

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

AF0620GV 15L 35K EX FG8 HM

Nom. 8" diam x 20" H tubular luminaire with matte white decorative acrylic shade

Test Number

SP-00997_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
-------------	------

Lumen Output

Output Lumens	1011
Efficacy	101.05 lm/W

Luminous Dimensions

0° - 180° Size	-0.67
90° - 270° Size	-0.67
Height	1.42

Spacing Criterion

Two luminaires, plane 0°	0.68
Two luminaires, plane 90°	0.68
Four luminaires	0.88

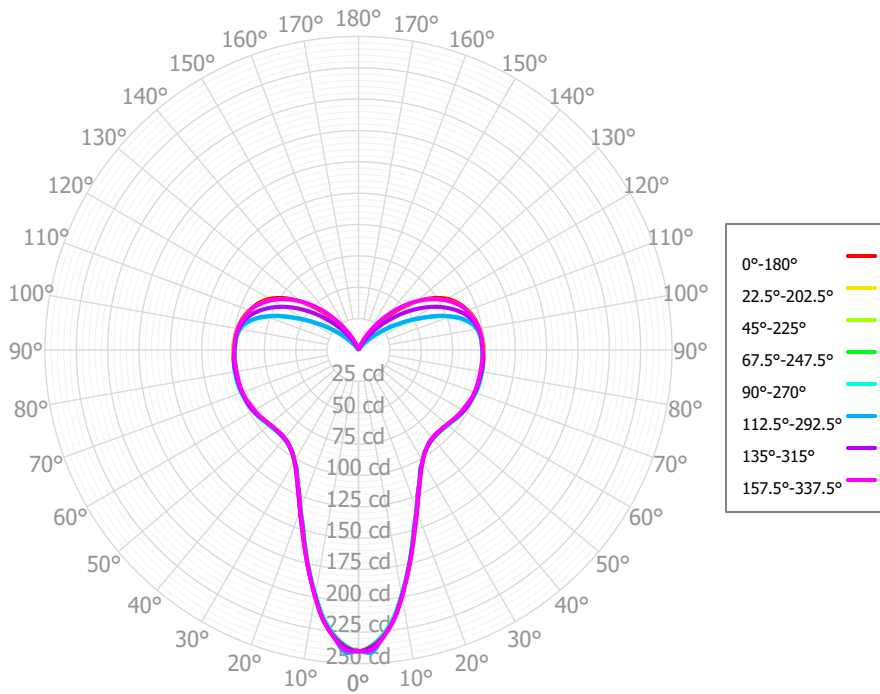
Full Beam Angle

0° - 180°	47°
90° - 270°	47°

IES File Header Contents

Keyword	Value
TEST	SP-00997_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/3/2020
ISSUEDATE	1/7/2020
LUMCAT	AF0620GV 15L 35K EX FG8 HM
LUMINAIRE	Nom. 8" diam x 20" H tubular luminaire with matte white decorative acrylic shade
OTHER	Beam Angle (downlight): 48 degrees
OTHER	Uplight: 35.9%
OTHER	Downlight: 64.1%
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°	21.12	2.09%	90.00° - 100.00°	107.30	10.62%
10.00° - 20.00°	45.74	4.53%	100.00° - 110.00°	97.61	9.66%
20.00° - 30.00°	53.37	5.28%	100.00° - 120.00°	172.98	17.12%
30.00° - 40.00°	60.01	5.94%	120.00° - 130.00°	48.12	4.76%
40.00° - 50.00°	71.15	7.04%	130.00° - 140.00°	24.30	2.40%
50.00° - 60.00°	84.99	8.41%	140.00° - 150.00°	8.63	0.85%
60.00° - 70.00°	97.14	9.61%	150.00° - 160.00°	1.88	0.19%
70.00° - 80.00°	105.07	10.40%	160.00° - 170.00°	0.28	0.03%
80.00° - 90.00°	108.40	10.73%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	646.98	64.02%	0.00° - 180.00°	1,010.54	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°	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20	240.20
2.50°	236.39	236.54	238.36	235.97	237.19	241.45	236.99	239.54	236.39	236.54	238.36	235.97	237.19	241.45	236.99	239.54	236.39
5.00°	227.73	228.18	227.90	227.60	227.84	229.37	229.01	229.68	227.73	228.18	227.90	227.60	227.84	229.37	229.01	229.68	227.73
7.50°	215.59	215.78	215.67	214.93	215.38	217.18	216.57	217.06	215.59	215.78	215.67	214.93	215.38	217.18	216.57	217.06	215.59
10.00°	198.85	198.86	198.49	198.12	198.12	199.23	199.14	199.99	198.85	198.86	198.49	198.12	198.12	199.23	199.14	199.99	198.85
12.50°	182.02	181.71	180.47	181.03	180.90	181.26	181.80	181.69	182.02	181.71	180.47	181.03	180.90	181.26	181.80	181.69	182.02
15.00°	165.07	164.32	163.82	163.67	163.76	164.11	164.57	164.88	165.07	164.32	163.82	163.67	163.76	164.11	164.57	164.88	165.07
17.50°	149.77	148.80	147.37	148.35	148.29	147.00	149.30	148.48	149.77	148.80	147.37	148.35	148.29	147.00	149.30	148.48	149.77
20.00°	136.50	135.31	135.02	134.87	135.29	135.23	136.14	135.62	136.50	135.31	135.02	134.87	135.29	135.23	136.14	135.62	136.50
22.50°	125.02	124.20	123.28	123.83	124.05	123.51	124.84	123.66	125.02	124.20	123.28	123.83	124.05	123.51	124.84	123.66	125.02
25.00°	115.76	115.60	115.15	114.99	115.35	114.94	115.50	115.15	115.76	115.60	115.15	114.99	115.35	114.94	115.50	115.15	115.76
27.50°	108.02	108.46	107.54	107.90	107.90	106.44	107.94	107.51	108.02	108.46	107.54	107.90	107.90	106.44	107.94	107.51	108.02
30.00°	102.09	102.81	102.20	102.33	102.18	102.16	102.22	102.28	102.09	102.81	102.20	102.33	102.18	102.16	102.22	102.28	102.09
32.50°	97.68	98.52	97.16	98.07	97.81	97.91	97.96	97.63	97.68	98.52	97.16	98.07	97.81	97.91	97.96	97.63	97.68
35.00°	95.04	95.58	94.85	94.91	95.25	95.31	95.18	94.88	95.04	95.58	94.85	94.91	95.25	95.31	95.18	94.88	95.04
37.50°	93.15	93.39	92.88	92.87	93.40	92.78	93.25	92.57	93.15	93.39	92.88	92.87	93.40	92.78	93.25	92.57	93.15
40.00°	92.14	91.94	92.03	91.77	92.49	92.18	92.16	91.57	92.14	91.94	92.03	91.77	92.49	92.18	92.16	91.57	92.14
42.50°	91.62	91.43	91.31	91.52	91.98	91.61	91.57	90.88	91.62	91.43	91.31	91.52	91.98	91.61	91.57	90.88	91.62
45.00°	91.64	91.81	91.38	91.96	91.98	91.88	91.46	91.11	91.64	91.81	91.38	91.96	91.98	91.88	91.46	91.11	91.64
47.50°	91.95	92.34	91.54	92.49	92.32	92.17	91.75	91.54	91.95	92.34	91.54	92.49	92.32	92.17	91.75	91.54	91.95
50.00°	92.59	93.01	92.19	93.08	93.11	92.91	92.42	92.33	92.59	93.01	92.19	93.08	93.11	92.91	92.42	92.33	92.59
52.50°	93.53	93.91	92.90	93.97	94.08	93.67	93.37	93.20	93.53	93.91	92.90	93.97	94.08	93.67	93.37	93.20	93.53
55.00°	94.81	95.02	94.24	95.08	95.27	94.94	94.59	94.11	94.81	95.02	94.24	95.08	95.27	94.94	94.59	94.11	94.81
57.50°	95.92	95.93	95.63	95.89	96.28	96.18	95.80	95.03	95.92	95.93	95.63	95.89	96.28	96.18	95.80	95.03	95.92
60.00°	96.85	96.68	96.25	96.48	97.08	96.81	97.00	95.72	96.85	96.68	96.25	96.48	97.08	96.81	97.00	95.72	96.85
62.50°	97.49	97.32	96.80	97.29	97.78	97.43	97.79	96.37	97.49	97.32	96.80	97.29	97.78	97.43	97.79	96.37	97.49
65.00°	97.84	97.88	97.51	98.28	98.39	97.95	98.21	97.20	97.84	97.88	97.51	98.28	98.39	97.95	98.21	97.20	97.84
67.50°	98.26	98.38	98.24	98.95	99.00	98.47	98.59	98.06	98.26	98.38	98.24	98.95	99.00	98.47	98.59	98.06	98.26
70.00°	98.75	98.82	98.51	99.38	99.62	99.11	98.92	98.37	98.75	98.82	98.51	99.38	99.62	99.11	98.92	98.37	98.75
72.50°	99.08	99.12	98.74	99.68	100.01	99.70	99.11	98.59	99.08	99.12	98.74	99.68	100.01	99.70	99.11	98.59	99.08
75.00°	99.26	99.31	98.93	99.89	100.13	99.78	99.17	98.64	99.26	99.31	98.93	99.89	100.13	99.78	99.17	98.64	99.26
77.50°	99.47	99.37	99.11	99.99	100.09	99.86	99.33	98.66	99.47	99.37	99.11	99.99	100.09	99.86	99.33	98.66	99.47
80.00°	99.72	99.33	98.83	100.00	99.86	100.02	99.58	98.75	99.72	99.33	98.83	100.00	99.86	100.02	99.58	98.75	99.72
82.50°	99.90	99.45	98.51	99.64	99.61	100.12	99.71	98.85	99.90	99.45	98.51	99.64	99.61	100.12	99.71	98.85	99.90
85.00°	100.02	99.70	98.85	99.03	99.35	99.54	99.73	99.00	100.02	99.70	98.85	99.03	99.35	99.54	99.73	99.00	100.02
87.50°	100.00	99.84	99.23	98.68	99.13	98.99	99.44	99.15	100.00	99.84	99.23	98.68	99.13	98.99	99.44	99.15	100.00
90.00°	99.86	99.88	98.76	98.51	98.95	98.76	98.91	99.18	99.86	99.88	98.76	98.51	98.95	98.76	98.91	99.18	99.86
92.50°	99.58	99.75	98.25	98.30	98.56	98.53	98.61	99.18	99.58	99.75	98.25	98.30	98.56	98.53	98.61	99.18	99.58
95.00°	99.18	99.48	98.29	98.08	97.96	98.17	98.49	98.83	99.18	99.48	98.29	98.08	97.96	98.17	98.49	98.83	99.18
97.50°	98.64	98.80	98.36	97.19	97.23	97.68	97.91	98.42	98.64	98.80	98.36	97.19	97.23	97.68	97.91	98.42	98.64
100.00°	97.96	97.81	96.84	95.87	96.36	96.04	97.00	97.61	97.96	97.81	96.84	95.87	96.36	96.04	97.00	97.61	97.96
102.50°	97.05	96.64	95.27	93.16	93.72	94.11	95.52	96.74	97.05	96.64	95.27	93.16	93.72	94.11	95.52	96.74	97.05
105.00°	95.94	95.33	93.32	89.58	89.32	89.61	93.61	95.16	95.94	95.33	93.32	89.58	89.32	89.61	93.61	95.16	95.94
107.50°	94.41	93.70	91.35	84.31	84.12	84.89	90.87	93.48	94.41	93.70	91.35	84.31	84.12	84.89	90.87	93.48	94.41
110.00°	92.53	91.84	87.57	78.02	78.16	78.21	87.54	91.66	92.53	91.84	87.57	78.02	78.16	78.21	87.54	91.66	92.53
112.50°	90.41	89.52	83.73	70.46	71.15	71.34	83.54	89.82	90.41	89.52	83.73	70.46	71.15	71.34	83.54	89.82	90.41

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	1,116	1,116	1,116	1,116	1,048	1,048	1,048	1,048	921	921	921	804	804	804	697	697	647
	1	969	903	844	790	903	844	791	743	733	691	653	631	598	568	537	512	469
	2	866	765	682	612	803	714	640	576	618	559	508	530	483	442	448	412	375
	3	781	661	568	493	724	617	533	465	534	466	411	457	403	358	386	344	312
	4	711	579	483	409	659	541	454	386	469	398	342	402	345	299	340	295	267
	5	651	514	418	347	603	481	393	328	418	346	291	359	301	255	305	258	234
	6	600	460	366	299	556	431	345	283	376	305	252	324	266	222	276	229	208
	7	555	415	324	261	515	390	307	248	341	272	221	296	238	195	253	206	188
	8	516	377	290	230	480	355	275	219	312	244	197	271	215	174	233	187	171
	9	481	345	262	206	448	325	248	196	287	222	176	251	196	157	217	171	157
	10	451	318	238	185	420	300	226	177	265	203	159	233	180	143	202	158	145

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	7.9 fc	4.8 ft
6.5 ft	5.7 fc	5.7 ft
7.5 ft	4.3 fc	6.6 ft
8.0 ft	3.8 fc	7.0 ft
10.0 ft	2.4 fc	8.8 ft
12.0 ft	1.7 fc	10.5 ft
14.0 ft	1.2 fc	12.3 ft
16.0 ft	0.9 fc	14.0 ft
20.0 ft	0.6 fc	17.5 ft
24.0 ft	0.4 fc	21.0 ft
28.0 ft	0.3 fc	24.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	7,333	7,333	7,333
45.00°	1,070	1,067	1,074
55.00°	1,040	1,033	1,045
65.00°	1,041	1,038	1,047
75.00°	1,058	1,054	1,067
85.00°	1,100	1,087	1,093

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