Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01211_2

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	3382
Efficacy	66.18 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.87
Two luminaires, plane 90°	0.82
Four luminaires	0.84

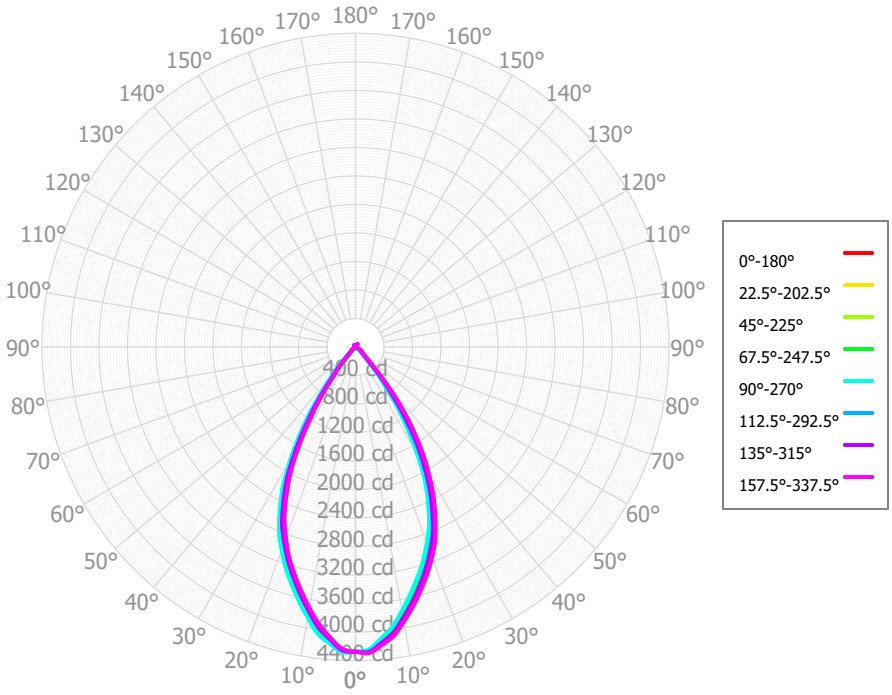
Full Beam Angle

0° - 180°	55°
90° - 270°	55°

IES File Header Contents

Keyword	Value
TEST	SP-01211_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	2/25/2021
LUMCAT	SGRTE8XT 50L 35K XW XX AR8466XT SG SO
LUMINAIRE	N/A
OTHER	Beam Angle: 55 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°	391.09	11.56%	90.00° - 100.00°	1.52	0.04%
10.00° - 20.00°	953.78	28.20%	100.00° - 110.00°	1.50	0.04%
20.00° - 30.00°	1112.44	32.89%	100.00° - 120.00°	3.53	0.10%
30.00° - 40.00°	665.85	19.69%	120.00° - 130.00°	3.53	0.10%
40.00° - 50.00°	145.69	4.31%	130.00° - 140.00°	5.96	0.18%
50.00° - 60.00°	52.10	1.54%	140.00° - 150.00°	16.41	0.49%
60.00° - 70.00°	14.10	0.42%	150.00° - 160.00°	8.91	0.26%
70.00° - 80.00°	1.57	0.05%	160.00° - 170.00°	3.55	0.11%
80.00° - 90.00°	1.56	0.05%	170.00° - 180.00°	0.36	0.01%
0.00° - 90.00°	3338.18	98.71%	0.00° - 180.00°	3381.95	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°	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16	4278.16
2.50°	4288.60	4298.83	4272.35	4267.90	4249.14	4241.18	4259.73	4240.85	4253.07	4254.80	4264.00	4261.91	4289.35	4273.29	4290.46	4299.06	4288.60
5.00°	4188.28	4196.56	4166.81	4157.24	4106.55	4112.56	4116.59	4091.25	4118.46	4110.91	4140.82	4145.41	4177.04	4171.25	4171.28	4202.74	4188.28
7.50°	4075.10	4090.01	4031.84	4018.08	3961.12	3957.60	3972.45	3922.26	3965.26	3961.35	3999.05	4008.57	4060.79	4049.88	4050.71	4092.74	4075.10
10.00°	3894.69	3913.96	3855.79	3835.06	3755.87	3757.07	3766.24	3718.76	3760.23	3757.57	3802.20	3805.91	3860.09	3861.37	3861.55	3912.08	3894.69
12.50°	3712.77	3736.94	3667.32	3639.70	3550.84	3544.90	3560.02	3509.54	3546.74	3551.45	3602.54	3602.00	3657.21	3669.87	3672.17	3729.27	3712.77
15.00°	3523.41	3546.24	3471.56	3438.43	3350.08	3342.37	3352.61	3302.41	3331.82	3331.84	3394.92	3394.21	3457.02	3468.41	3474.68	3536.00	3523.41
17.50°	3330.97	3353.71	3273.63	3235.58	3148.05	3142.18	3144.94	3095.62	3116.66	3111.75	3178.47	3179.77	3256.88	3264.49	3276.62	3341.43	3330.97
20.00°	3123.82	3136.83	3055.39	3015.79	2925.39	2922.35	2917.80	2853.62	2878.93	2863.41	2937.50	2945.22	3031.33	3052.61	3061.54	3140.94	3123.82
22.50°	2904.32	2915.64	2831.41	2791.67	2698.32	2697.90	2689.40	2606.36	2637.88	2614.34	2679.25	2692.53	2805.55	2824.42	2843.50	2927.24	2904.32
25.00°	2628.81	2643.52	2559.22	2519.10	2404.45	2394.48	2386.88	2288.62	2324.20	2288.22	2374.91	2387.21	2508.92	2545.60	2554.75	2654.41	2628.81
27.50°	2345.82	2366.82	2274.05	2234.48	2104.72	2073.35	2081.85	1961.08	2000.60	1960.45	2043.90	2058.86	2211.70	2249.35	2264.13	2373.86	2345.82
30.00°	2029.87	2041.39	1938.68	1891.15	1726.70	1687.89	1677.73	1559.62	1599.87	1550.48	1644.47	1666.42	1836.46	1901.27	1936.28	2060.55	2029.87
32.50°	1708.52	1714.31	1590.15	1533.93	1350.20	1288.43	1274.55	1148.30	1189.03	1139.41	1258.10	1283.44	1461.27	1546.59	1606.50	1740.08	1708.52
35.00°	1364.53	1370.63	1246.79	1179.86	992.60	924.18	898.87	806.19	853.47	825.70	904.48	926.25	1093.36	1172.75	1241.57	1389.98	1364.53
37.50°	1017.94	1027.33	904.72	826.50	644.04	567.19	529.90	472.60	527.00	512.49	593.29	606.94	727.28	819.10	879.68	1038.62	1017.94
40.00°	660.99	687.45	600.53	533.61	396.79	351.22	335.63	295.87	336.36	336.81	384.58	386.74	478.24	521.79	565.24	682.33	660.99
42.50°	352.95	371.54	305.54	253.92	168.02	163.43	148.24	137.60	161.41	162.16	214.65	207.72	232.60	277.98	266.83	374.55	352.95
45.00°	234.39	257.38	202.86	159.83	126.22	107.42	107.35	93.97	107.09	115.20	136.45	132.34	155.44	180.07	200.25	252.58	234.39
47.50°	137.00	153.80	144.55	104.07	87.16	76.26	67.91	62.72	65.52	68.73	77.40	74.92	80.10	106.38	137.43	152.77	137.00
50.00°	117.80	135.42	120.42	84.13	74.33	60.82	54.64	47.71	49.15	53.94	61.97	61.76	69.34	96.13	122.64	133.91	117.80
52.50°	99.29	117.16	103.78	71.17	61.74	48.16	41.69	34.36	35.20	39.29	48.00	49.48	58.58	85.53	107.68	114.80	99.29
55.00°	83.22	99.75	88.41	60.26	51.27	39.70	34.01	28.22	29.15	31.62	37.25	39.28	47.71	74.00	90.64	94.81	83.22
57.50°	67.21	82.12	73.32	49.73	40.74	31.95	26.46	22.75	23.82	23.99	28.05	30.29	36.98	62.21	73.51	75.48	67.21
60.00°	51.37	62.92	54.34	37.38	29.69	23.60	20.92	16.99	18.71	18.13	22.18	24.11	29.51	49.74	55.56	58.38	51.37
62.50°	34.79	43.32	34.57	24.71	18.85	15.16	15.28	11.20	13.61	12.29	15.64	17.20	21.92	35.41	37.53	40.18	34.79
65.00°	15.80	21.07	18.82	13.85	9.58	8.69	8.23	6.44	7.96	6.85	7.74	8.66	12.11	16.67	18.85	18.43	15.80
67.50°	1.41	1.82	3.82	3.29	1.44	2.51	1.73	1.76	2.26	1.62	2.26	2.61	2.81	3.23	1.94	1.84	1.41
70.00°	1.47	1.78	1.57	1.81	1.43	1.38	1.76	1.36	1.94	1.28	1.73	1.97	2.18	2.11	1.42	1.33	1.47
72.50°	1.47	1.74	1.66	1.79	1.45	0.98	1.79	1.26	1.98	0.96	1.45	1.54	1.59	1.29	0.95	1.00	1.47
75.00°	1.28	1.75	1.57	1.72	1.75	1.07	1.79	1.37	1.61	1.32	1.64	1.52	1.78	1.11	0.94	1.24	1.28
77.50°	1.25	1.74	1.45	1.64	1.96	1.22	1.78	1.50	1.21	1.65	1.61	1.48	1.94	1.07	0.97	1.38	1.25
80.00°	1.70	1.63	1.58	1.50	1.52	1.42	1.58	1.56	1.28	1.59	1.14	1.37	1.50	1.31	1.36	1.22	1.70
82.50°	1.91	1.52	1.76	1.35	1.14	1.61	1.41	1.62	1.37	1.53	0.98	1.43	1.14	1.36	1.70	1.12	1.91
85.00°	1.42	1.45	1.73	1.36	1.15	1.48	1.43	1.64	1.31	1.45	1.40	1.84	1.64	1.02	1.67	1.15	1.42
87.50°	1.09	1.39	1.67	1.38	1.18	1.32	1.47	1.65	1.25	1.36	1.54	1.91	2.09	0.85	1.62	1.19	1.09
90.00°	1.14	1.33	1.47	1.34	1.33	1.32	1.57	1.62	1.46	1.38	1.21	1.33	1.97	1.05	1.44	1.26	1.14
92.50°	1.25	1.27	1.25	1.30	1.49	1.35	1.63	1.58	1.67	1.38	1.04	1.03	1.85	1.18	1.33	1.29	1.25
95.00°	1.50	1.23	1.41	1.41	1.67	1.14	1.36	1.29	1.72	1.35	1.14	1.26	1.72	1.20	1.73	1.22	1.50
97.50°	1.67	1.20	1.63	1.55	1.78	0.92	1.14	0.99	1.75	1.31	1.21	1.49	1.59	1.30	2.01	1.15	1.67
100.00°	1.62	1.22	1.51	1.64	1.54	1.02	1.24	1.10	1.45	1.36	1.23	1.72	1.50	1.55	1.57	1.09	1.62
102.50°	1.59	1.22	1.35	1.72	1.33	1.15	1.34	1.22	1.14	1.39	1.29	1.80	1.41	1.67	1.19	1.12	1.59
105.00°	1.58	1.18	1.64	1.72	1.28	1.22	1.38	1.10	1.50	1.31	1.39	1.64	1.37	1.53	1.20	1.37	1.58
107.50°	1.61	1.17	1.98	1.70	1.31	1.28	1.44	0.98	1.86	1.26	1.47	1.45	1.34	1.47	1.24	1.54	1.61
110.00°	1.74	1.31	1.72	1.78	1.76	1.33	1.57	1.52	1.71	1.34	1.50	1.24	1.39	1.55	1.47	1.53	1.74
112.50°	1.80	1.46	1.40	1.86	2.22	1.37	1.65	2.07	1.55	1.42	1.46	1.58	1.52	2.06	1.68	1.55	1.80

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	4016	4016	4016	4016	3917	3917	3917	3917	3733	3733	3733	3565	3565	3565	3411	3411	3411	3338
	1	3830	3737	3654	3579	3743	3660	3586	3518	3516	3456	3402	3383	3336	3293	3260	3224	3191	3156
	2	3643	3481	3346	3233	3565	3419	3297	3194	3303	3203	3117	3196	3115	3044	3097	3032	2974	2969
	3	3463	3249	3083	2951	3392	3199	3047	2925	3104	2977	2872	3016	2911	2822	2935	2848	2773	2791
	4	3291	3039	2855	2715	3227	2998	2828	2696	2920	2775	2660	2848	2724	2624	2780	2676	2590	2624
	5	3128	2850	2656	2513	3070	2816	2635	2499	2750	2593	2473	2690	2554	2447	2633	2516	2422	2469
	6	2974	2678	2479	2337	2922	2649	2463	2327	2594	2430	2308	2543	2399	2289	2495	2369	2270	2326
	7	2831	2522	2322	2182	2783	2498	2309	2174	2451	2283	2160	2407	2257	2146	2366	2233	2132	2194
	8	2696	2380	2181	2044	2653	2359	2170	2039	2319	2149	2028	2281	2128	2017	2246	2109	2006	2073
	9	2571	2251	2054	1922	2532	2232	2045	1917	2198	2028	1908	2165	2011	1900	2134	1994	1891	1962
	10	2454	2132	1939	1811	2419	2116	1932	1808	2086	1917	1801	2057	1903	1794	2030	1889	1787	1860

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	141.4 fc	5.9 ft
6.5 ft	101.3 fc	6.9 ft
7.5 ft	76.1 fc	8.0 ft
8.0 ft	66.8 fc	8.5 ft
10.0 ft	42.8 fc	10.7 ft
12.0 ft	29.7 fc	12.8 ft
14.0 ft	21.8 fc	14.9 ft
16.0 ft	16.7 fc	17.1 ft
20.0 ft	10.7 fc	21.4 ft
24.0 ft	7.4 fc	25.6 ft
28.0 ft	5.5 fc	29.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	147726	147726	147726
45.00°	11446	9906	6164
55.00°	5010	5323	3087
65.00°	1291	1538	783
75.00°	171	209	234
85.00°	564	687	454

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	10.7	11.6	11.1	12.0	12.3	4.7	5.7	5.1	6.0	6.4
	3H	10.5	11.3	10.9	11.7	12.1	4.5	5.4	4.9	5.7	6.1
	4H	10.4	11.2	10.8	11.5	12.0	4.5	5.2	4.9	5.6	6.0
	6H	10.3	11.0	10.7	11.4	11.8	4.4	5.1	4.8	5.5	5.9
	8H	10.2	10.9	10.7	11.3	11.7	4.3	5.0	4.8	5.4	5.9
	12H	10.2	10.8	10.6	11.2	11.7	4.3	5.0	4.8	5.4	5.8
4H	2H	10.5	11.3	10.9	11.6	12.1	4.5	5.3	5.0	5.7	6.1
	3H	10.3	10.9	10.7	11.3	11.8	4.3	5.0	4.8	5.4	5.9
	4H	10.2	10.7	10.6	11.2	11.7	4.3	4.8	4.7	5.3	5.7
	6H	10.1	10.5	10.6	11.0	11.5	4.2	4.7	4.7	5.2	5.7
	8H	10.0	10.4	10.5	10.9	11.4	4.2	4.6	4.7	5.1	5.6
	12H	10.0	10.3	10.5	10.8	11.4	4.2	4.6	4.7	5.1	5.6
8H	4H	10.0	10.4	10.5	10.9	11.4	4.1	4.5	4.6	5.0	5.5
	6H	9.9	10.2	10.4	10.7	11.3	4.1	4.4	4.6	4.9	5.4
	8H	9.8	10.1	10.4	10.7	11.2	4.1	4.4	4.6	4.9	5.4
	12H	9.8	10.1	10.3	10.6	11.2	4.1	4.4	4.7	4.9	5.5
12H	4H	9.9	10.3	10.4	10.8	11.3	4.0	4.4	4.5	4.9	5.4
	6H	9.8	10.1	10.4	10.6	11.2	4.0	4.3	4.6	4.8	5.4
	8H	9.8	10.0	10.3	10.6	11.2	4.0	4.3	4.6	4.8	5.4

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0