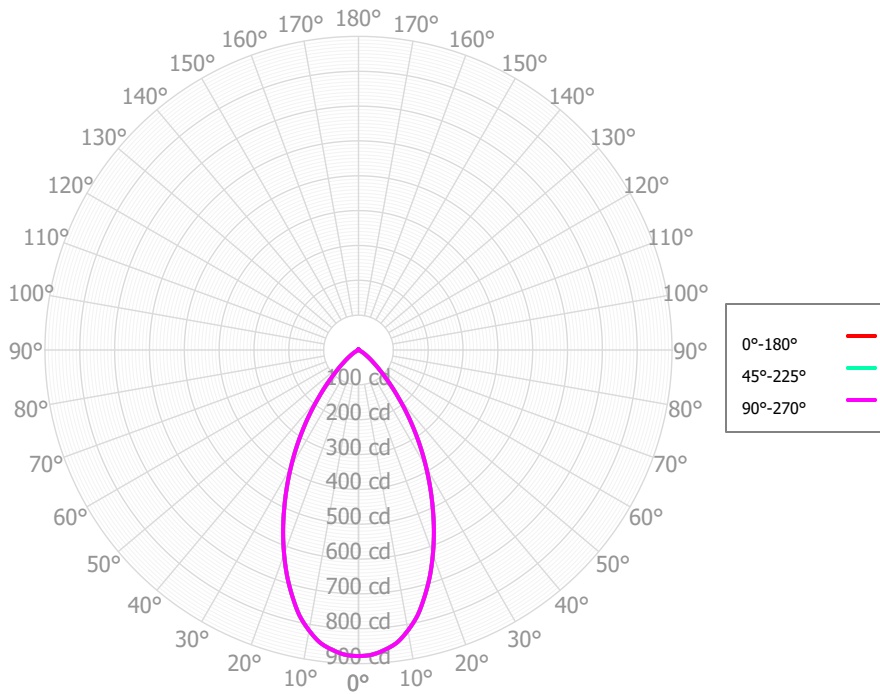
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01180_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/20/2020
LUMCAT	SGECS4FX 10L 35HK XX AR4FX60 SO SG
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Solite lens, Soft glow finish
OTHER	Beam angle: 55.6 deg
LAMPCAT	N/A
LAMP	N/A, 90CRI/35HK
OTHER	Total luminaire wattage is approximate
OTHER	CCT Output Multipliers: 27HK x 0.93, 30HK x 0.97, 35HK x 1.0, 40HK x 1.02
OTHER	This report prepared by Spectrum Lighting, scaled from 20L, 27HK

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	84.39	10.41%	90.00° - 100.00°	0.69	0.09%
10.00° - 20.00°	203.23	25.07%	100.00° - 110.00°	0.72	0.09%
20.00° - 30.00°	230.17	28.39%	100.00° - 120.00°	1.37	0.17%
30.00° - 40.00°	172.37	21.26%	120.00° - 130.00°	0.66	0.08%
40.00° - 50.00°	82.25	10.15%	130.00° - 140.00°	0.66	0.08%
50.00° - 60.00°	27.28	3.36%	140.00° - 150.00°	0.50	0.06%
60.00° - 70.00°	5.02	0.62%	150.00° - 160.00°	0.36	0.04%
70.00° - 80.00°	0.75	0.09%	160.00° - 170.00°	0.23	0.03%
80.00° - 90.00°	0.63	0.08%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	806.08	99.44%	0.00° - 180.00°	810.65	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	878.55	878.55	878.55
2.50°	875.69	875.69	875.69
5.00°	864.09	864.09	864.09
7.50°	847.15	847.15	847.15
10.00°	817.46	817.46	817.46
12.50°	781.32	781.32	781.32
15.00°	732.90	732.90	732.90
17.50°	681.14	681.14	681.14
20.00°	624.24	624.24	624.24
22.50°	565.74	565.74	565.74
25.00°	505.21	505.21	505.21
27.50°	445.91	445.91	445.91
30.00°	387.87	387.87	387.87
32.50°	331.65	331.65	331.65
35.00°	276.99	276.99	276.99
37.50°	226.05	226.05	226.05
40.00°	177.71	177.71	177.71
42.50°	137.62	137.62	137.62
45.00°	102.25	102.25	102.25
47.50°	76.57	76.57	76.57
50.00°	55.32	55.32	55.32
52.50°	40.70	40.70	40.70
55.00°	28.46	28.46	28.46
57.50°	20.22	20.22	20.22
60.00°	13.08	13.08	13.08
62.50°	8.08	8.08	8.08
65.00°	3.51	3.51	3.51
67.50°	2.02	2.02	2.02
70.00°	0.94	0.94	0.94
72.50°	0.78	0.78	0.78
75.00°	0.68	0.68	0.68
77.50°	0.63	0.63	0.63
80.00°	0.58	0.58	0.58
82.50°	0.56	0.56	0.56
85.00°	0.54	0.54	0.54
87.50°	0.60	0.60	0.60
90.00°	0.64	0.64	0.64
92.50°	0.65	0.65	0.65
95.00°	0.65	0.65	0.65
97.50°	0.61	0.61	0.61
100.00°	0.60	0.60	0.60
102.50°	0.66	0.66	0.66
105.00°	0.71	0.71	0.71
107.50°	0.71	0.71	0.71
110.00°	0.69	0.69	0.69
112.50°	0.64	0.64	0.64

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	964	964	964	964	941	941	941	941	898	898	898	859	859	859	823	823	806
	1	916	893	872	853	896	875	856	839	841	826	812	810	798	787	781	772	756
	2	868	826	792	763	849	812	780	754	784	759	736	759	738	720	736	719	705
	3	821	766	723	689	804	754	715	683	732	699	672	711	684	660	692	669	656
	4	776	711	664	628	760	702	658	624	683	646	616	666	634	608	650	623	611
	5	734	662	613	576	720	654	608	573	639	598	567	625	589	562	611	581	570
	6	695	619	568	531	682	612	564	529	599	556	525	587	549	521	576	543	533
	7	658	579	528	492	647	573	525	490	562	519	487	552	513	485	542	508	499
	8	625	544	493	458	614	539	490	457	529	486	454	520	481	452	512	477	469
	9	593	512	462	428	584	507	460	427	499	456	425	492	452	423	484	448	441
	10	565	483	434	401	556	479	432	400	472	429	399	465	426	398	459	423	416

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	29.0 fc	5.8 ft
6.5 ft	20.8 fc	6.8 ft
7.5 ft	15.6 fc	7.9 ft
8.0 ft	13.7 fc	8.4 ft
10.0 ft	8.8 fc	10.5 ft
12.0 ft	6.1 fc	12.6 ft
14.0 ft	4.5 fc	14.8 ft
16.0 ft	3.4 fc	16.9 ft
20.0 ft	2.2 fc	21.1 ft
24.0 ft	1.5 fc	25.3 ft
28.0 ft	1.1 fc	29.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	133,785	133,785	133,785
45.00°	22,020	22,020	22,020
55.00°	7,557	7,557	7,557
65.00°	1,265	1,265	1,265
75.00°	398	398	398
85.00°	947	947	947

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	11.4	12.4	11.8	12.8	13.1	11.4	12.4	11.8	12.8	13.1
	3H	11.2	12.2	11.6	12.5	12.9	11.2	12.2	11.6	12.5	12.9
	4H	11.2	12.0	11.6	12.4	12.8	11.2	12.0	11.6	12.4	12.8
	6H	11.1	11.9	11.5	12.2	12.7	11.1	11.9	11.5	12.2	12.7
	8H	11.0	11.8	11.5	12.2	12.6	11.0	11.8	11.5	12.2	12.6
	12H	11.0	11.7	11.4	12.1	12.5	11.0	11.7	11.4	12.1	12.5
4H	2H	11.2	12.0	11.6	12.4	12.8	11.2	12.0	11.6	12.4	12.8
	3H	11.0	11.7	11.5	12.1	12.6	11.0	11.7	11.5	12.1	12.6
	4H	10.9	11.5	11.4	12.0	12.4	10.9	11.5	11.4	12.0	12.4
	6H	10.8	11.4	11.3	11.8	12.3	10.8	11.4	11.3	11.8	12.3
	8H	10.8	11.3	11.3	11.8	12.2	10.8	11.3	11.3	11.8	12.2
	12H	10.8	11.2	11.3	11.7	12.2	10.8	11.2	11.3	11.7	12.2
8H	4H	10.8	11.3	11.2	11.7	12.2	10.8	11.3	11.2	11.7	12.2
	6H	10.7	11.1	11.2	11.6	12.1	10.7	11.1	11.2	11.6	12.1
	8H	10.6	11.0	11.2	11.5	12.0	10.6	11.0	11.2	11.5	12.0
	12H	10.6	11.0	11.2	11.5	12.1	10.6	11.0	11.2	11.5	12.1
12H	4H	10.7	11.1	11.2	11.6	12.1	10.7	11.1	11.2	11.6	12.1
	6H	10.6	11.0	11.2	11.5	12.0	10.6	11.0	11.2	11.5	12.0
	8H	10.6	10.9	11.1	11.4	12.0	10.6	10.9	11.1	11.4	12.0

Corrected UGR values based on total output lumens

SHR = 1.0