

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

C0614LM 100L 35K MD DX NL CD XX  
Nom 6" diam x 14" H 100L Cylinder for Whole Foods project

### **Test Number**

SP-01022

### **Test Date**

1/15/2020

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

### Summary of Results

#### Power

Input Watts	74 W
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#### Lumen Output

Output Lumens	7637
Efficacy	103.2 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.71
Two luminaires, plane 90°	0.71
Four luminaires	0.78

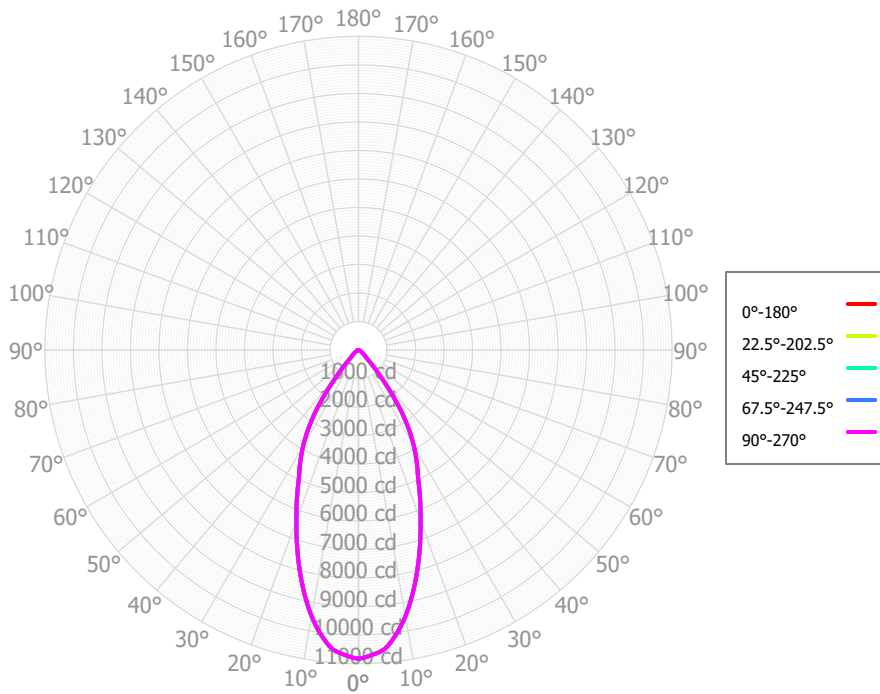
#### Full Beam Angle

0° - 180°	47°
90° - 270°	47°

### IES File Header Contents

Keyword	Value
TEST	SP-01022
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/15/2020
ISSUEDATE	2/10/2020
LUMCAT	C0614LM 100L 35K MD DX NL CD XX
LUMINAIRE	Nom 6" diam x 14" H 100L Cylinder for Whole Foods project
OTHER	Beam Angle: 46.7 degrees
OTHER	Medium Optic
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x .934, 30K x .963, 40K x 1.02, 50K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	82
_CCTMULT	27K x 0.93, 30K x 0.96, 40K x 1.02, 50K x 1.03
_LAMPMULT	120L x 1.13, 137L x 1.25

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	1,017.73	13.27%	90.00° - 100.00°	0.16	0.00%
10.00° - 20.00°	2,202.04	28.70%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	2,289.61	29.84%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1,564.00	20.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	403.83	5.26%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	141.11	1.84%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	43.18	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	8.52	0.11%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	2.09	0.03%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	7,672.12	100.00%	0.00° - 180.00°	7,672.28	100.00%

### Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°
0.00°	10,824.00	10,824.00	10,824.00	10,824.00	10,824.00
2.50°	10,713.01	10,713.01	10,713.01	10,713.01	10,713.01
5.00°	10,529.89	10,529.89	10,529.89	10,529.89	10,529.89
7.50°	10,075.91	10,075.91	10,075.91	10,075.91	10,075.91
10.00°	9,483.55	9,483.55	9,483.55	9,483.55	9,483.55
12.50°	8,764.32	8,764.32	8,764.32	8,764.32	8,764.32
15.00°	7,980.70	7,980.70	7,980.70	7,980.70	7,980.70
17.50°	7,174.34	7,174.34	7,174.34	7,174.34	7,174.34
20.00°	6,370.63	6,370.63	6,370.63	6,370.63	6,370.63
22.50°	5,644.80	5,644.80	5,644.80	5,644.80	5,644.80
25.00°	4,946.42	4,946.42	4,946.42	4,946.42	4,946.42
27.50°	4,421.90	4,421.90	4,421.90	4,421.90	4,421.90
30.00°	3,881.24	3,881.24	3,881.24	3,881.24	3,881.24
32.50°	3,274.19	3,274.19	3,274.19	3,274.19	3,274.19
35.00°	2,600.84	2,600.84	2,600.84	2,600.84	2,600.84
37.50°	1,831.27	1,831.27	1,831.27	1,831.27	1,831.27
40.00°	1,148.55	1,148.55	1,148.55	1,148.55	1,148.55
42.50°	719.61	719.61	719.61	719.61	719.61
45.00°	399.03	399.03	399.03	399.03	399.03
47.50°	323.68	323.68	323.68	323.68	323.68
50.00°	253.31	253.31	253.31	253.31	253.31
52.50°	200.80	200.80	200.80	200.80	200.80
55.00°	153.38	153.38	153.38	153.38	153.38
57.50°	114.77	114.77	114.77	114.77	114.77
60.00°	83.13	83.13	83.13	83.13	83.13
62.50°	58.83	58.83	58.83	58.83	58.83
65.00°	40.06	40.06	40.06	40.06	40.06
67.50°	27.01	27.01	27.01	27.01	27.01
70.00°	17.24	17.24	17.24	17.24	17.24
72.50°	10.83	10.83	10.83	10.83	10.83
75.00°	6.85	6.85	6.85	6.85	6.85
77.50°	4.59	4.59	4.59	4.59	4.59
80.00°	3.16	3.16	3.16	3.16	3.16
82.50°	2.22	2.22	2.22	2.22	2.22
85.00°	1.87	1.87	1.87	1.87	1.87
87.50°	1.42	1.42	1.42	1.42	1.42
90.00°	1.18	1.18	1.18	1.18	1.18
92.50°	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	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>	9,134	9,134	9,134	9,134	8,921	8,921	8,921	8,921	8,525	8,525	8,525	8,162	8,162	8,162	7,829	7,829	7,672
	<b>1</b>	8,715	8,506	8,318	8,148	8,527	8,340	8,172	8,019	8,030	7,895	7,772	7,745	7,639	7,541	7,482	7,400	7,252
	<b>2</b>	8,292	7,924	7,620	7,364	8,123	7,792	7,516	7,281	7,544	7,317	7,121	7,316	7,131	6,969	7,105	6,956	6,819
	<b>3</b>	7,883	7,399	7,024	6,725	7,731	7,292	6,948	6,670	7,092	6,802	6,564	6,906	6,664	6,461	6,734	6,534	6,408
	<b>4</b>	7,494	6,926	6,509	6,191	7,357	6,838	6,452	6,154	6,674	6,343	6,081	6,521	6,239	6,010	6,379	6,140	6,025
	<b>5</b>	7,127	6,499	6,060	5,736	7,003	6,426	6,016	5,710	6,290	5,933	5,659	6,163	5,853	5,609	6,044	5,776	5,671
	<b>6</b>	6,782	6,112	5,663	5,340	6,670	6,052	5,629	5,322	5,938	5,564	5,286	5,831	5,502	5,250	5,731	5,441	5,347
	<b>7</b>	6,459	5,762	5,311	4,994	6,358	5,711	5,284	4,980	5,615	5,232	4,954	5,524	5,183	4,928	5,439	5,135	5,049
	<b>8</b>	6,158	5,445	4,995	4,687	6,067	5,401	4,974	4,677	5,318	4,933	4,657	5,241	4,892	4,638	5,168	4,854	4,776
	<b>9</b>	5,878	5,155	4,712	4,413	5,795	5,118	4,695	4,406	5,047	4,661	4,391	4,980	4,628	4,376	4,916	4,596	4,526
	<b>10</b>	5,618	4,891	4,457	4,167	5,542	4,859	4,442	4,162	4,797	4,414	4,150	4,739	4,387	4,139	4,684	4,361	4,297

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	357.8 fc	4.7 ft
6.5 ft	256.2 fc	5.6 ft
7.5 ft	192.4 fc	6.5 ft
8.0 ft	169.1 fc	6.9 ft
10.0 ft	108.2 fc	8.6 ft
12.0 ft	75.2 fc	10.4 ft
14.0 ft	55.2 fc	12.1 ft
16.0 ft	42.3 fc	13.8 ft
20.0 ft	27.1 fc	17.3 ft
24.0 ft	18.8 fc	20.7 ft
28.0 ft	13.8 fc	24.2 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	593,373	593,373	593,373
<b>45.00°</b>	30,936	30,936	30,936
<b>55.00°</b>	14,659	14,659	14,659
<b>65.00°</b>	5,196	5,196	5,196
<b>75.00°</b>	1,450	1,450	1,450
<b>85.00°</b>	1,176	1,176	1,176

### 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>	12.3	13.3	12.6	13.6	13.9	12.3	13.3	12.6	13.6	13.9
	<b>3H</b>	12.3	13.2	12.7	13.5	13.9	12.3	13.2	12.7	13.5	13.9
	<b>4H</b>	12.3	13.1	12.7	13.4	13.8	12.3	13.1	12.7	13.4	13.8
	<b>6H</b>	12.2	12.9	12.6	13.3	13.7	12.2	12.9	12.6	13.3	13.7
	<b>8H</b>	12.1	12.8	12.6	13.2	13.6	12.1	12.8	12.6	13.2	13.6
	<b>12H</b>	12.1	12.7	12.5	13.1	13.5	12.1	12.7	12.5	13.1	13.5
<b>4H</b>	<b>2H</b>	12.2	13.0	12.6	13.3	13.7	12.2	13.0	12.6	13.3	13.7
	<b>3H</b>	12.3	12.9	12.7	13.3	13.8	12.3	12.9	12.7	13.3	13.8
	<b>4H</b>	12.2	12.8	12.7	13.2	13.7	12.2	12.8	12.7	13.2	13.7
	<b>6H</b>	12.1	12.6	12.6	13.1	13.6	12.1	12.6	12.6	13.1	13.6
	<b>8H</b>	12.1	12.5	12.5	13.0	13.5	12.1	12.5	12.5	13.0	13.5
	<b>12H</b>	12.0	12.4	12.5	12.9	13.4	12.0	12.4	12.5	12.9	13.4
<b>8H</b>	<b>4H</b>	12.1	12.5	12.5	13.0	13.4	12.1	12.5	12.5	13.0	13.4
	<b>6H</b>	12.0	12.3	12.5	12.8	13.3	12.0	12.3	12.5	12.8	13.3
	<b>8H</b>	11.9	12.2	12.5	12.8	13.3	11.9	12.2	12.5	12.8	13.3
	<b>12H</b>	11.9	12.2	12.4	12.7	13.2	11.9	12.2	12.4	12.7	13.2
<b>12H</b>	<b>4H</b>	12.0	12.4	12.5	12.9	13.4	12.0	12.4	12.5	12.9	13.4
	<b>6H</b>	11.9	12.2	12.4	12.7	13.3	11.9	12.2	12.4	12.7	13.3
	<b>8H</b>	11.9	12.1	12.4	12.6	13.2	11.9	12.1	12.4	12.6	13.2

Corrected UGR values based on total output lumens

SHR = 1.0