

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

AF0618GV 27L 35K EX FG6 HM

Nom. 6" diam x 18" H tubular luminaire with matte white decorative acrylic shade

### **Test Number**

SP-00994

### **Test Date**

1/3/2020

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

### Summary of Results

#### Power

Input Watts	19 W
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#### Lumen Output

Output Lumens	1731
Efficacy	91.13 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	1.25

#### Spacing Criterion

Two luminaires, plane 0°	0.65
Two luminaires, plane 90°	0.65
Four luminaires	0.88

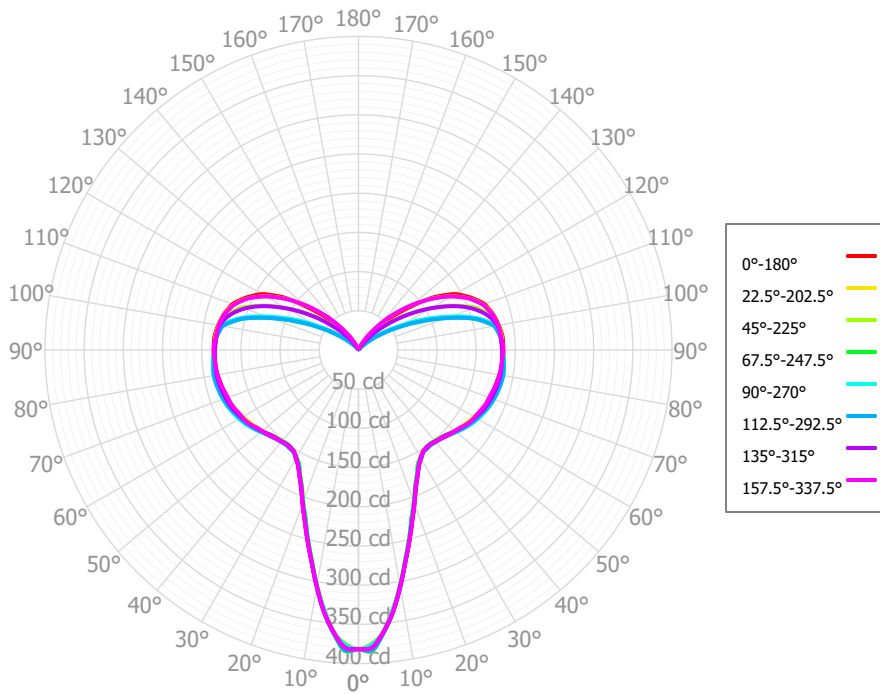
#### Full Beam Angle

0° - 180°	44°
90° - 270°	44°

### IES File Header Contents

Keyword	Value
TEST	SP-00994
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/3/2020
ISSUEDATE	1/7/2020
LUMCAT	AF0618GV 27L 35K EX FG6 HM
LUMINAIRE	Nom. 6" diam x 18" H tubular luminaire with matte white decorative acrylic shade
OTHER	Beam Angle (downlight): 45 degrees
OTHER	Uplight: 35.1%
OTHER	Downlight: 64.9%
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

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	33.08	1.91%	90.00° - 100.00°	198.89	11.49%
10.00° - 20.00°	69.83	4.03%	100.00° - 110.00°	175.48	10.14%
20.00° - 30.00°	82.06	4.74%	100.00° - 120.00°	299.53	17.30%
30.00° - 40.00°	96.14	5.55%	120.00° - 130.00°	69.83	4.03%
40.00° - 50.00°	121.04	6.99%	130.00° - 140.00°	29.32	1.69%
50.00° - 60.00°	150.37	8.68%	140.00° - 150.00°	8.46	0.49%
60.00° - 70.00°	175.89	10.16%	150.00° - 160.00°	1.57	0.09%
70.00° - 80.00°	193.50	11.18%	160.00° - 170.00°	0.40	0.02%
80.00° - 90.00°	201.38	11.63%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1,123.29	64.88%	0.00° - 180.00°	1,731.41	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°	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66	381.66
2.50°	380.64	374.94	385.07	384.27	376.22	384.00	380.37	380.65	380.64	374.94	385.07	384.27	376.22	384.00	380.37	380.65	380.64
5.00°	361.48	361.92	362.23	362.94	362.19	363.23	361.71	362.21	361.48	361.92	362.23	362.94	362.19	363.23	361.71	362.21	361.48
7.50°	334.61	333.90	335.98	336.93	334.40	337.32	337.48	336.78	334.61	333.90	335.98	336.93	334.40	337.32	337.48	336.78	334.61
10.00°	305.54	305.19	305.65	306.13	305.66	307.10	305.95	307.16	305.54	305.19	305.65	306.13	305.66	307.10	305.95	307.16	305.54
12.50°	275.79	275.82	274.94	274.59	276.17	276.14	277.11	276.34	275.79	275.82	274.94	274.59	276.17	276.14	277.11	276.34	275.79
15.00°	251.26	249.61	249.83	249.36	250.39	250.79	251.13	251.59	251.26	249.61	249.83	249.36	250.39	250.79	251.13	251.59	251.26
17.50°	227.88	225.84	225.04	224.69	227.06	226.02	228.19	228.07	227.88	225.84	225.04	224.69	227.06	226.02	228.19	228.07	227.88
20.00°	208.82	206.27	206.33	206.73	207.46	207.88	207.95	208.74	208.82	206.27	206.33	206.73	207.46	207.88	207.95	208.74	208.82
22.50°	190.44	189.31	188.07	189.06	189.82	190.10	191.38	190.00	190.44	189.31	188.07	189.06	189.82	190.10	191.38	190.00	190.44
25.00°	178.19	176.38	176.28	176.27	176.84	177.89	177.42	178.01	178.19	176.38	176.28	176.27	176.84	177.89	177.42	178.01	178.19
27.50°	166.49	165.51	165.16	163.99	165.79	166.05	166.95	166.55	166.49	165.51	165.16	163.99	165.79	166.05	166.95	166.55	166.49
30.00°	159.70	158.79	158.92	158.51	159.36	160.02	158.47	159.84	159.70	158.79	158.92	158.51	159.36	160.02	158.47	159.84	159.70
32.50°	153.14	153.73	153.47	153.48	154.44	154.49	153.98	153.37	153.14	153.73	153.47	153.48	154.44	154.49	153.98	153.37	153.14
35.00°	152.07	151.83	151.83	151.61	152.78	153.33	151.30	152.32	152.07	151.83	151.83	151.61	152.78	153.33	151.30	152.32	152.07
37.50°	151.13	150.90	150.68	150.34	151.91	152.50	151.21	151.46	151.13	150.90	150.68	150.34	151.91	152.50	151.21	151.46	151.13
40.00°	152.07	151.80	151.28	151.96	152.68	153.47	152.04	152.77	152.07	151.80	151.28	151.96	152.68	153.47	152.04	152.77	152.07
42.50°	153.26	153.12	152.37	153.72	153.73	154.68	153.41	154.19	153.26	153.12	152.37	153.72	153.73	154.68	153.41	154.19	153.26
45.00°	156.18	155.25	154.76	156.00	156.18	156.80	154.91	156.42	156.18	155.25	154.76	156.00	156.18	156.80	154.91	156.42	156.18
47.50°	159.12	157.51	157.59	158.71	158.79	159.20	157.74	158.62	159.12	157.51	157.59	158.71	158.79	159.20	157.74	158.62	159.12
50.00°	162.15	160.20	161.37	162.53	162.48	162.42	160.81	160.71	162.15	160.20	161.37	162.53	162.48	162.42	160.81	160.71	162.15
52.50°	164.96	162.92	164.66	166.17	166.22	165.70	163.88	163.16	164.96	162.92	164.66	166.17	166.22	165.70	163.88	163.16	164.96
55.00°	166.98	165.33	167.10	169.43	169.70	169.11	166.95	166.83	166.98	165.33	167.10	169.43	169.70	169.11	166.95	166.83	166.98
57.50°	169.07	167.73	169.70	172.42	173.14	172.11	169.61	169.85	169.07	167.73	169.70	172.42	173.14	172.11	169.61	169.85	169.07
60.00°	171.36	170.34	172.49	174.93	175.75	174.40	172.24	171.22	171.36	170.34	172.49	174.93	175.75	174.40	172.24	171.22	171.36
62.50°	173.50	172.90	175.17	177.51	178.27	176.85	174.76	172.84	173.50	172.90	175.17	177.51	178.27	176.85	174.76	172.84	173.50
65.00°	175.30	174.79	177.73	180.18	180.15	179.56	177.24	174.99	175.30	174.79	177.73	180.18	180.15	179.56	177.24	174.99	175.30
67.50°	176.98	176.60	179.40	182.21	181.99	181.79	178.75	176.62	176.98	176.60	179.40	182.21	181.99	181.79	178.75	176.62	176.98
70.00°	178.46	177.79	180.29	183.57	183.60	183.45	180.22	177.41	178.46	177.79	180.29	183.57	183.60	183.45	180.22	177.41	178.46
72.50°	179.62	179.17	181.43	184.69	184.99	184.89	181.42	178.64	179.62	179.17	181.43	184.69	184.99	184.89	181.42	178.64	179.62
75.00°	180.35	181.44	182.75	185.61	185.56	186.09	182.54	180.45	180.35	181.44	182.75	185.61	185.56	186.09	182.54	180.45	180.35
77.50°	181.30	183.34	183.64	186.31	186.10	186.95	183.24	181.79	181.30	183.34	183.64	186.31	186.10	186.95	183.24	181.79	181.30
80.00°	182.50	183.89	184.28	186.83	186.54	187.53	183.79	182.63	182.50	183.89	184.28	186.83	186.54	187.53	183.79	182.63	182.50
82.50°	183.55	184.14	184.73	186.71	186.59	186.95	183.68	183.19	183.55	184.14	184.73	186.71	186.59	186.95	183.68	183.19	183.55
85.00°	184.46	183.54	185.09	186.20	185.81	185.63	183.56	183.49	184.46	183.54	185.09	186.20	185.81	185.63	183.56	183.49	184.46
87.50°	184.81	183.20	184.63	185.35	184.97	184.73	183.44	184.07	184.81	183.20	184.63	185.35	184.97	184.73	183.44	184.07	184.81
90.00°	184.72	183.40	183.86	184.34	184.04	184.05	183.19	184.85	184.72	183.40	183.86	184.34	184.04	184.05	183.19	184.85	184.72
92.50°	184.68	183.51	183.27	183.24	183.28	183.14	182.67	184.23	184.68	183.51	183.27	183.24	183.28	183.14	182.67	184.23	184.68
95.00°	184.67	183.46	182.72	182.10	182.74	182.12	182.20	182.83	184.67	183.46	182.72	182.10	182.74	182.12	182.20	182.83	184.67
97.50°	183.49	182.62	181.87	179.46	180.58	179.25	181.84	181.72	183.49	182.62	181.87	179.46	180.58	179.25	181.84	181.72	183.49
100.00°	181.74	180.66	180.96	176.40	176.54	175.79	180.05	180.73	181.74	180.66	180.96	176.40	176.54	175.79	180.05	180.73	181.74
102.50°	179.69	178.69	177.44	165.90	168.46	165.65	176.05	178.85	179.69	178.69	177.44	165.90	168.46	165.65	176.05	178.85	179.69
105.00°	177.51	176.71	173.54	153.81	156.59	153.96	170.61	176.65	177.51	176.71	173.54	153.81	156.59	153.96	170.61	176.65	177.51
107.50°	174.44	173.51	166.03	136.88	141.72	136.94	163.38	172.96	174.44	173.51	166.03	136.88	141.72	136.94	163.38	172.96	174.44
110.00°	171.11	169.19	158.24	119.26	124.50	119.05	154.61	168.87	171.11	169.19	158.24	119.26	124.50	119.05	154.61	168.87	171.11
112.50°	164.95	163.07	146.03	101.83	108.35	102.14	144.25	162.44	164.95	163.07	146.03	101.83	108.35	102.14	144.25	162.44	164.95

### 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>	1,916	1,916	1,916	1,916	1,801	1,801	1,801	1,801	1,586	1,586	1,586	1,389	1,389	1,389	1,208	1,208	1,123
	<b>1</b>	1,655	1,537	1,432	1,337	1,541	1,437	1,342	1,257	1,249	1,174	1,106	1,076	1,018	964	917	872	799
	<b>2</b>	1,473	1,296	1,149	1,026	1,367	1,209	1,078	966	1,047	942	851	897	814	741	759	694	631
	<b>3</b>	1,327	1,115	951	821	1,229	1,041	893	774	900	781	682	770	675	594	650	574	521
	<b>4</b>	1,206	975	806	677	1,116	910	757	639	789	664	565	675	574	492	570	489	443
	<b>5</b>	1,103	863	695	571	1,022	807	654	539	700	574	478	601	499	418	509	426	386
	<b>6</b>	1,015	771	607	490	941	722	572	464	629	505	412	542	439	361	460	377	342
	<b>7</b>	938	695	537	426	871	652	507	404	570	448	360	493	392	317	421	338	307
	<b>8</b>	872	631	480	376	810	593	454	357	520	403	319	452	353	282	387	306	279
	<b>9</b>	813	577	432	334	756	543	409	318	478	365	285	417	321	253	359	279	256
	<b>10</b>	761	530	392	300	709	500	372	286	442	333	257	387	294	229	335	257	236

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	12.6 fc	4.5 ft
6.5 ft	9.0 fc	5.3 ft
7.5 ft	6.8 fc	6.1 ft
8.0 ft	6.0 fc	6.5 ft
10.0 ft	3.8 fc	8.2 ft
12.0 ft	2.7 fc	9.8 ft
14.0 ft	1.9 fc	11.4 ft
16.0 ft	1.5 fc	13.1 ft
20.0 ft	1.0 fc	16.3 ft
24.0 ft	0.7 fc	19.6 ft
28.0 ft	0.5 fc	22.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	20,923	20,923	20,923
<b>45.00°</b>	2,895	2,868	2,895
<b>55.00°</b>	2,878	2,880	2,925
<b>65.00°</b>	2,906	2,946	2,986
<b>75.00°</b>	2,966	3,005	3,052
<b>85.00°</b>	3,104	3,114	3,126

### 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