Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
SGRTE8XT 50L 35K XW XX AR8466XT SG FG
N/A

Test Number
SP-01211

Test Date
2/11/2021

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

Summary of Results

Power

Input Watts	51.1 W

Lumen Output

Output Lumens	2921
Efficacy	57.16 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

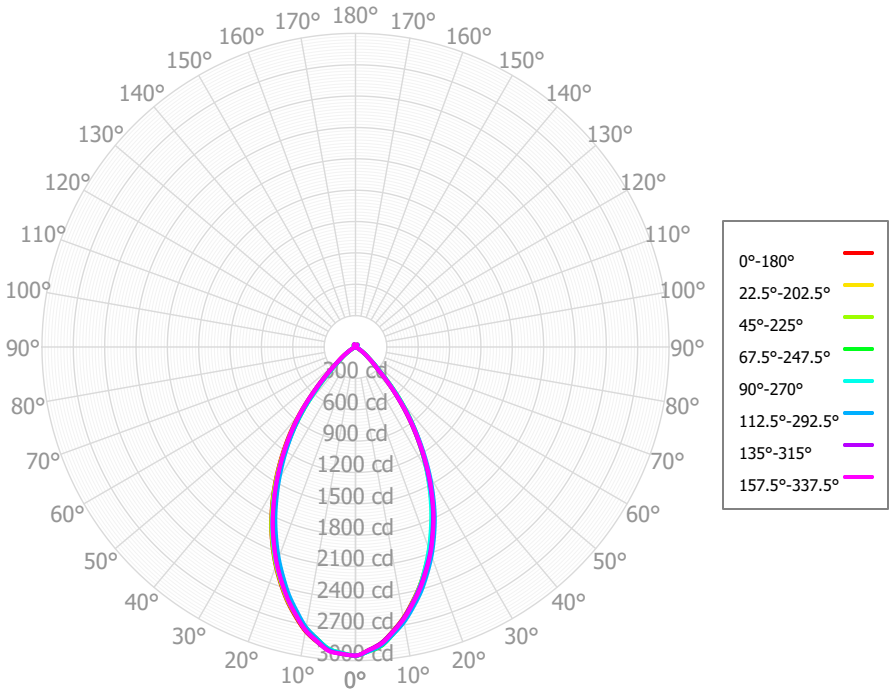
Full Beam Angle

0° - 180°	60°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-01211
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 50L 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
_CRI	83
_CCTMULT	Same for all available CCT's
_LAMPMULT	10L x 0.19, 13L x 0.26, 20L x 0.4, 30L x 0.6, 40L x 0.8

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	272.36	9.32%	90.00° - 100.00°	1.64	0.06%
10.00° - 20.00°	679.73	23.27%	100.00° - 110.00°	1.64	0.06%
20.00° - 30.00°	824.83	28.24%	100.00° - 120.00°	4.58	0.16%
30.00° - 40.00°	669.19	22.91%	120.00° - 130.00°	7.56	0.26%
40.00° - 50.00°	308.72	10.57%	130.00° - 140.00°	12.14	0.42%
50.00° - 60.00°	92.74	3.17%	140.00° - 150.00°	14.70	0.50%
60.00° - 70.00°	15.26	0.52%	150.00° - 160.00°	9.82	0.34%
70.00° - 80.00°	1.73	0.06%	160.00° - 170.00°	4.03	0.14%
80.00° - 90.00°	1.69	0.06%	170.00° - 180.00°	0.34	0.01%
0.00° - 90.00°	2866.24	98.12%	0.00° - 180.00°	2921.07	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°	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12	2953.12
2.50°	2901.91	2908.69	2906.86	2915.45	2913.90	2935.05	2940.67	2939.07	2938.73	2939.09	2935.72	2931.00	2932.45	2913.30	2902.62	2904.10	2901.91
5.00°	2841.54	2851.43	2854.44	2870.15	2862.67	2906.19	2916.14	2921.27	2914.74	2909.80	2911.48	2899.87	2900.17	2862.94	2842.78	2850.30	2841.54
7.50°	2741.22	2755.09	2749.26	2769.40	2762.39	2816.49	2841.03	2838.25	2844.21	2833.32	2833.44	2816.45	2821.81	2770.65	2745.68	2750.51	2741.22
10.00°	2633.29	2650.02	2642.60	2665.60	2653.25	2723.89	2752.20	2753.44	2761.45	2745.87	2751.73	2727.70	2733.85	2673.76	2639.91	2648.04	2633.29
12.50°	2503.00	2523.94	2507.30	2527.37	2515.50	2590.82	2630.36	2627.71	2644.73	2628.39	2634.28	2610.30	2618.26	2550.77	2512.65	2521.45	2503.00
15.00°	2369.37	2390.38	2370.56	2388.27	2374.01	2456.83	2500.51	2500.30	2520.30	2505.26	2513.44	2488.38	2495.62	2423.65	2381.56	2392.46	2369.37
17.50°	2222.42	2241.68	2217.15	2233.95	2215.11	2303.12	2353.92	2353.45	2378.04	2361.48	2370.03	2346.84	2356.15	2277.73	2236.78	2247.43	2222.42
20.00°	2074.12	2087.52	2062.12	2078.88	2054.58	2148.66	2201.53	2204.76	2230.39	2214.86	2224.42	2200.82	2210.86	2127.87	2090.24	2099.28	2074.12
22.50°	1907.38	1923.97	1894.84	1910.29	1884.35	1982.46	2038.88	2042.14	2072.25	2055.08	2067.89	2039.31	2053.48	1963.82	1924.00	1935.69	1907.38
25.00°	1739.56	1754.25	1725.69	1740.63	1713.64	1815.14	1871.05	1877.18	1907.67	1894.09	1906.92	1872.84	1887.65	1794.64	1755.97	1767.95	1739.56
27.50°	1554.11	1575.18	1546.25	1560.26	1535.98	1637.50	1695.41	1698.72	1732.42	1715.90	1727.99	1692.35	1706.93	1610.49	1567.86	1584.14	1554.11
30.00°	1368.17	1391.59	1365.90	1380.17	1358.29	1459.99	1518.27	1519.94	1553.96	1536.74	1546.61	1508.17	1521.60	1422.91	1378.76	1398.01	1368.17
32.50°	1179.03	1202.15	1181.49	1202.02	1182.60	1283.35	1339.13	1339.78	1370.81	1351.03	1357.28	1315.00	1329.35	1226.91	1184.88	1204.35	1179.03
35.00°	990.00	1017.71	998.91	1024.70	1007.23	1107.68	1162.04	1160.85	1189.83	1165.24	1169.28	1123.69	1137.75	1033.30	991.12	1012.33	990.00
37.50°	803.10	838.85	822.73	851.70	837.29	936.92	987.30	986.27	1011.55	981.41	984.80	936.17	947.01	844.72	803.01	824.72	803.10
40.00°	617.91	655.53	646.51	678.02	667.26	763.87	807.53	807.31	825.71	796.87	795.79	745.59	752.19	657.66	616.20	639.77	617.91
42.50°	452.53	467.82	470.20	501.48	496.28	581.69	622.78	615.35	631.74	600.76	596.32	549.71	552.72	473.30	450.46	460.76	452.53
45.00°	298.17	330.73	320.30	344.59	335.97	415.46	461.81	443.36	465.59	412.47	423.43	387.65	394.99	327.34	294.05	314.81	298.17
47.50°	226.96	236.75	235.39	252.64	250.79	300.05	321.67	320.52	326.02	304.67	302.22	277.09	278.27	239.69	225.92	233.11	226.96
50.00°	160.10	170.10	164.11	173.87	172.24	202.27	226.31	220.27	230.57	204.41	207.04	193.28	197.35	171.02	161.42	165.89	160.10
52.50°	117.07	123.45	120.97	130.81	128.08	152.42	164.69	166.66	171.39	156.66	154.91	144.38	147.58	127.81	120.67	122.60	117.07
55.00°	77.32	86.04	84.17	92.64	88.58	107.87	116.41	118.39	121.62	110.81	108.86	101.42	105.18	90.16	82.27	85.20	77.32
57.50°	52.04	54.59	58.46	65.93	67.82	75.32	76.73	79.77	78.49	74.73	71.68	65.13	68.30	58.92	55.86	56.11	52.04
60.00°	29.29	33.66	36.24	42.04	46.95	48.56	52.92	49.50	51.51	42.49	43.46	38.73	43.20	35.07	31.75	32.63	29.29
62.50°	15.39	18.52	19.38	23.71	25.75	32.83	38.12	32.09	34.58	26.26	26.45	22.17	25.64	18.57	16.83	16.15	15.39
65.00°	4.65	9.59	8.00	10.23	9.04	18.96	22.36	17.77	19.58	12.36	13.73	10.94	13.66	8.24	5.04	6.17	4.65
67.50°	2.96	3.56	3.86	4.85	4.73	8.20	6.14	7.52	5.60	6.27	5.61	4.26	4.73	3.33	3.28	3.16	2.96
70.00°	1.80	1.92	1.64	1.65	1.69	1.81	1.68	1.86	1.22	1.81	1.59	1.65	1.77	1.37	1.93	1.73	1.80
72.50°	1.96	2.06	1.59	1.67	1.54	1.68	1.95	1.55	1.14	1.76	1.48	2.01	1.66	1.65	1.64	1.75	1.96
75.00°	2.07	1.73	1.60	1.56	1.45	1.59	2.08	1.50	1.28	1.63	1.45	2.06	1.65	1.54	1.49	1.62	2.07
77.50°	2.11	1.23	1.68	1.31	1.47	1.53	2.15	1.72	1.50	1.31	1.49	1.91	1.68	1.19	1.65	1.37	2.11
80.00°	2.08	1.23	1.65	1.28	1.52	1.46	2.14	1.64	1.53	1.19	1.41	1.69	1.54	1.37	1.78	1.43	2.08
82.50°	1.94	1.36	1.52	1.49	1.60	1.38	2.10	1.32	1.50	1.49	1.25	1.43	1.34	1.85	1.85	1.73	1.94
85.00°	1.73	1.42	1.56	1.55	1.60	1.41	1.80	1.35	1.42	1.72	1.30	1.34	1.36	1.84	1.84	1.73	1.73
87.50°	1.40	1.48	1.71	1.46	1.50	1.55	1.44	1.66	1.32	1.84	1.47	1.33	1.44	1.59	1.72	1.55	1.40
90.00°	1.27	1.37	1.72	1.33	1.45	1.47	1.67	1.84	1.32	1.95	1.42	1.27	1.61	1.40	1.59	1.48	1.27
92.50°	1.41	1.24	1.63	1.18	1.44	1.20	2.02	1.93	1.34	2.05	1.25	1.19	1.81	1.24	1.46	1.47	1.41
95.00°	1.54	1.38	1.62	1.14	1.54	1.16	1.70	1.92	1.36	2.05	1.27	1.15	1.63	1.38	1.42	1.60	1.54
97.50°	1.65	1.55	1.66	1.18	1.76	1.28	1.30	1.84	1.38	1.95	1.38	1.12	1.38	1.63	1.52	1.80	1.65
100.00°	1.51	1.56	1.61	1.14	1.84	1.36	1.37	1.65	1.43	1.82	1.57	1.20	1.34	1.61	1.50	1.77	1.51
102.50°	1.12	1.55	1.50	1.04	1.79	1.41	1.49	1.40	1.47	1.65	1.81	1.31	1.33	1.51	1.37	1.66	1.12
105.00°	1.32	1.71	1.61	1.21	1.80	1.54	1.22	1.29	1.57	1.59	1.71	1.52	1.35	1.44	1.53	1.68	1.32
107.50°	2.02	1.87	1.80	1.52	1.85	1.71	0.94	1.23	1.66	1.61	1.51	1.75	1.37	1.36	1.97	1.75	2.02
110.00°	2.38	1.87	1.88	1.68	1.88	1.80	1.53	1.44	1.69	1.69	1.37	1.89	1.32	1.66	2.00	1.80	2.38
112.50°	2.48	1.86	1.93	1.77	1.88	1.87	2.11	1.74	1.73	1.80	1.24	2.01	1.27	2.03	1.70	1.84	2.48

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	3464	3464	3464	3464	3377	3377	3377	3377	3215	3215	3215	3067	3067	3067	2930	2930	2930	2866
	1	3290	3204	3127	3057	3212	3135	3066	3003	3007	2951	2901	2888	2845	2805	2779	2746	2714	2686
	2	3111	2959	2833	2727	3040	2903	2789	2692	2799	2705	2624	2703	2627	2560	2614	2553	2498	2498
	3	2938	2737	2581	2457	2873	2691	2548	2433	2606	2486	2387	2526	2426	2342	2453	2370	2299	2320
	4	2773	2537	2363	2231	2715	2499	2338	2214	2428	2290	2182	2362	2245	2150	2300	2201	2119	2156
	5	2619	2357	2174	2039	2565	2325	2155	2027	2266	2117	2004	2210	2081	1981	2158	2047	1958	2007
	6	2474	2195	2008	1874	2426	2169	1993	1865	2118	1963	1848	2071	1935	1831	2026	1907	1814	1871
	7	2340	2051	1863	1731	2296	2028	1850	1724	1984	1826	1711	1944	1803	1698	1906	1781	1685	1748
	8	2217	1920	1734	1605	2176	1900	1723	1600	1863	1704	1590	1828	1685	1580	1795	1666	1570	1637
	9	2102	1803	1619	1495	2066	1786	1610	1491	1753	1594	1483	1722	1578	1474	1694	1563	1467	1537
	10	1997	1696	1517	1397	1964	1682	1510	1394	1653	1496	1387	1626	1482	1380	1601	1469	1374	1446

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	97.6 fc	6.0 ft
6.5 ft	69.9 fc	7.0 ft
7.5 ft	52.5 fc	8.1 ft
8.0 ft	46.1 fc	8.7 ft
10.0 ft	29.5 fc	10.8 ft
12.0 ft	20.5 fc	13.0 ft
14.0 ft	15.1 fc	15.2 ft
16.0 ft	11.5 fc	17.3 ft
20.0 ft	7.4 fc	21.7 ft
24.0 ft	5.1 fc	26.0 ft
28.0 ft	3.8 fc	30.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	101972	101972	101972
45.00°	14560	15641	16406
55.00°	4655	5067	5332
65.00°	380	654	739
75.00°	276	214	193
85.00°	685	618	636

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	8.6	9.6	9.0	10.0	10.4	10.3	11.4	10.7	11.7	12.1
	3H	8.4	9.3	8.8	9.7	10.1	10.1	11.1	10.6	11.4	11.9
	4H	8.3	9.2	8.8	9.6	10.0	10.1	10.9	10.5	11.3	11.7
	6H	8.3	9.0	8.7	9.4	9.9	10.0	10.7	10.4	11.2	11.6
	8H	8.2	8.9	8.7	9.4	9.8	9.9	10.6	10.4	11.1	11.5
	12H	8.2	8.9	8.7	9.3	9.8	9.9	10.6	10.3	11.0	11.5
4H	2H	8.3	9.2	8.8	9.6	10.0	10.2	11.0	10.6	11.4	11.9
	3H	8.2	8.9	8.6	9.3	9.8	10.0	10.7	10.5	11.1	11.6
	4H	8.1	8.7	8.5	9.1	9.6	9.9	10.5	10.4	11.0	11.5
	6H	8.0	8.5	8.5	9.0	9.5	9.8	10.3	10.3	10.8	11.3
	8H	8.0	8.4	8.5	8.9	9.5	9.7	10.2	10.3	10.7	11.2
	12H	7.9	8.4	8.5	8.9	9.4	9.7	10.1	10.2	10.7	11.2
8H	4H	7.9	8.4	8.4	8.9	9.4	9.7	10.2	10.2	10.7	11.2
	6H	7.8	8.2	8.4	8.8	9.3	9.6	10.0	10.2	10.6	11.1
	8H	7.8	8.2	8.4	8.7	9.2	9.6	9.9	10.1	10.5	11.0
	12H	7.8	8.1	8.4	8.7	9.3	9.6	9.9	10.1	10.4	11.0
12H	4H	7.8	8.3	8.4	8.8	9.3	9.7	10.1	10.2	10.6	11.1
	6H	7.8	8.1	8.3	8.6	9.2	9.6	9.9	10.1	10.4	11.0
	8H	7.8	8.1	8.3	8.6	9.2	9.5	9.8	10.1	10.4	11.0

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0