Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01209_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	3365
Efficacy	65.85 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.72
Two luminaires, plane 90°	0.72
Four luminaires	0.73

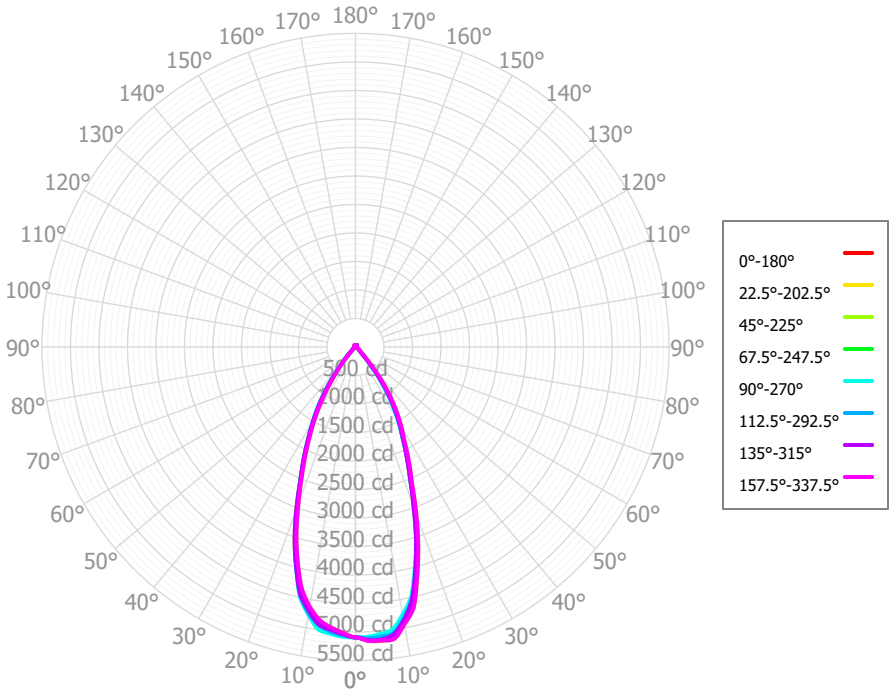
Full Beam Angle

0° - 180°	44°
90° - 270°	44°

IES File Header Contents

Keyword	Value
TEST	SP-01209_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 50L 35K WD XX AR8466XT SG SO
LUMINAIRE	N/A
OTHER	Beam Angle: 44 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°	481.92	14.32%	90.00° - 100.00°	1.61	0.05%
10.00° - 20.00°	1100.85	32.71%	100.00° - 110.00°	1.65	0.05%
20.00° - 30.00°	980.98	29.15%	100.00° - 120.00°	3.67	0.11%
30.00° - 40.00°	565.46	16.80%	120.00° - 130.00°	3.57	0.11%
40.00° - 50.00°	126.59	3.76%	130.00° - 140.00°	6.33	0.19%
50.00° - 60.00°	49.72	1.48%	140.00° - 150.00°	15.98	0.47%
60.00° - 70.00°	13.16	0.39%	150.00° - 160.00°	8.50	0.25%
70.00° - 80.00°	1.60	0.05%	160.00° - 170.00°	3.27	0.10%
80.00° - 90.00°	1.61	0.05%	170.00° - 180.00°	0.34	0.01%
0.00° - 90.00°	3321.88	98.71%	0.00° - 180.00°	3365.14	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°	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04	5094.04
2.50°	5157.05	5159.15	5147.13	5116.90	5088.85	5057.93	5043.85	5019.69	5022.48	5019.69	5043.85	5057.93	5088.85	5116.90	5147.13	5159.15	5157.05
5.00°	5172.40	5167.82	5151.49	5101.11	5049.57	5014.50	4979.20	4941.35	4938.75	4941.35	4979.20	5014.50	5049.57	5101.11	5151.49	5167.82	5172.40
7.50°	5118.08	5166.99	5091.46	5065.50	4996.17	4914.61	4913.16	4830.22	4852.79	4830.22	4913.16	4914.61	4996.17	5065.50	5091.46	5166.99	5118.08
10.00°	4921.53	4940.93	4873.95	4842.59	4763.31	4743.13	4698.09	4625.12	4635.80	4625.12	4698.09	4743.13	4763.31	4842.59	4873.95	4940.93	4921.53
12.50°	4609.43	4696.25	4556.69	4554.36	4498.06	4440.99	4464.98	4346.88	4396.33	4346.88	4464.98	4440.99	4498.06	4554.36	4556.69	4696.25	4609.43
15.00°	4117.15	4180.03	4053.09	4073.89	4018.55	4007.84	4015.22	3912.36	3960.38	3912.36	4015.22	4007.84	4018.55	4073.89	4053.09	4180.03	4117.15
17.50°	3595.66	3658.31	3529.62	3546.36	3530.49	3516.60	3553.76	3445.64	3506.28	3445.64	3553.76	3516.60	3530.49	3546.36	3529.62	3658.31	3595.66
20.00°	3038.34	3115.24	2977.61	3025.73	3006.72	2979.94	3035.19	2926.52	3002.12	2926.52	3035.19	2979.94	3006.72	3025.73	2977.61	3115.24	3038.34
22.50°	2560.62	2589.77	2504.37	2506.20	2518.76	2519.49	2526.82	2462.18	2501.20	2462.18	2526.82	2519.49	2518.76	2506.20	2504.37	2589.77	2560.62
25.00°	2159.04	2215.64	2119.68	2140.78	2135.30	2105.79	2145.42	2067.79	2123.78	2067.79	2145.42	2105.79	2135.30	2140.78	2119.68	2215.64	2159.04
27.50°	1834.61	1860.36	1799.71	1788.10	1780.93	1767.47	1773.82	1709.72	1751.13	1709.72	1773.82	1767.47	1780.93	1788.10	1799.71	1860.36	1834.61
30.00°	1568.50	1599.69	1536.93	1515.71	1490.26	1464.35	1465.18	1387.80	1422.53	1387.80	1465.18	1464.35	1490.26	1515.71	1536.93	1599.69	1568.50
32.50°	1303.39	1336.68	1265.88	1243.94	1199.28	1156.08	1157.23	1075.61	1100.00	1075.61	1157.23	1156.08	1199.28	1243.94	1265.88	1336.68	1303.39
35.00°	1038.86	1065.74	989.12	960.19	907.77	846.05	852.12	771.09	810.24	771.09	852.12	846.05	907.77	960.19	989.12	1065.74	1038.86
37.50°	756.37	789.10	705.98	679.26	634.97	586.51	570.92	524.44	540.57	524.44	570.92	586.51	634.97	679.26	705.98	789.10	756.37
40.00°	465.81	498.25	419.44	422.13	386.55	339.43	358.96	313.04	342.92	313.04	358.96	339.43	386.55	422.13	419.44	498.25	465.81
42.50°	286.96	274.17	256.97	197.41	217.61	209.28	191.98	187.93	181.72	187.93	191.98	209.28	217.61	197.41	256.97	274.17	286.96
45.00°	144.97	174.95	144.39	137.40	129.46	97.54	122.76	103.11	115.85	103.11	122.76	97.54	129.46	137.40	144.39	174.95	144.97
47.50°	107.32	111.12	109.59	88.95	84.12	75.73	75.72	71.51	68.68	71.51	75.72	75.73	84.12	88.95	109.59	111.12	107.32
50.00°	93.55	98.90	97.58	79.98	73.20	61.12	65.34	58.44	58.03	58.44	65.34	61.12	73.20	79.98	97.58	98.90	93.55
52.50°	82.23	86.51	84.85	70.54	63.22	52.12	55.34	49.29	48.31	49.29	55.34	52.12	63.22	70.54	84.85	86.51	82.23
55.00°	71.28	73.93	71.98	59.92	53.83	43.32	45.84	41.10	40.02	41.10	45.84	43.32	53.83	59.92	71.98	73.93	71.28
57.50°	58.16	61.46	59.46	49.17	43.80	36.52	37.41	33.42	32.49	33.42	37.41	36.52	43.80	49.17	59.46	61.46	58.16
60.00°	44.88	49.09	46.98	38.19	33.48	29.28	30.08	25.82	25.85	25.82	30.08	29.28	33.48	38.19	46.98	49.09	44.88
62.50°	24.71	31.69	26.79	25.59	21.55	18.26	20.59	16.63	17.90	16.63	20.59	18.26	21.55	25.59	26.79	31.69	24.71
65.00°	5.49	10.78	6.52	10.67	9.04	8.45	9.38	7.31	8.74	7.31	9.38	8.45	9.04	10.67	6.52	10.78	5.49
67.50°	3.34	2.86	3.84	2.52	4.44	4.66	3.96	4.29	3.85	4.29	3.96	4.66	4.44	2.52	3.84	2.86	3.34
70.00°	1.44	1.90	1.37	2.11	1.83	1.72	2.10	1.49	2.05	1.49	2.10	1.72	1.83	2.11	1.37	1.90	1.44
72.50°	1.45	1.60	1.34	1.78	1.44	1.66	1.51	1.37	1.47	1.37	1.51	1.66	1.44	1.78	1.34	1.60	1.45
75.00°	1.47	1.56	1.33	1.54	1.40	1.59	1.52	1.26	1.56	1.26	1.52	1.59	1.40	1.54	1.33	1.56	1.47
77.50°	1.51	1.70	1.35	1.36	1.33	1.50	1.50	1.25	1.69	1.25	1.50	1.50	1.33	1.36	1.35	1.70	1.51
80.00°	1.55	1.90	1.40	1.22	1.26	1.42	1.48	1.27	1.82	1.27	1.48	1.42	1.26	1.22	1.40	1.90	1.55
82.50°	1.58	1.78	1.52	1.31	1.30	1.36	1.36	1.45	1.96	1.45	1.36	1.36	1.30	1.31	1.52	1.78	1.58
85.00°	1.53	1.59	1.55	1.53	1.34	1.45	1.21	1.62	2.09	1.62	1.21	1.45	1.34	1.53	1.55	1.59	1.53
87.50°	1.29	1.37	1.34	1.61	1.32	1.73	1.22	1.71	1.80	1.71	1.22	1.73	1.32	1.61	1.34	1.37	1.29
90.00°	1.15	1.14	1.23	1.63	1.32	1.81	1.24	1.70	1.42	1.70	1.24	1.81	1.32	1.63	1.23	1.14	1.15
92.50°	1.21	1.32	1.32	1.51	1.49	1.65	1.59	1.46	1.47	1.46	1.59	1.65	1.49	1.51	1.32	1.32	1.21
95.00°	1.25	1.52	1.36	1.35	1.63	1.53	1.96	1.36	1.58	1.36	1.96	1.53	1.63	1.35	1.36	1.52	1.25
97.50°	1.25	1.61	1.31	1.47	1.55	1.45	1.59	1.54	1.52	1.54	1.59	1.45	1.55	1.47	1.31	1.61	1.25
100.00°	1.31	1.70	1.36	1.65	1.47	1.47	1.23	1.64	1.45	1.64	1.23	1.47	1.47	1.65	1.36	1.70	1.31
102.50°	1.44	1.85	1.55	1.49	1.39	1.55	1.31	1.63	1.39	1.63	1.31	1.55	1.39	1.49	1.55	1.85	1.44
105.00°	1.59	1.96	1.58	1.29	1.38	1.57	1.39	1.66	1.34	1.66	1.39	1.57	1.38	1.29	1.58	1.96	1.59
107.50°	1.77	1.88	1.44	1.60	1.54	1.56	1.50	1.74	1.30	1.74	1.50	1.56	1.54	1.60	1.44	1.88	1.77
110.00°	1.72	1.82	1.46	1.94	1.67	1.56	1.59	1.67	1.29	1.67	1.59	1.56	1.67	1.94	1.46	1.82	1.72
112.50°	1.53	1.80	1.60	2.26	1.78	1.57	1.63	1.46	1.49	1.46	1.63	1.57	1.78	2.26	1.60	1.80	1.53

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	3996	3996	3996	3996	3898	3898	3898	3898	3715	3715	3715	3548	3548	3548	3394	3394	3394	3322
	1	3818	3729	3649	3577	3732	3652	3581	3516	3509	3452	3400	3377	3333	3292	3255	3221	3189	3153
	2	3641	3485	3357	3248	3564	3424	3307	3209	3309	3214	3132	3203	3126	3059	3105	3044	2989	2981
	3	3471	3266	3108	2982	3401	3217	3072	2955	3123	3002	2903	3037	2936	2852	2957	2874	2803	2817
	4	3308	3069	2893	2759	3246	3028	2866	2741	2951	2813	2704	2880	2763	2668	2814	2715	2633	2662
	5	3155	2891	2706	2569	3099	2857	2685	2556	2793	2644	2529	2734	2605	2504	2678	2567	2478	2519
	6	3011	2729	2540	2404	2960	2701	2523	2394	2647	2491	2375	2597	2460	2356	2550	2431	2337	2387
	7	2876	2582	2392	2259	2830	2558	2379	2252	2513	2353	2237	2470	2328	2223	2430	2304	2208	2265
	8	2749	2449	2260	2130	2708	2428	2249	2124	2389	2228	2113	2352	2208	2102	2318	2188	2091	2152
	9	2631	2327	2140	2014	2593	2309	2131	2010	2275	2114	2001	2243	2097	1992	2213	2081	1984	2048
	10	2521	2215	2032	1910	2486	2199	2024	1906	2170	2010	1899	2142	1996	1892	2116	1982	1885	1952

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	168.4 fc	4.5 ft
6.5 ft	120.6 fc	5.3 ft
7.5 ft	90.6 fc	6.1 ft
8.0 ft	79.6 fc	6.5 ft
10.0 ft	50.9 fc	8.2 ft
12.0 ft	35.4 fc	9.8 ft
14.0 ft	26.0 fc	11.5 ft
16.0 ft	19.9 fc	13.1 ft
20.0 ft	12.7 fc	16.4 ft
24.0 ft	8.8 fc	19.6 ft
28.0 ft	6.5 fc	22.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	175898	175898	175898
45.00°	7080	7051	6322
55.00°	4291	4333	3241
65.00°	449	533	739
75.00°	196	177	187
85.00°	605	616	530

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	9.1	10.1	9.5	10.4	10.7	5.8	6.8	6.2	7.1	7.4
	3H	8.9	9.7	9.3	10.1	10.5	5.7	6.5	6.1	6.8	7.3
	4H	8.8	9.6	9.3	10.0	10.4	5.6	6.3	6.0	6.7	7.1
	6H	8.7	9.4	9.2	9.8	10.2	5.5	6.2	5.9	6.6	7.0
	8H	8.7	9.3	9.1	9.7	10.2	5.4	6.1	5.9	6.5	6.9
	12H	8.6	9.2	9.1	9.7	10.1	5.4	6.0	5.9	6.4	6.9
4H	2H	8.8	9.6	9.3	10.0	10.4	5.6	6.4	6.1	6.8	7.2
	3H	8.6	9.3	9.1	9.7	10.1	5.5	6.1	5.9	6.5	7.0
	4H	8.5	9.1	9.0	9.5	10.0	5.4	5.9	5.8	6.4	6.9
	6H	8.4	8.9	8.9	9.4	9.9	5.3	5.8	5.8	6.2	6.7
	8H	8.4	8.8	8.9	9.3	9.8	5.2	5.7	5.7	6.2	6.7
	12H	8.3	8.7	8.8	9.2	9.7	5.2	5.6	5.7	6.1	6.6
8H	4H	8.3	8.8	8.8	9.2	9.8	5.2	5.6	5.7	6.1	6.6
	6H	8.2	8.6	8.8	9.1	9.6	5.1	5.5	5.7	6.0	6.5
	8H	8.2	8.5	8.8	9.1	9.6	5.1	5.4	5.7	6.0	6.5
	12H	8.2	8.5	8.7	9.0	9.6	5.1	5.4	5.7	5.9	6.5
12H	4H	8.3	8.6	8.8	9.2	9.7	5.1	5.5	5.6	6.0	6.5
	6H	8.2	8.5	8.7	9.0	9.6	5.1	5.4	5.6	5.9	6.4
	8H	8.2	8.4	8.7	8.9	9.6	5.1	5.3	5.6	5.9	6.5

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0