

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01211_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
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Lumen Output

Output Lumens	2337
Efficacy	55.38 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.84
Two luminaires, plane 90°	0.83
Four luminaires	0.91

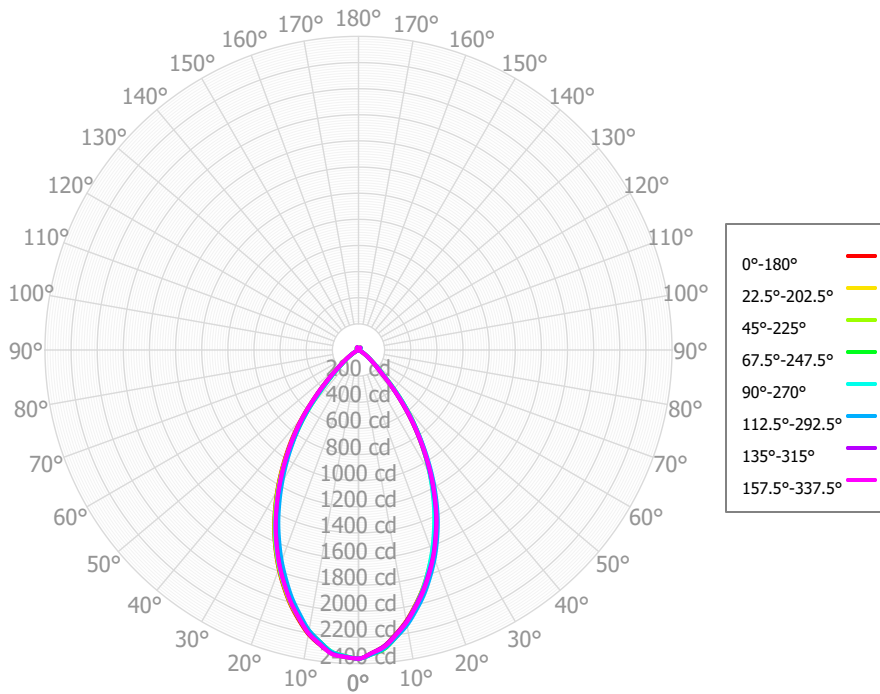
Full Beam Angle

0° - 180°	60°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-01211_M-40L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 40L 35K XW XX AR8466XT SG FG
LUMINAIRE	N/A
OTHER	Beam Angle: 59 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°	217.89	9.32%	90.00° - 100.00°	1.31	0.06%
10.00° - 20.00°	543.79	23.27%	100.00° - 110.00°	1.31	0.06%
20.00° - 30.00°	659.86	28.24%	100.00° - 120.00°	3.67	0.16%
30.00° - 40.00°	535.35	22.91%	120.00° - 130.00°	6.05	0.26%
40.00° - 50.00°	246.98	10.57%	130.00° - 140.00°	9.71	0.42%
50.00° - 60.00°	74.19	3.17%	140.00° - 150.00°	11.76	0.50%
60.00° - 70.00°	12.20	0.52%	150.00° - 160.00°	7.86	0.34%
70.00° - 80.00°	1.38	0.06%	160.00° - 170.00°	3.23	0.14%
80.00° - 90.00°	1.35	0.06%	170.00° - 180.00°	0.27	0.01%
0.00° - 90.00°	2292.99	98.12%	0.00° - 180.00°	2336.85	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°	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50	2362.50
2.50°	2321.53	2326.95	2325.49	2332.36	2331.12	2348.04	2352.54	2351.26	2350.99	2351.27	2348.58	2344.80	2345.96	2330.64	2322.09	2323.28	2321.53
5.00°	2273.23	2281.15	2283.56	2296.12	2290.14	2324.95	2332.91	2337.01	2331.80	2327.84	2329.19	2319.90	2320.14	2290.35	2274.23	2280.24	2273.23
7.50°	2192.97	2204.07	2199.41	2215.52	2209.91	2253.19	2272.82	2270.60	2275.36	2266.66	2266.75	2253.16	2257.45	2216.52	2196.54	2200.41	2192.97
10.00°	2106.63	2120.02	2114.08	2132.48	2122.60	2179.12	2201.76	2202.75	2209.16	2196.69	2201.39	2182.16	2187.08	2139.01	2111.93	2118.44	2106.63
12.50°	2002.40	2019.15	2005.84	2021.89	2012.40	2072.66	2104.29	2102.17	2115.79	2102.71	2107.42	2088.24	2094.60	2040.62	2010.12	2017.16	2002.40
15.00°	1895.49	1912.31	1896.45	1910.62	1899.21	1965.46	2000.41	2000.24	2016.24	2004.20	2010.75	1990.71	1996.50	1938.92	1905.25	1913.97	1895.49
17.50°	1777.94	1793.34	1773.72	1787.16	1772.09	1842.49	1883.13	1882.76	1902.43	1889.18	1896.03	1877.47	1884.92	1822.19	1789.42	1797.94	1777.94
20.00°	1659.30	1670.01	1649.70	1663.10	1643.66	1718.93	1761.22	1763.81	1784.31	1771.89	1779.54	1760.66	1768.69	1702.29	1672.19	1679.43	1659.30
22.50°	1525.90	1539.18	1515.87	1528.23	1507.48	1585.96	1631.10	1633.71	1657.80	1644.06	1654.31	1631.45	1642.78	1571.05	1539.20	1548.55	1525.90
25.00°	1391.65	1403.40	1380.55	1392.51	1370.91	1452.11	1496.84	1501.75	1526.14	1515.27	1525.54	1498.27	1510.12	1435.71	1404.77	1414.36	1391.65
27.50°	1243.29	1260.14	1237.00	1248.21	1228.79	1310.00	1356.33	1358.98	1385.93	1372.72	1382.39	1353.88	1365.54	1288.39	1254.28	1267.31	1243.29
30.00°	1094.53	1113.27	1092.72	1104.14	1086.63	1167.99	1214.62	1215.95	1243.16	1229.39	1237.29	1206.54	1217.28	1138.33	1103.01	1118.41	1094.53
32.50°	943.22	961.72	945.19	961.62	946.08	1026.68	1071.31	1071.82	1096.65	1080.82	1085.83	1052.00	1063.48	981.53	947.90	963.48	943.22
35.00°	792.00	814.17	799.13	819.76	805.79	886.14	929.63	928.68	951.86	932.19	935.42	898.96	910.20	826.64	792.89	809.87	792.00
37.50°	642.48	671.08	658.18	681.36	669.83	749.54	789.84	789.01	809.24	785.13	787.84	748.94	757.61	675.78	642.40	659.78	642.48
40.00°	494.33	524.43	517.21	542.41	533.80	611.10	646.02	645.85	660.57	637.49	636.63	596.47	601.75	526.12	492.96	511.82	494.33
42.50°	362.02	374.25	376.16	401.19	397.02	465.35	498.23	492.28	505.39	480.61	477.06	439.77	442.17	378.64	360.37	368.61	362.02
45.00°	238.53	264.59	256.24	275.67	268.77	332.37	369.45	354.69	372.47	329.98	338.74	310.12	315.99	261.87	235.24	251.85	238.53
47.50°	181.57	189.40	188.31	202.12	200.63	240.04	257.34	256.42	260.81	243.73	241.77	221.67	222.62	191.75	180.73	186.49	181.57
50.00°	128.08	136.08	131.29	139.10	137.79	161.82	181.05	176.22	184.46	163.53	165.63	154.62	157.88	136.82	129.14	132.71	128.08
52.50°	93.66	98.76	96.78	104.65	102.46	121.93	131.76	133.33	137.12	125.32	123.93	115.50	118.07	102.25	96.54	98.08	93.66
55.00°	61.85	68.83	67.34	74.12	70.86	86.29	93.13	94.71	97.30	88.64	87.09	81.14	84.15	72.13	65.81	68.16	61.85
57.50°	41.63	43.67	46.77	52.74	54.25	60.26	61.38	63.81	62.79	59.79	57.34	52.10	54.64	47.13	44.69	44.89	41.63
60.00°	23.43	26.93	28.99	33.63	37.56	38.85	42.34	39.60	41.21	34.00	34.77	30.98	34.56	28.06	25.40	26.10	23.43
62.50°	12.31	14.81	15.50	18.97	20.60	26.26	30.50	25.67	27.67	21.00	21.16	17.74	20.51	14.86	13.46	12.92	12.31
65.00°	3.72	7.67	6.40	8.19	7.23	15.17	17.89	14.21	15.66	9.89	10.98	8.75	10.93	6.59	4.03	4.93	3.72
67.50°	2.37	2.85	3.09	3.88	3.79	6.56	4.91	6.02	4.48	5.02	4.49	3.41	3.78	2.67	2.63	2.53	2.37
70.00°	1.44	1.54	1.31	1.32	1.35	1.45	1.34	1.49	0.98	1.45	1.27	1.32	1.41	1.10	1.54	1.38	1.44
72.50°	1.57	1.65	1.27	1.33	1.23	1.35	1.56	1.24	0.91	1.41	1.18	1.61	1.33	1.32	1.31	1.40	1.57
75.00°	1.66	1.38	1.28	1.25	1.16	1.27	1.66	1.20	1.02	1.30	1.16	1.65	1.32	1.23	1.20	1.30	1.66
77.50°	1.69	0.99	1.34	1.05	1.18	1.23	1.72	1.37	1.20	1.05	1.19	1.53	1.35	0.95	1.32	1.09	1.69
80.00°	1.67	0.98	1.32	1.03	1.21	1.17	1.71	1.31	1.23	0.95	1.13	1.35	1.23	1.09	1.43	1.15	1.67
82.50°	1.55	1.09	1.22	1.20	1.28	1.10	1.68	1.05	1.20	1.19	1.00	1.14	1.07	1.48	1.48	1.38	1.55
85.00°	1.38	1.14	1.25	1.24	1.28	1.13	1.44	1.08	1.13	1.38	1.04	1.07	1.09	1.47	1.47	1.38	1.38
87.50°	1.12	1.18	1.37	1.17	1.20	1.24	1.15	1.32	1.05	1.47	1.18	1.06	1.15	1.27	1.38	1.24	1.12
90.00°	1.02	1.10	1.38	1.07	1.16	1.17	1.34	1.47	1.05	1.56	1.14	1.02	1.29	1.12	1.27	1.18	1.02
92.50°	1.13	0.99	1.30	0.94	1.15	0.96	1.61	1.54	1.07	1.64	1.00	0.95	1.45	0.99	1.16	1.18	1.13
95.00°	1.23	1.10	1.29	0.91	1.23	0.93	1.36	1.53	1.09	1.64	1.02	0.92	1.30	1.11	1.14	1.28	1.23
97.50°	1.32	1.24	1.33	0.94	1.40	1.02	1.04	1.47	1.10	1.56	1.10	0.90	1.10	1.31	1.22	1.44	1.32
100.00°	1.21	1.25	1.28	0.91	1.47	1.09	1.10	1.32	1.14	1.46	1.26	0.96	1.07	1.29	1.20	1.42	1.21
102.50°	0.90	1.24	1.20	0.83	1.43	1.13	1.19	1.12	1.18	1.32	1.45	1.04	1.06	1.21	1.09	1.33	0.90
105.00°	1.05	1.37	1.29	0.97	1.44	1.23	0.98	1.03	1.25	1.27	1.37	1.22	1.08	1.15	1.22	1.35	1.05
107.50°	1.61	1.50	1.44	1.22	1.48	1.37	0.75	0.98	1.33	1.29	1.21	1.40	1.10	1.09	1.58	1.40	1.61
110.00°	1.90	1.49	1.51	1.34	1.50	1.44	1.23	1.15	1.35	1.35	1.09	1.51	1.06	1.33	1.60	1.44	1.90
112.50°	1.98	1.49	1.54	1.41	1.51	1.49	1.69	1.39	1.38	1.44	0.99	1.61	1.02	1.62	1.36	1.47	1.98

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	2772	2772	2772	2772	2702	2702	2702	2702	2572	2572	2572	2453	2453	2453	2344	2344	2293
	1	2632	2563	2501	2446	2570	2508	2453	2403	2405	2361	2321	2311	2276	2244	2223	2197	2149
	2	2489	2367	2266	2182	2432	2323	2231	2154	2239	2164	2100	2163	2101	2048	2091	2042	1999
	3	2350	2189	2065	1965	2299	2153	2039	1946	2084	1988	1909	2021	1941	1874	1962	1896	1856
	4	2219	2029	1891	1785	2172	1999	1871	1771	1942	1832	1745	1889	1796	1720	1840	1761	1725
	5	2095	1885	1739	1631	2052	1860	1724	1622	1812	1694	1603	1768	1665	1584	1726	1638	1605
	6	1979	1756	1607	1499	1941	1735	1594	1492	1694	1571	1478	1657	1548	1465	1621	1526	1497
	7	1872	1640	1490	1385	1837	1622	1480	1379	1587	1461	1369	1555	1442	1358	1525	1424	1398
	8	1773	1536	1387	1284	1741	1520	1379	1280	1490	1363	1272	1462	1348	1264	1436	1333	1310
	9	1682	1442	1295	1196	1653	1428	1288	1193	1402	1275	1186	1378	1262	1180	1355	1250	1229
	10	1598	1357	1213	1117	1571	1345	1208	1115	1323	1197	1110	1301	1186	1104	1281	1175	1157

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	78.1 fc	6.0 ft
6.5 ft	55.9 fc	7.0 ft
7.5 ft	42.0 fc	8.1 ft
8.0 ft	36.9 fc	8.7 ft
10.0 ft	23.6 fc	10.8 ft
12.0 ft	16.4 fc	13.0 ft
14.0 ft	12.1 fc	15.2 ft
16.0 ft	9.2 fc	17.3 ft
20.0 ft	5.9 fc	21.7 ft
24.0 ft	4.1 fc	26.0 ft
28.0 ft	3.0 fc	30.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	81577	81577	81577
45.00°	11648	12513	13125
55.00°	3724	4054	4266
65.00°	304	523	591
75.00°	221	171	154
85.00°	548	494	508

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	7.8	8.9	8.2	9.2	9.6	9.5	10.6	9.9	10.9	11.3
	3H	7.6	8.6	8.1	8.9	9.4	9.4	10.3	9.8	10.7	11.1
	4H	7.6	8.4	8.0	8.8	9.2	9.3	10.1	9.7	10.5	11.0
	6H	7.5	8.3	7.9	8.7	9.1	9.2	10.0	9.6	10.4	10.8
	8H	7.4	8.2	7.9	8.6	9.1	9.1	9.9	9.6	10.3	10.8
	12H	7.4	8.1	7.9	8.5	9.0	9.1	9.8	9.6	10.2	10.7
4H	2H	7.6	8.4	8.0	8.8	9.3	9.4	10.2	9.8	10.6	11.1
	3H	7.4	8.1	7.8	8.5	9.0	9.2	9.9	9.7	10.4	10.8
	4H	7.3	7.9	7.8	8.4	8.9	9.1	9.7	9.6	10.2	10.7
	6H	7.2	7.7	7.7	8.2	8.8	9.0	9.6	9.5	10.0	10.6
	8H	7.2	7.7	7.7	8.2	8.7	9.0	9.5	9.5	9.9	10.5
	12H	7.2	7.6	7.7	8.1	8.6	8.9	9.4	9.5	9.9	10.4
8H	4H	7.1	7.6	7.6	8.1	8.6	9.0	9.4	9.5	9.9	10.4
	6H	7.1	7.4	7.6	8.0	8.5	8.9	9.2	9.4	9.8	10.3
	8H	7.0	7.4	7.6	7.9	8.5	8.8	9.2	9.4	9.7	10.2
	12H	7.0	7.4	7.6	7.9	8.5	8.8	9.1	9.3	9.6	10.2
12H	4H	7.1	7.5	7.6	8.0	8.5	8.9	9.3	9.4	9.8	10.4
	6H	7.0	7.3	7.6	7.9	8.4	8.8	9.1	9.4	9.6	10.2
	8H	7.0	7.3	7.5	7.8	8.4	8.8	9.1	9.3	9.6	10.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0