

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

AO1322GV 55L 35K TF2 MWI

Nom 22" diam downlight with TF2 diffuser, matte white interior finish

### **Test Number**

SP-01259

### **Test Date**

8/5/2021

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

### Summary of Results

#### Power

Input Watts	39.5 W
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#### Lumen Output

Output Lumens	4426
Efficacy	112.06 lm/W

#### Luminous Dimensions

0° - 180° Size	-1.83
90° - 270° Size	-1.83
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.86
Two luminaires, plane 90°	0.86
Four luminaires	1.15

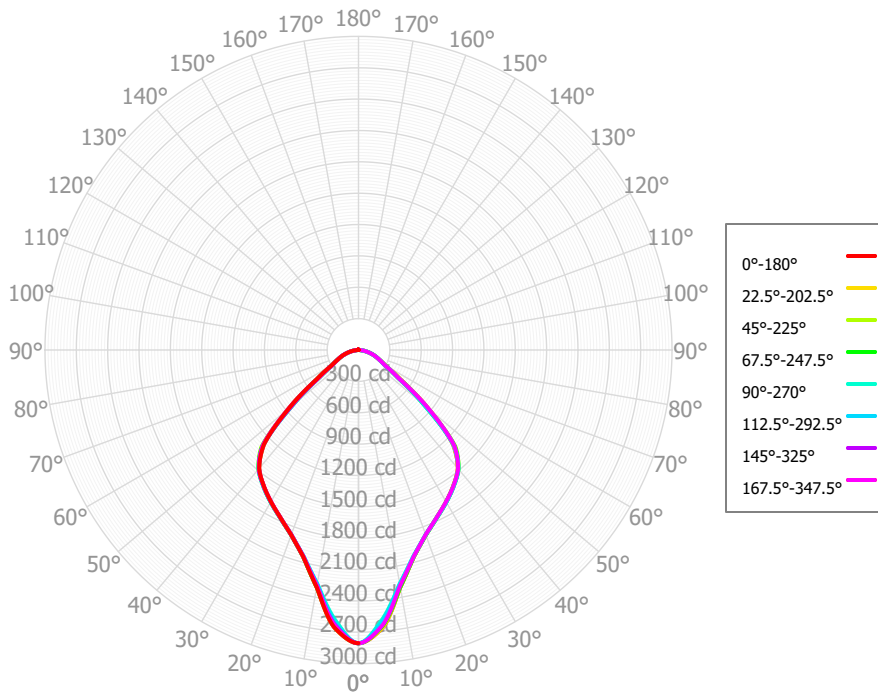
#### Full Beam Angle

0° - 180°	84°
90° - 270°	84°

### IES File Header Contents

Keyword	Value
TEST	SP-01259
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/5/2021
ISSUEDATE	8/5/2021
LUMCAT	AO1322GV 55L 35K TF2 MWI
LUMINAIRE	Nom 22" diam downlight with TF2 diffuser, matte white interior finish
OTHER	Beam angle: 84 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.98, 40K x 1.03
OTHER	Total luminaire wattage is approximate.
OTHER	This report prepared by Spectrum Lighting
_CRI	83
_CCTMULT	27K x 0.97, 30K x 0.98, 40K x 1.03
_LAMPMULT	15L x 0.27, 27L x 0.46, 37L x 0.68

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	251.87	5.69%	90.00° - 100.00°	2.54	0.06%
10.00° - 20.00°	575.48	13.00%	100.00° - 110.00°	1.87	0.04%
20.00° - 30.00°	816.43	18.45%	100.00° - 120.00°	3.67	0.08%
30.00° - 40.00°	989.93	22.36%	120.00° - 130.00°	1.78	0.04%
40.00° - 50.00°	941.62	21.27%	130.00° - 140.00°	1.57	0.04%
50.00° - 60.00°	458.21	10.35%	140.00° - 150.00°	1.35	0.03%
60.00° - 70.00°	222.11	5.02%	150.00° - 160.00°	1.02	0.02%
70.00° - 80.00°	123.21	2.78%	160.00° - 170.00°	0.65	0.01%
80.00° - 90.00°	34.63	0.78%	170.00° - 180.00°	0.24	0.01%
0.00° - 90.00°	4413.49	99.71%	0.00° - 180.00°	4426.31	100.00%

### Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	145.00°	167.50°	180.00°	212.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68	2805.68
5.00°	2663.89	2664.20	2646.79	2649.71	2590.24	2609.46	2634.89	2643.31	2663.89	2664.20	2646.79	2649.71	2590.24	2609.46	2634.89	2643.31	2663.89
10.00°	2304.57	2305.02	2300.53	2302.81	2272.19	2275.62	2291.19	2290.19	2304.57	2305.02	2300.53	2302.81	2272.19	2275.62	2291.19	2290.19	2304.57
15.00°	2046.08	2046.93	2045.89	2046.96	2038.32	2042.16	2042.13	2044.24	2046.08	2046.93	2045.89	2046.96	2038.32	2042.16	2042.13	2044.24	2046.08
20.00°	1882.79	1883.59	1880.36	1884.41	1881.96	1879.47	1881.78	1880.36	1882.79	1883.59	1880.36	1884.41	1881.96	1879.47	1881.78	1880.36	1882.79
25.00°	1769.47	1770.22	1769.44	1772.65	1772.01	1770.04	1769.12	1769.16	1769.47	1770.22	1769.44	1772.65	1772.01	1770.04	1769.12	1769.16	1769.47
30.00°	1676.07	1678.08	1678.40	1680.17	1681.41	1678.76	1675.29	1676.03	1676.07	1678.08	1678.40	1680.17	1681.41	1678.76	1675.29	1676.03	1676.07
35.00°	1583.02	1585.66	1587.00	1587.86	1589.24	1588.38	1583.21	1585.32	1583.02	1585.66	1587.00	1587.86	1589.24	1588.38	1583.21	1585.32	1583.02
40.00°	1478.40	1480.87	1484.88	1487.56	1486.86	1482.91	1481.83	1482.20	1478.40	1480.87	1484.88	1487.56	1486.86	1482.91	1481.83	1482.20	1478.40
45.00°	1281.27	1281.94	1313.70	1303.30	1294.38	1288.99	1292.37	1296.34	1281.27	1281.94	1313.70	1303.30	1294.38	1288.99	1292.37	1296.34	1281.27
50.00°	869.86	873.25	859.13	829.29	821.68	855.01	837.84	876.82	869.86	873.25	859.13	829.29	821.68	855.01	837.84	876.82	869.86
55.00°	486.02	486.13	456.96	460.69	457.53	455.69	469.74	464.24	486.02	486.13	456.96	460.69	457.53	455.69	469.74	464.24	486.02
60.00°	299.01	298.89	290.28	290.30	290.07	289.92	292.79	291.56	299.01	298.89	290.28	290.30	290.07	289.92	292.79	291.56	299.01
65.00°	220.30	219.96	219.33	220.58	218.97	221.29	221.25	220.50	220.30	219.96	219.33	220.58	218.97	221.29	221.25	220.50	220.30
70.00°	168.02	167.47	166.30	167.22	167.82	167.08	168.03	168.37	168.02	167.47	166.30	167.22	167.82	167.08	168.03	168.37	168.02
75.00°	115.95	117.10	115.44	116.40	116.32	116.39	115.49	116.04	115.95	117.10	115.44	116.40	116.32	116.39	115.49	116.04	115.95
80.00°	69.04	69.22	68.00	69.47	68.01	69.23	68.35	68.76	69.04	69.22	68.00	69.47	68.01	69.23	68.35	68.76	69.04
85.00°	27.88	27.47	27.35	25.94	26.62	28.54	24.77	29.44	27.88	27.47	27.35	25.94	26.62	28.54	24.77	29.44	27.88
90.00°	5.56	5.93	4.67	2.81	3.36	4.75	3.40	5.23	5.56	5.93	4.67	2.81	3.36	4.75	3.40	5.23	5.56
95.00°	1.53	1.53	1.53	1.49	1.71	1.61	1.83	1.50	1.53	1.53	1.53	1.49	1.71	1.61	1.83	1.50	1.53
100.00°	1.92	1.45	1.88	1.80	1.54	1.60	1.56	1.81	1.92	1.45	1.88	1.80	1.54	1.60	1.56	1.81	1.92
105.00°	2.03	1.63	1.81	1.60	1.82	1.77	1.84	1.98	2.03	1.63	1.81	1.60	1.82	1.77	1.84	1.98	2.03
110.00°	1.80	1.71	1.83	1.71	1.91	1.67	1.76	1.79	1.80	1.71	1.83	1.71	1.91	1.67	1.76	1.79	1.80
115.00°	1.63	1.63	1.78	1.78	1.99	1.62	1.71	1.93	1.63	1.63	1.78	1.78	1.99	1.62	1.71	1.93	1.63
120.00°	1.81	1.96	1.95	2.23	1.98	1.85	1.98	2.16	1.81	1.96	1.95	2.23	1.98	1.85	1.98	2.16	1.81
125.00°	2.01	2.06	2.08	2.18	1.98	1.95	1.62	2.13	2.01	2.06	2.08	2.18	1.98	1.95	1.62	2.13	2.01
130.00°	2.07	1.95	2.05	2.43	1.78	1.94	1.80	1.93	2.07	1.95	2.05	2.43	1.78	1.94	1.80	1.93	2.07
135.00°	2.22	2.15	1.93	1.88	1.67	2.11	2.08	2.01	2.22	2.15	1.93	1.88	1.67	2.11	2.08	2.01	2.22
140.00°	2.19	2.10	1.98	2.07	2.18	2.24	2.07	2.13	2.19	2.10	1.98	2.07	2.18	2.24	2.07	2.13	2.19
145.00°	2.18	2.25	2.22	2.19	1.99	2.22	1.96	2.31	2.18	2.25	2.22	2.19	1.99	2.22	1.96	2.31	2.18
150.00°	2.30	1.90	2.42	2.23	2.16	1.99	1.98	2.39	2.30	1.90	2.42	2.23	2.16	1.99	1.98	2.39	2.30
155.00°	2.37	2.01	2.32	2.26	1.96	2.06	2.27	2.39	2.37	2.01	2.32	2.26	1.96	2.06	2.27	2.39	2.37
160.00°	2.20	2.40	2.01	2.36	2.15	2.22	2.20	2.39	2.20	2.40	2.01	2.36	2.15	2.22	2.20	2.39	2.20
165.00°	2.16	2.42	2.26	2.50	2.09	2.31	2.30	2.14	2.16	2.42	2.26	2.50	2.09	2.31	2.30	2.14	2.16
170.00°	2.55	2.57	2.38	2.67	1.96	2.43	2.26	2.45	2.55	2.57	2.38	2.67	1.96	2.43	2.26	2.45	2.55
175.00°	2.29	2.19	2.21	2.42	2.37	2.27	2.31	2.67	2.29	2.19	2.21	2.42	2.37	2.27	2.31	2.67	2.29
180.00°	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39

### 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>	5266	5266	5266	5266	5142	5142	5142	5142	4911	4911	4911	4699	4699	4699	4505	4505	4413
	<b>1</b>	4907	4736	4583	4445	4790	4637	4498	4372	4450	4337	4233	4279	4188	4103	4121	4048	3964
	<b>2</b>	4545	4244	3995	3786	4435	4162	3934	3741	4009	3818	3654	3867	3709	3571	3736	3607	3530
	<b>3</b>	4208	3815	3510	3268	4105	3747	3466	3239	3619	3380	3182	3501	3298	3128	3392	3221	3153
	<b>4</b>	3900	3444	3111	2856	3806	3388	3077	2836	3281	3011	2798	3182	2949	2761	3089	2890	2830
	<b>5</b>	3622	3125	2778	2521	3535	3077	2751	2508	2987	2701	2481	2903	2652	2455	2825	2606	2553
	<b>6</b>	3371	2849	2498	2246	3292	2808	2477	2236	2732	2437	2217	2660	2399	2199	2593	2362	2315
	<b>7</b>	3146	2609	2261	2017	3074	2574	2244	2010	2509	2212	1996	2447	2181	1982	2390	2151	2110
	<b>8</b>	2943	2400	2059	1824	2878	2371	2045	1819	2314	2019	1808	2261	1994	1798	2211	1969	1933
	<b>9</b>	2761	2218	1885	1660	2701	2192	1874	1656	2143	1852	1648	2097	1831	1640	2054	1811	1779
	<b>10</b>	2597	2058	1735	1520	2543	2035	1726	1517	1993	1708	1511	1953	1690	1504	1915	1673	1645

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	92.7 fc	9.9 ft
6.5 ft	66.4 fc	11.7 ft
7.5 ft	49.9 fc	13.5 ft
8.0 ft	43.8 fc	14.4 ft
10.0 ft	28.1 fc	18.0 ft
12.0 ft	19.5 fc	21.6 ft
14.0 ft	14.3 fc	25.3 ft
16.0 ft	11.0 fc	28.9 ft
20.0 ft	7.0 fc	36.1 ft
24.0 ft	4.9 fc	43.3 ft
28.0 ft	3.6 fc	50.5 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	11482	11482	11482
45.00°	7415	7603	7491
55.00°	3468	3260	3264
65.00°	2133	2124	2120
75.00°	1833	1825	1839
85.00°	1309	1284	1250

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	13.0	14.5	13.4	14.8	15.1	12.8	14.2	13.2	14.6	14.9
	<b>3H</b>	14.2	15.5	14.6	15.8	16.2	14.0	15.3	14.4	15.6	16.0
	<b>4H</b>	14.7	15.8	15.1	16.2	16.6	14.5	15.7	14.9	16.1	16.4
	<b>6H</b>	15.0	16.1	15.4	16.5	16.9	14.9	16.0	15.3	16.3	16.7
	<b>8H</b>	15.1	16.1	15.5	16.5	16.9	15.0	16.0	15.4	16.4	16.8
	<b>12H</b>	15.2	16.2	15.6	16.5	17.0	15.0	16.0	15.5	16.4	16.9
<b>4H</b>	<b>2H</b>	13.4	14.5	13.8	14.9	15.3	13.2	14.4	13.6	14.7	15.1
	<b>3H</b>	14.8	15.7	15.2	16.1	16.6	14.6	15.6	15.1	16.0	16.4
	<b>4H</b>	15.4	16.2	15.8	16.7	17.1	15.3	16.1	15.7	16.5	17.0
	<b>6H</b>	15.8	16.6	16.3	17.0	17.5	15.7	16.5	16.2	16.9	17.4
	<b>8H</b>	16.0	16.7	16.5	17.1	17.6	15.9	16.6	16.4	17.0	17.5
	<b>12H</b>	16.1	16.7	16.6	17.2	17.7	16.0	16.6	16.5	17.1	17.6
<b>8H</b>	<b>4H</b>	15.6	16.3	16.0	16.7	17.2	15.5	16.2	15.9	16.6	17.1
	<b>6H</b>	16.1	16.7	16.6	17.2	17.7	16.1	16.6	16.6	17.1	17.6
	<b>8H</b>	16.3	16.9	16.9	17.4	17.9	16.3	16.8	16.8	17.3	17.8
	<b>12H</b>	16.5	17.0	17.0	17.5	18.0	16.4	16.9	16.9	17.4	18.0
<b>12H</b>	<b>4H</b>	15.6	16.2	16.1	16.7	17.2	15.5	16.1	16.0	16.6	17.1
	<b>6H</b>	16.2	16.7	16.7	17.2	17.7	16.1	16.6	16.6	17.1	17.6
	<b>8H</b>	16.4	16.9	16.9	17.4	18.0	16.3	16.8	16.9	17.3	17.9

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0