Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE12LEDOS 30L 35K XX AR1223OS MW GL

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

Test Number

SP-01197_1_M-30L

Test Date

11/5/2020

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

Summary of Results

Power

Input Watts	22.7 W

Lumen Output

Output Lumens	2587
Efficacy	113.94 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

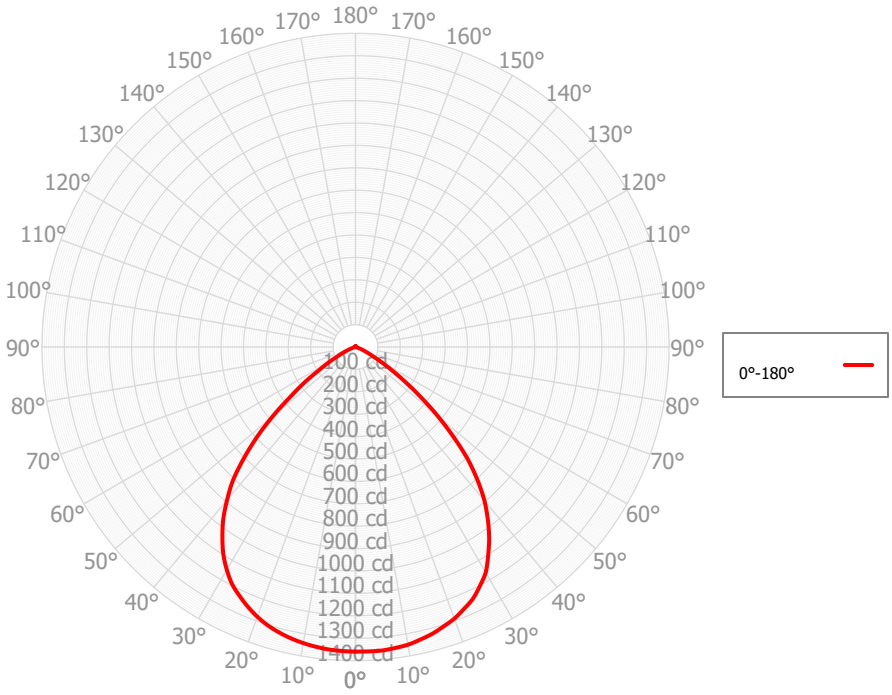
Full Beam Angle

0° - 180°	91°
90° - 270°	N/A°

IES File Header Contents

Keyword	Value
TEST	SP-01197_1_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/5/2020
ISSUEDATE	12/28/2020
LUMCAT	SGE12LEDOS 30L 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, scaled from 45L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	131.21	5.07%	90.00° - 100.00°	0.94	0.04%
10.00° - 20.00°	373.07	14.42%	100.00° - 110.00°	0.92	0.04%
20.00° - 30.00°	566.37	21.90%	100.00° - 120.00°	1.79	0.07%
30.00° - 40.00°	645.33	24.95%	120.00° - 130.00°	0.99	0.04%
40.00° - 50.00°	536.93	20.76%	130.00° - 140.00°	0.82	0.03%
50.00° - 60.00°	252.91	9.78%	140.00° - 150.00°	0.89	0.03%
60.00° - 70.00°	63.61	2.46%	150.00° - 160.00°	0.68	0.03%
70.00° - 80.00°	8.51	0.33%	160.00° - 170.00°	0.40	0.02%
80.00° - 90.00°	1.95	0.08%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	2579.88	99.74%	0.00° - 180.00°	2586.55	100.00%

Candela Distribution

	0.00°	180.00°
0.00°	1360.34	1360.34
2.50°	1360.62	1359.01
5.00°	1360.50	1356.16
7.50°	1355.80	1350.31
10.00°	1349.88	1342.71
12.50°	1338.28	1332.53
15.00°	1325.74	1319.54
17.50°	1308.45	1303.27
20.00°	1290.77	1281.80
22.50°	1266.05	1255.67
25.00°	1240.60	1225.87
27.50°	1203.14	1193.55
30.00°	1163.09	1149.12
32.50°	1102.74	1098.21
35.00°	1040.72	1036.32
37.50°	970.63	970.10
40.00°	895.98	892.32
42.50°	806.81	811.35
45.00°	709.34	707.32
47.50°	592.92	598.99
50.00°	478.48	484.53
52.50°	367.46	369.46
55.00°	269.82	281.21
57.50°	189.94	194.75
60.00°	127.64	139.87
62.50°	83.21	87.94
65.00°	53.66	62.77
67.50°	35.90	39.26
70.00°	21.55	24.09
72.50°	9.30	11.36
75.00°	4.55	7.08
77.50°	3.22	3.85
80.00°	2.43	3.18
82.50°	1.81	2.48
85.00°	1.64	1.73
87.50°	1.56	1.20
90.00°	1.24	0.97
92.50°	0.89	0.84
95.00°	0.81	0.82
97.50°	0.75	0.81
100.00°	1.00	0.79
102.50°	1.21	0.77
105.00°	0.97	0.75
107.50°	0.78	0.73
110.00°	0.95	0.72
112.50°	1.07	0.69

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
RCR	0	3078	3078	3078	3078	3005	3005	3005	3005	2870	2870	2870	2747	2747	2747	2633	2633	2633	2580
	1	2894	2806	2726	2655	2828	2748	2676	2611	2640	2582	2529	2542	2495	2452	2450	2414	2379	2364
	2	2700	2540	2409	2298	2638	2494	2373	2271	2406	2305	2219	2324	2242	2169	2249	2182	2122	2137
	3	2512	2301	2137	2006	2455	2262	2111	1989	2189	2061	1955	2122	2013	1922	2059	1968	1890	1928
	4	2337	2088	1906	1767	2284	2056	1886	1755	1995	1848	1732	1938	1812	1710	1886	1778	1688	1742
	5	2175	1901	1710	1568	2127	1874	1694	1560	1823	1665	1544	1775	1637	1529	1730	1610	1513	1578
	6	2028	1737	1542	1402	1983	1714	1530	1396	1670	1507	1385	1630	1485	1374	1591	1463	1363	1435
	7	1894	1593	1398	1262	1853	1574	1389	1257	1536	1370	1249	1501	1352	1241	1468	1335	1233	1310
	8	1773	1467	1275	1142	1736	1450	1267	1139	1418	1252	1133	1388	1237	1127	1359	1223	1121	1201
	9	1663	1356	1167	1040	1629	1341	1161	1038	1313	1148	1033	1287	1136	1028	1262	1125	1024	1105
	10	1564	1258	1074	952	1533	1245	1069	950	1220	1058	947	1197	1048	943	1176	1038	939	1021

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	45.0 fc	5.6 ft
6.5 ft	32.2 fc	6.6 ft
7.5 ft	24.2 fc	7.7 ft
8.0 ft	21.3 fc	8.2 ft
10.0 ft	13.6 fc	10.2 ft
12.0 ft	9.4 fc	12.3 ft
14.0 ft	6.9 fc	14.3 ft
16.0 ft	5.3 fc	16.4 ft
20.0 ft	3.4 fc	20.4 ft
24.0 ft	2.4 fc	24.5 ft
28.0 ft	1.7 fc	28.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	18644	18644	18644
45.00°	13748	13738	13729
55.00°	6447	6515	6583
65.00°	1740	1814	1888
75.00°	241	275	308
85.00°	257	261	265

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	14.3	15.6	14.6	15.9	16.2	14.4	15.7	14.7	16.0	16.3
	3H	14.3	15.5	14.7	15.8	16.2	14.4	15.6	14.8	15.9	16.3
	4H	14.2	15.3	14.6	15.7	16.1	14.4	15.4	14.8	15.8	16.2
	6H	14.2	15.1	14.6	15.5	15.9	14.3	15.3	14.7	15.6	16.0
	8H	14.1	15.1	14.6	15.4	15.9	14.2	15.2	14.7	15.6	16.0
	12H	14.1	15.0	14.5	15.4	15.8	14.2	15.1	14.6	15.5	15.9
4H	2H	14.2	15.3	14.6	15.7	16.0	14.3	15.4	14.7	15.8	16.2
	3H	14.3	15.1	14.7	15.6	16.0	14.4	15.3	14.8	15.7	16.1
	4H	14.2	15.0	14.6	15.4	15.8	14.3	15.1	14.8	15.5	16.0
	6H	14.1	14.8	14.6	15.2	15.7	14.3	14.9	14.7	15.4	15.8
	8H	14.1	14.7	14.5	15.1	15.6	14.2	14.8	14.7	15.3	15.8
	12H	14.0	14.6	14.5	15.1	15.5	14.2	14.7	14.6	15.2	15.7
8H	4H	14.1	14.7	14.5	15.1	15.6	14.2	14.8	14.7	15.3	15.8
	6H	14.0	14.5	14.5	15.0	15.5	14.1	14.6	14.6	15.1	15.6
	8H	13.9	14.4	14.4	14.9	15.4	14.0	14.5	14.6	15.0	15.5
	12H	13.9	14.3	14.4	14.8	15.3	14.0	14.4	14.5	14.9	15.5
12H	4H	14.0	14.6	14.5	15.0	15.5	14.2	14.7	14.6	15.2	15.7
	6H	13.9	14.4	14.4	14.8	15.4	14.0	14.5	14.6	15.0	15.5
	8H	13.9	14.3	14.4	14.8	15.3	14.0	14.4	14.5	14.9	15.5

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0