Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01209_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	2228
Efficacy	52.8 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.69
Two luminaires, plane 90°	0.72
Four luminaires	0.77

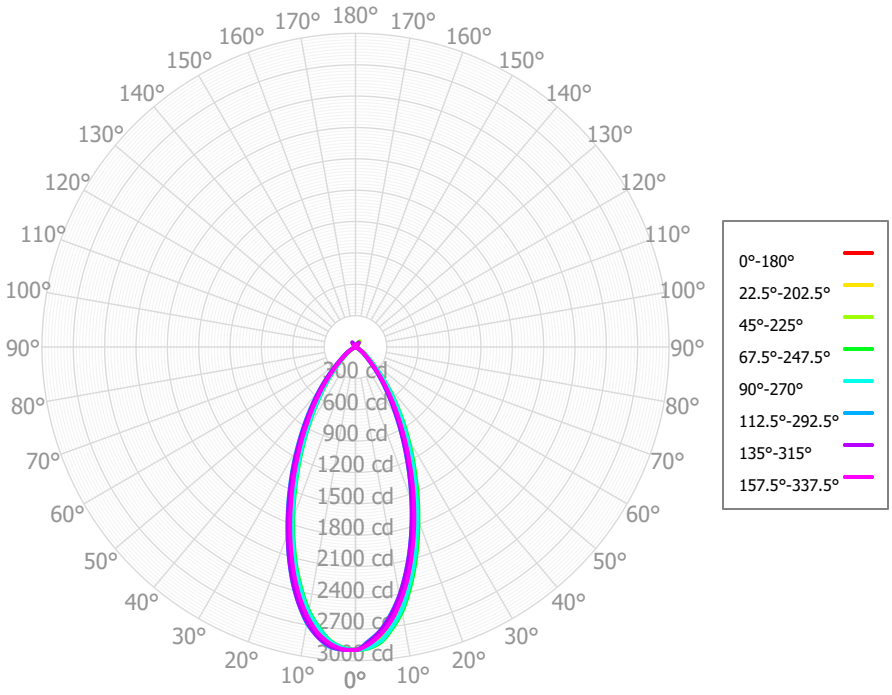
Full Beam Angle

0° - 180°	47°
90° - 270°	47°

IES File Header Contents

Keyword	Value
TEST	SP-01209_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 WD 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°	263.34	11.82%	90.00° - 100.00°	1.20	0.05%
10.00° - 20.00°	599.57	26.91%	100.00° - 110.00°	1.26	0.06%
20.00° - 30.00°	605.49	27.18%	100.00° - 120.00°	3.61	0.16%
30.00° - 40.00°	413.41	18.56%	120.00° - 130.00°	6.70	0.30%
40.00° - 50.00°	197.89	8.88%	130.00° - 140.00°	12.80	0.57%
50.00° - 60.00°	75.28	3.38%	140.00° - 150.00°	21.14	0.95%
60.00° - 70.00°	11.97	0.54%	150.00° - 160.00°	10.20	0.46%
70.00° - 80.00°	1.29	0.06%	160.00° - 170.00°	2.73	0.12%
80.00° - 90.00°	1.16	0.05%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	2169.40	97.37%	0.00° - 180.00°	2227.99	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°	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59	2898.59
2.50°	2852.02	2877.85	2879.53	2885.20	2880.04	2897.52	2899.42	2893.39	2889.57	2888.21	2889.63	2877.74	2880.32	2817.59	2826.00	2850.29	2852.02
5.00°	2768.24	2804.38	2805.79	2832.46	2820.54	2878.47	2870.62	2845.19	2844.89	2823.88	2828.04	2818.14	2824.59	2723.29	2725.60	2762.41	2768.24
7.50°	2641.05	2693.80	2687.12	2713.55	2696.37	2795.24	2794.73	2759.37	2755.17	2725.98	2727.44	2701.33	2711.71	2578.36	2587.92	2639.03	2641.05
10.00°	2480.40	2534.71	2532.04	2571.96	2549.67	2683.32	2672.69	2625.53	2627.72	2583.40	2593.71	2563.30	2578.86	2414.05	2416.59	2475.46	2480.40
12.50°	2288.39	2354.42	2343.34	2384.74	2355.07	2515.12	2514.40	2458.52	2462.87	2414.29	2425.49	2379.34	2399.11	2214.88	2218.36	2287.64	2288.39
15.00°	2083.11	2148.72	2141.91	2183.59	2152.66	2330.45	2323.03	2261.74	2269.31	2214.99	2230.01	2182.96	2204.45	2003.53	2006.41	2074.29	2083.11
17.50°	1866.42	1940.15	1929.71	1972.68	1935.20	2116.38	2115.64	2046.14	2058.75	1999.10	2017.13	1962.20	1988.03	1784.07	1784.25	1858.58	1866.42
20.00°	1653.09	1728.42	1721.30	1759.08	1722.35	1902.96	1894.85	1828.59	1836.05	1780.15	1791.67	1740.89	1765.49	1562.08	1568.18	1640.61	1653.09
22.50°	1442.46	1523.07	1515.88	1556.99	1517.76	1690.64	1681.75	1609.92	1618.73	1559.67	1572.54	1518.56	1546.14	1352.71	1356.24	1430.62	1442.46
25.00°	1246.17	1324.27	1323.64	1357.70	1322.14	1486.70	1474.56	1405.01	1404.92	1350.32	1357.61	1305.05	1327.59	1146.89	1160.21	1227.80	1246.17
27.50°	1060.38	1138.95	1140.91	1178.38	1141.12	1295.42	1280.74	1207.46	1206.22	1146.11	1158.27	1106.11	1132.24	967.62	974.06	1042.00	1060.38
30.00°	893.37	966.29	973.52	1003.26	971.53	1114.43	1096.46	1028.66	1016.69	966.28	968.52	922.30	941.99	794.91	810.91	870.25	893.37
32.50°	739.12	810.74	816.42	850.35	819.20	947.64	929.74	858.96	850.63	796.61	803.50	761.70	784.94	655.28	661.00	719.79	739.12
35.00°	606.10	669.95	677.65	701.53	678.48	794.46	774.49	713.83	697.54	656.20	652.34	618.81	634.16	522.76	537.74	585.66	606.10
37.50°	486.29	542.05	550.12	574.90	553.82	658.76	640.32	579.47	570.31	526.97	528.62	500.78	518.99	419.47	428.47	468.58	486.29
40.00°	381.36	424.51	436.28	451.70	438.80	532.73	518.74	465.39	456.27	419.17	419.12	394.60	409.68	321.70	333.64	363.49	381.36
42.50°	284.87	328.42	330.09	353.99	335.99	418.10	409.88	359.48	356.91	318.69	325.22	303.87	320.59	248.35	245.69	278.55	284.87
45.00°	217.74	248.10	253.50	259.63	253.94	321.63	308.05	277.13	264.36	244.19	238.67	229.58	234.24	178.90	186.80	206.57	217.74
47.50°	166.03	190.48	192.22	205.90	196.36	244.83	235.06	203.30	200.76	177.60	181.29	174.94	182.55	139.41	140.64	157.23	166.03
50.00°	129.24	148.36	150.17	156.41	150.52	186.43	176.56	156.74	149.29	136.43	136.55	131.34	134.78	103.87	108.52	121.39	129.24
52.50°	99.55	114.61	117.13	124.29	117.40	146.59	137.60	119.16	113.64	102.26	104.78	99.86	106.00	79.59	81.96	93.22	99.55
55.00°	74.14	86.07	88.82	93.61	87.76	113.43	107.55	90.38	84.05	76.84	78.08	73.55	78.88	56.54	58.91	69.21	74.14
57.50°	50.62	60.78	62.52	67.34	61.58	86.45	80.74	64.17	60.88	53.53	56.14	52.51	57.28	38.35	37.14	47.55	50.62
60.00°	30.14	37.37	38.12	41.32	37.68	60.33	55.30	42.38	39.91	35.46	35.86	34.61	36.02	20.58	21.72	27.04	30.14
62.50°	10.87	20.05	14.46	22.14	15.89	34.96	33.62	21.74	23.76	18.49	21.14	19.64	22.25	11.05	8.35	13.94	10.87
65.00°	4.16	5.95	5.62	3.19	4.68	17.57	13.36	10.89	9.09	9.79	8.19	9.65	8.79	2.04	3.77	4.23	4.16
67.50°	1.92	1.40	1.95	2.20	2.45	6.47	5.66	2.30	3.98	2.61	3.67	3.93	4.78	1.45	1.76	1.57	1.92
70.00°	1.33	1.41	1.21	1.50	1.48	1.51	2.28	0.91	1.51	1.45	1.53	1.26	0.96	1.18	1.26	1.81	1.33
72.50°	1.27	1.27	1.39	1.45	1.49	1.05	1.33	0.96	1.12	1.21	1.07	1.02	1.15	1.29	1.15	1.57	1.27
75.00°	1.21	1.08	1.26	1.40	1.35	1.04	1.13	0.99	1.23	1.30	1.02	1.02	1.34	1.41	1.14	1.15	1.21
77.50°	1.13	0.97	1.04	1.40	1.09	1.34	1.05	1.02	1.33	1.42	1.10	1.21	1.24	1.25	1.15	1.07	1.13
80.00°	1.18	0.89	1.05	1.39	0.94	1.38	1.00	1.10	1.42	1.28	1.21	1.31	1.15	1.09	1.08	1.11	1.18
82.50°	1.25	0.82	1.12	1.32	0.88	1.27	0.94	1.19	1.28	1.11	1.21	1.37	1.04	1.13	0.99	1.01	1.25
85.00°	1.13	0.74	1.09	1.22	0.88	1.12	0.86	1.11	1.09	0.91	1.19	1.27	0.95	1.17	1.06	0.86	1.13
87.50°	0.96	0.92	1.04	0.93	0.94	0.95	1.00	1.00	0.93	0.71	1.06	1.09	1.02	1.15	1.15	0.96	0.96
90.00°	1.06	1.20	1.11	0.70	1.01	1.10	1.18	0.96	0.78	1.01	0.91	0.98	1.07	1.13	1.13	1.12	1.06
92.50°	1.22	1.13	1.19	1.02	1.09	1.42	1.27	0.92	0.85	1.33	0.92	0.92	0.92	1.15	1.10	1.03	1.22
95.00°	1.23	0.96	1.12	1.31	1.25	1.30	1.34	0.85	0.95	1.29	0.94	0.99	0.81	1.17	1.08	0.88	1.23
97.50°	1.23	1.05	1.02	1.35	1.45	0.96	1.42	0.77	1.06	1.24	1.03	1.13	1.03	1.10	1.06	0.92	1.23
100.00°	1.31	1.21	1.06	1.37	1.44	0.83	1.50	0.90	1.16	1.21	1.13	1.21	1.21	1.03	1.10	1.00	1.31
102.50°	1.41	1.17	1.11	1.27	1.33	0.79	1.31	1.05	1.16	1.18	1.09	1.25	1.13	0.91	1.14	1.24	1.41
105.00°	1.25	1.08	1.30	1.20	1.52	0.88	1.08	0.85	1.15	1.06	1.03	1.27	1.09	0.83	1.44	1.50	1.25
107.50°	1.06	1.21	1.51	1.30	1.84	1.02	1.09	0.63	0.97	0.95	1.18	1.28	1.29	1.02	1.76	1.46	1.06
110.00°	1.48	1.39	1.48	1.41	1.71	1.10	1.12	1.01	0.78	1.14	1.35	1.33	1.47	1.20	1.31	1.37	1.48
112.50°	1.96	2.00	1.42	1.63	1.41	1.16	1.08	1.41	1.00	1.33	1.28	1.39	1.50	1.35	0.82	3.49	1.96

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	2638	2638	2638	2638	2570	2570	2570	2570	2443	2443	2443	2327	2327	2327	2220	2220	2220	2169
	1	2510	2446	2389	2338	2449	2392	2341	2295	2291	2251	2214	2199	2167	2138	2113	2089	2066	2042
	2	2380	2267	2175	2097	2324	2224	2140	2069	2142	2073	2014	2067	2011	1962	1997	1953	1913	1910
	3	2254	2106	1992	1900	2204	2070	1966	1881	2003	1916	1844	1941	1868	1807	1883	1824	1772	1785
	4	2135	1961	1834	1737	2089	1932	1814	1723	1876	1776	1697	1824	1739	1671	1776	1704	1645	1669
	5	2023	1831	1698	1599	1982	1807	1682	1589	1760	1652	1569	1716	1623	1550	1675	1596	1531	1564
	6	1919	1715	1578	1480	1881	1694	1566	1473	1654	1542	1458	1617	1519	1443	1582	1496	1429	1468
	7	1822	1610	1473	1377	1788	1592	1463	1371	1558	1444	1360	1527	1425	1349	1497	1407	1338	1381
	8	1732	1516	1380	1287	1702	1501	1372	1282	1471	1356	1273	1444	1340	1264	1418	1325	1256	1302
	9	1650	1431	1297	1207	1622	1418	1290	1203	1392	1277	1196	1368	1264	1189	1346	1251	1182	1230
	10	1573	1354	1223	1136	1548	1342	1217	1133	1320	1206	1127	1299	1195	1121	1279	1184	1115	1165

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	95.8 fc	4.6 ft
6.5 ft	68.6 fc	5.5 ft
7.5 ft	51.5 fc	6.3 ft
8.0 ft	45.3 fc	6.8 ft
10.0 ft	29.0 fc	8.4 ft
12.0 ft	20.1 fc	10.1 ft
14.0 ft	14.8 fc	11.8 ft
16.0 ft	11.3 fc	13.5 ft
20.0 ft	7.2 fc	16.9 ft
24.0 ft	5.0 fc	20.3 ft
28.0 ft	3.7 fc	23.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	100089	100089	100089
45.00°	10633	12379	12401
55.00°	4464	5347	5283
65.00°	340	459	382
75.00°	161	168	180
85.00°	446	432	350

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	9.4	10.4	9.8	10.8	11.2	11.2	12.2	11.6	12.6	13.0
	3H	9.2	10.1	9.6	10.5	10.9	11.0	11.9	11.4	12.3	12.7
	4H	9.1	10.0	9.6	10.4	10.8	10.9	11.7	11.4	12.2	12.6
	6H	9.0	9.8	9.5	10.2	10.7	10.8	11.6	11.3	12.0	12.5
	8H	9.0	9.7	9.5	10.1	10.6	10.8	11.5	11.2	11.9	12.4
	12H	8.9	9.6	9.4	10.0	10.5	10.7	11.4	11.2	11.8	12.3
4H	2H	9.1	10.0	9.6	10.4	10.8	11.0	11.8	11.4	12.2	12.7
	3H	8.9	9.6	9.4	10.1	10.5	10.8	11.4	11.2	11.9	12.4
	4H	8.8	9.4	9.3	9.9	10.4	10.7	11.3	11.2	11.7	12.2
	6H	8.7	9.3	9.3	9.8	10.3	10.6	11.1	11.1	11.6	12.1
	8H	8.7	9.2	9.2	9.7	10.2	10.5	11.0	11.0	11.5	12.0
	12H	8.6	9.1	9.2	9.6	10.1	10.4	10.9	11.0	11.4	11.9
8H	4H	8.7	9.1	9.2	9.6	10.2	10.5	11.0	11.0	11.5	12.0
	6H	8.6	8.9	9.1	9.5	10.0	10.4	10.8	10.9	11.3	11.9
	8H	8.5	8.8	9.1	9.4	10.0	10.3	10.7	10.9	11.2	11.8
	12H	8.5	8.8	9.0	9.3	10.0	10.3	10.6	10.9	11.1	11.8
12H	4H	8.6	9.0	9.1	9.5	10.1	10.4	10.8	11.0	11.4	11.9
	6H	8.5	8.8	9.1	9.4	10.0	10.3	10.7	10.9	11.2	11.8
	8H	8.5	8.8	9.0	9.3	9.9	10.3	10.6	10.8	11.1	11.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0