

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGECS4FX 30L 35K XX AR4FX60 SO MW  
Nom 4" diam Chicago Plenum downlight, Solite lens, Matte white finish

### **Test Number**

SP-01168\_M-30L

### **Test Date**

6/16/2020

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

### Summary of Results

#### Power

Input Watts	21.9 W
-------------	--------

#### Lumen Output

Output Lumens	2218
Efficacy	101.28 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

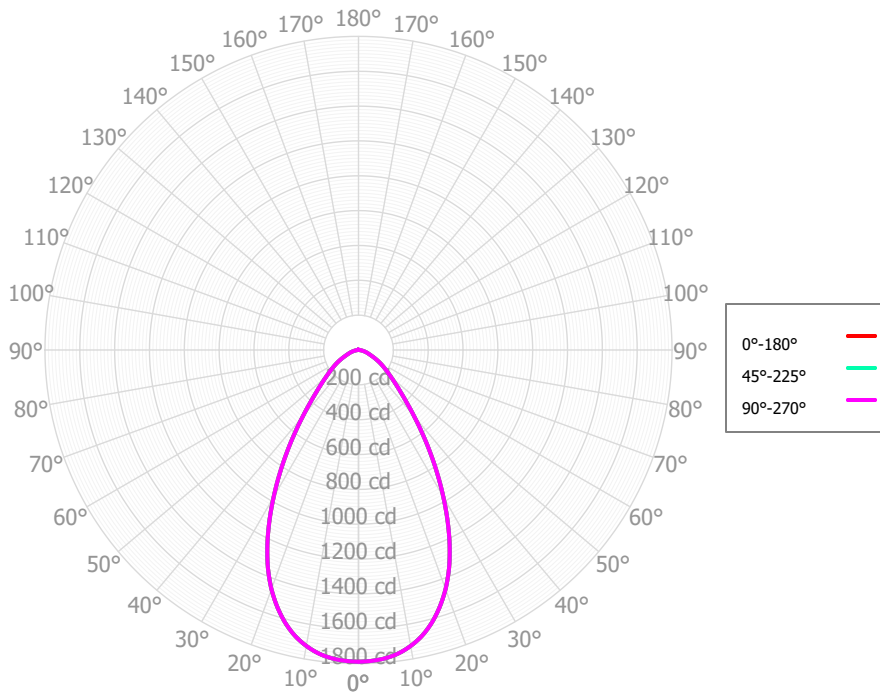
#### Full Beam Angle

0° - 180°	63°
90° - 270°	63°

### IES File Header Contents

Keyword	Value
TEST	SP-01168_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/16/2020
ISSUEDATE	7/15/2020
LUMCAT	SGECS4FX 30L 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°	174.87	7.87%	90.00° - 100.00°	0.98	0.04%
10.00° - 20.00°	452.12	20.34%	100.00° - 110.00°	0.88	0.04%
20.00° - 30.00°	561.48	25.26%	100.00° - 120.00°	1.89	0.09%
30.00° - 40.00°	447.21	20.12%	120.00° - 130.00°	0.87	0.04%
40.00° - 50.00°	270.67	12.18%	130.00° - 140.00°	0.83	0.04%
50.00° - 60.00°	166.08	7.47%	140.00° - 150.00°	0.74	0.03%
60.00° - 70.00°	91.28	4.11%	150.00° - 160.00°	0.58	0.03%
70.00° - 80.00°	42.70	1.92%	160.00° - 170.00°	0.38	0.02%
80.00° - 90.00°	9.75	0.44%	170.00° - 180.00°	0.12	0.01%
0.00° - 90.00°	2,216.15	99.71%	0.00° - 180.00°	2,222.54	100.00%

### Candela Distribution

	0.00°	45.00°	90.00°
0.00°	1,789.69	1,789.69	1,789.69
2.50°	1,786.29	1,786.29	1,786.29
5.00°	1,776.35	1,776.35	1,776.35
7.50°	1,756.98	1,756.98	1,756.98
10.00°	1,725.28	1,725.28	1,725.28
12.50°	1,681.66	1,681.66	1,681.66
15.00°	1,622.57	1,622.57	1,622.57
17.50°	1,548.49	1,548.49	1,548.49
20.00°	1,461.27	1,461.27	1,461.27
22.50°	1,358.05	1,358.05	1,358.05
25.00°	1,238.33	1,238.33	1,238.33
27.50°	1,108.25	1,108.25	1,108.25
30.00°	974.13	974.13	974.13
32.50°	842.08	842.08	842.08
35.00°	716.20	716.20	716.20
37.50°	599.51	599.51	599.51
40.00°	496.67	496.67	496.67
42.50°	410.38	410.38	410.38
45.00°	342.51	342.51	342.51
47.50°	289.78	289.78	289.78
50.00°	247.16	247.16	247.16
52.50°	212.39	212.39	212.39
55.00°	183.97	183.97	183.97
57.50°	158.66	158.66	158.66
60.00°	134.26	134.26	134.26
62.50°	110.92	110.92	110.92
65.00°	89.54	89.54	89.54
67.50°	72.55	72.55	72.55
70.00°	60.19	60.19	60.19
72.50°	50.10	50.10	50.10
75.00°	40.16	40.16	40.16
77.50°	30.86	30.86	30.86
80.00°	21.86	21.86	21.86
82.50°	13.87	13.87	13.87
85.00°	7.31	7.31	7.31
87.50°	3.06	3.06	3.06
90.00°	1.40	1.40	1.40
92.50°	1.10	1.10	1.10
95.00°	0.79	0.79	0.79
97.50°	0.69	0.69	0.69
100.00°	0.66	0.66	0.66
102.50°	0.78	0.78	0.78
105.00°	0.88	0.88	0.88
107.50°	0.89	0.89	0.89
110.00°	0.93	0.93	0.93
112.50°	1.00	1.00	1.00

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
<b>RCR</b>	<b>0</b>	2,644	2,644	2,644	2,644	2,582	2,582	2,582	2,582	2,466	2,466	2,466	2,360	2,360	2,360	2,262	2,262	2,216
	<b>1</b>	2,486	2,410	2,342	2,280	2,429	2,361	2,299	2,243	2,268	2,218	2,172	2,183	2,143	2,106	2,104	2,073	2,030
	<b>2</b>	2,327	2,193	2,082	1,989	2,274	2,153	2,051	1,965	2,077	1,993	1,920	2,008	1,938	1,878	1,944	1,887	1,848
	<b>3</b>	2,178	2,003	1,867	1,759	2,129	1,970	1,845	1,744	1,908	1,801	1,714	1,850	1,761	1,685	1,797	1,722	1,687
	<b>4</b>	2,041	1,837	1,688	1,574	1,996	1,810	1,671	1,564	1,758	1,638	1,543	1,710	1,607	1,524	1,666	1,578	1,546
	<b>5</b>	1,916	1,693	1,537	1,422	1,875	1,670	1,524	1,415	1,626	1,499	1,401	1,586	1,475	1,387	1,549	1,451	1,423
	<b>6</b>	1,801	1,566	1,408	1,295	1,764	1,547	1,398	1,290	1,510	1,378	1,280	1,476	1,359	1,270	1,444	1,341	1,316
	<b>7</b>	1,697	1,454	1,297	1,187	1,663	1,438	1,289	1,184	1,407	1,273	1,176	1,378	1,258	1,169	1,350	1,243	1,221
	<b>8</b>	1,602	1,356	1,201	1,095	1,571	1,342	1,195	1,092	1,315	1,182	1,086	1,290	1,169	1,081	1,266	1,157	1,137
	<b>9</b>	1,515	1,268	1,117	1,015	1,487	1,256	1,111	1,013	1,233	1,101	1,008	1,211	1,091	1,004	1,191	1,081	1,063
	<b>10</b>	1,436	1,190	1,043	945	1,411	1,179	1,038	943	1,159	1,029	940	1,140	1,021	936	1,122	1,012	933

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	59.2 fc	6.7 ft
6.5 ft	42.4 fc	8.0 ft
7.5 ft	31.8 fc	9.2 ft
8.0 ft	28.0 fc	9.8 ft
10.0 ft	17.9 fc	12.3 ft
12.0 ft	12.4 fc	14.7 ft
14.0 ft	9.1 fc	17.2 ft
16.0 ft	7.0 fc	19.6 ft
20.0 ft	4.5 fc	24.5 ft
24.0 ft	3.1 fc	29.4 ft
28.0 ft	2.3 fc	34.3 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	272,531	272,531	272,531
<b>45.00°</b>	73,762	73,762	73,762
<b>55.00°</b>	48,842	48,842	48,842
<b>65.00°</b>	32,263	32,263	32,263
<b>75.00°</b>	23,628	23,628	23,628
<b>85.00°</b>	12,765	12,765	12,765

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	22.1	23.3	22.5	23.7	24.0	22.1	23.3	22.5	23.7	24.0
	<b>3H</b>	23.0	24.1	23.4	24.4	24.8	23.0	24.1	23.4	24.4	24.8
	<b>4H</b>	23.3	24.3	23.7	24.7	25.1	23.3	24.3	23.7	24.7	25.1
	<b>6H</b>	23.5	24.5	23.9	24.8	25.2	23.5	24.5	23.9	24.8	25.2
	<b>8H</b>	23.6	24.4	24.0	24.8	25.3	23.6	24.4	24.0	24.8	25.3
	<b>12H</b>	23.6	24.4	24.0	24.8	25.2	23.6	24.4	24.0	24.8	25.2
<b>4H</b>	<b>2H</b>	22.4	23.4	22.8	23.7	24.1	22.4	23.4	22.8	23.7	24.1
	<b>3H</b>	23.4	24.3	23.9	24.7	25.1	23.4	24.3	23.9	24.7	25.1
	<b>4H</b>	23.9	24.6	24.3	25.1	25.5	23.9	24.6	24.3	25.1	25.5
	<b>6H</b>	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
	<b>8H</b>	24.2	24.9	24.7	25.3	25.8	24.2	24.9	24.7	25.3	25.8
	<b>12H</b>	24.3	24.8	24.8	25.3	25.8	24.3	24.8	24.8	25.3	25.8
<b>8H</b>	<b>4H</b>	24.0	24.6	24.5	25.0	25.5	24.0	24.6	24.5	25.0	25.5
	<b>6H</b>	24.4	24.9	24.9	25.4	25.9	24.4	24.9	24.9	25.4	25.9
	<b>8H</b>	24.5	24.9	25.0	25.4	25.9	24.5	24.9	25.0	25.4	25.9
	<b>12H</b>	24.5	24.9	25.1	25.4	26.0	24.5	24.9	25.1	25.4	26.0
<b>12H</b>	<b>4H</b>	24.0	24.5	24.5	25.0	25.5	24.0	24.5	24.5	25.0	25.5
	<b>6H</b>	24.4	24.8	24.9	25.3	25.8	24.4	24.8	24.9	25.3	25.8
	<b>8H</b>	24.5	24.9	25.0	25.4	26.0	24.5	24.9	25.0	25.4	26.0

Corrected UGR values based on total output lumens

SHR = 1.0