

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

SGE10LEDOS 20L 35K XX AR1023OS MW GL
Nom 10 inch diam, AR1023 trim, MW interior finish, clear glass lens

Test Number

SP-00690_3_M-20L

Test Date

11/5/2020

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

Summary of Results

Power

Input Watts	19.2 W
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Lumen Output

Output Lumens	1725
Efficacy	89.83 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.26
Two luminaires, plane 90°	1.25
Four luminaires	1.27

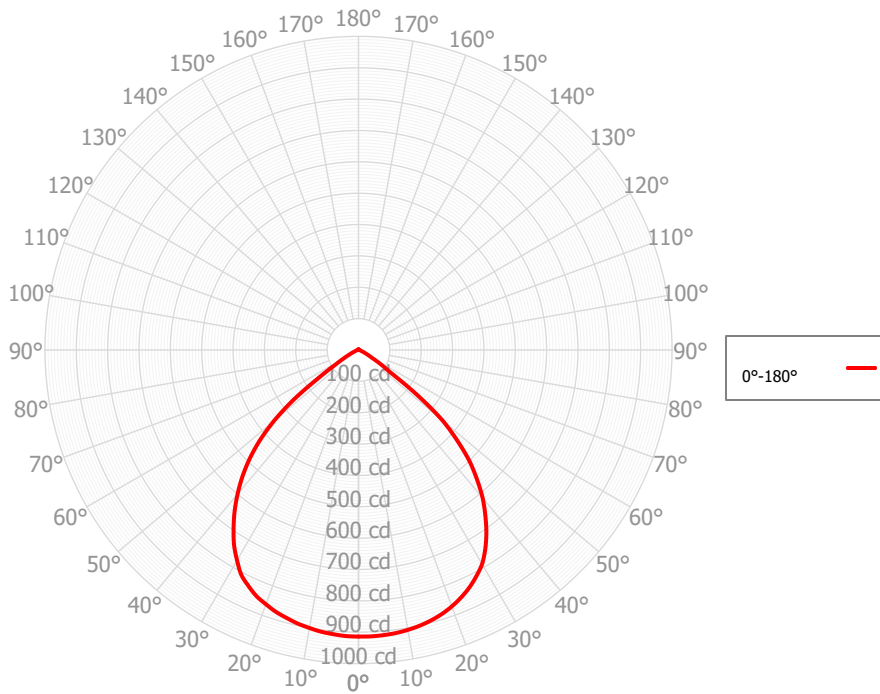
Full Beam Angle

0° - 180°	93°
90° - 270°	N/A°

IES File Header Contents

Keyword	Value
TEST	SP-00690_3_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/5/2020
ISSUEDATE	12/28/2020
LUMCAT	SGE10LEDOS 20L 35K XX AR1023OS MW GL
LUMINAIRE	Nom 10 inch diam, AR1023 trim, MW interior finish, clear glass lens
OTHER	Beam angle: 93 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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	88.09	5.11%	90.00° - 100.00°	0.65	0.04%
10.00° - 20.00°	250.96	14.55%	100.00° - 110.00°	0.72	0.04%
20.00° - 30.00°	382.87	22.20%	100.00° - 120.00°	1.35	0.08%
30.00° - 40.00°	437.10	25.34%	120.00° - 130.00°	0.67	0.04%
40.00° - 50.00°	375.37	21.76%	130.00° - 140.00°	0.60	0.03%
50.00° - 60.00°	148.31	8.60%	140.00° - 150.00°	0.46	0.03%
60.00° - 70.00°	26.91	1.56%	150.00° - 160.00°	0.40	0.02%
70.00° - 80.00°	8.11	0.47%	160.00° - 170.00°	0.29	0.02%
80.00° - 90.00°	2.57	0.15%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	1720.29	99.74%	0.00° - 180.00°	1724.82	100.00%

Candela Distribution

	0.00°	180.00°
0.00°	914.09	914.09
2.50°	914.32	913.33
5.00°	912.98	910.21
7.50°	910.71	906.53
10.00°	906.47	900.41
12.50°	900.89	893.96
15.00°	893.16	884.98
17.50°	883.15	875.84
20.00°	870.31	863.15
22.50°	854.60	849.97
25.00°	836.16	830.54
27.50°	813.77	809.05
30.00°	788.44	774.82
32.50°	752.67	738.63
35.00°	711.08	694.63
37.50°	664.52	649.24
40.00°	615.93	600.03
42.50°	559.22	548.24
45.00°	500.06	491.35
47.50°	426.73	427.13
50.00°	350.63	351.71
52.50°	237.60	261.97
55.00°	120.64	155.58
57.50°	82.44	89.05
60.00°	47.86	57.91
62.50°	34.55	38.07
65.00°	21.96	26.08
67.50°	15.90	18.35
70.00°	10.50	12.84
72.50°	8.55	9.89
75.00°	6.76	7.92
77.50°	5.52	6.51
80.00°	4.27	5.24
82.50°	3.04	3.75
85.00°	1.95	2.22
87.50°	1.13	1.40
90.00°	0.60	0.64
92.50°	0.49	0.66
95.00°	0.48	0.69
97.50°	0.57	0.62
100.00°	0.69	0.55
102.50°	0.84	0.50
105.00°	0.88	0.48
107.50°	0.85	0.56
110.00°	0.87	0.59
112.50°	0.90	0.46

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	2052	2052	2052	2052	2004	2004	2004	2004	1914	1914	1914	1832	1832	1832	1756	1756	1720
	1	1931	1872	1820	1772	1887	1834	1787	1744	1762	1724	1689	1696	1666	1637	1636	1611	1578
	2	1803	1698	1611	1538	1762	1667	1587	1520	1608	1542	1485	1554	1500	1452	1504	1460	1430
	3	1680	1540	1432	1346	1642	1515	1415	1335	1466	1381	1312	1421	1350	1290	1380	1320	1293
	4	1564	1400	1280	1188	1529	1379	1267	1180	1338	1241	1165	1300	1217	1150	1265	1194	1170
	5	1457	1276	1149	1056	1425	1258	1139	1051	1224	1120	1040	1192	1101	1030	1162	1083	1062
	6	1359	1167	1038	945	1329	1152	1030	941	1122	1014	934	1095	1000	926	1070	985	966
	7	1270	1071	942	851	1243	1058	935	848	1033	923	843	1009	911	837	988	899	883
	8	1189	986	859	771	1164	975	853	769	953	843	765	933	834	761	914	824	810
	9	1115	911	787	702	1093	902	782	701	883	774	697	866	766	694	849	758	745
	10	1049	845	724	643	1028	837	720	641	821	713	639	805	706	637	791	700	688

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	30.2 fc	5.8 ft
6.5 ft	21.6 fc	6.8 ft
7.5 ft	16.3 fc	7.9 ft
8.0 ft	14.3 fc	8.4 ft
10.0 ft	9.1 fc	10.5 ft
12.0 ft	6.3 fc	12.6 ft
14.0 ft	4.7 fc	14.7 ft
16.0 ft	3.6 fc	16.8 ft
20.0 ft	2.3 fc	21.0 ft
24.0 ft	1.6 fc	25.3 ft
28.0 ft	1.2 fc	29.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	18185	18185	18185
45.00°	14069	14008	13946
55.00°	4184	4487	4790
65.00°	1034	1082	1131
75.00°	520	542	564
85.00°	446	461	476

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	11.2	12.5	11.6	12.8	13.1	11.5	12.8	11.8	13.1	13.4
	3H	11.2	12.4	11.6	12.7	13.1	11.5	12.7	11.9	13.0	13.4
	4H	11.2	12.3	11.6	12.6	13.0	11.5	12.6	11.9	13.0	13.3
	6H	11.2	12.2	11.6	12.5	12.9	11.5	12.5	11.9	12.9	13.3
	8H	11.2	12.1	11.6	12.5	12.9	11.5	12.4	11.9	12.8	13.2
	12H	11.1	12.0	11.6	12.4	12.9	11.5	12.3	11.9	12.7	13.2
4H	2H	11.1	12.2	11.5	12.5	12.9	11.4	12.5	11.8	12.8	13.2
	3H	11.2	12.1	11.6	12.5	12.9	11.5	12.4	12.0	12.8	13.2
	4H	11.2	12.0	11.7	12.4	12.9	11.5	12.3	12.0	12.7	13.2
	6H	11.2	11.9	11.7	12.3	12.8	11.6	12.2	12.0	12.7	13.1
	8H	11.2	11.8	11.7	12.3	12.7	11.5	12.2	12.0	12.6	13.1
	12H	11.2	11.7	11.7	12.2	12.7	11.5	12.1	12.0	12.6	13.0
8H	4H	11.1	11.7	11.6	12.2	12.7	11.5	12.1	11.9	12.5	13.0
	6H	11.1	11.6	11.7	12.1	12.6	11.5	12.0	12.0	12.5	13.0
	8H	11.1	11.6	11.7	12.1	12.6	11.5	11.9	12.0	12.5	13.0
	12H	11.1	11.5	11.7	12.0	12.6	11.5	11.9	12.0	12.4	13.0
12H	4H	11.1	11.6	11.6	12.1	12.6	11.4	12.0	11.9	12.4	12.9
	6H	11.1	11.6	11.6	12.0	12.6	11.5	11.9	12.0	12.4	12.9
	8H	11.1	11.5	11.6	12.0	12.6	11.5	11.9	12.0	12.4	13.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0