

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

CY0608SQCBFAGV 15L 35K XX XX MW

Nom 6" x 8" cube shaped decorative luminaire with closed bottom

### Test Number

SP-00987\_M-15L

### Test Date

12/24/2019

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

### Summary of Results

#### Power

Input Watts	10 W
-------------	------

#### Lumen Output

Output Lumens	888
Efficacy	88.82 lm/W

#### Luminous Dimensions

0° - 180° Size	0.5
90° - 270° Size	0.5
Height	0.67

#### Spacing Criterion

Two luminaires, plane 0°	1.9
Two luminaires, plane 90°	1.9
Four luminaires	2.18

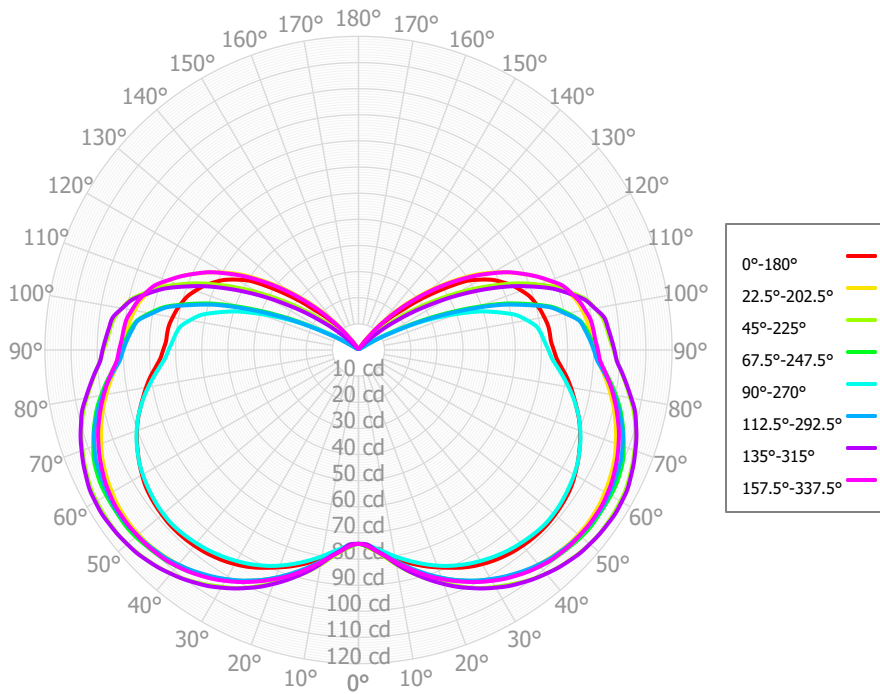
#### Full Beam Angle

0° - 180°	235°
90° - 270°	208°

### IES File Header Contents

Keyword	Value
TEST	SP-00987_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/24/2019
ISSUEDATE	4/7/2020
LUMCAT	CY0608SQCBFAGV 15L 35K XX XX MW
LUMINAIRE	Nom 6" x 8" cube shaped decorative luminaire with closed bottom
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 27L

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	7.64	0.86%	90.00° - 100.00°	93.63	10.54%
10.00° - 20.00°	24.94	2.81%	100.00° - 110.00°	78.29	8.81%
20.00° - 30.00°	44.85	5.05%	100.00° - 120.00°	126.81	14.28%
30.00° - 40.00°	65.09	7.33%	120.00° - 130.00°	22.46	2.53%
40.00° - 50.00°	83.33	9.38%	130.00° - 140.00°	7.86	0.89%
50.00° - 60.00°	97.38	10.96%	140.00° - 150.00°	1.48	0.17%
60.00° - 70.00°	105.47	11.87%	150.00° - 160.00°	0.34	0.04%
70.00° - 80.00°	106.34	11.97%	160.00° - 170.00°	0.20	0.02%
80.00° - 90.00°	100.34	11.30%	170.00° - 180.00°	0.07	0.01%
0.00° - 90.00°	635.37	71.53%	0.00° - 180.00°	888.23	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°	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22	74.22
2.50°	74.88	75.45	75.32	75.29	74.58	74.92	74.54	75.08	74.88	75.45	75.32	75.29	74.58	74.92	74.54	75.08	74.88
5.00°	76.69	77.20	77.50	77.05	76.23	77.03	77.00	77.22	76.69	77.20	77.50	77.05	76.23	77.03	77.00	77.22	76.69
7.50°	78.71	79.43	80.16	79.36	78.07	79.33	79.67	79.61	78.71	79.43	80.16	79.36	78.07	79.33	79.67	79.61	78.71
10.00°	80.95	82.18	83.41	82.32	80.16	82.07	83.08	82.45	80.95	82.18	83.41	82.32	80.16	82.07	83.08	82.45	80.95
12.50°	83.07	85.03	86.54	85.17	82.19	84.80	86.42	85.29	83.07	85.03	86.54	85.17	82.19	84.80	86.42	85.29	83.07
15.00°	85.03	88.00	89.49	87.90	84.14	87.50	89.46	88.14	85.03	88.00	89.49	87.90	84.14	87.50	89.46	88.14	85.03
17.50°	86.86	90.77	92.33	90.49	86.02	90.16	92.46	90.86	86.86	90.77	92.33	90.49	86.02	90.16	92.46	90.86	86.86
20.00°	88.53	93.32	95.02	92.89	87.81	92.73	95.30	93.29	88.53	93.32	95.02	92.89	87.81	92.73	95.30	93.29	88.53
22.50°	90.22	95.62	97.69	95.23	89.45	95.20	98.07	95.67	90.22	95.62	97.69	95.23	89.45	95.20	98.07	95.67	90.22
25.00°	91.92	97.61	100.34	97.46	90.86	97.37	100.51	97.92	91.92	97.61	100.34	97.46	90.86	97.37	100.51	97.92	91.92
27.50°	93.43	99.57	102.73	99.59	92.15	99.45	102.90	100.09	93.43	99.57	102.73	99.59	92.15	99.45	102.90	100.09	93.43
30.00°	94.63	101.48	104.69	101.56	93.26	101.24	105.04	102.03	94.63	101.48	104.69	101.56	93.26	101.24	105.04	102.03	94.63
32.50°	95.70	103.24	106.63	103.45	94.28	102.97	107.12	103.86	95.70	103.24	106.63	103.45	94.28	102.97	107.12	103.86	95.70
35.00°	96.55	104.79	108.53	105.19	95.17	104.50	108.79	105.42	96.55	104.79	108.53	105.19	95.17	104.50	108.79	105.42	96.55
37.50°	97.26	106.14	110.27	106.78	95.96	105.97	110.42	106.87	97.26	106.14	110.27	106.78	95.96	105.97	110.42	106.87	97.26
40.00°	97.75	107.21	111.70	108.11	96.55	107.23	111.77	108.04	97.75	107.21	111.70	108.11	96.55	107.23	111.77	108.04	97.75
42.50°	98.13	108.16	112.98	109.22	97.07	108.39	113.08	109.07	98.13	108.16	112.98	109.22	97.07	108.39	113.08	109.07	98.13
45.00°	98.34	108.96	113.97	109.94	97.47	109.16	114.10	109.67	98.34	108.96	113.97	109.94	97.47	109.16	114.10	109.67	98.34
47.50°	98.40	109.56	114.85	110.63	97.68	109.89	115.06	110.20	98.40	109.56	114.85	110.63	97.68	109.89	115.06	110.20	98.40
50.00°	98.16	109.87	115.53	111.27	97.51	110.42	115.58	110.48	98.16	109.87	115.53	111.27	97.51	110.42	115.58	110.48	98.16
52.50°	97.84	110.01	116.00	111.67	97.22	110.88	116.07	110.70	97.84	110.01	116.00	111.67	97.22	110.88	116.07	110.70	97.84
55.00°	97.38	109.85	116.04	111.60	96.67	111.02	116.34	110.69	97.38	109.85	116.04	111.60	96.67	111.02	116.34	110.69	97.38
57.50°	96.72	109.52	116.00	111.53	96.06	111.06	116.57	110.56	96.72	109.52	116.00	111.53	96.06	111.06	116.57	110.56	96.72
60.00°	95.64	108.89	115.79	111.45	95.32	110.63	116.29	109.98	95.64	108.89	115.79	111.45	95.32	110.63	116.29	109.98	95.64
62.50°	94.49	108.18	115.38	111.20	94.45	110.17	115.96	109.32	94.49	108.18	115.38	111.20	94.45	110.17	115.96	109.32	94.49
65.00°	93.18	107.30	114.49	110.55	93.23	109.57	114.98	108.31	93.18	107.30	114.49	110.55	93.23	109.57	114.98	108.31	93.18
67.50°	91.79	106.25	113.53	109.62	91.92	108.87	114.00	107.24	91.79	106.25	113.53	109.62	91.92	108.87	114.00	107.24	91.79
70.00°	90.22	104.83	112.41	108.01	90.34	107.55	112.77	105.92	90.22	104.83	112.41	108.01	90.34	107.55	112.77	105.92	90.22
72.50°	88.53	103.35	111.17	106.33	88.61	106.13	111.54	104.52	88.53	103.35	111.17	106.33	88.61	106.13	111.54	104.52	88.53
75.00°	86.52	101.72	109.62	104.49	86.46	104.04	109.98	102.77	86.52	101.72	109.62	104.49	86.46	104.04	109.98	102.77	86.52
77.50°	84.52	99.99	107.89	102.49	84.21	101.91	108.41	100.98	84.52	99.99	107.89	102.49	84.21	101.91	108.41	100.98	84.52
80.00°	82.54	98.01	105.61	100.03	81.67	99.44	106.02	99.00	82.54	98.01	105.61	100.03	81.67	99.44	106.02	99.00	82.54
82.50°	80.46	95.98	103.35	97.49	79.10	96.94	103.64	96.98	80.46	95.98	103.35	97.49	79.10	96.94	103.64	96.98	80.46
85.00°	78.07	93.82	101.15	94.73	76.50	94.14	101.33	94.69	78.07	93.82	101.15	94.73	76.50	94.14	101.33	94.69	78.07
87.50°	75.95	91.86	99.10	92.26	74.13	91.45	99.02	92.58	75.95	91.86	99.10	92.26	74.13	91.45	99.02	92.58	75.95
90.00°	74.77	90.45	97.64	90.73	72.71	90.06	97.96	91.63	74.77	90.45	97.64	90.73	72.71	90.06	97.96	91.63	74.77
92.50°	73.78	89.26	96.28	89.20	71.34	88.66	96.90	90.73	73.78	89.26	96.28	89.20	71.34	88.66	96.90	90.73	73.78
95.00°	73.51	88.77	95.38	87.68	70.23	87.07	95.90	90.20	73.51	88.77	95.38	87.68	70.23	87.07	95.90	90.20	73.51
97.50°	73.11	88.13	94.22	85.57	68.74	85.31	94.90	89.57	73.11	88.13	94.22	85.57	68.74	85.31	94.90	89.57	73.11
100.00°	72.21	87.04	91.97	81.16	65.54	80.41	91.88	88.08	72.21	87.04	91.97	81.16	65.54	80.41	91.88	88.08	72.21
102.50°	71.24	85.74	89.28	76.02	61.84	75.37	88.78	86.53	71.24	85.74	89.28	76.02	61.84	75.37	88.78	86.53	71.24
105.00°	69.99	83.73	84.58	67.81	55.65	66.48	83.49	84.30	69.99	83.73	84.58	67.81	55.65	66.48	83.49	84.30	69.99
107.50°	68.57	81.35	79.61	59.11	49.11	57.54	78.07	81.93	68.57	81.35	79.61	59.11	49.11	57.54	78.07	81.93	68.57
110.00°	66.40	77.59	73.24	48.07	40.62	46.33	70.99	77.80	66.40	77.59	73.24	48.07	40.62	46.33	70.99	77.80	66.40
112.50°	64.11	73.66	66.68	37.09	32.13	35.13	63.79	73.65	64.11	73.66	66.68	37.09	32.13	35.13	63.79	73.65	64.11

### 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>	997	997	997	997	945	945	945	945	846	846	846	757	757	757	674	674	635
	<b>1</b>	861	799	744	695	808	753	704	659	668	628	592	589	558	528	516	492	459
	<b>2</b>	763	670	592	527	714	630	560	501	556	500	451	488	442	402	425	389	360
	<b>3</b>	685	572	485	416	639	538	459	396	474	410	356	415	362	318	360	318	293
	<b>4</b>	619	497	407	338	577	467	385	322	412	344	290	360	304	259	313	267	246
	<b>5</b>	564	436	347	281	526	411	329	268	363	294	242	318	261	216	276	229	211
	<b>6</b>	517	387	300	238	482	365	285	227	323	255	205	284	227	183	247	199	183
	<b>7</b>	476	347	263	204	445	327	250	195	290	224	176	256	199	158	223	176	162
	<b>8</b>	441	313	232	177	412	296	221	169	263	199	153	232	177	137	203	157	145
	<b>9</b>	410	284	207	155	384	269	197	148	240	178	135	212	159	121	187	141	130
	<b>10</b>	382	260	187	138	358	246	178	132	220	161	120	196	144	108	172	128	119

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	2.5 fc	-21.3 ft
6.5 ft	1.8 fc	-25.2 ft
7.5 ft	1.3 fc	-29.0 ft
8.0 ft	1.2 fc	-31.0 ft
10.0 ft	0.7 fc	-38.7 ft
12.0 ft	0.5 fc	-46.5 ft
14.0 ft	0.4 fc	-54.2 ft
16.0 ft	0.3 fc	-61.9 ft
20.0 ft	0.2 fc	-77.4 ft
24.0 ft	0.1 fc	-92.9 ft
28.0 ft	0.1 fc	-108.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	3,196	3,196	3,196
45.00°	2,559	2,397	2,536
55.00°	2,509	2,350	2,490
65.00°	2,451	2,303	2,452
75.00°	2,398	2,259	2,397
85.00°	2,364	2,205	2,316

### 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>	13.0	14.3	13.7	15.1	16.0	13.1	14.4	13.8	15.1	16.0
	<b>3H</b>	15.5	16.7	16.3	17.5	18.5	15.6	16.8	16.3	17.6	18.5
	<b>4H</b>	16.7	17.9	17.5	18.7	19.6	16.8	18.0	17.5	18.7	19.7
	<b>6H</b>	17.9	19.0	18.6	19.7	20.7	17.9	19.0	18.7	19.8	20.8
	<b>8H</b>	18.4	19.5	19.2	20.3	21.2	18.4	19.5	19.2	20.3	21.3
	<b>12H</b>	18.9	19.9	19.7	20.7	21.7	19.0	20.0	19.7	20.8	21.8
<b>4H</b>	<b>2H</b>	13.9	15.0	14.6	15.8	16.8	13.9	15.1	14.7	15.9	16.8
	<b>3H</b>	16.7	17.7	17.4	18.5	19.5	16.7	17.7	17.5	18.6	19.5
	<b>4H</b>	18.0	19.0	18.8	19.8	20.8	18.1	19.0	18.9	19.9	20.9
	<b>6H</b>	19.4	20.2	20.1	21.0	22.0	19.4	20.3	20.2	21.1	22.1
	<b>8H</b>	20.0	20.8	20.8	21.6	22.6	20.0	20.8	20.8	21.7	22.7
	<b>12H</b>	20.6	21.3	21.4	22.2	23.2	20.6	21.3	21.4	22.2	23.2
<b>8H</b>	<b>4H</b>	18.6	19.4	19.4	20.3	21.3	18.7	19.5	19.5	20.3	21.3
	<b>6H</b>	20.2	20.9	21.0	21.8	22.8	20.2	20.9	21.1	21.8	22.8
	<b>8H</b>	21.0	21.6	21.8	22.5	23.5	21.0	21.6	21.8	22.5	23.5
	<b>12H</b>	21.8	22.3	22.6	23.2	24.3	21.8	22.3	22.6	23.2	24.3
<b>12H</b>	<b>4H</b>	18.8	19.5	19.6	20.3	21.4	18.8	19.6	19.6	20.4	21.4
	<b>6H</b>	20.4	21.0	21.3	21.9	23.0	20.5	21.1	21.3	21.9	23.0
	<b>8H</b>	21.3	21.9	22.1	22.7	23.8	21.3	21.9	22.2	22.7	23.8

Corrected UGR values based on total output lumens

SHR = 1.0