Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01209_1

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	3326
Efficacy	65.09 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.7
Two luminaires, plane 90°	0.72
Four luminaires	0.7

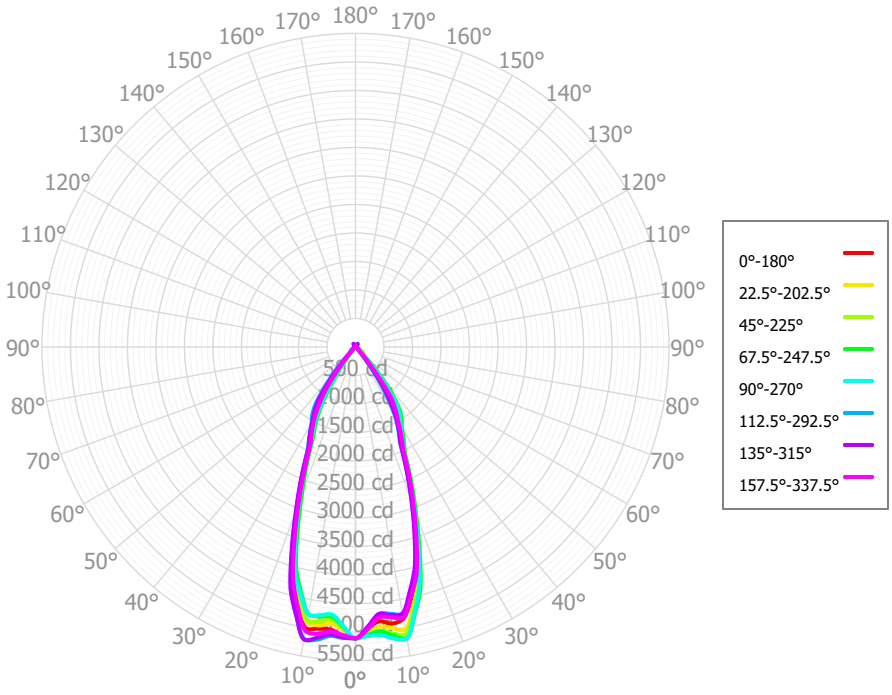
Full Beam Angle

0° - 180°	43°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01209_1
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 GL
LUMINAIRE	N/A
OTHER	Beam Angle: 43 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°	479.54	14.42%	90.00° - 100.00°	1.40	0.04%
10.00° - 20.00°	1121.47	33.72%	100.00° - 110.00°	1.38	0.04%
20.00° - 30.00°	923.37	27.76%	100.00° - 120.00°	3.04	0.09%
30.00° - 40.00°	569.18	17.11%	120.00° - 130.00°	2.79	0.08%
40.00° - 50.00°	116.94	3.52%	130.00° - 140.00°	4.98	0.15%
50.00° - 60.00°	54.07	1.63%	140.00° - 150.00°	22.32	0.67%
60.00° - 70.00°	14.17	0.43%	150.00° - 160.00°	7.56	0.23%
70.00° - 80.00°	1.30	0.04%	160.00° - 170.00°	2.35	0.07%
80.00° - 90.00°	1.32	0.04%	170.00° - 180.00°	0.29	0.01%
0.00° - 90.00°	3281.36	98.66%	0.00° - 180.00°	3326.07	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°	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63	5110.63
2.50°	4934.76	5030.21	5051.00	5054.13	5077.28	5108.41	5100.49	5057.75	5070.74	4975.15	4951.02	4915.90	4900.33	4930.49	4910.30	4958.03	4934.76
5.00°	4831.84	4925.29	4998.59	5008.64	5075.46	5088.22	5061.51	5012.33	4978.28	4875.76	4805.94	4748.71	4713.70	4699.89	4702.46	4763.48	4831.84
7.50°	4894.78	4973.66	5071.52	5107.46	5158.03	5177.49	5144.77	5076.82	4982.29	4926.95	4850.30	4769.08	4745.68	4721.12	4742.44	4784.05	4894.78
10.00°	4840.26	5039.35	5116.55	5187.53	5196.63	5200.73	5209.60	5059.41	5011.68	4900.46	4867.13	4756.96	4764.07	4753.14	4747.55	4824.30	4840.26
12.50°	4518.66	4670.39	4695.92	4801.73	4782.48	4812.62	4816.27	4671.34	4677.69	4560.88	4540.65	4410.33	4444.49	4416.29	4393.77	4490.23	4518.66
15.00°	4103.47	4269.72	4255.19	4396.53	4336.45	4373.39	4402.10	4224.83	4264.89	4142.04	4176.21	4026.75	4103.79	4069.62	4013.06	4136.37	4103.47
17.50°	3505.83	3645.33	3602.33	3742.30	3661.21	3687.81	3720.50	3559.83	3615.75	3456.04	3497.74	3377.58	3492.08	3476.40	3438.74	3564.27	3505.83
20.00°	2933.77	3012.12	2966.92	3099.21	3006.59	3027.18	3050.34	2915.88	2926.65	2805.97	2839.21	2749.70	2887.66	2886.39	2871.25	2988.55	2933.77
22.50°	2404.78	2507.03	2459.25	2553.82	2466.87	2465.17	2480.74	2336.96	2382.70	2256.96	2305.29	2240.52	2347.32	2354.52	2341.79	2477.27	2404.78
25.00°	1985.62	2009.95	1996.27	2052.49	1987.14	1980.46	1957.64	1860.31	1857.53	1799.27	1818.26	1777.38	1846.93	1848.70	1869.90	1978.58	1985.62
27.50°	1729.42	1796.05	1786.19	1831.28	1770.45	1746.69	1730.25	1653.79	1626.10	1558.84	1557.79	1516.09	1600.65	1619.38	1650.45	1735.12	1729.42
30.00°	1526.53	1587.34	1592.91	1627.26	1574.46	1541.49	1511.88	1431.27	1420.56	1279.41	1274.90	1229.65	1334.30	1375.29	1416.68	1495.89	1526.53
32.50°	1392.52	1461.09	1474.22	1507.46	1452.16	1413.89	1337.72	1172.85	1085.11	919.33	903.17	853.64	969.59	1022.52	1131.94	1307.42	1392.52
35.00°	1163.63	1316.70	1317.83	1356.71	1278.06	1224.29	1123.91	879.51	742.68	591.03	561.93	515.11	624.41	679.31	830.75	1096.45	1163.63
37.50°	826.11	995.00	1022.77	1081.76	948.02	889.45	750.96	518.92	448.21	319.32	319.92	289.45	357.63	390.37	480.08	704.63	826.11
40.00°	521.64	679.98	723.67	785.00	624.10	571.17	419.35	249.31	158.55	136.69	132.29	118.60	142.96	145.79	205.26	347.30	521.64
42.50°	250.24	412.67	412.25	416.52	315.68	286.09	223.71	133.40	109.68	93.60	95.43	86.69	99.78	98.86	122.70	200.74	250.24
45.00°	124.32	188.09	190.20	142.43	103.51	105.74	78.59	60.25	62.59	63.35	65.37	61.22	64.63	60.29	64.88	79.89	124.32
47.50°	127.49	193.98	196.88	132.70	102.66	109.36	74.97	49.82	52.38	50.59	51.28	49.64	51.55	51.92	60.48	80.89	127.49
50.00°	118.58	193.28	193.97	121.54	101.69	109.92	71.09	41.51	42.44	39.83	39.29	39.21	39.99	44.03	55.77	79.60	118.58
52.50°	100.32	164.57	169.80	106.97	100.47	105.79	66.59	35.91	35.63	31.50	31.50	30.95	32.02	37.66	50.50	69.35	100.32
55.00°	81.10	135.16	142.26	91.78	94.92	96.16	59.92	29.33	29.01	24.57	24.27	23.60	25.41	31.09	43.42	58.12	81.10
57.50°	61.25	103.33	108.32	75.28	82.21	79.11	48.74	21.64	23.91	19.14	18.01	17.75	21.57	24.04	33.40	43.74	61.25
60.00°	42.61	71.58	75.58	57.00	63.65	60.33	37.48	16.11	18.76	15.10	13.22	12.93	17.55	17.41	23.60	29.97	42.61
62.50°	24.71	40.11	44.83	35.54	36.67	39.54	26.10	12.71	13.34	12.34	10.66	9.57	13.23	11.71	14.12	17.84	24.71
65.00°	12.94	15.17	21.50	18.20	16.98	22.04	15.73	8.40	8.22	8.33	7.39	6.22	8.75	6.76	7.07	8.12	12.94
67.50°	4.32	6.72	8.93	7.20	6.45	7.94	6.93	3.29	4.54	3.28	3.16	2.88	4.06	3.20	3.06	3.98	4.32
70.00°	1.43	1.01	1.70	0.91	0.96	1.12	1.85	1.07	1.59	1.33	0.90	1.13	1.42	1.04	1.07	1.23	1.43
72.50°	1.07	1.18	1.24	1.04	1.08	0.93	1.81	1.06	1.48	1.59	0.98	1.16	1.60	1.21	1.33	1.25	1.07
75.00°	1.02	1.24	0.95	1.14	1.26	0.99	1.60	1.19	1.34	1.51	1.13	1.20	1.60	1.26	1.32	1.22	1.02
77.50°	1.08	1.09	0.86	1.21	1.49	1.26	1.19	1.41	1.14	1.22	1.36	1.26	1.40	1.13	1.05	1.11	1.08
80.00°	1.08	0.97	0.93	1.21	1.40	1.47	1.13	1.51	1.05	1.08	1.37	1.29	1.24	1.03	0.96	1.07	1.08
82.50°	1.06	0.91	1.16	1.14	1.04	1.64	1.42	1.55	1.29	1.01	1.17	1.30	1.13	0.93	1.02	1.12	1.06
85.00°	1.13	0.93	1.28	1.15	1.05	1.50	1.54	1.56	1.42	1.08	0.97	1.32	1.13	0.96	1.11	1.18	1.13
87.50°	1.21	1.08	1.29	1.22	1.36	1.16	1.53	1.56	1.33	1.21	0.77	1.36	1.22	1.11	1.22	1.25	1.21
90.00°	1.33	1.10	1.29	1.27	1.33	1.26	1.57	1.35	1.25	1.10	0.74	1.25	1.27	1.21	1.45	1.39	1.33
92.50°	1.45	0.97	1.29	1.30	1.10	1.59	1.67	1.05	1.19	0.89	0.84	1.05	1.27	1.27	1.75	1.62	1.45
95.00°	1.21	0.97	1.37	1.26	1.10	1.54	1.66	1.16	1.10	1.04	1.03	1.10	1.29	1.24	1.78	1.62	1.21
97.50°	0.91	1.13	1.51	1.19	1.24	1.30	1.60	1.42	0.95	1.30	1.28	1.28	1.31	1.15	1.66	1.39	0.91
100.00°	0.95	1.24	1.55	1.31	1.40	1.12	1.29	1.54	0.93	1.32	1.25	1.58	1.22	1.24	1.56	1.32	0.95
102.50°	1.02	1.31	1.54	1.56	1.58	0.97	0.83	1.60	1.09	1.26	1.07	1.92	1.08	1.47	1.47	1.40	1.02
105.00°	0.99	1.32	1.48	1.53	1.57	0.97	0.95	1.68	1.14	1.24	1.07	1.76	0.98	1.48	1.45	1.36	0.99
107.50°	0.94	1.26	1.40	1.36	1.48	1.04	1.39	1.76	1.06	1.23	1.16	1.38	0.92	1.36	1.44	1.24	0.94
110.00°	0.91	1.20	1.39	1.29	1.45	1.32	1.59	1.57	1.06	1.28	1.25	1.37	1.07	1.40	1.68	1.16	0.91
112.50°	0.87	1.13	1.39	1.26	1.45	1.66	1.67	1.32	1.17	1.36	1.33	1.48	1.31	1.53	2.01	1.13	0.87

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	3949	3949	3949	3949	3852	3852	3852	3852	3671	3671	3671	3505	3505	3505	3353	3353	3353	3281
	1	3774	3686	3607	3536	3688	3610	3539	3475	3468	3412	3361	3337	3293	3253	3216	3183	3151	3116
	2	3599	3445	3318	3212	3523	3385	3270	3172	3271	3177	3096	3166	3090	3023	3069	3008	2954	2946
	3	3431	3229	3073	2949	3362	3180	3037	2922	3088	2968	2870	3002	2903	2820	2923	2841	2772	2784
	4	3271	3035	2862	2730	3210	2995	2835	2711	2919	2782	2674	2848	2732	2639	2782	2685	2604	2633
	5	3120	2859	2677	2543	3065	2826	2656	2529	2763	2616	2503	2704	2577	2477	2649	2540	2452	2492
	6	2978	2700	2514	2380	2928	2672	2498	2370	2619	2466	2351	2570	2435	2332	2523	2405	2313	2362
	7	2845	2556	2369	2237	2800	2532	2356	2230	2487	2330	2215	2445	2305	2201	2405	2281	2187	2242
	8	2721	2425	2238	2110	2680	2404	2228	2105	2366	2207	2094	2329	2187	2082	2295	2167	2072	2132
	9	2605	2305	2121	1997	2567	2287	2112	1992	2254	2095	1984	2222	2078	1975	2192	2062	1966	2030
	10	2496	2195	2014	1894	2462	2180	2007	1891	2150	1993	1884	2123	1979	1877	2097	1965	1870	1936

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	168.9 fc	4.4 ft
6.5 ft	121.0 fc	5.2 ft
7.5 ft	90.9 fc	6.0 ft
8.0 ft	79.9 fc	6.4 ft
10.0 ft	51.1 fc	8.0 ft
12.0 ft	35.5 fc	9.6 ft
14.0 ft	26.1 fc	11.1 ft
16.0 ft	20.0 fc	12.7 ft
20.0 ft	12.8 fc	15.9 ft
24.0 ft	8.9 fc	19.1 ft
28.0 ft	6.5 fc	22.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	176471	176471	176471
45.00°	6071	9288	5055
55.00°	4883	8564	5714
65.00°	1057	1756	1388
75.00°	135	127	168
85.00°	446	506	417

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	10.6	11.5	11.0	11.9	12.2	8.8	9.7	9.2	10.1	10.4
	3H	10.4	11.2	10.8	11.6	12.0	8.6	9.4	9.0	9.8	10.2
	4H	10.3	11.0	10.7	11.4	11.9	8.5	9.3	8.9	9.6	10.1
	6H	10.2	10.9	10.6	11.3	11.7	8.4	9.1	8.8	9.5	9.9
	8H	10.1	10.8	10.6	11.2	11.6	8.3	9.0	8.8	9.4	9.9
	12H	10.1	10.7	10.5	11.1	11.6	8.3	8.9	8.8	9.3	9.8
4H	2H	10.4	11.1	10.8	11.5	11.9	8.6	9.3	9.0	9.7	10.1
	3H	10.2	10.8	10.6	11.2	11.7	8.4	9.0	8.8	9.4	9.9
	4H	10.0	10.6	10.5	11.0	11.5	8.2	8.8	8.7	9.3	9.7
	6H	9.9	10.4	10.4	10.9	11.4	8.1	8.6	8.6	9.1	9.6
	8H	9.9	10.3	10.4	10.8	11.3	8.1	8.5	8.6	9.0	9.5
	12H	9.8	10.2	10.3	10.7	11.2	8.0	8.4	8.6	8.9	9.4
8H	4H	9.9	10.3	10.4	10.8	11.3	8.1	8.5	8.6	9.0	9.5
	6H	9.7	10.1	10.3	10.6	11.1	8.0	8.3	8.5	8.8	9.4
	8H	9.7	10.0	10.2	10.5	11.1	7.9	8.2	8.5	8.8	9.3
	12H	9.6	9.9	10.2	10.4	11.0	7.9	8.2	8.4	8.7	9.3
12H	4H	9.8	10.2	10.3	10.7	11.2	8.0	8.4	8.5	8.9	9.4
	6H	9.7	10.0	10.2	10.5	11.1	7.9	8.2	8.5	8.7	9.3
	8H	9.6	9.9	10.2	10.4	11.0	7.9	8.1	8.4	8.6	9.3

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0