Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CY0618SQFAGV 15L 35K XX XX MW

Nom 6" X 18" H rectangular tube shaped decorative luminaire

Test Number

SP-00989_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	843
Efficacy	84.28 lm/W

Luminous Dimensions

0° - 180° Size	0.5
90° - 270° Size	0.5
Height	1.5

Spacing Criterion

Two luminaires, plane 0°	0.43
Two luminaires, plane 90°	0.43
Four luminaires	0.45

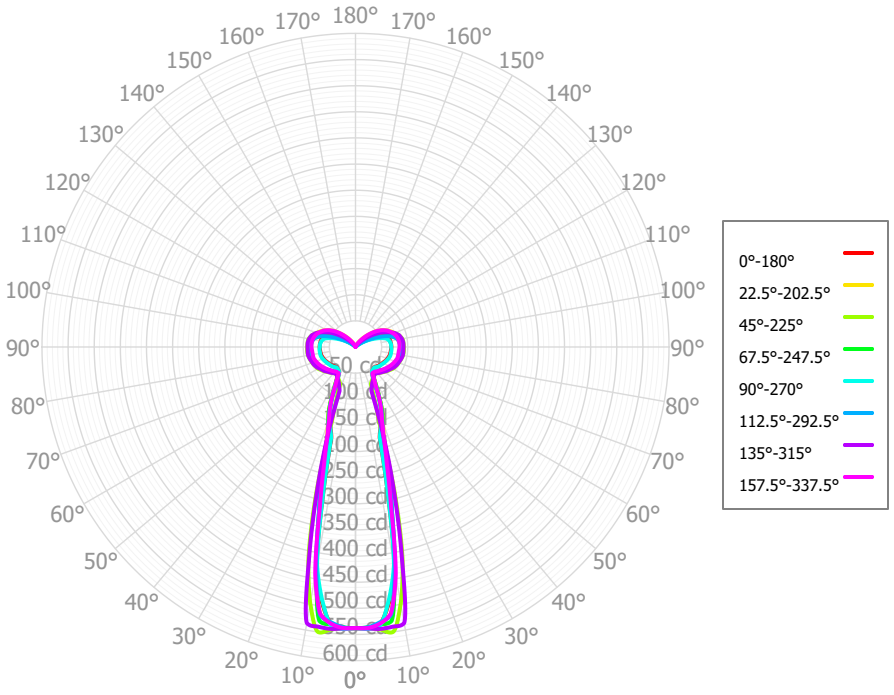
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-00989_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/24/2019
ISSUEDATE	4/7/2020
LUMCAT	CY0618SQFAGV 15L 35K XX XX MW
LUMINAIRE	Nom 6" X 18" H rectangular tube 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°	49.36	5.86%	90.00° - 100.00°	89.72	10.65%
10.00° - 20.00°	67.62	8.02%	100.00° - 110.00°	80.30	9.53%
20.00° - 30.00°	45.08	5.35%	100.00° - 120.00°	137.22	16.28%
30.00° - 40.00°	38.61	4.58%	120.00° - 130.00°	31.86	3.78%
40.00° - 50.00°	49.12	5.83%	130.00° - 140.00°	13.28	1.58%
50.00° - 60.00°	63.10	7.49%	140.00° - 150.00°	3.83	0.45%
60.00° - 70.00°	76.33	9.06%	150.00° - 160.00°	0.83	0.10%
70.00° - 80.00°	86.11	10.22%	160.00° - 170.00°	0.26	0.03%
80.00° - 90.00°	90.44	10.73%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	565.77	67.13%	0.00° - 180.00°	842.84	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°	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10	538.10
2.50°	537.72	538.78	538.66	537.28	539.96	536.97	539.14	538.29	537.72	538.78	538.66	537.28	539.96	536.97	539.14	538.29	537.72
5.00°	532.80	530.61	542.74	533.44	535.01	529.28	541.53	531.75	532.80	530.61	542.74	533.44	535.01	529.28	541.53	531.75	532.80
7.50°	492.76	516.04	550.04	528.81	488.76	517.69	540.14	515.26	492.76	516.04	550.04	528.81	488.76	517.69	540.14	515.26	492.76
10.00°	429.99	432.93	498.74	428.20	423.58	432.06	536.45	443.52	429.99	432.93	498.74	428.20	423.58	432.06	536.45	443.52	429.99
12.50°	284.44	314.51	415.97	321.33	284.12	323.43	408.28	315.58	284.44	314.51	415.97	321.33	284.12	323.43	408.28	315.58	284.44
15.00°	178.86	239.90	291.23	241.32	180.77	246.37	282.51	231.97	178.86	239.90	291.23	241.32	180.77	246.37	282.51	231.97	178.86
17.50°	160.16	179.17	152.53	169.07	160.66	174.35	175.23	178.49	160.16	179.17	152.53	169.07	160.66	174.35	175.23	178.49	160.16
20.00°	143.05	153.37	106.73	151.97	142.41	149.80	89.39	148.05	143.05	153.37	106.73	151.97	142.41	149.80	89.39	148.05	143.05
22.50°	128.20	133.63	77.37	133.34	126.93	127.44	81.96	128.07	128.20	133.63	77.37	133.34	126.93	127.44	81.96	128.07	128.20
25.00°	107.63	109.64	72.85	109.37	106.49	104.13	75.74	106.35	107.63	109.64	72.85	109.37	106.49	104.13	75.74	106.35	107.63
27.50°	81.51	86.00	69.88	87.85	80.99	82.57	72.23	84.16	81.51	86.00	69.88	87.85	80.99	82.57	72.23	84.16	81.51
30.00°	66.41	72.98	67.34	71.50	66.13	70.61	68.87	71.31	66.41	72.98	67.34	71.50	66.13	70.61	68.87	71.31	66.41
32.50°	58.47	61.73	65.04	61.50	58.52	61.42	65.71	59.66	58.47	61.73	65.04	61.50	58.52	61.42	65.71	59.66	58.47
35.00°	55.62	61.01	64.15	60.47	55.58	60.65	64.11	59.54	55.62	61.01	64.15	60.47	55.58	60.65	64.11	59.54	55.62
37.50°	54.90	60.72	63.83	60.68	54.69	60.58	64.04	59.78	54.90	60.72	63.83	60.68	54.69	60.58	64.04	59.78	54.90
40.00°	53.96	61.72	65.39	62.05	53.96	61.79	65.20	61.30	53.96	61.72	65.39	62.05	53.96	61.79	65.20	61.30	53.96
42.50°	52.97	62.99	67.12	63.59	53.29	63.15	67.17	62.80	52.97	62.99	67.12	63.59	53.29	63.15	67.17	62.80	52.97
45.00°	53.89	64.77	69.20	65.25	54.67	64.68	68.94	64.19	53.89	64.77	69.20	65.25	54.67	64.68	68.94	64.19	53.89
47.50°	55.02	66.52	71.32	67.00	56.31	66.45	70.62	65.69	55.02	66.52	71.32	67.00	56.31	66.45	70.62	65.69	55.02
50.00°	56.26	68.21	73.51	68.79	57.52	68.44	72.81	67.47	56.26	68.21	73.51	68.79	57.52	68.44	72.81	67.47	56.26
52.50°	57.51	70.13	75.76	70.92	58.71	70.68	75.11	69.21	57.51	70.13	75.76	70.92	58.71	70.68	75.11	69.21	57.51
55.00°	58.72	72.24	78.04	73.13	59.71	73.05	76.92	70.87	58.72	72.24	78.04	73.13	59.71	73.05	76.92	70.87	58.72
57.50°	59.86	74.02	80.41	75.12	60.74	74.94	78.66	72.58	59.86	74.02	80.41	75.12	60.74	74.94	78.66	72.58	59.86
60.00°	60.67	75.60	82.83	77.09	61.92	76.66	81.15	74.34	60.67	75.60	82.83	77.09	61.92	76.66	81.15	74.34	60.67
62.50°	61.68	77.39	84.39	78.88	63.11	78.51	83.57	76.01	61.68	77.39	84.39	78.88	63.11	78.51	83.57	76.01	61.68
65.00°	63.15	79.27	85.63	80.63	64.31	80.39	85.20	77.63	63.15	79.27	85.63	80.63	64.31	80.39	85.20	77.63	63.15
67.50°	64.36	80.47	86.90	82.03	65.47	81.78	86.71	79.10	64.36	80.47	86.90	82.03	65.47	81.78	86.71	79.10	64.36
70.00°	65.13	81.54	88.19	83.34	66.58	83.12	87.68	80.51	65.13	81.54	88.19	83.34	66.58	83.12	87.68	80.51	65.13
72.50°	65.97	82.76	89.25	84.35	67.55	84.17	88.74	81.75	65.97	82.76	89.25	84.35	67.55	84.17	88.74	81.75	65.97
75.00°	66.88	83.98	90.29	85.35	68.39	85.12	90.03	82.94	66.88	83.98	90.29	85.35	68.39	85.12	90.03	82.94	66.88
77.50°	67.44	84.82	91.31	86.37	68.77	85.38	91.10	83.11	67.44	84.82	91.31	86.37	68.77	85.38	91.10	83.11	67.44
80.00°	67.74	85.60	92.24	86.97	68.80	85.58	91.83	83.11	67.74	85.60	92.24	86.97	68.80	85.58	91.83	83.11	67.74
82.50°	67.95	85.96	92.57	86.91	68.90	85.64	92.10	83.26	67.95	85.96	92.57	86.91	68.90	85.64	92.10	83.26	67.95
85.00°	68.12	86.26	92.80	86.72	69.04	85.62	91.88	83.43	68.12	86.26	92.80	86.72	69.04	85.62	91.88	83.43	68.12
87.50°	68.35	86.32	92.61	86.38	68.77	85.42	91.83	83.84	68.35	86.32	92.61	86.38	68.77	85.42	91.83	83.84	68.35
90.00°	68.60	86.24	92.43	85.84	68.37	85.34	91.90	84.21	68.60	86.24	92.43	85.84	68.37	85.34	91.90	84.21	68.60
92.50°	68.48	85.86	92.25	85.17	68.18	85.42	91.89	84.35	68.48	85.86	92.25	85.17	68.18	85.42	91.89	84.35	68.48
95.00°	68.30	85.53	92.07	84.85	68.02	84.95	91.85	84.33	68.30	85.53	92.07	84.85	68.02	84.95	91.85	84.33	68.30
97.50°	67.83	85.28	91.88	84.69	67.11	83.96	91.08	83.80	67.83	85.28	91.88	84.69	67.11	83.96	91.08	83.80	67.83
100.00°	67.35	84.58	90.81	82.61	66.12	82.11	90.10	83.10	67.35	84.58	90.81	82.61	66.12	82.11	90.10	83.10	67.35
102.50°	66.91	83.46	88.86	80.00	64.21	79.72	88.33	82.09	66.91	83.46	88.86	80.00	64.21	79.72	88.33	82.09	66.91
105.00°	66.29	82.20	86.11	74.86	61.71	74.84	86.44	80.71	66.29	82.20	86.11	74.86	61.71	74.84	86.44	80.71	66.29
107.50°	64.80	80.84	82.82	69.38	56.01	68.91	82.73	78.87	64.80	80.84	82.82	69.38	56.01	68.91	82.73	78.87	64.80
110.00°	63.21	78.45	78.31	60.56	49.94	60.33	78.81	76.64	63.21	78.45	78.31	60.56	49.94	60.33	78.81	76.64	63.21
112.50°	61.33	75.62	73.27	51.64	42.80	51.10	72.86	74.06	61.33	75.62	73.27	51.64	42.80	51.10	72.86	74.06	61.33

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	937	937	937	937	883	883	883	883	783	783	783	690	690	690	606	606	606	566
	1	819	765	717	673	766	718	675	636	630	596	565	550	523	499	476	455	436	421
	2	736	655	588	532	687	615	555	504	539	492	450	470	432	399	406	376	350	347
	3	670	573	498	438	624	538	471	417	473	419	374	413	370	333	357	323	293	297
	4	614	509	432	373	573	479	409	355	423	366	320	370	324	287	321	285	254	263
RCR	5	567	457	381	324	530	431	362	309	382	325	281	337	290	253	294	256	226	237
	6	527	415	340	286	492	392	324	274	349	293	250	309	263	227	272	234	204	217
	7	491	380	307	257	460	360	294	246	322	267	226	287	241	206	253	216	187	201
	8	460	350	281	233	432	332	269	224	299	245	207	267	222	190	238	201	173	188
	9	433	325	258	213	407	309	248	206	279	227	191	251	207	176	225	188	161	176
	10	409	303	239	197	385	289	230	190	262	212	177	237	194	164	213	177	151	167

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.8 fc	2.5 ft
6.5 ft	12.7 fc	2.9 ft
7.5 ft	9.6 fc	3.4 ft
8.0 ft	8.4 fc	3.6 ft
10.0 ft	5.4 fc	4.5 ft
12.0 ft	3.7 fc	5.4 ft
14.0 ft	2.7 fc	6.3 ft
16.0 ft	2.1 fc	7.2 ft
20.0 ft	1.3 fc	9.0 ft
24.0 ft	0.9 fc	10.8 ft
28.0 ft	0.7 fc	12.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	23,168	23,168	23,168
45.00°	820	804	832
55.00°	834	830	848
65.00°	866	864	881
75.00°	912	892	933
85.00°	954	926	966

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	8.1	9.2	8.8	10.0	11.0	8.2	9.4	9.0	10.2	11.2
	3H	10.9	12.0	11.7	12.8	13.8	11.1	12.1	11.9	13.0	14.0
	4H	12.3	13.3	13.1	14.1	15.2	12.5	13.5	13.3	14.3	15.3
	6H	13.6	14.6	14.5	15.4	16.5	13.8	14.7	14.6	15.6	16.6
	8H	14.3	15.2	15.1	16.1	17.1	14.4	15.3	15.2	16.2	17.2
	12H	14.9	15.8	15.7	16.6	17.7	15.0	15.9	15.9	16.8	17.8
4H	2H	9.1	10.1	9.9	11.0	12.0	9.2	10.3	10.0	11.1	12.1
	3H	12.2	13.1	13.0	14.0	15.0	12.3	13.2	13.1	14.1	15.1
	4H	13.7	14.6	14.6	15.4	16.5	13.9	14.7	14.7	15.6	16.6
	6H	15.2	16.0	16.1	16.9	17.9	15.4	16.1	16.2	17.0	18.1
	8H	16.0	16.7	16.8	17.5	18.6	16.1	16.8	16.9	17.7	18.8
	12H	16.6	17.3	17.5	18.2	19.3	16.8	17.4	17.6	18.3	19.4
8H	4H	14.4	15.2	15.3	16.0	17.1	14.6	15.3	15.4	16.1	17.2
	6H	16.2	16.8	17.1	17.7	18.8	16.3	16.9	17.2	17.8	18.9
	8H	17.1	17.6	17.9	18.5	19.6	17.2	17.7	18.1	18.6	19.7
	12H	17.9	18.4	18.8	19.3	20.5	18.1	18.6	18.9	19.5	20.6
12H	4H	14.6	15.2	15.5	16.1	17.2	14.7	15.3	15.6	16.2	17.3
	6H	16.4	17.0	17.3	17.9	19.0	16.5	17.1	17.4	18.0	19.1
	8H	17.4	17.9	18.3	18.8	20.0	17.5	18.0	18.4	18.9	20.1

Corrected UGR values based on total output lumens

SHR = 1.0