

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 20L 35K XX AR4FX60 SO SG

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

Test Number

SP-01169_M-20L

Test Date

6/16/2020

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

Summary of Results

Power

Input Watts	14.1 W
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Lumen Output

Output Lumens	1501
Efficacy	106.43 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

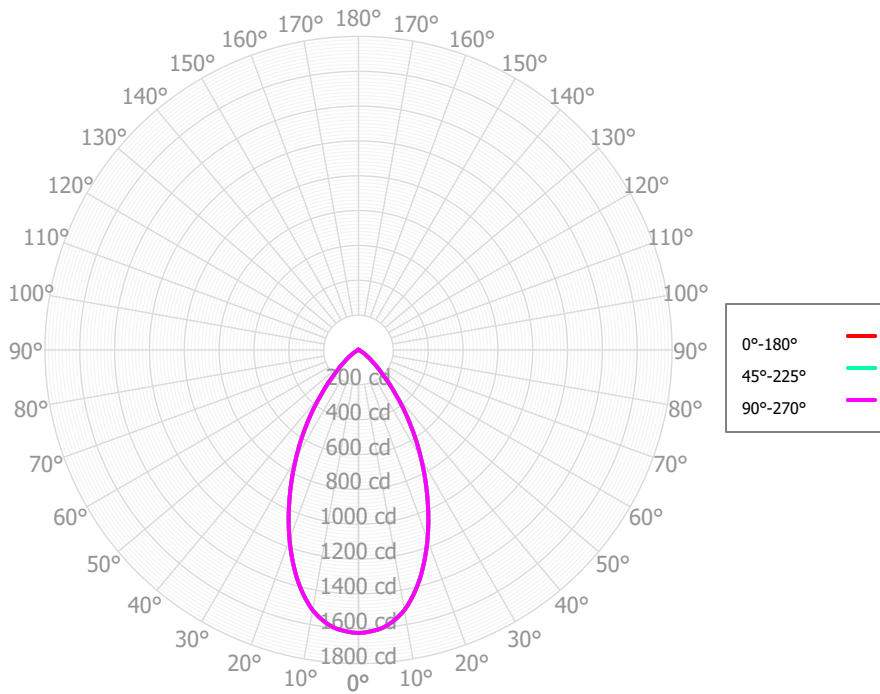
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01169_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/16/2020
LUMCAT	SGECS4FX 20L 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, scaled from 40L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	156.19	10.38%	90.00° - 100.00°	0.52	0.03%
10.00° - 20.00°	376.72	25.04%	100.00° - 110.00°	0.55	0.04%
20.00° - 30.00°	426.38	28.34%	100.00° - 120.00°	1.12	0.07%
30.00° - 40.00°	320.05	21.27%	120.00° - 130.00°	0.50	0.03%
40.00° - 50.00°	154.67	10.28%	130.00° - 140.00°	0.60	0.04%
50.00° - 60.00°	54.63	3.63%	140.00° - 150.00°	0.52	0.03%
60.00° - 70.00°	10.84	0.72%	150.00° - 160.00°	0.39	0.03%
70.00° - 80.00°	0.63	0.04%	160.00° - 170.00°	0.27	0.02%
80.00° - 90.00°	0.53	0.04%	170.00° - 180.00°	0.09	0.01%
0.00° - 90.00°	1,500.65	99.73%	0.00° - 180.00°	1,504.67	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,624.79	1,624.79	1,624.79
2.50°	1,616.98	1,616.98	1,616.98
5.00°	1,600.60	1,600.60	1,600.60
7.50°	1,566.15	1,566.15	1,566.15
10.00°	1,516.30	1,516.30	1,516.30
12.50°	1,445.36	1,445.36	1,445.36
15.00°	1,360.46	1,360.46	1,360.46
17.50°	1,262.47	1,262.47	1,262.47
20.00°	1,157.88	1,157.88	1,157.88
22.50°	1,047.87	1,047.87	1,047.87
25.00°	935.84	935.84	935.84
27.50°	826.25	826.25	826.25
30.00°	717.29	717.29	717.29
32.50°	615.12	615.12	615.12
35.00°	514.11	514.11	514.11
37.50°	421.71	421.71	421.71
40.00°	330.06	330.06	330.06
42.50°	259.07	259.07	259.07
45.00°	189.69	189.69	189.69
47.50°	146.96	146.96	146.96
50.00°	106.10	106.10	106.10
52.50°	80.82	80.82	80.82
55.00°	57.24	57.24	57.24
57.50°	42.10	42.10	42.10
60.00°	28.02	28.02	28.02
62.50°	17.46	17.46	17.46
65.00°	8.64	8.64	8.64
67.50°	3.98	3.98	3.98
70.00°	0.91	0.91	0.91
72.50°	0.67	0.67	0.67
75.00°	0.52	0.52	0.52
77.50°	0.51	0.51	0.51
80.00°	0.49	0.49	0.49
82.50°	0.48	0.48	0.48
85.00°	0.48	0.48	0.48
87.50°	0.49	0.49	0.49
90.00°	0.48	0.48	0.48
92.50°	0.48	0.48	0.48
95.00°	0.47	0.47	0.47
97.50°	0.47	0.47	0.47
100.00°	0.47	0.47	0.47
102.50°	0.48	0.48	0.48
105.00°	0.51	0.51	0.51
107.50°	0.56	0.56	0.56
110.00°	0.57	0.57	0.57
112.50°	0.58	0.58	0.58

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	1,790	1,790	1,790	1,790	1,748	1,748	1,748	1,748	1,670	1,670	1,670	1,598	1,598	1,598	1,532	1,532	1,501
	1	1,702	1,658	1,619	1,584	1,664	1,625	1,590	1,558	1,564	1,535	1,510	1,507	1,484	1,464	1,454	1,437	1,421
	2	1,611	1,534	1,470	1,416	1,577	1,508	1,449	1,400	1,458	1,410	1,369	1,412	1,373	1,339	1,370	1,338	1,310
	3	1,524	1,421	1,342	1,279	1,493	1,400	1,327	1,268	1,359	1,298	1,247	1,322	1,270	1,227	1,287	1,244	1,208
	4	1,440	1,320	1,232	1,165	1,412	1,302	1,221	1,157	1,269	1,199	1,143	1,238	1,178	1,129	1,209	1,158	1,116
	5	1,362	1,229	1,136	1,068	1,336	1,214	1,128	1,063	1,186	1,111	1,053	1,160	1,094	1,043	1,136	1,079	1,033
	6	1,289	1,147	1,053	984	1,266	1,135	1,046	981	1,112	1,032	974	1,090	1,020	966	1,069	1,008	959
	7	1,221	1,074	979	912	1,200	1,064	973	909	1,044	963	904	1,025	953	899	1,007	943	894
	8	1,159	1,008	914	849	1,139	999	909	847	982	901	843	966	892	839	951	884	835
	9	1,101	949	856	793	1,083	941	852	791	926	845	788	912	838	785	899	832	782
	10	1,047	895	804	743	1,032	888	801	742	875	795	739	863	789	737	852	784	735

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	53.7 fc	5.8 ft
6.5 ft	38.5 fc	6.9 ft
7.5 ft	28.9 fc	7.9 ft
8.0 ft	25.4 fc	8.4 ft
10.0 ft	16.2 fc	10.6 ft
12.0 ft	11.3 fc	12.7 ft
14.0 ft	8.3 fc	14.8 ft
16.0 ft	6.3 fc	16.9 ft
20.0 ft	4.1 fc	21.1 ft
24.0 ft	2.8 fc	25.3 ft
28.0 ft	2.1 fc	29.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	247,420	247,420	247,420
45.00°	40,851	40,851	40,851
55.00°	15,197	15,197	15,197
65.00°	3,113	3,113	3,113
75.00°	308	308	308
85.00°	839	839	839

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	14.3	15.4	14.7	15.7	16.1	14.3	15.4	14.7	15.7	16.1
	3H	14.2	15.1	14.6	15.5	15.8	14.2	15.1	14.6	15.5	15.8
	4H	14.1	15.0	14.5	15.3	15.7	14.1	15.0	14.5	15.3	15.7
	6H	14.0	14.8	14.4	15.2	15.6	14.0	14.8	14.4	15.2	15.6
	8H	13.9	14.7	14.4	15.1	15.5	13.9	14.7	14.4	15.1	15.5
	12H	13.9	14.6	14.3	15.0	15.4	13.9	14.6	14.3	15.0	15.4
4H	2H	14.2	15.0	14.6	15.4	15.8	14.2	15.0	14.6	15.4	15.8
	3H	14.0	14.7	14.4	15.1	15.5	14.0	14.7	14.4	15.1	15.5
	4H	13.9	14.5	14.3	14.9	15.4	13.9	14.5	14.3	14.9	15.4
	6H	13.8	14.3	14.3	14.8	15.3	13.8	14.3	14.3	14.8	15.3
	8H	13.7	14.2	14.2	14.7	15.2	13.7	14.2	14.2	14.7	15.2
	12H	13.7	14.1	14.2	14.6	15.1	13.7	14.1	14.2	14.6	15.1
8H	4H	13.7	14.2	14.2	14.7	15.1	13.7	14.2	14.2	14.7	15.1
	6H	13.6	14.0	14.1	14.5	15.0	13.6	14.0	14.1	14.5	15.0
	8H	13.5	13.9	14.1	14.4	14.9	13.5	13.9	14.1	14.4	14.9
	12H	13.5	13.8	14.0	14.3	14.9	13.5	13.8	14.0	14.3	14.9
12H	4H	13.7	14.1	14.1	14.6	15.1	13.7	14.1	14.1	14.6	15.1
	6H	13.5	13.9	14.1	14.4	14.9	13.5	13.9	14.1	14.4	14.9
	8H	13.5	13.8	14.0	14.3	14.9	13.5	13.8	14.0	14.3	14.9

Corrected UGR values based on total output lumens

SHR = 1.0