Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
SGRTE8XT 40L 35K MD XX AR8466XT SG FG
N/A

Test Number
SP-01205_M-40L

Test Date
2/11/2021

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

Summary of Results

Power

Input Watts	42.2 W

Lumen Output

Output Lumens	2084
Efficacy	49.39 lm/W

Luminous Dimensions

0° - 180° Size	-0.63
90° - 270° Size	-0.63
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.72
Two luminaires, plane 90°	0.75
Four luminaires	0.78

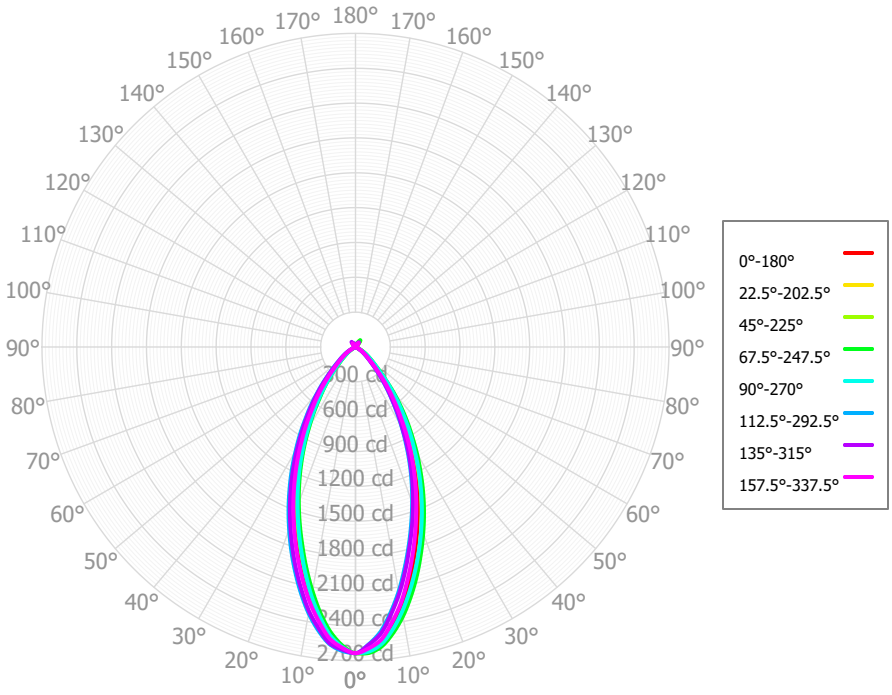
Full Beam Angle

0° - 180°	47°
90° - 270°	47°

IES File Header Contents

Keyword	Value
TEST	SP-01205_M-40L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/2/2021
LUMCAT	SGRTE8XT 40L 35K MD XX AR8466XT SG FG
LUMINAIRE	N/A
OTHER	Beam Angle: 47 degrees
LAMPCAT	N/A
LAMP	19mm LES
OTHER	LEDXT lumen output is the same for all available CCT's
OTHER	Total luminaire watts is approximate; includes 2 watts for thermal protector
OTHER	This report prepared by Spectrum Lighting, scaled from 50L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	234.53	11.25%	90.00° - 100.00°	1.30	0.06%
10.00° - 20.00°	526.33	25.26%	100.00° - 110.00°	1.29	0.06%
20.00° - 30.00°	558.92	26.82%	100.00° - 120.00°	3.42	0.16%
30.00° - 40.00°	401.19	19.25%	120.00° - 130.00°	6.36	0.31%
40.00° - 50.00°	198.49	9.52%	130.00° - 140.00°	14.10	0.68%
50.00° - 60.00°	83.38	4.00%	140.00° - 150.00°	23.03	1.10%
60.00° - 70.00°	14.31	0.69%	150.00° - 160.00°	12.44	0.60%
70.00° - 80.00°	1.34	0.06%	160.00° - 170.00°	3.33	0.16%
80.00° - 90.00°	1.35	0.06%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	2019.85	96.92%	0.00° - 180.00°	2084.06	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05	2637.05
2.50°	2617.18	2632.52	2631.95	2637.39	2625.62	2619.71	2609.04	2593.63	2601.45	2580.65	2583.82	2574.60	2588.17	2564.99	2568.49	2598.15	2617.18
5.00°	2538.13	2574.82	2580.88	2588.47	2567.60	2568.00	2561.21	2524.08	2510.09	2473.93	2488.65	2464.81	2494.93	2463.73	2481.03	2531.52	2538.13
7.50°	2421.81	2469.01	2469.23	2483.98	2453.28	2460.63	2442.36	2390.58	2380.92	2334.38	2337.09	2312.11	2346.48	2308.90	2326.79	2394.69	2421.81
10.00°	2265.67	2330.16	2335.64	2354.51	2312.60	2327.62	2309.86	2243.27	2225.18	2168.40	2173.25	2134.01	2180.31	2139.31	2159.84	2243.78	2265.67
12.50°	2098.21	2168.13	2176.06	2201.39	2154.03	2170.77	2145.76	2074.75	2055.65	1994.26	1991.28	1952.42	1993.07	1952.17	1976.18	2062.37	2098.21
15.00°	1920.79	1999.51	2009.26	2039.41	1988.82	2005.23	1979.33	1903.09	1881.96	1814.66	1812.88	1769.16	1809.82	1770.94	1790.35	1881.78	1920.79
17.50°	1744.50	1827.14	1841.75	1870.53	1822.94	1838.16	1808.58	1731.09	1706.50	1641.22	1638.79	1596.27	1630.46	1595.49	1618.30	1702.62	1744.50
20.00°	1569.02	1657.02	1674.09	1704.98	1656.87	1670.65	1640.09	1559.06	1535.92	1471.14	1469.88	1427.37	1459.69	1426.85	1447.24	1528.42	1569.02
22.50°	1398.65	1487.96	1505.86	1541.56	1492.32	1506.00	1475.07	1394.54	1366.94	1306.82	1306.13	1264.96	1295.92	1263.79	1284.71	1361.40	1398.65
25.00°	1231.33	1321.75	1337.55	1377.64	1328.11	1341.96	1312.07	1230.42	1204.78	1145.00	1145.36	1104.49	1134.76	1102.82	1122.50	1197.31	1231.33
27.50°	1070.53	1156.59	1178.69	1213.46	1168.00	1184.44	1151.59	1074.65	1044.32	989.89	987.06	950.57	975.34	943.27	964.86	1036.70	1070.53
30.00°	912.88	998.13	1020.59	1056.78	1008.49	1027.88	998.59	920.04	896.56	837.11	839.17	798.15	827.37	796.32	809.04	882.12	912.88
32.50°	768.08	841.62	873.04	903.26	866.83	886.13	853.31	783.16	751.12	703.23	698.39	667.02	685.63	656.25	675.68	733.40	768.08
35.00°	628.29	704.32	726.16	764.99	726.73	745.67	720.88	649.36	629.18	574.39	577.66	539.27	565.10	538.16	545.95	602.67	628.29
37.50°	508.70	571.16	598.70	631.84	604.15	624.66	599.54	541.70	510.05	472.44	468.08	442.29	454.01	429.84	442.71	486.58	508.70
40.00°	395.24	454.96	472.76	507.82	482.49	504.63	488.57	436.44	415.16	375.71	372.69	348.42	360.95	338.81	343.29	382.00	395.24
42.50°	305.21	341.27	368.26	386.12	382.28	404.64	384.94	344.42	321.86	296.46	283.74	273.12	274.20	253.83	262.74	285.11	305.21
45.00°	220.62	267.98	269.59	303.91	284.86	307.13	302.80	260.51	256.41	219.54	220.07	198.83	214.62	196.95	191.08	216.71	220.62
47.50°	174.01	198.39	217.58	228.92	229.98	247.50	233.07	208.49	192.26	174.66	165.46	157.44	162.31	147.75	151.56	163.79	174.01
50.00°	133.56	160.80	168.98	186.73	177.41	190.48	185.21	162.04	156.43	132.17	130.45	116.95	127.24	117.08	115.90	128.08	133.56
52.50°	107.24	124.54	138.32	148.57	144.33	155.27	147.71	132.49	121.43	105.82	100.83	93.51	95.61	90.09	91.13	100.00	107.24
55.00°	82.33	99.99	108.94	119.67	111.77	121.35	118.07	103.85	95.89	79.95	76.58	70.24	74.65	68.55	67.98	77.36	82.33
57.50°	60.17	75.44	84.53	91.38	82.08	94.38	91.40	77.40	70.69	56.83	53.44	48.60	55.11	47.76	48.44	56.62	60.17
60.00°	38.15	50.93	58.94	61.89	52.86	66.70	63.66	51.71	47.82	34.26	35.47	28.28	36.71	29.85	30.37	37.03	38.15
62.50°	20.82	27.55	29.83	32.82	25.48	36.20	35.63	27.50	26.52	19.13	18.21	15.61	18.40	12.17	14.93	17.75	20.82
65.00°	4.28	13.56	8.24	16.54	4.50	11.68	18.36	10.48	12.78	5.50	9.47	4.95	9.90	6.50	4.73	8.76	4.28
67.50°	2.63	1.68	4.08	1.54	2.90	5.31	3.45	4.72	2.05	3.12	1.45	2.71	1.83	1.24	2.31	1.79	2.63
70.00°	1.15	1.31	1.27	1.73	1.70	0.91	1.41	1.38	1.92	1.18	1.26	1.02	1.64	1.02	1.04	1.03	1.15
72.50°	1.25	1.04	1.01	1.86	1.45	1.20	1.30	1.13	1.77	1.49	1.30	1.07	1.44	0.83	1.18	1.08	1.25
75.00°	1.31	1.17	0.92	1.58	1.28	1.36	1.37	1.08	1.56	1.67	1.24	1.20	1.13	1.11	1.21	1.19	1.31
77.50°	1.16	1.29	1.07	1.38	1.27	1.26	1.46	1.24	1.36	1.39	1.19	1.51	0.88	1.32	1.14	1.31	1.16
80.00°	1.04	1.40	1.16	1.49	1.28	1.13	1.51	1.22	1.19	1.22	1.19	1.64	1.06	1.13	1.07	1.09	1.04
82.50°	1.04	1.50	1.17	1.57	1.35	0.92	1.56	1.03	1.11	1.35	1.18	1.41	1.22	0.98	0.98	0.86	1.04
85.00°	1.14	1.57	1.15	1.59	1.37	0.99	1.43	1.14	1.20	1.40	1.04	1.17	1.30	1.09	1.05	1.01	1.14
87.50°	1.53	1.56	1.08	1.49	1.34	1.40	1.31	1.47	1.19	1.23	0.94	0.90	1.37	1.22	1.22	1.14	1.53
90.00°	1.71	1.39	1.13	1.09	1.22	1.51	1.39	1.44	1.04	1.15	1.07	0.81	1.45	1.43	1.09	1.10	1.71
92.50°	1.37	1.29	1.28	0.90	1.01	1.30	1.43	1.21	1.12	1.20	1.17	0.97	1.46	1.49	0.81	1.07	1.37
95.00°	1.17	1.31	1.30	1.16	1.01	1.17	1.10	1.35	1.45	1.16	1.13	1.17	1.28	1.13	0.79	1.18	1.17
97.50°	1.26	1.35	1.22	1.30	1.21	1.11	0.88	1.68	1.45	0.99	1.04	1.43	1.09	0.91	0.91	1.25	1.26
100.00°	1.38	1.42	1.20	1.23	1.18	1.11	1.30	1.74	1.14	1.00	0.82	1.38	0.91	1.00	1.06	1.11	1.38
102.50°	1.52	1.49	1.22	1.21	0.98	1.16	1.55	1.70	1.07	1.22	0.74	1.04	0.78	1.19	1.24	1.02	1.52
105.00°	1.59	1.56	1.29	1.28	0.99	1.23	1.11	1.40	1.20	1.35	1.01	0.98	0.76	1.58	1.12	1.09	1.59
107.50°	1.54	1.64	1.39	1.31	1.13	1.32	0.78	1.03	1.19	1.39	1.22	1.12	0.82	1.72	0.92	1.20	1.54
110.00°	1.54	1.74	1.44	1.29	1.18	1.41	0.77	1.06	1.09	1.33	1.34	1.24	1.01	1.50	1.07	1.42	1.54
112.50°	1.58	3.13	1.48	1.28	1.19	1.48	0.76	1.19	1.11	1.16	1.46	1.35	1.01	1.37	1.28	2.20	1.58

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	2466	2466	2466	2466	2401	2401	2401	2401	2280	2280	2280	2169	2169	2169	2068	2068	2068	2020
	1	2343	2282	2228	2179	2285	2231	2182	2138	2134	2096	2060	2046	2016	1988	1964	1941	1919	1897
	2	2218	2110	2022	1947	2165	2069	1988	1920	1990	1925	1868	1918	1865	1819	1852	1809	1771	1769
	3	2097	1955	1846	1759	2049	1921	1821	1740	1857	1773	1704	1797	1728	1670	1742	1685	1636	1648
	4	1983	1817	1695	1603	1939	1788	1676	1589	1735	1639	1564	1685	1604	1538	1639	1570	1514	1537
	5	1876	1693	1565	1471	1836	1669	1550	1461	1624	1521	1442	1582	1493	1423	1542	1466	1405	1436
	6	1776	1582	1451	1357	1740	1562	1439	1350	1523	1416	1336	1487	1393	1322	1454	1372	1308	1345
	7	1684	1482	1351	1259	1652	1465	1342	1254	1432	1323	1243	1401	1304	1232	1372	1287	1221	1262
	8	1599	1393	1263	1174	1570	1378	1255	1169	1350	1239	1161	1323	1224	1152	1298	1209	1143	1188
	9	1521	1313	1185	1099	1494	1300	1178	1095	1275	1165	1088	1252	1152	1081	1230	1140	1074	1120
	10	1449	1240	1115	1032	1424	1229	1109	1029	1207	1098	1023	1186	1087	1017	1167	1077	1012	1059

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	87.2 fc	5.0 ft
6.5 ft	62.4 fc	5.9 ft
7.5 ft	46.9 fc	6.8 ft
8.0 ft	41.2 fc	7.3 ft
10.0 ft	26.4 fc	9.1 ft
12.0 ft	18.3 fc	10.9 ft
14.0 ft	13.5 fc	12.7 ft
16.0 ft	10.3 fc	14.5 ft
20.0 ft	6.6 fc	18.2 ft
24.0 ft	4.6 fc	21.8 ft
28.0 ft	3.4 fc	25.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	91058	91058	91058
45.00°	10774	13165	13911
55.00°	4956	6558	6729
65.00°	350	673	368
75.00°	175	122	171
85.00°	452	455	543

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	11.0	12.0	11.4	12.4	12.8	11.8	12.9	12.3	13.3	13.7
	3H	10.8	11.7	11.2	12.1	12.6	11.7	12.6	12.1	13.0	13.4
	4H	10.7	11.5	11.2	12.0	12.4	11.6	12.4	12.0	12.8	13.3
	6H	10.6	11.4	11.1	11.8	12.3	11.5	12.2	11.9	12.7	13.2
	8H	10.6	11.3	11.0	11.7	12.2	11.4	12.1	11.9	12.6	13.1
	12H	10.5	11.2	11.0	11.6	12.2	11.4	12.1	11.9	12.5	13.0
4H	2H	10.7	11.6	11.2	12.0	12.4	11.6	12.5	12.1	12.9	13.4
	3H	10.5	11.2	11.0	11.7	12.2	11.5	12.1	11.9	12.6	13.1
	4H	10.4	11.0	10.9	11.5	12.0	11.3	12.0	11.8	12.4	13.0
	6H	10.3	10.9	10.9	11.4	11.9	11.3	11.8	11.8	12.3	12.8
	8H	10.3	10.8	10.8	11.3	11.8	11.2	11.7	11.7	12.2	12.7
	12H	10.2	10.6	10.8	11.2	11.7	11.1	11.6	11.7	12.1	12.7
8H	4H	10.3	10.7	10.8	11.2	11.8	11.2	11.7	11.7	12.2	12.7
	6H	10.2	10.5	10.7	11.1	11.7	11.1	11.5	11.6	12.0	12.6
	8H	10.1	10.4	10.7	11.0	11.6	11.0	11.4	11.6	11.9	12.5
	12H	10.1	10.4	10.6	10.9	11.6	11.0	11.3	11.5	11.8	12.5
12H	4H	10.2	10.6	10.7	11.2	11.7	11.1	11.5	11.7	12.1	12.6
	6H	10.1	10.4	10.7	11.0	11.6	11.0	11.4	11.6	11.9	12.5
	8H	10.0	10.3	10.6	10.9	11.5	11.0	11.3	11.5	11.8	12.5

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0