

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 40L 35K XX AR4FX60 SO SG

Nom 4" diam Chicago Plenum downlight, Solite lens, Soft glow finish

Test Number

SP-01169

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	30.3 W
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Lumen Output

Output Lumens	3001
Efficacy	99.05 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.84
Two luminaires, plane 90°	0.84
Four luminaires	0.87

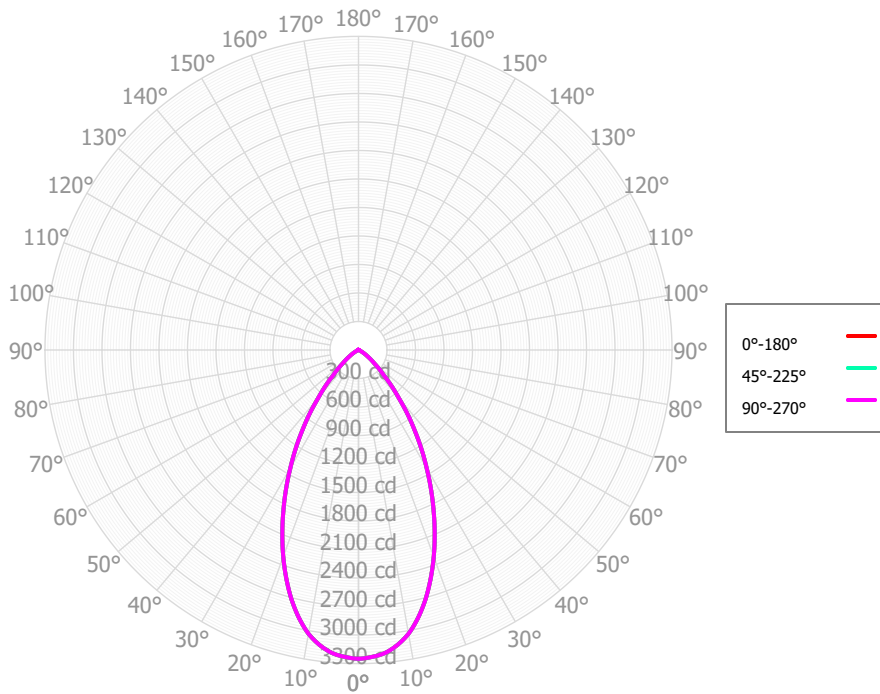
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01169
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/15/2020
LUMCAT	SGECS4FX 40L 35K 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
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
_CCT	80+
_CCTMULT	30K x 0.97, 40K x 1.03, 50K x 1.03
_LAMPMULT	10L x 0.24, 20L x 0.50, 30L x 0.75

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	312.37	10.38%	90.00° - 100.00°	1.03	0.03%
10.00° - 20.00°	753.45	25.04%	100.00° - 110.00°	1.09	0.04%
20.00° - 30.00°	852.75	28.34%	100.00° - 120.00°	2.25	0.07%
30.00° - 40.00°	640.11	21.27%	120.00° - 130.00°	1.00	0.03%
40.00° - 50.00°	309.35	10.28%	130.00° - 140.00°	1.21	0.04%
50.00° - 60.00°	109.26	3.63%	140.00° - 150.00°	1.05	0.03%
60.00° - 70.00°	21.69	0.72%	150.00° - 160.00°	0.78	0.03%
70.00° - 80.00°	1.26	0.04%	160.00° - 170.00°	0.54	0.02%
80.00° - 90.00°	1.06	0.04%	170.00° - 180.00°	0.19	0.01%
0.00° - 90.00°	3,001.30	99.73%	0.00° - 180.00°	3,009.35	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	3,249.58	3,249.58	3,249.58
2.50°	3,233.96	3,233.96	3,233.96
5.00°	3,201.21	3,201.21	3,201.21
7.50°	3,132.29	3,132.29	3,132.29
10.00°	3,032.61	3,032.61	3,032.61
12.50°	2,890.71	2,890.71	2,890.71
15.00°	2,720.91	2,720.91	2,720.91
17.50°	2,524.93	2,524.93	2,524.93
20.00°	2,315.76	2,315.76	2,315.76
22.50°	2,095.73	2,095.73	2,095.73
25.00°	1,871.68	1,871.68	1,871.68
27.50°	1,652.49	1,652.49	1,652.49
30.00°	1,434.58	1,434.58	1,434.58
32.50°	1,230.24	1,230.24	1,230.24
35.00°	1,028.23	1,028.23	1,028.23
37.50°	843.41	843.41	843.41
40.00°	660.12	660.12	660.12
42.50°	518.15	518.15	518.15
45.00°	379.39	379.39	379.39
47.50°	293.92	293.92	293.92
50.00°	212.21	212.21	212.21
52.50°	161.64	161.64	161.64
55.00°	114.48	114.48	114.48
57.50°	84.20	84.20	84.20
60.00°	56.04	56.04	56.04
62.50°	34.92	34.92	34.92
65.00°	17.28	17.28	17.28
67.50°	7.97	7.97	7.97
70.00°	1.81	1.81	1.81
72.50°	1.34	1.34	1.34
75.00°	1.05	1.05	1.05
77.50°	1.01	1.01	1.01
80.00°	0.99	0.99	0.99
82.50°	0.96	0.96	0.96
85.00°	0.96	0.96	0.96
87.50°	0.97	0.97	0.97
90.00°	0.97	0.97	0.97
92.50°	0.95	0.95	0.95
95.00°	0.94	0.94	0.94
97.50°	0.93	0.93	0.93
100.00°	0.94	0.94	0.94
102.50°	0.96	0.96	0.96
105.00°	1.03	1.03	1.03
107.50°	1.11	1.11	1.11
110.00°	1.14	1.14	1.14
112.50°	1.16	1.16	1.16

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	3,581	3,581	3,581	3,581	3,496	3,496	3,496	3,496	3,339	3,339	3,339	3,195	3,195	3,195	3,063	3,063	3,001
	1	3,404	3,317	3,239	3,168	3,329	3,251	3,181	3,117	3,127	3,071	3,019	3,014	2,969	2,928	2,909	2,874	2,816
	2	3,223	3,068	2,940	2,833	3,155	3,015	2,899	2,800	2,916	2,820	2,737	2,824	2,746	2,677	2,739	2,676	2,622
	3	3,047	2,843	2,684	2,558	2,985	2,800	2,654	2,537	2,719	2,596	2,495	2,644	2,541	2,454	2,574	2,489	2,440
	4	2,880	2,640	2,464	2,330	2,824	2,605	2,441	2,315	2,538	2,397	2,286	2,476	2,356	2,258	2,418	2,316	2,271
	5	2,724	2,458	2,273	2,135	2,673	2,429	2,255	2,125	2,373	2,221	2,105	2,321	2,189	2,085	2,272	2,158	2,118
	6	2,578	2,295	2,105	1,969	2,532	2,270	2,091	1,961	2,223	2,065	1,947	2,179	2,040	1,933	2,138	2,015	1,979
	7	2,442	2,148	1,958	1,824	2,400	2,127	1,947	1,819	2,087	1,926	1,808	2,050	1,905	1,798	2,015	1,886	1,853
	8	2,317	2,016	1,827	1,697	2,279	1,998	1,818	1,693	1,964	1,801	1,685	1,932	1,785	1,677	1,902	1,769	1,740
	9	2,202	1,897	1,711	1,585	2,167	1,882	1,704	1,582	1,852	1,690	1,576	1,824	1,676	1,570	1,798	1,663	1,637
	10	2,095	1,790	1,608	1,486	2,063	1,777	1,602	1,484	1,751	1,590	1,479	1,726	1,579	1,474	1,703	1,568	1,544

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	107.4 fc	5.8 ft
6.5 ft	76.9 fc	6.9 ft
7.5 ft	57.8 fc	7.9 ft
8.0 ft	50.8 fc	8.4 ft
10.0 ft	32.5 fc	10.6 ft
12.0 ft	22.6 fc	12.7 ft
14.0 ft	16.6 fc	14.8 ft
16.0 ft	12.7 fc	16.9 ft
20.0 ft	8.1 fc	21.1 ft
24.0 ft	5.6 fc	25.3 ft
28.0 ft	4.1 fc	29.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	494,840	494,840	494,840
45.00°	81,702	81,702	81,702
55.00°	30,393	30,393	30,393
65.00°	6,226	6,226	6,226
75.00°	615	615	615
85.00°	1,678	1,678	1,678

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	16.8	17.8	17.1	18.1	18.5	16.8	17.8	17.1	18.1	18.5
	3H	16.6	17.5	17.0	17.9	18.3	16.6	17.5	17.0	17.9	18.3
	4H	16.5	17.4	16.9	17.7	18.1	16.5	17.4	16.9	17.7	18.1
	6H	16.4	17.2	16.8	17.6	18.0	16.4	17.2	16.8	17.6	18.0
	8H	16.4	17.1	16.8	17.5	17.9	16.4	17.1	16.8	17.5	17.9
	12H	16.3	17.0	16.7	17.4	17.8	16.3	17.0	16.7	17.4	17.8
4H	2H	16.6	17.4	17.0	17.8	18.2	16.6	17.4	17.0	17.8	18.2
	3H	16.4	17.1	16.8	17.5	17.9	16.4	17.1	16.8	17.5	17.9
	4H	16.3	16.9	16.7	17.3	17.8	16.3	16.9	16.7	17.3	17.8
	6H	16.2	16.7	16.7	17.2	17.7	16.2	16.7	16.7	17.2	17.7
	8H	16.1	16.6	16.6	17.1	17.6	16.1	16.6	16.6	17.1	17.6
	12H	16.1	16.5	16.6	17.0	17.5	16.1	16.5	16.6	17.0	17.5
8H	4H	16.1	16.6	16.6	17.1	17.6	16.1	16.6	16.6	17.1	17.6
	6H	16.0	16.4	16.5	16.9	17.4	16.0	16.4	16.5	16.9	17.4
	8H	15.9	16.3	16.5	16.8	17.3	15.9	16.3	16.5	16.8	17.3
	12H	15.9	16.2	16.4	16.7	17.3	15.9	16.2	16.4	16.7	17.3
12H	4H	16.1	16.5	16.6	17.0	17.5	16.1	16.5	16.6	17.0	17.5
	6H	15.9	16.3	16.5	16.8	17.3	15.9	16.3	16.5	16.8	17.3
	8H	15.9	16.2	16.4	16.7	17.3	15.9	16.2	16.4	16.7	17.3

Corrected UGR values based on total output lumens

SHR = 1.0