

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGECS4FX 20L 35K XX AR4FX60 SO MW
Nom 4" diam Chicago Plenum downlight, Solite lens, Matte white finish

Test Number

SP-01168_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	1479
Efficacy	104.87 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

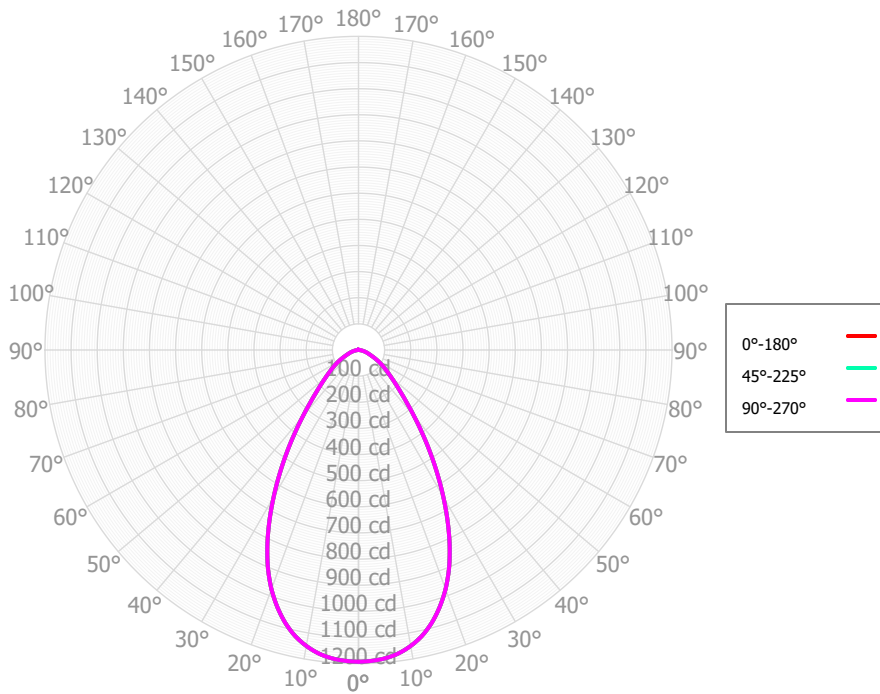
Full Beam Angle

0° - 180°	63°
90° - 270°	63°

IES File Header Contents

Keyword	Value
TEST	SP-01168_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/15/2020
LUMCAT	SGECS4FX 20L 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°	116.58	7.87%	90.00° - 100.00°	0.66	0.04%
10.00° - 20.00°	301.41	20.34%	100.00° - 110.00°	0.59	0.04%
20.00° - 30.00°	374.32	25.26%	100.00° - 120.00°	1.26	0.09%
30.00° - 40.00°	298.14	20.12%	120.00° - 130.00°	0.58	0.04%
40.00° - 50.00°	180.45	12.18%	130.00° - 140.00°	0.55	0.04%
50.00° - 60.00°	110.72	7.47%	140.00° - 150.00°	0.49	0.03%
60.00° - 70.00°	60.86	4.11%	150.00° - 160.00°	0.38	0.03%
70.00° - 80.00°	28.46	1.92%	160.00° - 170.00°	0.25	0.02%
80.00° - 90.00°	6.50	0.44%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	1,477.44	99.71%	0.00° - 180.00°	1,481.69	100.00%

Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,193.13	1,193.13	1,193.13
2.50°	1,190.86	1,190.86	1,190.86
5.00°	1,184.24	1,184.24	1,184.24
7.50°	1,171.32	1,171.32	1,171.32
10.00°	1,150.18	1,150.18	1,150.18
12.50°	1,121.11	1,121.11	1,121.11
15.00°	1,081.71	1,081.71	1,081.71
17.50°	1,032.33	1,032.33	1,032.33
20.00°	974.18	974.18	974.18
22.50°	905.37	905.37	905.37
25.00°	825.55	825.55	825.55
27.50°	738.83	738.83	738.83
30.00°	649.42	649.42	649.42
32.50°	561.39	561.39	561.39
35.00°	477.47	477.47	477.47
37.50°	399.67	399.67	399.67
40.00°	331.12	331.12	331.12
42.50°	273.58	273.58	273.58
45.00°	228.34	228.34	228.34
47.50°	193.19	193.19	193.19
50.00°	164.77	164.77	164.77
52.50°	141.60	141.60	141.60
55.00°	122.65	122.65	122.65
57.50°	105.77	105.77	105.77
60.00°	89.51	89.51	89.51
62.50°	73.95	73.95	73.95
65.00°	59.69	59.69	59.69
67.50°	48.37	48.37	48.37
70.00°	40.13	40.13	40.13
72.50°	33.40	33.40	33.40
75.00°	26.77	26.77	26.77
77.50°	20.57	20.57	20.57
80.00°	14.58	14.58	14.58
82.50°	9.25	9.25	9.25
85.00°	4.87	4.87	4.87
87.50°	2.04	2.04	2.04
90.00°	0.93	0.93	0.93
92.50°	0.73	0.73	0.73
95.00°	0.53	0.53	0.53
97.50°	0.46	0.46	0.46
100.00°	0.44	0.44	0.44
102.50°	0.52	0.52	0.52
105.00°	0.59	0.59	0.59
107.50°	0.60	0.60	0.60
110.00°	0.62	0.62	0.62
112.50°	0.66	0.66	0.66

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%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
	0	1,763	1,763	1,763	1,763	1,721	1,721	1,721	1,721	1,644	1,644	1,644	1,573	1,573	1,573	1,508	1,508	1,508
	1	1,658	1,607	1,561	1,520	1,619	1,574	1,533	1,495	1,512	1,479	1,448	1,455	1,429	1,404	1,403	1,382	1,362
	2	1,551	1,462	1,388	1,326	1,516	1,435	1,368	1,310	1,385	1,329	1,280	1,339	1,292	1,252	1,296	1,258	1,224
	3	1,452	1,335	1,245	1,173	1,420	1,313	1,230	1,162	1,272	1,201	1,143	1,234	1,174	1,124	1,198	1,148	1,105
	4	1,361	1,225	1,125	1,049	1,331	1,207	1,114	1,042	1,172	1,092	1,029	1,140	1,072	1,016	1,110	1,052	1,003
	5	1,277	1,128	1,025	948	1,250	1,113	1,016	943	1,084	999	934	1,057	983	925	1,032	968	916
	6	1,201	1,044	939	863	1,176	1,031	932	860	1,007	919	853	984	906	847	963	894	840
	7	1,131	970	865	792	1,109	959	860	789	938	849	784	918	839	779	900	829	774
	8	1,068	904	801	730	1,047	894	796	728	877	788	724	860	779	721	844	771	717
	9	1,010	845	745	676	992	837	741	675	822	734	672	807	727	669	794	720	667
	10	957	793	695	630	940	786	692	629	773	686	626	760	680	624	748	675	622

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	39.4 fc	6.7 ft
6.5 ft	28.2 fc	8.0 ft
7.5 ft	21.2 fc	9.2 ft
8.0 ft	18.6 fc	9.8 ft
10.0 ft	11.9 fc	12.3 ft
12.0 ft	8.3 fc	14.7 ft
14.0 ft	6.1 fc	17.2 ft
16.0 ft	4.7 fc	19.6 ft
20.0 ft	3.0 fc	24.5 ft
24.0 ft	2.1 fc	29.4 ft
28.0 ft	1.5 fc	34.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	181,687	181,687	181,687
45.00°	49,174	49,174	49,174
55.00°	32,561	32,561	32,561
65.00°	21,509	21,509	21,509
75.00°	15,752	15,752	15,752
85.00°	8,510	8,510	8,510

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	20.7	21.9	21.0	22.2	22.6	20.7	21.9	21.0	22.2	22.6
	3H	21.6	22.7	22.0	23.0	23.4	21.6	22.7	22.0	23.0	23.4
	4H	21.9	22.9	22.3	23.3	23.7	21.9	22.9	22.3	23.3	23.7
	6H	22.1	23.1	22.5	23.4	23.8	22.1	23.1	22.5	23.4	23.8
	8H	22.1	23.0	22.6	23.4	23.9	22.1	23.0	22.6	23.4	23.9
	12H	22.1	23.0	22.6	23.4	23.8	22.1	23.0	22.6	23.4	23.8
4H	2H	20.9	22.0	21.4	22.3	22.7	20.9	22.0	21.4	22.3	22.7
	3H	22.0	22.9	22.5	23.3	23.7	22.0	22.9	22.5	23.3	23.7
	4H	22.5	23.2	22.9	23.6	24.1	22.5	23.2	22.9	23.6	24.1
	6H	22.8	23.4	23.2	23.9	24.4	22.8	23.4	23.2	23.9	24.4
	8H	22.8	23.4	23.3	23.9	24.4	22.8	23.4	23.3	23.9	24.4
	12H	22.9	23.4	23.4	23.9	24.4	22.9	23.4	23.4	23.9	24.4
8H	4H	22.6	23.2	23.1	23.6	24.1	22.6	23.2	23.1	23.6	24.1
	6H	23.0	23.5	23.5	24.0	24.4	23.0	23.5	23.5	24.0	24.4
	8H	23.1	23.5	23.6	24.0	24.5	23.1	23.5	23.6	24.0	24.5
	12H	23.1	23.5	23.7	24.0	24.6	23.1	23.5	23.7	24.0	24.6
12H	4H	22.6	23.1	23.1	23.6	24.1	22.6	23.1	23.1	23.6	24.1
	6H	23.0	23.4	23.5	23.9	24.4	23.0	23.4	23.5	23.9	24.4
	8H	23.1	23.5	23.6	24.0	24.6	23.1	23.5	23.6	24.0	24.6

Corrected UGR values based on total output lumens

SHR = 1.0