

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

AF0609GV 15L 35K EX FG6 HM

Nom. 6" diam x 9" H tubular luminaire with matte white decorative acrylic shade

Test Number

SP-00342_8_M-15L

Test Date

1/3/2020

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	968
Efficacy	96.82 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.78
Two luminaires, plane 90°	0.77
Four luminaires	0.88

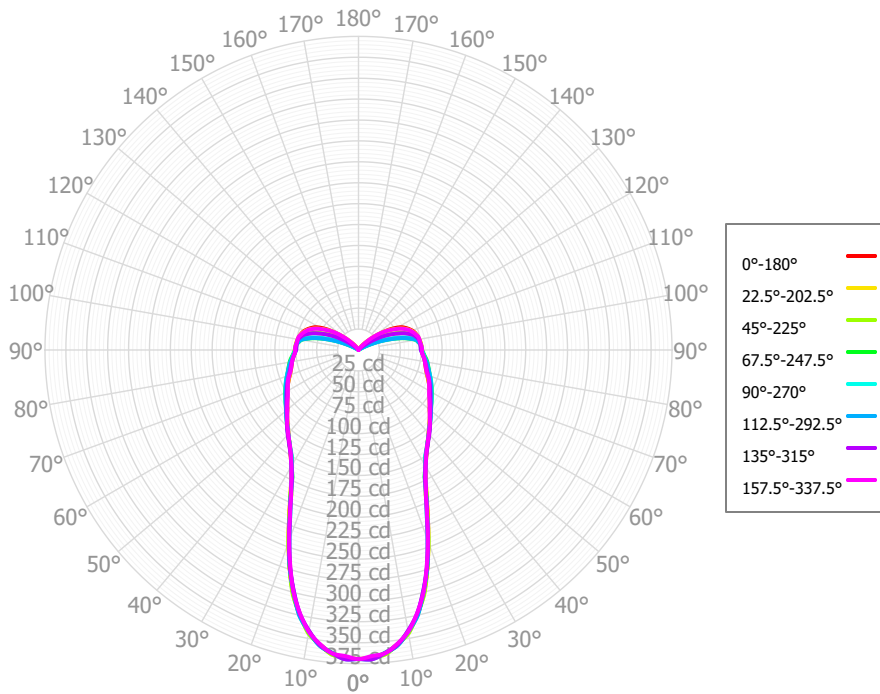
Full Beam Angle

0° - 180°	52°
90° - 270°	52°

IES File Header Contents

Keyword	Value
TEST	SP-00342_8_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/3/2020
ISSUEDATE	1/7/2020
LUMCAT	AF0609GV 15L 35K EX FG6 HM
LUMINAIRE	Nom. 6" diam x 9" H tubular luminaire with matte white decorative acrylic shade
OTHER	Beam Angle (downlight): 52 degrees
OTHER	Uplight: 22.2%
OTHER	Downlight: 77.8%
LAMP	N/A
LAMPCAT	N/A
OTHER	CCT Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire watts is approximate
OTHER	This report generated by Spectrum Lighting, scaled from 27L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	34.53	3.57%	90.00° - 100.00°	81.12	8.38%
10.00° - 20.00°	82.60	8.53%	100.00° - 110.00°	67.80	7.00%
20.00° - 30.00°	88.97	9.19%	100.00° - 120.00°	108.87	11.25%
30.00° - 40.00°	89.85	9.28%	120.00° - 130.00°	18.10	1.87%
40.00° - 50.00°	93.53	9.66%	130.00° - 140.00°	5.49	0.57%
50.00° - 60.00°	94.38	9.75%	140.00° - 150.00°	1.04	0.11%
60.00° - 70.00°	93.51	9.66%	150.00° - 160.00°	0.35	0.04%
70.00° - 80.00°	90.06	9.30%	160.00° - 170.00°	0.20	0.02%
80.00° - 90.00°	85.47	8.83%	170.00° - 180.00°	0.07	0.01%
0.00° - 90.00°	752.92	77.77%	0.00° - 180.00°	968.16	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°	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62	369.62
2.50°	368.23	368.63	367.85	369.30	369.24	370.12	370.25	366.48	368.23	368.63	367.85	369.30	369.24	370.12	370.25	366.48	368.23
5.00°	363.84	363.94	365.68	363.91	363.75	363.71	363.95	364.17	363.84	363.94	365.68	363.91	363.75	363.71	363.95	364.17	363.84
7.50°	355.09	355.68	355.27	356.40	355.53	356.73	355.91	354.58	355.09	355.68	355.27	356.40	355.53	356.73	355.91	354.58	355.09
10.00°	342.92	342.07	344.41	341.84	341.85	342.02	341.00	342.23	342.92	342.07	344.41	341.84	341.85	342.02	341.00	342.23	342.92
12.50°	324.26	325.16	324.06	325.14	324.03	326.04	323.59	322.90	324.26	325.16	324.06	325.14	324.03	326.04	323.59	322.90	324.26
15.00°	301.45	301.17	303.27	299.89	299.58	299.93	298.78	300.32	301.45	301.17	303.27	299.89	299.58	299.93	298.78	300.32	301.45
17.50°	273.70	273.58	273.58	272.73	272.43	273.03	272.36	271.25	273.70	273.58	273.58	272.73	272.43	273.03	272.36	271.25	273.70
20.00°	243.42	244.85	244.06	243.56	241.77	242.04	242.11	242.44	243.42	244.85	244.06	243.56	241.77	242.04	242.11	242.44	243.42
22.50°	216.71	215.66	216.19	214.06	214.50	213.03	214.34	214.02	216.71	215.66	216.19	214.06	214.50	213.03	214.34	214.02	216.71
25.00°	191.51	193.37	189.96	192.27	190.93	191.30	191.26	190.62	191.51	193.37	189.96	192.27	190.93	191.30	191.26	190.62	191.51
27.50°	174.54	173.22	173.71	171.23	173.00	171.98	172.55	173.88	174.54	173.22	173.71	171.23	173.00	171.98	172.55	173.88	174.54
30.00°	160.23	160.80	158.93	160.14	160.06	159.65	160.45	160.41	160.23	160.80	158.93	160.14	160.06	159.65	160.45	160.41	160.23
32.50°	150.92	150.21	150.53	149.46	150.15	149.14	150.50	150.49	150.92	150.21	150.53	149.46	150.15	149.14	150.50	150.49	150.92
35.00°	142.81	142.99	142.68	142.83	142.42	142.73	143.25	142.53	142.81	142.99	142.68	142.83	142.42	142.73	143.25	142.53	142.81
37.50°	136.51	136.33	136.62	136.29	136.28	136.55	136.97	136.32	136.51	136.33	136.62	136.29	136.28	136.55	136.97	136.32	136.51
40.00°	130.54	130.55	130.82	130.98	131.08	130.77	131.70	130.75	130.54	130.55	130.82	130.98	131.08	130.77	131.70	130.75	130.54
42.50°	125.43	124.85	125.72	125.75	126.09	125.57	126.42	125.65	125.43	124.85	125.72	125.75	126.09	125.57	126.42	125.65	125.43
45.00°	120.41	120.45	120.80	121.17	121.20	121.21	121.12	120.64	120.41	120.45	120.80	121.17	121.20	121.21	121.12	120.64	120.41
47.50°	115.71	116.10	116.24	116.72	116.81	117.05	116.48	115.69	115.71	116.10	116.24	116.72	116.81	117.05	116.48	115.69	115.71
50.00°	111.02	111.84	112.02	113.07	112.61	113.10	112.30	111.37	111.02	111.84	112.02	113.07	112.61	113.10	112.30	111.37	111.02
52.50°	107.45	107.63	108.34	109.57	109.35	109.50	108.53	107.37	107.45	107.63	108.34	109.57	109.35	109.50	108.53	107.37	107.45
55.00°	103.92	104.25	105.07	106.63	106.37	106.22	104.99	103.70	103.92	104.25	105.07	106.63	106.37	106.22	104.99	103.70	103.92
57.50°	101.20	100.93	102.33	103.77	103.45	103.23	101.90	100.17	101.20	100.93	102.33	103.77	103.45	103.23	101.90	100.17	101.20
60.00°	98.47	98.17	99.48	101.16	100.54	100.49	99.02	97.59	98.47	98.17	99.48	101.16	100.54	100.49	99.02	97.59	98.47
62.50°	95.65	95.45	96.50	98.56	98.29	97.97	96.35	95.30	95.65	95.45	96.50	98.56	98.29	97.97	96.35	95.30	95.65
65.00°	92.84	92.95	93.92	95.98	96.15	95.60	93.75	93.17	92.84	92.95	93.92	95.98	96.15	95.60	93.75	93.17	92.84
67.50°	90.07	90.40	91.71	93.45	93.71	93.19	91.11	91.08	90.07	90.40	91.71	93.45	93.71	93.19	91.11	91.08	90.07
70.00°	87.41	87.65	89.29	91.01	91.24	90.77	88.45	88.25	87.41	87.65	89.29	91.01	91.24	90.77	88.45	88.25	87.41
72.50°	85.27	85.32	86.73	88.81	88.54	88.66	86.27	85.31	85.27	85.32	86.73	88.81	88.54	88.66	86.27	85.31	85.27
75.00°	83.33	84.28	84.91	86.94	85.85	86.69	84.19	83.61	83.33	84.28	84.91	86.94	85.85	86.69	84.19	83.61	83.33
77.50°	82.04	82.98	83.55	85.19	84.20	84.71	82.49	82.03	82.04	82.98	83.55	85.19	84.20	84.71	82.49	82.03	82.04
80.00°	80.80	81.05	81.68	83.57	82.53	82.73	80.84	80.69	80.80	81.05	81.68	83.57	82.53	82.73	80.84	80.69	80.80
82.50°	79.72	79.22	79.57	81.64	80.58	80.37	79.26	79.35	79.72	79.22	79.57	81.64	80.58	80.37	79.26	79.35	79.72
85.00°	78.45	77.60	78.11	79.39	78.67	77.90	77.69	77.64	78.45	77.60	78.11	79.39	78.67	77.90	77.69	77.64	78.45
87.50°	76.84	76.41	76.90	77.43	77.14	76.25	76.15	76.02	76.84	76.41	76.90	77.43	77.14	76.25	76.15	76.02	76.84
90.00°	75.69	75.90	76.29	75.72	75.79	74.75	74.63	75.96	75.69	75.90	76.29	75.72	75.79	74.75	74.63	75.96	75.69
92.50°	75.27	75.51	75.85	74.73	75.32	74.63	74.47	75.81	75.27	75.51	75.85	74.73	75.32	74.63	74.47	75.81	75.27
95.00°	74.81	75.27	75.06	74.24	74.61	74.67	74.30	74.99	74.81	75.27	75.06	74.24	74.61	74.67	74.30	74.99	74.81
97.50°	74.28	74.72	74.19	72.25	72.96	72.48	73.95	74.24	74.28	74.72	74.19	72.25	72.96	72.48	73.95	74.24	74.28
100.00°	73.62	73.85	72.58	69.41	70.31	70.14	73.36	73.84	73.62	73.85	72.58	69.41	70.31	70.14	73.36	73.84	73.62
102.50°	72.81	72.74	70.86	62.87	64.72	63.05	71.09	73.12	72.81	72.74	70.86	62.87	64.72	63.05	71.09	73.12	72.81
105.00°	71.68	71.41	67.77	54.67	57.88	55.76	68.41	71.19	71.68	71.41	67.77	54.67	57.88	55.76	68.41	71.19	71.68
107.50°	70.27	69.52	64.55	45.21	48.14	45.36	63.71	69.13	70.27	69.52	64.55	45.21	48.14	45.36	63.71	69.13	70.27
110.00°	68.12	67.23	58.96	35.31	38.54	35.02	58.56	66.68	68.12	67.23	58.96	35.31	38.54	35.02	58.56	66.68	68.12
112.50°	65.40	64.00	53.26	26.16	29.17	25.42	51.76	63.75	65.40	64.00	53.26	26.16	29.17	25.42	51.76	63.75	65.40

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	1,101	1,101	1,101	1,101	1,051	1,051	1,051	1,051	956	956	956	870	870	870	790	790	753
	1	973	914	862	815	923	871	824	781	789	752	717	714	684	657	645	622	590
	2	877	787	712	649	830	750	682	625	680	625	577	615	571	532	555	520	492
	3	798	688	603	536	755	656	579	517	596	533	480	541	489	445	489	447	423
	4	731	610	521	454	692	583	501	439	531	463	410	483	427	381	438	392	371
	5	673	546	457	392	637	523	441	380	478	409	356	436	378	333	397	349	330
	6	623	493	406	344	591	473	392	334	434	365	314	397	339	295	363	314	298
	7	580	449	365	305	550	431	353	297	397	329	280	365	307	264	335	285	271
	8	541	412	330	274	514	396	320	267	365	300	253	337	280	239	310	261	249
	9	507	379	301	248	482	365	292	242	338	275	230	313	258	218	289	241	230
	10	477	351	276	227	454	339	269	221	315	253	211	292	238	200	271	224	214

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	12.2 fc	5.4 ft
6.5 ft	8.7 fc	6.3 ft
7.5 ft	6.6 fc	7.3 ft
8.0 ft	5.8 fc	7.8 ft
10.0 ft	3.7 fc	9.7 ft
12.0 ft	2.6 fc	11.7 ft
14.0 ft	1.9 fc	13.6 ft
16.0 ft	1.4 fc	15.6 ft
20.0 ft	0.9 fc	19.5 ft
24.0 ft	0.6 fc	23.3 ft
28.0 ft	0.5 fc	27.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	20,263	20,263	20,263
45.00°	4,107	4,120	4,134
55.00°	3,524	3,563	3,607
65.00°	3,228	3,266	3,343
75.00°	3,069	3,127	3,161
85.00°	3,173	3,159	3,182

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	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
4H	2H	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
8H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
12H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-

Corrected UGR values based on total output lumens

SHR = 1.0