

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SGE10LEDOS 45L 35K XX AR1023OS MW FG  
Nom 10 inch diam, AR1023 trim, MW interior finish, frosted glass lens

### **Test Number**

SP-00690\_2

### **Test Date**

11/5/2020

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

### Summary of Results

#### Power

Input Watts	40 W
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#### Lumen Output

Output Lumens	3754
Efficacy	93.86 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.83
90° - 270° Size	-0.83
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.18
Two luminaires, plane 90°	1.18
Four luminaires	1.24

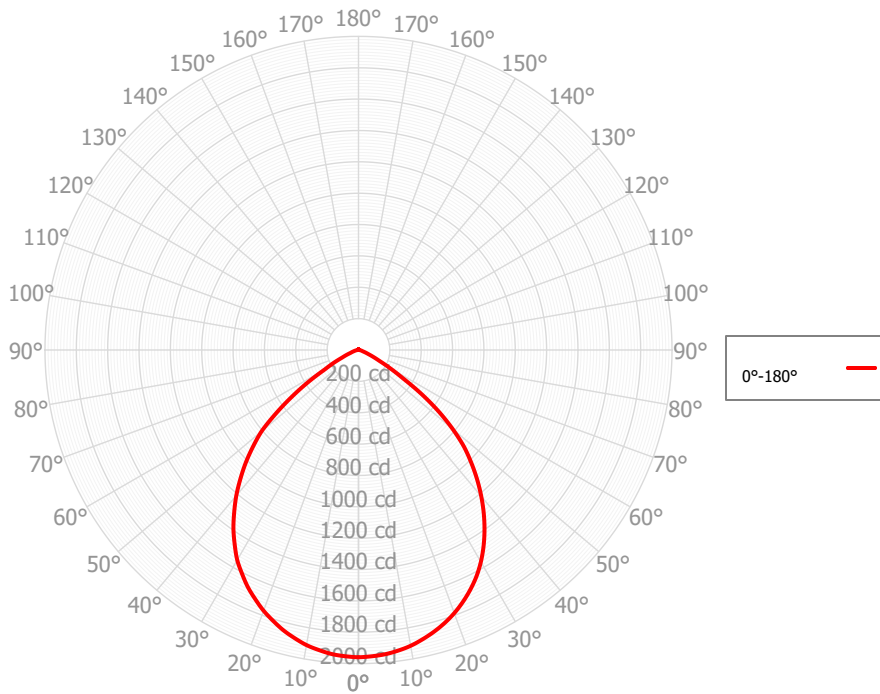
#### Full Beam Angle

0° - 180°	92°
90° - 270°	N/A°

### IES File Header Contents

Keyword	Value
TEST	SP-00690_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/5/2020
ISSUEDATE	12/28/2020
LUMCAT	SGE10LEDOS 45L 35K XX AR1023OS MW FG
LUMINAIRE	Nom 10 inch diam, AR1023 trim, MW interior finish, frosted glass lens
OTHER	Beam angle: 91.8 deg
LAMPCAT	N/A
LAMP	N/A, G4
OTHER	CCT Output Multiplier: 27K x 0.96, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80+
_CCTMULT	27K x 0.96, 30K x 0.99, 40K x 1.03
_LAMPMULT	10L x 0.23, 15L x 0.32, 20L x 0.42, 30L x 0.6

**Candela Polar Plot**



**Zonal Lumen Summary**

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	187.56	5.00%	90.00° - 100.00°	2.16	0.06%
10.00° - 20.00°	522.47	13.92%	100.00° - 110.00°	1.94	0.05%
20.00° - 30.00°	770.79	20.53%	100.00° - 120.00°	3.52	0.09%
30.00° - 40.00°	868.97	23.15%	120.00° - 130.00°	1.62	0.04%
40.00° - 50.00°	779.30	20.76%	130.00° - 140.00°	1.61	0.04%
50.00° - 60.00°	450.37	12.00%	140.00° - 150.00°	1.42	0.04%
60.00° - 70.00°	121.92	3.25%	150.00° - 160.00°	0.86	0.02%
70.00° - 80.00°	31.68	0.84%	160.00° - 170.00°	0.59	0.02%
80.00° - 90.00°	9.24	0.25%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	3742.30	99.68%	0.00° - 180.00°	3754.29	100.00%

### Candela Distribution

	0.00°	180.00°
0.00°	1959.93	1959.93
2.50°	1955.77	1955.55
5.00°	1948.26	1947.26
7.50°	1934.52	1930.93
10.00°	1916.12	1911.46
12.50°	1890.14	1882.77
15.00°	1860.69	1851.06
17.50°	1826.40	1811.61
20.00°	1786.43	1770.12
22.50°	1739.66	1720.67
25.00°	1687.31	1669.49
27.50°	1629.03	1609.16
30.00°	1561.27	1547.32
32.50°	1484.86	1470.10
35.00°	1401.46	1391.10
37.50°	1312.57	1302.31
40.00°	1218.22	1212.75
42.50°	1120.09	1115.16
45.00°	1017.53	1017.26
47.50°	912.36	912.86
50.00°	784.48	807.18
52.50°	645.16	661.36
55.00°	493.53	516.13
57.50°	336.51	379.05
60.00°	233.55	249.20
62.50°	150.31	180.67
65.00°	103.46	116.91
67.50°	67.49	83.60
70.00°	47.27	54.04
72.50°	30.99	42.41
75.00°	24.19	31.78
77.50°	19.25	24.92
80.00°	14.55	18.63
82.50°	9.89	14.13
85.00°	6.45	9.74
87.50°	3.14	5.61
90.00°	2.12	2.67
92.50°	1.23	2.29
95.00°	1.45	2.17
97.50°	1.68	2.55
100.00°	1.53	2.70
102.50°	1.41	2.45
105.00°	1.61	2.10
107.50°	1.79	1.62
110.00°	1.77	1.34
112.50°	1.75	1.31

### 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>	4467	4467	4467	4467	4361	4361	4361	4361	4165	4165	4165	3985	3985	3985	3820	3820	3742
	<b>1</b>	4187	4053	3933	3825	4090	3969	3861	3762	3812	3724	3643	3667	3597	3531	3534	3478	3406
	<b>2</b>	3894	3653	3454	3287	3802	3585	3403	3248	3456	3304	3173	3337	3212	3102	3227	3125	3033
	<b>3</b>	3614	3296	3049	2853	3529	3239	3011	2828	3132	2938	2779	3033	2869	2732	2941	2804	2686
	<b>4</b>	3354	2981	2708	2500	3275	2934	2680	2483	2844	2624	2450	2761	2571	2418	2683	2521	2387
	<b>5</b>	3116	2707	2421	2210	3044	2667	2399	2198	2591	2356	2175	2521	2315	2153	2455	2275	2131
	<b>6</b>	2901	2468	2178	1969	2835	2434	2160	1961	2370	2126	1945	2310	2094	1928	2253	2062	1913
	<b>7</b>	2706	2260	1971	1768	2646	2231	1957	1762	2176	1929	1750	2124	1903	1738	2076	1878	1726
	<b>8</b>	2531	2078	1794	1598	2476	2053	1782	1593	2006	1760	1584	1961	1738	1575	1919	1717	1566
	<b>9</b>	2373	1919	1641	1453	2323	1898	1632	1449	1856	1613	1443	1818	1595	1436	1781	1578	1429
	<b>10</b>	2231	1779	1509	1329	2186	1761	1501	1326	1725	1486	1321	1691	1471	1315	1659	1456	1310

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	64.8 fc	5.7 ft
6.5 ft	46.4 fc	6.7 ft
7.5 ft	34.8 fc	7.7 ft
8.0 ft	30.6 fc	8.3 ft
10.0 ft	19.6 fc	10.3 ft
12.0 ft	13.6 fc	12.4 ft
14.0 ft	10.0 fc	14.4 ft
16.0 ft	7.7 fc	16.5 ft
20.0 ft	4.9 fc	20.6 ft
24.0 ft	3.4 fc	24.8 ft
28.0 ft	2.5 fc	28.9 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	38991	38991	38991
45.00°	28628	28626	28624
55.00°	17118	17314	17510
65.00°	4870	5029	5187
75.00°	1860	2005	2151
85.00°	1472	1660	1848

### 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>	18.3	19.6	18.6	19.9	20.3	18.7	20.0	19.0	20.4	20.7
	<b>3H</b>	18.3	19.5	18.7	19.9	20.3	18.8	20.0	19.1	20.3	20.7
	<b>4H</b>	18.3	19.4	18.7	19.8	20.2	18.7	19.9	19.2	20.2	20.6
	<b>6H</b>	18.3	19.3	18.7	19.7	20.1	18.7	19.7	19.1	20.1	20.5
	<b>8H</b>	18.2	19.2	18.7	19.6	20.0	18.7	19.7	19.1	20.1	20.5
	<b>12H</b>	18.2	19.1	18.7	19.5	20.0	18.7	19.6	19.1	20.0	20.4
<b>4H</b>	<b>2H</b>	18.2	19.4	18.6	19.7	20.1	18.6	19.8	19.1	20.1	20.5
	<b>3H</b>	18.4	19.3	18.8	19.7	20.1	18.8	19.7	19.2	20.1	20.5
	<b>4H</b>	18.3	19.2	18.8	19.6	20.0	18.8	19.6	19.2	20.0	20.5
	<b>6H</b>	18.3	19.0	18.8	19.5	20.0	18.8	19.5	19.3	19.9	20.4
	<b>8H</b>	18.3	19.0	18.8	19.4	19.9	18.8	19.4	19.2	19.9	20.3
	<b>12H</b>	18.3	18.9	18.8	19.3	19.8	18.7	19.3	19.2	19.8	20.3
<b>8H</b>	<b>4H</b>	18.3	18.9	18.7	19.4	19.8	18.7	19.4	19.2	19.8	20.3
	<b>6H</b>	18.2	18.8	18.7	19.3	19.8	18.7	19.2	19.2	19.7	20.2
	<b>8H</b>	18.2	18.7	18.7	19.2	19.7	18.7	19.2	19.2	19.7	20.2
	<b>12H</b>	18.2	18.6	18.7	19.1	19.7	18.7	19.1	19.2	19.6	20.2
<b>12H</b>	<b>4H</b>	18.2	18.8	18.7	19.3	19.8	18.7	19.2	19.2	19.7	20.2
	<b>6H</b>	18.2	18.7	18.7	19.2	19.7	18.7	19.2	19.2	19.6	20.2
	<b>8H</b>	18.2	18.6	18.7	19.1	19.7	18.7	19.1	19.2	19.6	20.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0