

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 10L 35HK XX AR4FX80 FO SG
Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish

Test Number

SP-01178_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	746
Efficacy	92.12 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

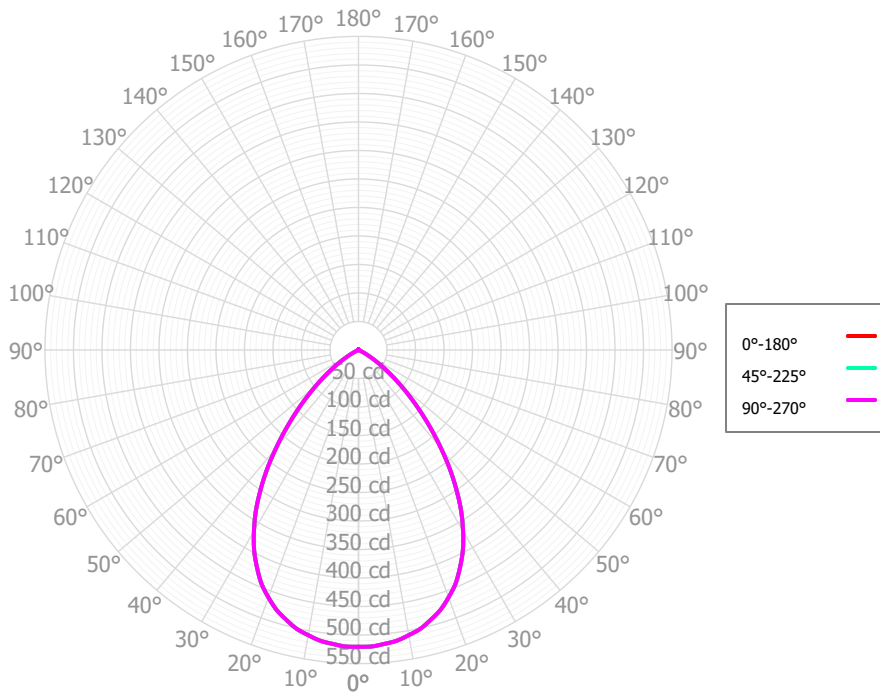
Full Beam Angle

0° - 180°	75°
90° - 270°	75°

IES File Header Contents

Keyword	Value
TEST	SP-01178_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 AR4FX80 FO SG
LUMINAIRE	Nom 4" diam Chicago Plenum downlight, Fusion Optix lens, Soft glow finish
OTHER	Beam angle: 75.4 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°	51.17	6.85%	90.00° - 100.00°	0.61	0.08%
10.00° - 20.00°	137.64	18.41%	100.00° - 110.00°	0.61	0.08%
20.00° - 30.00°	192.40	25.74%	100.00° - 120.00°	1.21	0.16%
30.00° - 40.00°	185.44	24.81%	120.00° - 130.00°	0.55	0.07%
40.00° - 50.00°	120.40	16.11%	130.00° - 140.00°	0.49	0.07%
50.00° - 60.00°	48.36	6.47%	140.00° - 150.00°	0.38	0.05%
60.00° - 70.00°	7.03	0.94%	150.00° - 160.00°	0.30	0.04%
70.00° - 80.00°	0.66	0.09%	160.00° - 170.00°	0.18	0.02%
80.00° - 90.00°	0.56	0.07%	170.00° - 180.00°	0.07	0.01%
0.00° - 90.00°	743.67	99.49%	0.00° - 180.00°	747.47	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	520.69	520.69	520.69
2.50°	520.67	520.67	520.67
5.00°	517.64	517.64	517.64
7.50°	514.42	514.42	514.42
10.00°	507.97	507.97	507.97
12.50°	501.03	501.03	501.03
15.00°	489.94	489.94	489.94
17.50°	478.06	478.06	478.06
20.00°	461.94	461.94	461.94
22.50°	444.36	444.36	444.36
25.00°	421.26	421.26	421.26
27.50°	396.47	396.47	396.47
30.00°	366.82	366.82	366.82
32.50°	335.32	335.32	335.32
35.00°	299.70	299.70	299.70
37.50°	263.26	263.26	263.26
40.00°	225.34	225.34	225.34
42.50°	189.15	189.15	189.15
45.00°	155.47	155.47	155.47
47.50°	124.62	124.62	124.62
50.00°	97.08	97.08	97.08
52.50°	72.94	72.94	72.94
55.00°	52.04	52.04	52.04
57.50°	35.05	35.05	35.05
60.00°	21.14	21.14	21.14
62.50°	11.53	11.53	11.53
65.00°	4.66	4.66	4.66
67.50°	1.76	1.76	1.76
70.00°	0.88	0.88	0.88
72.50°	0.61	0.61	0.61
75.00°	0.60	0.60	0.60
77.50°	0.58	0.58	0.58
80.00°	0.57	0.57	0.57
82.50°	0.53	0.53	0.53
85.00°	0.48	0.48	0.48
87.50°	0.50	0.50	0.50
90.00°	0.52	0.52	0.52
92.50°	0.55	0.55	0.55
95.00°	0.59	0.59	0.59
97.50°	0.57	0.57	0.57
100.00°	0.55	0.55	0.55
102.50°	0.56	0.56	0.56
105.00°	0.58	0.58	0.58
107.50°	0.60	0.60	0.60
110.00°	0.61	0.61	0.61
112.50°	0.60	0.60	0.60

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	889	889	889	889	868	868	868	868	828	828	828	792	792	792	759	759	744
	1	840	817	796	776	821	800	781	764	769	754	739	740	728	717	714	704	690
	2	790	747	712	683	772	734	702	675	709	682	659	685	664	645	664	646	630
	3	741	684	641	606	724	673	633	601	652	619	591	633	605	581	615	591	579
	4	694	628	579	542	679	619	574	539	601	563	532	585	552	525	570	542	531
	5	651	578	526	489	637	570	522	486	555	513	481	542	505	477	529	497	488
	6	611	533	481	443	598	526	477	441	514	470	438	502	464	434	491	458	449
	7	574	493	441	404	562	487	438	403	477	432	400	467	427	398	458	422	415
	8	540	458	406	370	530	453	404	369	444	399	367	435	395	365	427	391	384
	9	509	426	375	341	500	422	373	340	414	370	339	407	366	337	400	363	357
	10	481	398	348	315	473	394	347	315	388	344	314	381	341	312	375	338	333

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.2 fc	8.5 ft
6.5 ft	12.3 fc	10.0 ft
7.5 ft	9.3 fc	11.6 ft
8.0 ft	8.1 fc	12.4 ft
10.0 ft	5.2 fc	15.5 ft
12.0 ft	3.6 fc	18.5 ft
14.0 ft	2.7 fc	21.6 ft
16.0 ft	2.0 fc	24.7 ft
20.0 ft	1.3 fc	30.9 ft
24.0 ft	0.9 fc	37.1 ft
28.0 ft	0.7 fc	43.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	79,290	79,290	79,290
45.00°	33,482	33,482	33,482
55.00°	13,817	13,817	13,817
65.00°	1,680	1,680	1,680
75.00°	351	351	351
85.00°	844	844	844

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	15.3	16.5	15.7	16.8	17.1	15.3	16.5	15.7	16.8	17.1
	3H	15.2	16.2	15.5	16.5	16.9	15.2	16.2	15.5	16.5	16.9
	4H	15.1	16.0	15.5	16.4	16.8	15.1	16.0	15.5	16.4	16.8
	6H	15.0	15.9	15.4	16.3	16.7	15.0	15.9	15.4	16.3	16.7
	8H	14.9	15.8	15.4	16.2	16.6	14.9	15.8	15.4	16.2	16.6
	12H	14.9	15.7	15.3	16.1	16.5	14.9	15.7	15.3	16.1	16.5
4H	2H	15.1	16.1	15.5	16.4	16.8	15.1	16.1	15.5	16.4	16.8
	3H	15.0	15.7	15.4	16.1	16.6	15.0	15.7	15.4	16.1	16.6
	4H	14.9	15.5	15.3	16.0	16.4	14.9	15.5	15.3	16.0	16.4
	6H	14.8	15.4	15.2	15.8	16.3	14.8	15.4	15.2	15.8	16.3
	8H	14.7	15.3	15.2	15.7	16.2	14.7	15.3	15.2	15.7	16.2
	12H	14.7	15.1	15.2	15.6	16.1	14.7	15.1	15.2	15.6	16.1
8H	4H	14.7	15.3	15.2	15.7	16.2	14.7	15.3	15.2	15.7	16.2
	6H	14.6	15.0	15.1	15.6	16.0	14.6	15.0	15.1	15.6	16.0
	8H	14.5	14.9	15.1	15.5	16.0	14.5	14.9	15.1	15.5	16.0
	12H	14.5	14.9	15.0	15.4	15.9	14.5	14.9	15.0	15.4	15.9
12H	4H	14.6	15.1	15.1	15.6	16.1	14.6	15.1	15.1	15.6	16.1
	6H	14.5	14.9	15.1	15.4	16.0	14.5	14.9	15.1	15.4	16.0
	8H	14.5	14.8	15.0	15.3	15.9	14.5	14.8	15.0	15.3	15.9

Corrected UGR values based on total output lumens

SHR = 1.0