

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CY0820SQFAGV 15L 35K XX XX MW
Nom 8" x 20" H rectangular shaped decorative luminaire

Test Number

SP-00993_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
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Lumen Output

Output Lumens	882
Efficacy	88.25 lm/W

Luminous Dimensions

0° - 180° Size	0.67
90° - 270° Size	0.67
Height	1.67

Spacing Criterion

Two luminaires, plane 0°	0.49
Two luminaires, plane 90°	0.48
Four luminaires	0.51

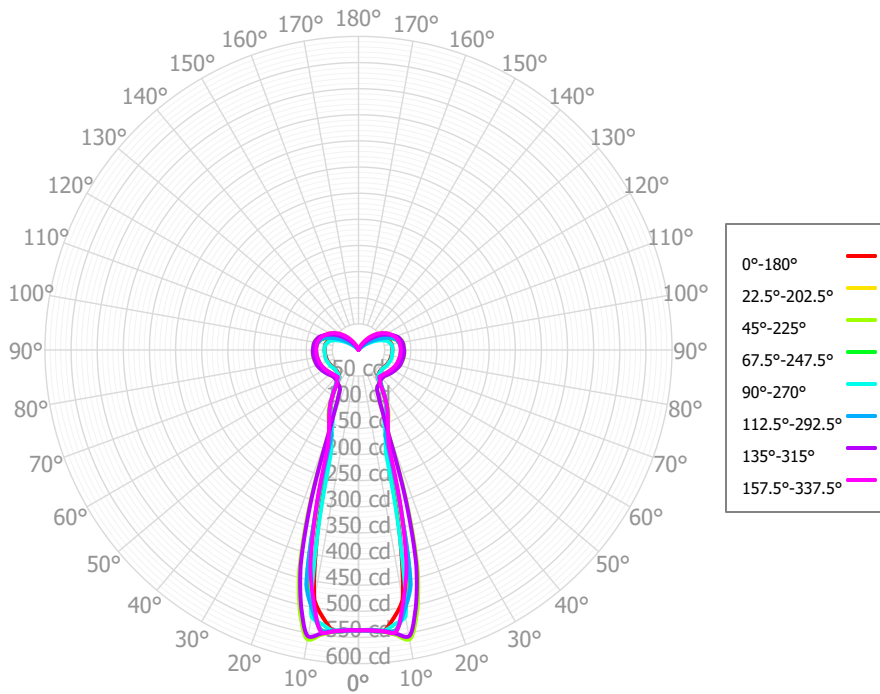
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00993_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/24/2019
ISSUEDATE	4/7/2020
LUMCAT	CY0820SQFAGV 15L 35K XX XX MW
LUMINAIRE	Nom 8" x 20" H rectangular shaped decorative luminaire
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°	51.70	5.86%	90.00° - 100.00°	85.29	9.66%
10.00° - 20.00°	85.60	9.70%	100.00° - 110.00°	77.82	8.82%
20.00° - 30.00°	54.94	6.23%	100.00° - 120.00°	137.82	15.62%
30.00° - 40.00°	45.73	5.18%	120.00° - 130.00°	37.97	4.30%
40.00° - 50.00°	51.25	5.81%	130.00° - 140.00°	19.20	2.18%
50.00° - 60.00°	62.55	7.09%	140.00° - 150.00°	7.13	0.81%
60.00° - 70.00°	73.74	8.36%	150.00° - 160.00°	1.63	0.19%
70.00° - 80.00°	81.84	9.27%	160.00° - 170.00°	0.27	0.03%
80.00° - 90.00°	85.75	9.72%	170.00° - 180.00°	0.07	0.01%
0.00° - 90.00°	593.09	67.21%	0.00° - 180.00°	882.48	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°	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58	536.58
2.50°	538.05	536.87	538.46	536.83	538.31	536.08	537.72	536.97	538.05	536.87	538.46	536.83	538.31	536.08	537.72	536.97	538.05
5.00°	540.38	540.78	541.19	539.74	540.10	539.37	540.76	540.25	540.38	540.78	541.19	539.74	540.10	539.37	540.76	540.25	540.38
7.50°	517.30	540.56	549.80	542.93	529.60	541.25	547.47	544.65	517.30	540.56	549.80	542.93	529.60	541.25	547.47	544.65	517.30
10.00°	485.52	503.35	562.33	501.07	517.68	506.01	556.35	492.03	485.52	503.35	562.33	501.07	517.68	506.01	556.35	492.03	485.52
12.50°	367.66	449.69	516.23	456.45	364.15	461.00	506.02	424.87	367.66	449.69	516.23	456.45	364.15	461.00	506.02	424.87	367.66
15.00°	227.91	299.36	438.87	309.23	202.90	307.29	428.03	313.73	227.91	299.36	438.87	309.23	202.90	307.29	428.03	313.73	227.91
17.50°	179.89	175.96	310.46	170.63	172.58	172.39	300.50	194.32	179.89	175.96	310.46	170.63	172.58	172.39	300.50	194.32	179.89
20.00°	148.16	162.00	160.61	158.54	144.12	158.57	154.99	165.11	148.16	162.00	160.61	158.54	144.12	158.57	154.99	165.11	148.16
22.50°	135.84	148.42	106.12	146.19	135.79	144.84	105.81	146.61	135.84	148.42	106.12	146.19	135.79	144.84	105.81	146.61	135.84
25.00°	125.82	135.98	83.56	131.95	126.90	131.49	84.05	131.49	125.82	135.98	83.56	131.95	126.90	131.49	84.05	131.49	125.82
27.50°	111.36	120.60	77.93	116.68	112.81	116.96	78.71	116.56	111.36	120.60	77.93	116.68	112.81	116.96	78.71	116.56	111.36
30.00°	96.64	98.19	76.51	96.02	98.10	98.54	76.73	97.22	96.64	98.19	76.51	96.02	98.10	98.54	76.73	97.22	96.64
32.50°	79.80	80.40	74.60	78.29	79.70	82.59	74.43	78.38	79.80	80.40	74.60	78.29	79.70	82.59	74.43	78.38	79.80
35.00°	63.61	71.31	72.60	71.37	64.44	72.94	72.08	71.49	63.61	71.31	72.60	71.37	64.44	72.94	72.08	71.49	63.61
37.50°	61.85	65.83	71.00	66.27	62.20	66.57	71.15	65.27	61.85	65.83	71.00	66.27	62.20	66.57	71.15	65.27	61.85
40.00°	60.14	65.79	69.45	66.26	60.36	66.73	70.32	65.50	60.14	65.79	69.45	66.26	60.36	66.73	70.32	65.50	60.14
42.50°	58.84	66.10	70.22	66.56	59.77	67.23	70.32	65.81	58.84	66.10	70.22	66.56	59.77	67.23	70.32	65.81	58.84
45.00°	57.72	66.83	71.12	67.56	59.15	68.29	70.38	66.69	57.72	66.83	71.12	67.56	59.15	68.29	70.38	66.69	57.72
47.50°	57.60	67.74	71.94	68.62	58.44	69.15	71.81	67.61	57.60	67.74	71.94	68.62	58.44	69.15	71.81	67.61	57.60
50.00°	57.64	68.81	72.81	69.82	58.14	69.74	73.26	68.66	57.64	68.81	72.81	69.82	58.14	69.74	73.26	68.66	57.64
52.50°	58.37	69.80	74.64	71.07	58.63	70.60	74.81	69.80	58.37	69.80	74.64	71.07	58.63	70.60	74.81	69.80	58.37
55.00°	59.06	70.73	76.43	72.38	59.36	71.77	76.35	71.22	59.06	70.73	76.43	72.38	59.36	71.77	76.35	71.22	59.06
57.50°	59.63	72.02	77.71	73.62	60.45	73.15	77.85	72.54	59.63	72.02	77.71	73.62	60.45	73.15	77.85	72.54	59.63
60.00°	60.20	73.57	79.05	74.76	61.37	74.70	79.34	73.63	60.20	73.57	79.05	74.76	61.37	74.70	79.34	73.63	60.20
62.50°	60.76	74.90	80.73	76.02	62.05	75.94	80.78	74.73	60.76	74.90	80.73	76.02	62.05	75.94	80.78	74.73	60.76
65.00°	61.38	76.11	82.34	77.39	62.59	76.97	82.20	75.83	61.38	76.11	82.34	77.39	62.59	76.97	82.20	75.83	61.38
67.50°	62.12	77.07	83.63	78.55	62.97	78.05	83.52	76.86	62.12	77.07	83.63	78.55	62.97	78.05	83.52	76.86	62.12
70.00°	62.72	77.92	84.78	79.53	63.65	79.16	84.63	77.76	62.72	77.92	84.78	79.53	63.65	79.16	84.63	77.76	62.72
72.50°	63.13	78.48	85.47	80.18	64.59	79.97	85.15	78.45	63.13	78.48	85.47	80.18	64.59	79.97	85.15	78.45	63.13
75.00°	63.47	78.95	86.20	80.61	64.98	80.65	85.69	78.86	63.47	78.95	86.20	80.61	64.98	80.65	85.69	78.86	63.47
77.50°	63.72	79.57	87.03	81.06	64.99	80.86	86.24	79.42	63.72	79.57	87.03	81.06	64.99	80.86	86.24	79.42	63.72
80.00°	63.98	80.22	87.64	81.52	64.94	80.91	86.74	80.13	63.98	80.22	87.64	81.52	64.94	80.91	86.74	80.13	63.98
82.50°	64.26	80.30	87.83	81.83	64.87	81.04	87.15	80.51	64.26	80.30	87.83	81.83	64.87	81.04	87.15	80.51	64.26
85.00°	64.53	80.27	87.95	82.07	64.96	81.19	87.42	80.62	64.53	80.27	87.95	82.07	64.96	81.19	87.42	80.62	64.53
87.50°	64.78	80.79	87.95	82.14	65.13	81.22	87.49	80.78	64.78	80.79	87.95	82.14	65.13	81.22	87.49	80.78	64.78
90.00°	64.82	81.37	87.74	82.14	65.14	81.22	87.33	80.96	64.82	81.37	87.74	82.14	65.14	81.22	87.33	80.96	64.82
92.50°	64.71	81.11	87.29	81.55	65.09	81.35	86.91	80.80	64.71	81.11	87.29	81.55	65.09	81.35	86.91	80.80	64.71
95.00°	64.72	80.79	86.95	80.83	64.84	81.50	86.55	80.46	64.72	80.79	86.95	80.83	64.84	81.50	86.55	80.46	64.72
97.50°	64.78	80.23	86.72	79.81	64.55	80.51	86.24	80.12	64.78	80.23	86.72	79.81	64.55	80.51	86.24	80.12	64.78
100.00°	64.17	79.65	85.96	78.74	63.31	79.44	85.31	79.78	64.17	79.65	85.96	78.74	63.31	79.44	85.31	79.78	64.17
102.50°	63.25	78.53	84.78	76.92	61.91	77.58	83.92	78.89	63.25	78.53	84.78	76.92	61.91	77.58	83.92	78.89	63.25
105.00°	62.11	77.36	82.66	75.03	59.67	75.64	82.13	77.80	62.11	77.36	82.66	75.03	59.67	75.64	82.13	77.80	62.11
107.50°	60.87	75.68	79.91	70.68	57.32	71.98	80.09	76.13	60.87	75.68	79.91	70.68	57.32	71.98	80.09	76.13	60.87
110.00°	60.01	73.91	76.29	66.20	53.21	68.06	76.70	74.30	60.01	73.91	76.29	66.20	53.21	68.06	76.70	74.30	60.01
112.50°	59.25	71.50	72.19	60.02	48.98	61.12	72.65	71.88	59.25	71.50	72.19	60.02	48.98	61.12	72.65	71.88	59.25

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	982	982	982	982	925	925	925	925	820	820	820	723	723	723	635	635	593
	1	863	810	762	718	808	761	718	679	670	636	605	586	559	535	508	488	452
	2	780	698	631	574	729	656	596	545	578	530	488	505	468	435	438	409	378
	3	712	614	538	478	664	578	510	455	510	455	410	447	404	367	389	355	328
	4	654	547	469	409	611	516	445	390	457	400	354	403	357	319	352	315	292
	5	605	493	415	357	566	466	395	342	415	357	312	368	320	283	323	285	265
	6	563	449	372	318	527	425	356	305	381	323	280	339	291	255	300	261	244
	7	526	412	338	286	494	391	323	275	352	295	254	315	268	233	280	242	226
	8	493	380	309	260	464	362	296	251	327	272	233	294	248	215	263	225	212
	9	464	353	285	239	437	337	274	231	306	252	215	276	231	199	249	211	199
	10	438	329	264	221	414	315	254	214	287	236	200	261	217	186	236	199	188

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.7 fc	2.8 ft
6.5 ft	12.7 fc	3.3 ft
7.5 ft	9.5 fc	3.8 ft
8.0 ft	8.4 fc	4.0 ft
10.0 ft	5.4 fc	5.0 ft
12.0 ft	3.7 fc	6.0 ft
14.0 ft	2.7 fc	7.0 ft
16.0 ft	2.1 fc	8.0 ft
20.0 ft	1.3 fc	10.0 ft
24.0 ft	0.9 fc	12.0 ft
28.0 ft	0.7 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	12,866	12,866	12,866
45.00°	560	533	574
55.00°	541	529	544
65.00°	549	546	560
75.00°	571	564	584
85.00°	602	586	606

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	6.4	7.5	7.1	8.3	9.3	6.5	7.6	7.2	8.4	9.4
	3H	9.1	10.2	9.9	11.0	12.0	9.3	10.3	10.0	11.1	12.1
	4H	10.5	11.5	11.3	12.3	13.3	10.6	11.6	11.4	12.4	13.4
	6H	11.8	12.7	12.6	13.5	14.6	11.9	12.8	12.7	13.7	14.7
	8H	12.4	13.3	13.2	14.1	15.2	12.5	13.4	13.3	14.3	15.3
	12H	13.0	13.9	13.8	14.7	15.8	13.1	14.0	13.9	14.8	15.9
4H	2H	7.4	8.4	8.2	9.2	10.2	7.5	8.4	8.3	9.3	10.3
	3H	10.4	11.3	11.2	12.1	13.2	10.5	11.3	11.3	12.2	13.3
	4H	11.9	12.7	12.7	13.6	14.6	12.0	12.8	12.8	13.7	14.7
	6H	13.4	14.1	14.2	15.0	16.0	13.5	14.2	14.3	15.1	16.2
	8H	14.1	14.7	14.9	15.6	16.7	14.2	14.8	15.0	15.7	16.8
	12H	14.8	15.4	15.6	16.3	17.4	14.9	15.5	15.7	16.4	17.5
8H	4H	12.6	13.3	13.4	14.1	15.2	12.7	13.3	13.5	14.2	15.3
	6H	14.3	14.9	15.2	15.8	16.9	14.4	15.0	15.3	15.9	17.0
	8H	15.2	15.7	16.1	16.6	17.7	15.3	15.8	16.1	16.7	17.8
	12H	16.0	16.5	16.9	17.4	18.6	16.1	16.6	17.0	17.5	18.7
12H	4H	12.7	13.3	13.6	14.2	15.3	12.8	13.4	13.7	14.3	15.4
	6H	14.5	15.1	15.4	16.0	17.1	14.6	15.2	15.5	16.1	17.2
	8H	15.5	16.0	16.4	16.9	18.1	15.6	16.1	16.5	17.0	18.1

Corrected UGR values based on total output lumens

SHR = 1.0