

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE10LEDOS 20L 35K XX AR1023OS MW SO
Nom 10 inch diam, AR1023 trim, MW interior finish, Solite lens

Test Number

SP-00690_4_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	1811
Efficacy	94.34 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.25
Two luminaires, plane 90°	1.24
Four luminaires	1.26

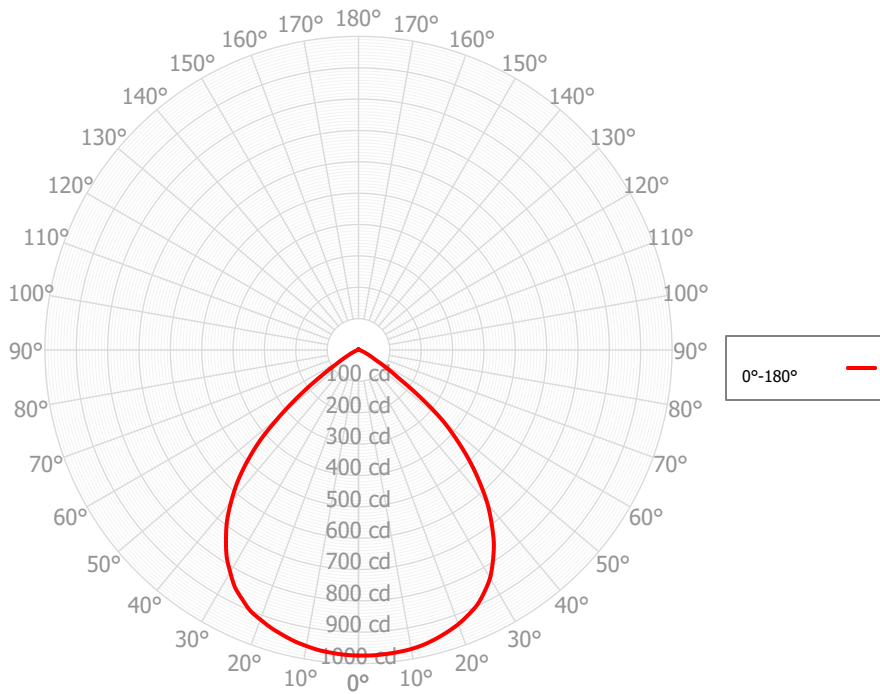
Full Beam Angle

0° - 180°	91°
90° - 270°	N/A°

IES File Header Contents

Keyword	Value
TEST	SP-00690_4_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 SO
LUMINAIRE	Nom 10 inch diam, AR1023 trim, MW interior finish, Solite lens
OTHER	Beam angle: 91 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°	93.92	5.19%	90.00° - 100.00°	0.68	0.04%
10.00° - 20.00°	267.29	14.76%	100.00° - 110.00°	0.72	0.04%
20.00° - 30.00°	407.11	22.48%	100.00° - 120.00°	1.34	0.07%
30.00° - 40.00°	462.07	25.51%	120.00° - 130.00°	0.57	0.03%
40.00° - 50.00°	380.76	21.02%	130.00° - 140.00°	0.59	0.03%
50.00° - 60.00°	152.15	8.40%	140.00° - 150.00°	0.52	0.03%
60.00° - 70.00°	31.73	1.75%	150.00° - 160.00°	0.48	0.03%
70.00° - 80.00°	8.97	0.50%	160.00° - 170.00°	0.30	0.02%
80.00° - 90.00°	2.65	0.15%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	1806.67	99.75%	0.00° - 180.00°	1811.26	100.00%

Candela Distribution

	0.00°	180.00°
0.00°	974.59	974.59
2.50°	975.08	973.13
5.00°	973.78	969.83
7.50°	971.71	965.76
10.00°	968.58	958.68
12.50°	962.62	950.72
15.00°	953.71	940.05
17.50°	942.96	928.86
20.00°	930.73	914.97
22.50°	914.79	900.79
25.00°	896.55	877.33
27.50°	869.92	853.17
30.00°	839.37	818.36
32.50°	797.90	782.51
35.00°	752.71	736.90
37.50°	697.49	689.40
40.00°	639.97	632.23
42.50°	571.76	571.99
45.00°	502.06	501.47
47.50°	427.16	423.28
50.00°	351.74	326.38
52.50°	252.59	233.61
55.00°	156.79	148.25
57.50°	106.72	86.78
60.00°	61.34	57.55
62.50°	45.85	37.43
65.00°	31.83	26.92
67.50°	23.57	18.90
70.00°	16.22	12.88
72.50°	11.41	9.38
75.00°	7.77	7.43
77.50°	6.50	6.08
80.00°	5.14	5.03
82.50°	3.66	3.57
85.00°	2.33	1.97
87.50°	1.17	1.16
90.00°	0.58	0.54
92.50°	0.52	0.45
95.00°	0.64	0.44
97.50°	0.88	0.65
100.00°	0.84	0.87
102.50°	0.65	0.81
105.00°	0.57	0.75
107.50°	0.53	0.67
110.00°	0.61	0.59
112.50°	0.72	0.55

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	2155	2155	2155	2155	2105	2105	2105	2105	2010	2010	2010	1923	1923	1923	1844	1844	1807
	1	2028	1967	1911	1862	1981	1926	1877	1832	1851	1811	1774	1782	1750	1720	1718	1693	1658
	2	1894	1784	1693	1616	1851	1751	1668	1597	1690	1621	1561	1633	1576	1526	1581	1534	1503
	3	1765	1619	1506	1416	1725	1592	1488	1403	1541	1453	1379	1494	1419	1356	1451	1388	1359
	4	1644	1472	1346	1250	1607	1450	1333	1242	1407	1306	1226	1368	1281	1210	1331	1257	1231
	5	1532	1343	1210	1112	1498	1324	1200	1107	1288	1179	1096	1255	1159	1085	1224	1141	1118
	6	1430	1229	1093	997	1399	1213	1085	993	1182	1069	985	1154	1053	977	1127	1038	1019
	7	1336	1128	993	898	1308	1114	986	895	1088	973	890	1064	961	884	1041	949	931
	8	1251	1039	906	814	1226	1028	901	812	1005	890	808	984	880	804	964	870	855
	9	1174	961	831	742	1151	951	826	741	932	817	737	913	809	734	896	801	787
	10	1105	892	765	680	1083	883	761	679	866	754	676	850	747	673	835	740	728

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	32.2 fc	5.6 ft
6.5 ft	23.1 fc	6.6 ft
7.5 ft	17.3 fc	7.6 ft
8.0 ft	15.2 fc	8.1 ft
10.0 ft	9.7 fc	10.2 ft
12.0 ft	6.8 fc	12.2 ft
14.0 ft	5.0 fc	14.2 ft
16.0 ft	3.8 fc	16.3 ft
20.0 ft	2.4 fc	20.3 ft
24.0 ft	1.7 fc	24.4 ft
28.0 ft	1.2 fc	28.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	19389	19389	19389
45.00°	14125	14121	14117
55.00°	5438	5364	5290
65.00°	1499	1441	1383
75.00°	597	591	584
85.00°	532	511	491

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	12.6	13.9	13.0	14.2	14.6	12.0	13.3	12.3	13.6	13.9
	3H	12.7	13.9	13.1	14.2	14.6	12.1	13.2	12.4	13.5	13.9
	4H	12.7	13.8	13.1	14.1	14.5	12.0	13.1	12.5	13.5	13.9
	6H	12.7	13.7	13.1	14.0	14.4	12.0	13.0	12.4	13.4	13.8
	8H	12.7	13.6	13.1	14.0	14.4	12.0	12.9	12.4	13.3	13.7
	12H	12.6	13.5	13.1	13.9	14.3	12.0	12.8	12.4	13.2	13.7
4H	2H	12.6	13.6	13.0	14.0	14.4	11.9	13.0	12.3	13.3	13.7
	3H	12.7	13.6	13.2	14.0	14.4	12.1	12.9	12.5	13.3	13.7
	4H	12.7	13.5	13.2	13.9	14.4	12.1	12.8	12.5	13.2	13.7
	6H	12.7	13.4	13.2	13.8	14.3	12.1	12.7	12.5	13.2	13.6
	8H	12.7	13.3	13.2	13.7	14.2	12.0	12.6	12.5	13.1	13.6
	12H	12.7	13.2	13.2	13.7	14.2	12.0	12.6	12.5	13.0	13.5
8H	4H	12.6	13.2	13.1	13.7	14.2	12.0	12.6	12.4	13.0	13.5
	6H	12.6	13.1	13.1	13.6	14.1	12.0	12.5	12.5	13.0	13.5
	8H	12.6	13.1	13.1	13.6	14.1	12.0	12.4	12.5	12.9	13.4
	12H	12.6	13.0	13.1	13.5	14.1	12.0	12.4	12.5	12.9	13.4
12H	4H	12.6	13.1	13.1	13.6	14.1	11.9	12.5	12.4	12.9	13.4
	6H	12.6	13.0	13.1	13.5	14.0	11.9	12.4	12.5	12.9	13.4
	8H	12.6	13.0	13.1	13.5	14.1	11.9	12.3	12.5	12.8	13.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0