Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01205_1_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	2507
Efficacy	59.41 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.5
Two luminaires, plane 90°	0.5
Four luminaires	0.68

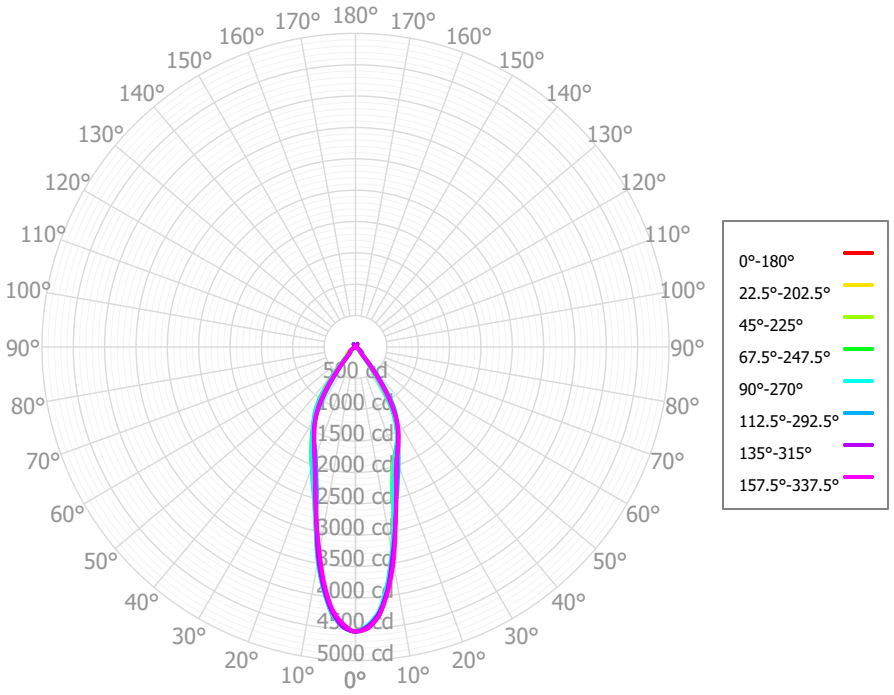
Full Beam Angle

0° - 180°	33°
90° - 270°	33°

IES File Header Contents

Keyword	Value
TEST	SP-01205_1_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 GL
LUMINAIRE	N/A
OTHER	Beam Angle: 33 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°	381.61	15.22%	90.00° - 100.00°	1.20	0.05%
10.00° - 20.00°	690.87	27.56%	100.00° - 110.00°	1.21	0.05%
20.00° - 30.00°	729.33	29.09%	100.00° - 120.00°	2.71	0.11%
30.00° - 40.00°	466.43	18.60%	120.00° - 130.00°	2.15	0.09%
40.00° - 50.00°	112.88	4.50%	130.00° - 140.00°	3.39	0.14%
50.00° - 60.00°	68.21	2.72%	140.00° - 150.00°	18.06	0.72%
60.00° - 70.00°	16.21	0.65%	150.00° - 160.00°	8.47	0.34%
70.00° - 80.00°	1.22	0.05%	160.00° - 170.00°	3.00	0.12%
80.00° - 90.00°	1.15	0.05%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	2467.91	98.44%	0.00° - 180.00°	2507.11	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°	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99	4538.99
2.50°	4455.02	4490.15	4454.49	4486.41	4439.41	4438.19	4473.82	4423.49	4459.10	4442.39	4467.44	4440.44	4474.49	4473.41	4460.84	4493.43	4455.02
5.00°	4300.47	4285.25	4262.49	4302.10	4237.31	4237.50	4247.02	4204.81	4283.26	4239.42	4266.74	4256.57	4279.01	4269.55	4269.07	4304.95	4300.47
7.50°	3857.19	3912.02	3850.30	3898.96	3836.21	3853.20	3884.13	3808.67	3871.34	3854.10	3902.89	3843.59	3916.00	3906.71	3905.66	3944.07	3857.19
10.00°	3365.97	3420.59	3324.67	3417.60	3327.65	3350.03	3418.22	3309.08	3433.96	3350.74	3460.53	3349.12	3468.26	3452.33	3391.84	3490.09	3365.97
12.50°	2838.20	2826.31	2781.28	2820.93	2806.48	2861.94	2886.13	2866.29	2932.40	2900.16	2933.75	2893.64	2933.15	2918.33	2924.67	2946.65	2838.20
15.00°	2306.48	2378.65	2230.56	2353.98	2279.85	2381.76	2477.94	2450.63	2510.92	2477.33	2538.84	2449.00	2537.86	2528.26	2491.11	2502.47	2306.48
17.50°	2062.51	2035.79	1982.91	2043.94	2012.90	2079.43	2135.37	2152.75	2250.11	2209.40	2262.45	2218.44	2262.97	2241.07	2172.99	2137.87	2062.51
20.00°	1833.38	1842.50	1832.62	1836.64	1835.92	1853.19	1905.97	1899.52	2005.23	2007.73	2037.73	2031.43	2032.84	2001.24	1922.73	1909.40	1833.38
22.50°	1716.87	1737.79	1706.82	1733.14	1700.09	1698.38	1724.57	1717.67	1786.22	1804.11	1851.17	1827.89	1834.37	1789.45	1747.57	1770.40	1716.87
25.00°	1598.11	1599.35	1587.08	1599.75	1575.13	1567.53	1571.47	1556.72	1596.58	1599.83	1665.50	1622.09	1653.79	1620.30	1608.61	1625.77	1598.11
27.50°	1420.82	1444.79	1388.28	1441.52	1387.69	1405.77	1427.95	1410.19	1446.55	1445.20	1480.37	1467.23	1483.68	1471.55	1450.27	1478.12	1420.82
30.00°	1231.64	1200.14	1175.55	1202.09	1188.32	1235.98	1249.21	1266.85	1297.26	1303.18	1329.98	1316.54	1333.15	1308.59	1284.50	1273.64	1231.64
32.50°	920.95	920.69	856.75	906.45	875.88	957.35	1061.43	1042.63	1148.80	1135.07	1196.81	1156.97	1191.87	1140.25	1040.15	1044.40	920.95
35.00°	618.44	621.40	525.98	611.39	548.67	658.31	768.04	805.99	920.74	962.06	975.93	993.49	955.15	871.17	772.53	748.61	618.44
37.50°	367.19	316.17	323.24	316.66	337.09	409.63	454.61	517.29	620.02	655.72	719.81	660.78	682.67	571.97	497.58	430.06	367.19
40.00°	157.06	193.50	128.16	179.86	133.82	167.35	282.94	223.77	391.56	333.01	470.03	343.05	425.02	357.63	220.98	258.80	157.06
42.50°	126.81	112.35	111.13	114.77	107.38	125.98	129.00	170.58	218.12	254.57	222.22	237.24	171.74	162.12	158.09	125.85	126.81
45.00°	103.34	100.72	95.91	91.78	84.68	98.47	121.74	127.70	152.49	192.97	179.66	141.71	121.48	140.73	128.58	97.47	103.34
47.50°	102.41	100.12	89.93	84.15	76.12	97.81	124.29	124.71	154.02	184.46	185.18	125.74	115.53	146.94	121.93	89.22	102.41
50.00°	97.43	89.10	83.28	72.11	67.40	97.24	117.51	120.68	138.38	176.04	167.03	109.04	106.22	136.88	117.54	75.38	97.43
52.50°	82.01	77.06	69.44	58.83	56.75	85.13	110.08	99.41	113.93	141.27	144.87	88.50	96.41	125.23	98.58	60.82	82.01
55.00°	66.06	62.52	55.98	48.02	46.33	72.94	87.48	78.42	89.63	107.30	116.76	69.76	85.81	104.02	78.99	48.21	66.06
57.50°	49.00	47.89	45.10	37.71	37.71	59.85	65.41	59.95	65.39	82.91	88.02	57.85	75.13	82.41	62.22	35.74	49.00
60.00°	33.73	37.75	34.07	29.74	28.80	46.33	49.49	41.49	45.87	58.17	62.88	43.93	58.14	59.69	45.29	28.64	33.73
62.50°	21.47	27.45	22.35	22.11	18.44	29.86	33.40	23.05	27.88	30.99	37.92	24.09	40.87	37.19	25.55	21.55	21.47
65.00°	11.53	14.24	11.85	12.37	9.32	14.85	16.07	7.45	14.82	7.83	19.66	8.79	20.63	18.56	7.42	11.40	11.53
67.50°	4.78	2.25	5.52	2.46	4.74	6.92	1.66	3.60	2.97	4.16	2.22	4.03	1.51	1.73	3.87	1.98	4.78
70.00°	1.31	1.52	0.92	1.83	1.40	0.80	1.27	0.75	1.16	1.32	1.50	0.92	1.38	1.40	0.82	1.65	1.31
72.50°	1.55	0.92	0.96	1.51	1.52	1.12	0.98	1.04	1.10	1.38	0.85	0.87	1.26	1.13	0.83	1.36	1.55
75.00°	1.52	1.02	0.97	1.33	1.57	1.30	1.05	1.20	1.15	1.35	0.92	0.89	1.22	1.21	0.87	1.33	1.52
77.50°	1.26	1.09	0.95	1.16	1.49	1.11	1.13	1.05	1.21	1.10	0.96	1.01	1.18	1.26	1.02	1.26	1.26
80.00°	1.09	1.08	0.94	1.19	1.32	1.01	1.23	0.97	1.08	0.94	0.79	1.08	1.12	1.22	1.15	0.91	1.09
82.50°	0.97	1.07	0.95	1.22	1.00	1.12	1.21	1.06	0.93	0.94	0.68	1.07	1.10	1.20	1.21	0.67	0.97
85.00°	0.99	1.09	0.92	1.18	0.80	1.21	0.94	1.13	1.01	0.94	0.84	1.13	1.18	1.27	1.24	0.77	0.99
87.50°	1.10	1.07	0.81	1.15	0.80	1.26	0.85	1.15	1.09	0.94	0.97	1.24	1.25	1.37	1.19	0.88	1.10
90.00°	1.12	0.97	0.75	1.18	0.91	1.25	1.06	1.17	1.16	0.92	0.99	1.33	1.24	1.53	1.16	0.99	1.12
92.50°	1.08	0.94	0.76	1.19	1.14	1.12	1.14	1.20	1.21	0.88	0.95	1.39	1.19	1.54	1.19	1.12	1.08
95.00°	1.09	1.02	0.88	1.14	1.25	1.07	1.03	1.20	0.96	0.87	0.81	1.26	0.99	1.26	1.20	1.30	1.09
97.50°	1.13	1.08	1.09	1.18	1.23	1.13	1.00	1.17	0.79	0.91	0.76	0.99	0.92	1.11	1.20	1.35	1.13
100.00°	1.15	1.09	1.20	1.52	1.35	1.04	1.07	1.09	1.11	1.00	0.93	1.03	1.10	1.17	1.11	1.14	1.15
102.50°	1.17	1.03	1.24	1.71	1.57	0.82	1.13	0.96	1.34	1.16	1.11	1.23	1.20	1.18	0.89	1.09	1.17
105.00°	0.98	0.90	1.13	1.53	1.56	0.77	1.20	0.91	1.13	1.18	1.32	1.24	1.16	1.12	0.84	1.29	0.98
107.50°	0.72	0.99	0.93	1.47	1.39	0.88	1.15	0.93	0.94	1.08	1.33	1.16	1.12	1.21	0.98	1.47	0.72
110.00°	1.01	1.34	1.05	1.63	1.37	0.95	1.00	0.97	0.83	1.12	1.07	1.12	1.10	1.48	1.11	1.63	1.01
112.50°	1.40	1.79	1.34	1.62	1.44	1.01	0.95	1.03	0.85	1.26	0.95	1.10	1.20	1.48	1.24	1.91	1.40

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%
	0	2975	2975	2975	2975	2902	2902	2902	2902	2764	2764	2764	2638	2638	2638	2522	2522	2522	2468
	1	2839	2770	2709	2653	2773	2712	2657	2608	2604	2560	2520	2504	2470	2438	2412	2386	2361	2335
	2	2701	2581	2482	2398	2642	2534	2445	2368	2447	2374	2310	2367	2307	2255	2293	2245	2203	2198
	3	2568	2411	2288	2191	2515	2373	2261	2171	2302	2208	2131	2236	2158	2093	2175	2111	2056	2068
	4	2443	2258	2122	2019	2395	2227	2102	2005	2168	2061	1977	2114	2023	1950	2063	1987	1924	1948
RCR	5	2324	2120	1978	1873	2281	2095	1962	1863	2046	1931	1842	2000	1901	1823	1958	1872	1804	1837
	6	2214	1997	1851	1747	2175	1975	1838	1739	1934	1814	1724	1895	1790	1710	1859	1767	1695	1735
	7	2111	1885	1739	1636	2075	1867	1729	1631	1832	1709	1619	1799	1690	1608	1768	1671	1597	1642
	8	2015	1784	1639	1539	1983	1768	1630	1535	1738	1614	1526	1710	1599	1517	1683	1583	1509	1557
	9	1925	1692	1549	1452	1896	1678	1542	1449	1652	1529	1442	1628	1516	1435	1605	1503	1429	1479
	10	1843	1608	1468	1375	1816	1597	1462	1372	1574	1451	1367	1552	1440	1361	1532	1430	1356	1408

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	150.0 fc	3.0 ft
6.5 ft	107.4 fc	3.5 ft
7.5 ft	80.7 fc	4.1 ft
8.0 ft	70.9 fc	4.4 ft
10.0 ft	45.4 fc	5.4 ft
12.0 ft	31.5 fc	6.5 ft
14.0 ft	23.2 fc	7.6 ft
16.0 ft	17.7 fc	8.7 ft
20.0 ft	11.3 fc	10.9 ft
24.0 ft	7.9 fc	13.1 ft
28.0 ft	5.8 fc	15.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	156732	156732	156732
45.00°	5046	4683	4135
55.00°	3977	3370	2789
65.00°	942	968	761
75.00°	203	130	210
85.00°	393	363	319

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	7.7	8.7	8.1	9.0	9.4	9.8	10.8	10.2	11.1	11.5
	3H	7.5	8.4	8.0	8.8	9.2	9.6	10.5	10.0	10.8	11.2
	4H	7.4	8.2	7.9	8.6	9.1	9.5	10.3	9.9	10.7	11.1
	6H	7.3	8.1	7.8	8.5	8.9	9.4	10.1	9.9	10.5	11.0
	8H	7.3	8.0	7.8	8.4	8.9	9.4	10.0	9.8	10.5	10.9
	12H	7.3	7.9	7.7	8.3	8.8	9.3	9.9	9.8	10.4	10.8
4H	2H	7.5	8.3	8.0	8.7	9.1	9.7	10.5	10.1	10.8	11.3
	3H	7.3	8.0	7.8	8.4	8.9	9.5	10.1	9.9	10.6	11.0
	4H	7.2	7.8	7.7	8.3	8.7	9.4	9.9	9.8	10.4	10.9
	6H	7.1	7.6	7.6	8.1	8.6	9.3	9.8	9.8	10.2	10.7
	8H	7.1	7.5	7.6	8.0	8.5	9.2	9.7	9.7	10.1	10.6
	12H	7.0	7.4	7.6	7.9	8.5	9.1	9.5	9.7	10.1	10.6
8H	4H	7.1	7.5	7.6	8.0	8.5	9.2	9.6	9.7	10.1	10.6
	6H	7.0	7.3	7.5	7.9	8.4	9.1	9.4	9.6	10.0	10.5
	8H	6.9	7.2	7.5	7.8	8.3	9.0	9.3	9.6	9.9	10.4
	12H	6.9	7.2	7.4	7.7	8.3	9.0	9.3	9.5	9.8	10.4
12H	4H	7.0	7.4	7.5	7.9	8.4	9.1	9.5	9.6	10.0	10.5
	6H	6.9	7.2	7.5	7.7	8.3	9.0	9.3	9.6	9.8	10.4
	8H	6.9	7.1	7.4	7.7	8.3	9.0	9.2	9.5	9.8	10.4

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0