

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## **Spectrum Lighting Photometric Lab**

### **Luminaire**

CK0407PC 10L 35K XW xx SO xx MW  
Nom. 4.5" Diam x 7"H Round Cylinder, Xtra Wide Beam

### **Test Number**

SP-1446

### **Test Date**

11/23/2022

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

### Summary of Results

#### Power

Input Watts	6.7 W
-------------	-------

#### Lumen Output

Output Lumens	641
Efficacy	95.71 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.38
90° - 270° Size	-0.38
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.93
Two luminaires, plane 90°	0.92
Four luminaires	0.89

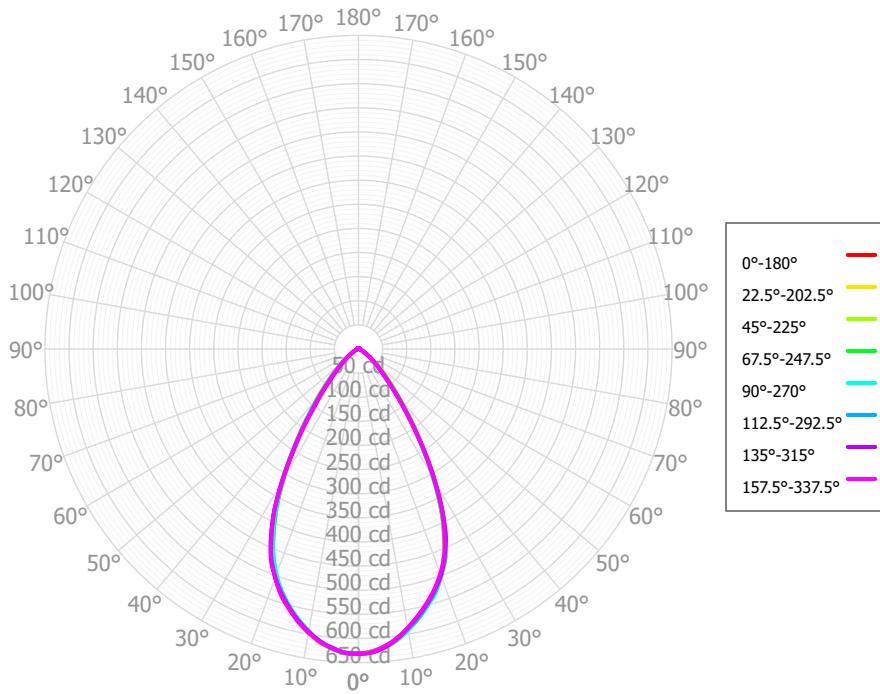
#### Full Beam Angle

0° - 180°	60°
90° - 270°	60°

### IES File Header Contents

Keyword	Value
TEST	SP-1446
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/23/2022
ISSUEDATE	11/23/2022
LUMCAT	CK0407PC 10L 35K XW xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Round Cylinder, Xtra Wide Beam
OTHER	Solite lens, Matte White finish
OTHER	60 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Multipliers: 27K x 0.95, 30K x 0.97, 40K x 1.03
OTHER	This report prepared by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	59.23	9.24%	90.00° - 100.00°	1.93	0.30%
10.00° - 20.00°	154.37	24.07%	100.00° - 110.00°	1.85	0.29%
20.00° - 30.00°	189.98	29.63%	100.00° - 120.00°	3.59	0.56%
30.00° - 40.00°	128.96	20.11%	120.00° - 130.00°	1.60	0.25%
40.00° - 50.00°	58.88	9.18%	130.00° - 140.00°	1.45	0.23%
50.00° - 60.00°	23.82	3.71%	140.00° - 150.00°	1.16	0.18%
60.00° - 70.00°	8.84	1.38%	150.00° - 160.00°	0.86	0.13%
70.00° - 80.00°	3.75	0.59%	160.00° - 170.00°	0.53	0.08%
80.00° - 90.00°	2.13	0.33%	170.00° - 180.00°	0.18	0.03%
0.00° - 90.00°	629.96	98.24%	0.00° - 180.00°	641.25	100.00%

### Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63	631.63
2.50°	627.35	630.43	627.81	629.23	629.68	629.90	630.51	630.64	629.96	630.98	629.96	630.91	631.56	630.08	629.74	628.89	627.35
5.00°	619.13	618.53	619.95	619.39	621.28	621.79	623.03	621.96	624.18	623.45	622.97	622.40	623.99	619.34	621.29	618.61	619.13
7.50°	604.85	606.26	607.25	607.91	609.56	611.39	611.02	612.78	612.35	614.68	610.93	611.62	611.33	606.36	606.64	606.95	604.85
10.00°	588.25	588.83	590.84	590.77	592.29	595.20	595.32	596.13	597.42	596.47	595.34	594.62	593.48	589.17	587.34	587.25	588.25
12.50°	569.29	571.16	572.03	572.82	572.02	576.79	576.87	579.21	578.21	577.67	577.14	575.91	573.74	571.29	567.34	567.18	569.29
15.00°	549.62	550.34	551.72	550.88	551.29	553.87	555.55	557.10	557.22	555.82	554.52	553.51	552.41	549.50	546.91	545.58	549.62
17.50°	525.33	528.36	527.23	528.60	530.37	529.81	532.47	534.29	534.18	532.11	529.23	528.26	527.08	527.32	523.79	522.68	525.33
20.00°	500.03	497.90	500.58	498.45	501.33	503.87	504.50	504.38	504.75	501.43	497.34	498.05	498.95	498.85	499.33	495.72	500.03
22.50°	463.21	464.77	462.97	467.75	469.50	471.30	474.10	472.27	469.24	466.31	462.25	461.54	462.13	470.00	465.92	464.28	463.21
25.00°	424.64	418.61	420.82	418.77	423.13	429.82	429.18	426.52	424.10	418.54	415.87	416.03	420.37	423.39	428.89	421.90	424.64
27.50°	370.51	369.97	367.79	369.13	372.94	378.80	378.49	377.71	371.41	368.30	365.12	365.95	369.30	376.14	375.63	374.06	370.51
30.00°	314.92	312.36	311.21	310.07	313.56	317.19	317.33	315.51	314.83	312.46	311.37	310.45	313.93	317.14	317.30	315.50	314.92
32.50°	259.44	257.19	257.98	252.22	252.43	257.42	252.90	255.54	255.76	258.62	256.72	257.45	259.66	258.73	259.49	258.24	259.44
35.00°	204.12	208.81	205.56	203.84	201.50	199.33	199.42	202.83	206.00	208.41	209.02	206.89	205.79	205.79	201.80	203.03	204.12
37.50°	163.66	165.19	165.82	157.97	151.87	152.76	148.52	155.28	161.09	164.34	162.91	164.42	162.96	155.64	157.73	156.05	163.66
40.00°	124.10	132.11	128.29	125.30	120.01	114.94	115.24	120.88	126.58	129.40	130.44	128.45	123.27	121.92	115.95	119.84	124.10
42.50°	99.08	103.12	102.99	95.23	89.42	87.72	84.86	91.08	96.43	99.65	100.12	99.83	96.77	91.18	91.42	91.52	99.08
45.00°	75.11	81.40	79.07	75.11	70.52	67.14	67.41	70.67	75.15	76.22	79.09	76.06	73.01	72.91	68.74	71.74	75.11
47.50°	60.16	62.89	63.04	57.00	52.07	51.71	51.31	53.62	56.81	58.15	58.97	58.84	57.46	56.19	55.34	55.72	60.16
50.00°	45.87	49.07	47.47	44.71	41.50	38.88	40.83	42.15	44.12	45.49	46.41	45.14	43.09	44.36	42.40	43.07	45.87
52.50°	35.35	37.27	37.25	33.70	31.18	30.09	30.63	32.30	32.85	34.73	34.20	34.90	33.71	33.78	34.11	32.87	35.35
55.00°	25.75	27.89	27.23	25.59	23.85	22.94	24.25	24.66	25.69	25.55	26.48	26.15	24.75	26.27	25.93	24.46	25.75
57.50°	19.84	20.75	20.98	18.77	16.99	17.60	17.97	18.78	19.27	19.18	18.97	20.01	19.23	19.75	20.12	18.49	19.84
60.00°	14.59	15.83	14.99	14.33	13.49	12.84	13.78	14.86	15.22	14.76	15.01	14.77	13.87	15.17	14.52	13.99	14.59
62.50°	11.37	12.02	11.74	10.79	10.18	10.23	9.83	11.60	11.45	11.46	11.20	11.23	10.58	11.35	11.00	10.72	11.37
65.00°	8.60	9.11	8.69	8.64	7.80	8.14	8.05	8.94	8.76	8.78	8.70	8.14	7.42	8.73	7.80	8.05	8.60
67.50°	6.91	6.97	6.94	6.83	5.74	6.82	6.37	7.18	6.15	7.07	6.39	6.55	6.08	6.72	6.57	6.16	6.91
70.00°	5.40	5.35	5.34	5.45	4.84	5.63	5.28	6.12	4.88	5.81	5.05	5.24	4.79	5.49	5.38	4.56	5.40
72.50°	4.23	4.33	4.43	4.31	3.96	4.36	4.27	5.06	3.65	4.56	3.87	4.37	3.95	4.40	4.40	3.78	4.23
75.00°	3.26	3.63	3.57	3.39	3.16	3.07	3.63	4.00	3.18	3.30	3.34	3.56	3.15	3.48	3.49	3.25	3.26
77.50°	2.59	3.03	2.94	2.74	2.56	2.66	3.04	3.13	2.70	2.69	2.83	2.86	2.56	2.83	2.88	2.69	2.59
80.00°	2.15	2.46	2.39	2.32	2.39	2.29	2.61	2.36	2.23	2.26	2.37	2.16	2.08	2.43	2.33	2.13	2.15
82.50°	2.01	2.15	2.04	2.10	2.19	2.09	2.23	2.07	1.81	2.15	2.02	2.16	1.94	2.10	1.96	1.96	2.01
85.00°	1.92	1.92	1.75	2.01	1.92	1.90	1.94	1.98	1.68	2.11	1.95	2.16	1.81	1.83	1.75	1.86	1.92
87.50°	1.89	1.74	1.58	1.95	1.78	1.78	1.75	1.93	1.63	1.99	1.89	1.87	1.64	1.84	1.86	1.80	1.89
90.00°	1.78	1.58	1.52	1.90	1.81	1.66	1.76	1.90	1.88	1.85	1.83	1.61	1.56	2.01	1.85	1.74	1.78
92.50°	1.61	1.61	1.67	1.94	1.80	1.63	1.75	1.85	2.04	1.88	1.78	1.74	1.68	2.00	1.65	1.89	1.61
95.00°	1.59	1.68	1.72	2.02	1.75	1.60	1.70	1.79	1.90	1.92	1.74	1.84	1.73	1.90	1.51	2.05	1.59
97.50°	1.67	1.76	1.66	1.98	1.74	1.65	1.70	1.72	1.79	1.82	1.74	1.77	1.69	1.88	1.45	2.00	1.67
100.00°	1.73	1.84	1.62	1.89	1.77	1.69	1.73	1.65	1.75	1.72	1.77	1.72	1.70	1.88	1.49	1.94	1.73

### 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>	761	761	761	761	742	742	742	742	706	706	706	674	674	674	644	644	630
	<b>1</b>	721	701	684	668	704	686	671	656	658	646	634	632	622	613	608	601	588
	<b>2</b>	681	647	618	595	665	635	609	587	612	591	572	591	573	558	571	557	545
	<b>3</b>	643	598	563	535	629	588	556	530	569	542	520	552	529	511	536	517	506
	<b>4</b>	607	554	516	486	594	546	510	483	530	500	476	516	490	469	503	481	471
	<b>5</b>	573	515	475	445	562	509	471	442	495	463	437	483	455	432	472	447	438
	<b>6</b>	542	481	439	410	531	475	436	408	464	430	404	453	423	400	444	417	409
	<b>7</b>	513	449	408	379	504	444	405	378	435	400	375	426	395	372	418	390	383
	<b>8</b>	487	421	380	352	478	417	378	351	409	374	349	401	370	347	394	366	359
	<b>9</b>	462	396	356	329	454	392	354	328	385	350	326	379	347	324	372	344	338
	<b>10</b>	439	373	334	308	432	370	332	307	364	329	305	358	326	304	352	324	318

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	20.9 fc	6.3 ft
6.5 ft	14.9 fc	7.5 ft
7.5 ft	11.2 fc	8.6 ft
8.0 ft	9.9 fc	9.2 ft
10.0 ft	6.3 fc	11.5 ft
12.0 ft	4.4 fc	13.8 ft
14.0 ft	3.2 fc	16.1 ft
16.0 ft	2.5 fc	18.4 ft
20.0 ft	1.6 fc	23.1 ft
24.0 ft	1.1 fc	27.7 ft
28.0 ft	0.8 fc	32.3 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	59948	59948	59948
<b>45.00°</b>	10082	10613	9466
<b>55.00°</b>	4261	4505	3946
<b>65.00°</b>	1931	1952	1751
<b>75.00°</b>	1194	1311	1159
<b>85.00°</b>	2088	1909	2094

### 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>	10.3	11.4	10.7	11.8	12.1	10.0	11.0	10.4	11.4	11.8
	<b>3H</b>	10.7	11.7	11.2	12.1	12.5	10.4	11.3	10.8	11.7	12.1
	<b>4H</b>	10.9	11.7	11.3	12.1	12.6	10.5	11.4	11.0	11.8	12.2
	<b>6H</b>	11.0	11.8	11.4	12.2	12.6	10.6	11.4	11.1	11.9	12.3
	<b>8H</b>	11.0	11.8	11.5	12.2	12.7	10.7	11.5	11.2	11.9	12.4
	<b>12H</b>	11.1	11.9	11.6	12.3	12.8	10.9	11.6	11.3	12.0	12.5
<b>4H</b>	<b>2H</b>	10.4	11.2	10.8	11.6	12.1	10.0	10.9	10.5	11.3	11.7
	<b>3H</b>	10.9	11.6	11.4	12.1	12.5	10.6	11.3	11.1	11.8	12.2
	<b>4H</b>	11.1	11.7	11.6	12.2	12.7	10.8	11.5	11.3	11.9	12.4
	<b>6H</b>	11.3	11.9	11.8	12.3	12.9	11.0	11.6	11.5	12.1	12.6
	<b>8H</b>	11.4	11.9	11.9	12.4	12.9	11.2	11.7	11.7	12.2	12.7
	<b>12H</b>	11.6	12.1	12.1	12.6	13.1	11.4	11.8	11.9	12.4	12.9
<b>8H</b>	<b>4H</b>	11.1	11.6	11.6	12.1	12.6	10.9	11.4	11.4	11.8	12.4
	<b>6H</b>	11.4	11.8	12.0	12.4	12.9	11.2	11.6	11.7	12.1	12.6
	<b>8H</b>	11.6	12.0	12.2	12.5	13.1	11.4	11.8	12.0	12.3	12.9
	<b>12H</b>	12.0	12.3	12.5	12.8	13.4	11.8	12.1	12.4	12.7	13.3
<b>12H</b>	<b>4H</b>	11.1	11.5	11.6	12.1	12.6	10.8	11.3	11.4	11.8	12.3
	<b>6H</b>	11.4	11.8	12.0	12.3	12.9	11.2	11.6	11.8	12.1	12.7
	<b>8H</b>	11.7	12.0	12.2	12.5	13.2	11.5	11.8	12.1	12.4	13.0

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0