

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE12LEDOS 45L 35K XX AR1223OS MW GL

Nom 12 inch diam, AR1223 trim, MW interior finish, clear glass lens

Test Number

SP-01197_1

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	4311
Efficacy	107.77 lm/W

Luminous Dimensions

0° - 180° Size	-1
90° - 270° Size	-1
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.24
Two luminaires, plane 90°	1.24
Four luminaires	1.26

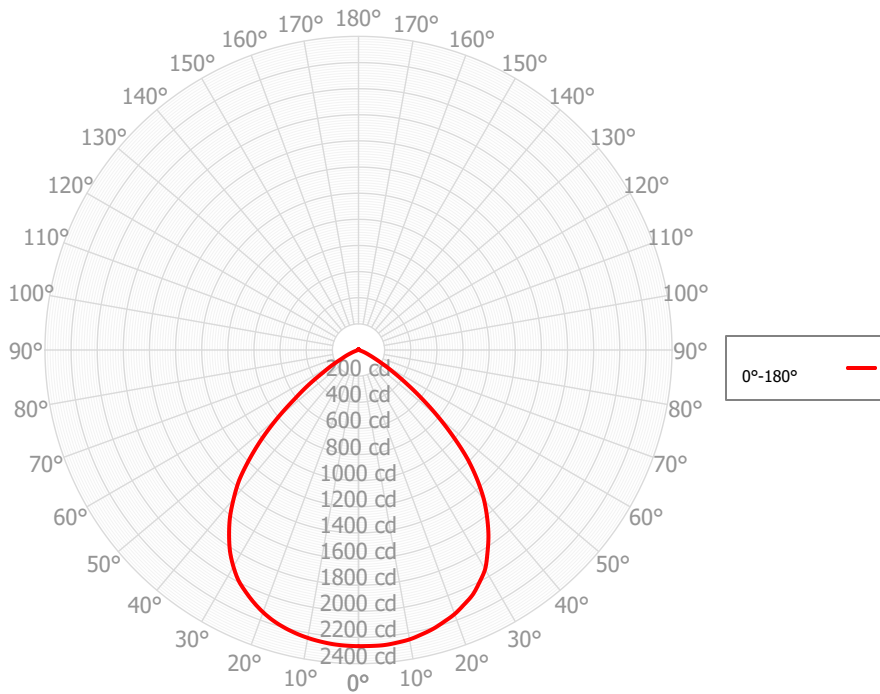
Full Beam Angle

0° - 180°	91°
90° - 270°	N/A°

IES File Header Contents

Keyword	Value
TEST	SP-01197_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/5/2020
ISSUEDATE	12/28/2020
LUMCAT	SGE12LEDOS 45L 35K XX AR1223OS MW GL
LUMINAIRE	Nom 12 inch diam, AR1223 trim, MW interior finish, clear glass lens
OTHER	Beam angle: 91.2 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°	218.68	5.07%	90.00° - 100.00°	1.57	0.04%
10.00° - 20.00°	621.78	14.42%	100.00° - 110.00°	1.53	0.04%
20.00° - 30.00°	943.95	21.90%	100.00° - 120.00°	2.99	0.07%
30.00° - 40.00°	1075.55	24.95%	120.00° - 130.00°	1.64	0.04%
40.00° - 50.00°	894.89	20.76%	130.00° - 140.00°	1.37	0.03%
50.00° - 60.00°	421.51	9.78%	140.00° - 150.00°	1.49	0.03%
60.00° - 70.00°	106.01	2.46%	150.00° - 160.00°	1.13	0.03%
70.00° - 80.00°	14.18	0.33%	160.00° - 170.00°	0.66	0.02%
80.00° - 90.00°	3.25	0.08%	170.00° - 180.00°	0.25	0.01%
0.00° - 90.00°	4299.80	99.74%	0.00° - 180.00°	4310.91	100.00%

Candela Distribution

	0.00°	180.00°
0.00°	2267.24	2267.24
2.50°	2267.69	2265.01
5.00°	2267.50	2260.27
7.50°	2259.66	2250.51
10.00°	2249.80	2237.86
12.50°	2230.47	2220.89
15.00°	2209.56	2199.24
17.50°	2180.75	2172.11
20.00°	2151.28	2136.33
22.50°	2110.08	2092.78
25.00°	2067.67	2043.11
27.50°	2005.24	1989.25
30.00°	1938.48	1915.20
32.50°	1837.91	1830.35
35.00°	1734.53	1727.20
37.50°	1617.71	1616.83
40.00°	1493.31	1487.20
42.50°	1344.68	1352.25
45.00°	1182.23	1178.87
47.50°	988.20	998.32
50.00°	797.47	807.55
52.50°	612.43	615.77
55.00°	449.69	468.68
57.50°	316.57	324.59
60.00°	212.73	233.11
62.50°	138.68	146.57
65.00°	89.43	104.62
67.50°	59.83	65.43
70.00°	35.92	40.14
72.50°	15.50	18.94
75.00°	7.59	11.80
77.50°	5.37	6.42
80.00°	4.05	5.30
82.50°	3.02	4.14
85.00°	2.73	2.89
87.50°	2.61	2.00
90.00°	2.07	1.62
92.50°	1.48	1.41
95.00°	1.35	1.37
97.50°	1.25	1.34
100.00°	1.66	1.32
102.50°	2.02	1.29
105.00°	1.62	1.25
107.50°	1.31	1.22
110.00°	1.58	1.20
112.50°	1.78	1.14

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	5129	5129	5129	5129	5009	5009	5009	5009	4784	4784	4784	4578	4578	4578	4389	4389	4300
	1	4824	4676	4544	4424	4713	4580	4461	4352	4401	4304	4215	4236	4158	4087	4084	4023	3966
	2	4500	4234	4014	3830	4396	4156	3955	3785	4009	3842	3698	3874	3736	3615	3749	3637	3536
	3	4187	3834	3561	3344	4091	3770	3518	3315	3649	3434	3258	3536	3355	3203	3432	3280	3150
	4	3895	3480	3176	2945	3806	3426	3144	2925	3325	3080	2887	3231	3020	2850	3143	2963	2814
	5	3626	3169	2849	2613	3544	3123	2824	2600	3038	2775	2573	2958	2728	2548	2883	2683	2522
	6	3380	2895	2570	2337	3306	2857	2550	2327	2784	2511	2308	2716	2474	2289	2652	2438	2271
	7	3157	2656	2331	2103	3089	2623	2315	2096	2560	2284	2082	2502	2254	2068	2447	2225	2055
	8	2955	2445	2124	1904	2893	2417	2111	1899	2363	2086	1888	2313	2062	1878	2265	2038	1868
	9	2772	2260	1946	1734	2715	2235	1935	1730	2189	1914	1722	2145	1894	1714	2103	1874	1706
	10	2606	2096	1790	1587	2555	2075	1781	1584	2034	1764	1578	1996	1747	1571	1960	1731	1565

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	74.9 fc	5.6 ft
6.5 ft	53.7 fc	6.6 ft
7.5 ft	40.3 fc	7.7 ft
8.0 ft	35.4 fc	8.2 ft
10.0 ft	22.7 fc	10.2 ft
12.0 ft	15.7 fc	12.3 ft
14.0 ft	11.6 fc	14.3 ft
16.0 ft	8.9 fc	16.4 ft
20.0 ft	5.7 fc	20.4 ft
24.0 ft	3.9 fc	24.5 ft
28.0 ft	2.9 fc	28.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	31073	31073	31073
45.00°	22914	22897	22881
55.00°	10745	10858	10972
65.00°	2900	3023	3146
75.00°	402	458	513
85.00°	429	435	442

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	16.0	17.4	16.4	17.7	18.0	16.1	17.5	16.5	17.8	18.1
	3H	16.1	17.2	16.5	17.6	17.9	16.2	17.4	16.6	17.7	18.1
	4H	16.0	17.1	16.4	17.4	17.8	16.1	17.2	16.5	17.6	18.0
	6H	15.9	16.9	16.4	17.3	17.7	16.1	17.0	16.5	17.4	17.8
	8H	15.9	16.8	16.3	17.2	17.6	16.0	16.9	16.4	17.3	17.8
	12H	15.9	16.7	16.3	17.1	17.6	16.0	16.9	16.4	17.2	17.7
4H	2H	16.0	17.1	16.4	17.4	17.8	16.1	17.2	16.5	17.5	17.9
	3H	16.0	16.9	16.5	17.3	17.7	16.2	17.1	16.6	17.5	17.9
	4H	16.0	16.7	16.4	17.2	17.6	16.1	16.9	16.5	17.3	17.8
	6H	15.9	16.6	16.4	17.0	17.5	16.0	16.7	16.5	17.1	17.6
	8H	15.8	16.5	16.3	16.9	17.4	16.0	16.6	16.4	17.0	17.5
	12H	15.8	16.3	16.3	16.8	17.3	15.9	16.5	16.4	17.0	17.4
8H	4H	15.8	16.5	16.3	16.9	17.4	16.0	16.6	16.5	17.0	17.5
	6H	15.7	16.2	16.2	16.7	17.2	15.9	16.4	16.4	16.9	17.4
	8H	15.7	16.1	16.2	16.7	17.2	15.8	16.3	16.3	16.8	17.3
	12H	15.6	16.0	16.2	16.5	17.1	15.8	16.2	16.3	16.7	17.3
12H	4H	15.8	16.3	16.3	16.8	17.3	15.9	16.5	16.4	17.0	17.4
	6H	15.7	16.1	16.2	16.6	17.2	15.8	16.3	16.4	16.8	17.3
	8H	15.6	16.0	16.1	16.5	17.1	15.8	16.2	16.3	16.7	17.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0