

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

CF04XXPC 15L 35K XW XX NL XX  
Nom 4" diam Gamma Cylinder, XW optic, no lens

### Test Number

SP-01071\_1\_M-15L

### Test Date

1/31/2020

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

### Summary of Results

#### Power

Input Watts	9.5 W
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#### Lumen Output

Output Lumens	1205
Efficacy	126.82 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.33
90° - 270° Size	-0.33
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.99
Two luminaires, plane 90°	0.99
Four luminaires	0.9

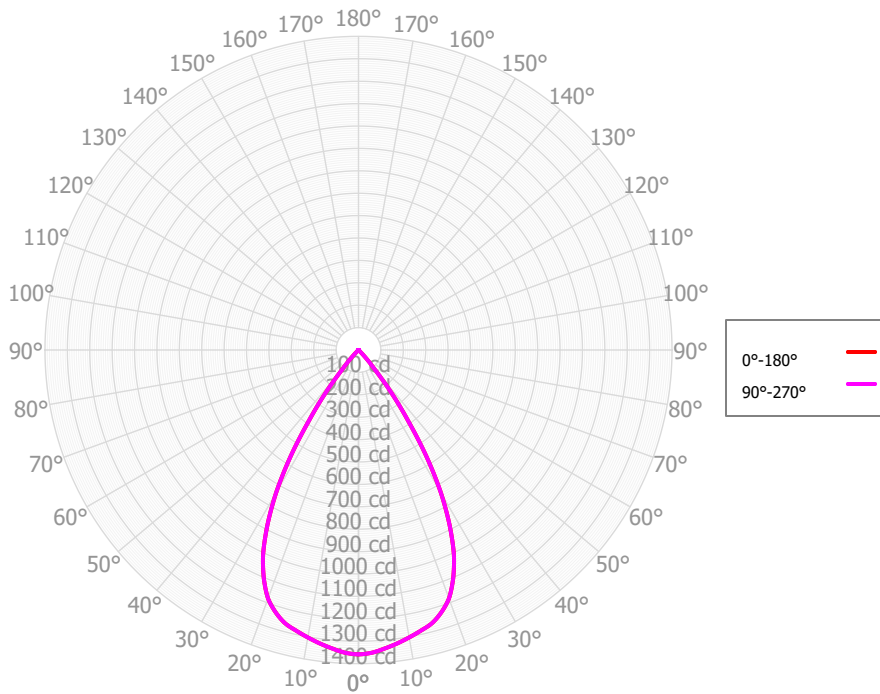
#### Full Beam Angle

0° - 180°	62°
90° - 270°	62°

### IES File Header Contents

Keyword	Value
TEST	SP-01071_1_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/31/2020
ISSUEDATE	3/19/2020
LUMCAT	CF04XXPC 15L 35K XW XX NL XX
LUMINAIRE	Nom 4" diam Gamma Cylinder, XW optic, no lens
OTHER	Beam Angle: 61.9 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.972, 30K x 0.981, 40K x 1.04, 27HK x 0.89, 30HK x 0.83
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	129.18	10.72%	90.00° - 100.00°	0.09	0.01%
10.00° - 20.00°	353.57	29.35%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	449.93	37.34%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	245.13	20.35%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	23.07	1.91%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.12	0.09%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.17	0.10%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.18	0.10%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.04	0.09%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1205.39	100.05%	0.00° - 180.00°	1205.48	100.06%

### Candela Distribution

	0.00°	90.00°	180.00°
0.00°	1359.02	1359.02	1359.02
2.50°	1353.27	1353.27	1353.27
5.00°	1338.30	1338.30	1338.30
7.50°	1321.82	1321.82	1321.82
10.00°	1303.36	1303.36	1303.36
12.50°	1284.10	1284.10	1284.10
15.00°	1263.98	1263.98	1263.98
17.50°	1228.97	1228.97	1228.97
20.00°	1180.99	1180.99	1180.99
22.50°	1104.69	1104.69	1104.69
25.00°	1008.20	1008.20	1008.20
27.50°	880.67	880.67	880.67
30.00°	735.30	735.30	735.30
32.50°	566.69	566.69	566.69
35.00°	387.43	387.43	387.43
37.50°	243.02	243.02	243.02
40.00°	111.18	111.18	111.18
42.50°	52.21	52.21	52.21
45.00°	13.09	13.09	13.09
47.50°	4.41	4.41	4.41
50.00°	1.67	1.67	1.67
52.50°	1.26	1.26	1.26
55.00°	1.15	1.15	1.15
57.50°	1.17	1.17	1.17
60.00°	1.21	1.21	1.21
62.50°	1.22	1.22	1.22
65.00°	1.22	1.22	1.22
67.50°	1.14	1.14	1.14
70.00°	1.09	1.09	1.09
72.50°	1.16	1.16	1.16
75.00°	1.15	1.15	1.15
77.50°	1.05	1.05	1.05
80.00°	1.09	1.09	1.09
82.50°	1.05	1.05	1.05
85.00°	0.97	0.97	0.97
87.50°	0.95	0.95	0.95
90.00°	0.64	0.64	0.64
92.50°	0.00	0.00	0.00
95.00°	0.00	0.00	0.00
97.50°	0.00	0.00	0.00
100.00°	0.00	0.00	0.00
102.50°	0.00	0.00	0.00
105.00°	0.00	0.00	0.00
107.50°	0.00	0.00	0.00
110.00°	0.00	0.00	0.00
112.50°	0.00	0.00	0.00

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<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>0</b>	1435	1435	1435	1435	1402	1402	1402	1402	1339	1339	1339	1282	1282	1282	1230	1230	1205
	<b>1</b>	1371	1339	1310	1284	1341	1313	1287	1263	1264	1243	1225	1219	1203	1188	1178	1166	1142
	<b>2</b>	1307	1251	1204	1165	1281	1230	1188	1152	1191	1157	1127	1156	1127	1103	1123	1100	1078
	<b>3</b>	1245	1171	1114	1068	1221	1154	1102	1060	1123	1079	1043	1094	1057	1026	1067	1037	1017
	<b>4</b>	1185	1099	1035	986	1164	1085	1026	980	1059	1009	969	1036	992	958	1013	977	959
	<b>5</b>	1129	1032	965	916	1110	1021	958	911	1000	945	903	980	933	895	962	921	888
	<b>6</b>	1075	972	903	853	1058	963	898	851	945	887	845	928	878	839	913	868	834
	<b>7</b>	1024	917	847	798	1008	909	843	796	894	835	792	879	827	788	866	819	784
	<b>8</b>	976	866	796	749	962	859	793	747	846	787	744	834	780	741	823	774	738
	<b>9</b>	931	819	750	704	918	813	748	703	802	742	701	792	737	698	782	732	696
	<b>10</b>	889	776	709	664	877	771	706	663	761	702	661	752	698	659	744	694	657

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	44.9 fc	6.6 ft
6.5 ft	32.2 fc	7.8 ft
7.5 ft	24.2 fc	9.0 ft
8.0 ft	21.2 fc	9.5 ft
10.0 ft	13.6 fc	11.9 ft
12.0 ft	9.4 fc	14.3 ft
14.0 ft	6.9 fc	16.7 ft
16.0 ft	5.3 fc	19.1 ft
20.0 ft	3.4 fc	23.9 ft
24.0 ft	2.4 fc	28.6 ft
28.0 ft	1.7 fc	33.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	171032	171032	171032
<b>45.00°</b>	2330	2330	2330
<b>55.00°</b>	251	251	251
<b>65.00°</b>	364	364	364
<b>75.00°</b>	557	557	557
<b>85.00°</b>	1399	1399	1399

### 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	-10.0	-9.1	-9.6	-8.8	-8.5	-10.0	-9.1	-9.6	-8.8	-8.5
	3H	-6.7	-5.9	-6.3	-5.6	-5.2	-6.7	-5.9	-6.3	-5.6	-5.2
	4H	-4.8	-4.1	-4.4	-3.7	-3.3	-4.8	-4.1	-4.4	-3.7	-3.3
	6H	-2.9	-2.3	-2.5	-1.9	-1.5	-2.9	-2.3	-2.5	-1.9	-1.5
	8H	-1.9	-1.3	-1.5	-0.9	-0.5	-1.9	-1.3	-1.5	-0.9	-0.5
	12H	-0.8	-0.2	-0.4	0.2	0.6	-0.8	-0.2	-0.4	0.2	0.6
4H	2H	-8.9	-8.2	-8.5	-7.8	-7.4	-8.9	-8.2	-8.5	-7.8	-7.4
	3H	-5.5	-4.9	-5.1	-4.5	-4.1	-5.5	-4.9	-5.1	-4.5	-4.1
	4H	-3.5	-2.9	-3.0	-2.5	-2.0	-3.5	-2.9	-3.0	-2.5	-2.0
	6H	-1.4	-1.0	-0.9	-0.5	0.0	-1.4	-1.0	-0.9	-0.5	0.0
	8H	-0.3	0.1	0.2	0.6	1.1	-0.3	0.1	0.2	0.6	1.1
	12H	0.9	1.3	1.4	1.8	2.2	0.9	1.3	1.4	1.8	2.2
8H	4H	-2.8	-2.3	-2.3	-1.9	-1.4	-2.8	-2.3	-2.3	-1.9	-1.4
	6H	-0.4	-0.1	0.1	0.4	0.9	-0.4	-0.1	0.1	0.4	0.9
	8H	0.9	1.2	1.4	1.7	2.2	0.9	1.2	1.4	1.7	2.2
	12H	2.3	2.5	2.8	3.0	3.6	2.3	2.5	2.8	3.0	3.6
12H	4H	-2.6	-2.2	-2.1	-1.7	-1.2	-2.6	-2.2	-2.1	-1.7	-1.2
	6H	-0.1	0.2	0.4	0.6	1.2	-0.1	0.2	0.4	0.6	1.2
	8H	1.3	1.5	1.8	2.0	2.6	1.3	1.5	1.8	2.0	2.6

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0