Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

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

Test Number
SP-01207_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	4280
Efficacy	83.76 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.41
Two luminaires, plane 90°	0.42
Four luminaires	0.46

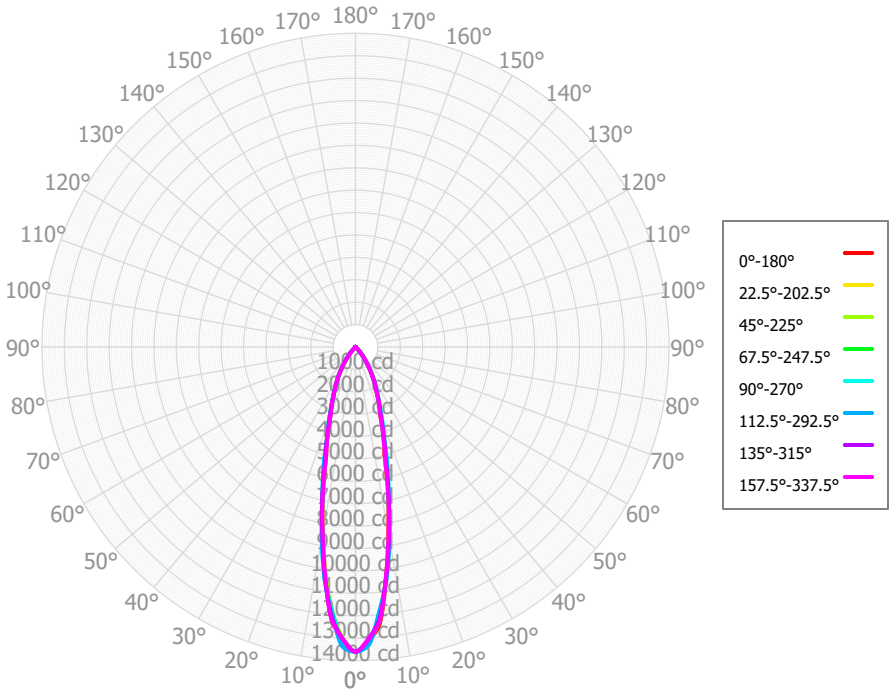
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-01207_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/2/2021
LUMCAT	SGRTE8XT 50L 35K ND XX AR8466XT SG SO
LUMINAIRE	N/A
OTHER	Beam Angle: 25 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°	1043.18	24.37%	90.00° - 100.00°	0.96	0.02%
10.00° - 20.00°	1480.72	34.59%	100.00° - 110.00°	1.03	0.02%
20.00° - 30.00°	1055.62	24.66%	100.00° - 120.00°	2.02	0.05%
30.00° - 40.00°	570.29	13.32%	120.00° - 130.00°	1.07	0.03%
40.00° - 50.00°	113.62	2.65%	130.00° - 140.00°	1.42	0.03%
50.00° - 60.00°	4.98	0.12%	140.00° - 150.00°	1.56	0.04%
60.00° - 70.00°	1.00	0.02%	150.00° - 160.00°	1.12	0.03%
70.00° - 80.00°	0.92	0.02%	160.00° - 170.00°	0.61	0.01%
80.00° - 90.00°	0.97	0.02%	170.00° - 180.00°	0.17	0.00%
0.00° - 90.00°	4271.31	99.79%	0.00° - 180.00°	4280.24	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°	
0.00°	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	13603.56	1
2.50°	13160.12	13128.99	13168.60	13227.98	13298.56	13391.89	13047.38	13068.25	13063.27	13020.11	13043.55	13152.64	13220.50	13338.96	13059.17	13088.01	1
5.00°	12409.23	12294.62	12196.66	12039.09	12045.61	11976.11	12141.26	12236.91	12214.56	12032.35	11900.51	11868.70	11920.54	11941.85	12228.18	12293.74	1
7.50°	10427.03	10392.54	10437.49	10472.93	10513.93	10521.76	10405.22	10366.52	10298.75	10288.59	10333.30	10424.52	10506.18	10531.14	10419.74	10384.55	1
10.00°	8439.62	8511.20	8628.43	8680.26	8730.90	8660.65	8509.78	8436.41	8385.07	8373.89	8437.82	8543.91	8632.62	8646.38	8616.84	8485.17	8
12.50°	6721.37	6719.17	6755.96	6806.07	6886.79	6789.56	6847.35	6761.51	6729.86	6743.47	6773.80	6791.42	6851.61	6778.13	6842.01	6754.54	6
15.00°	5004.21	5087.01	5240.38	5425.80	5530.97	5482.78	5228.86	5100.57	5080.07	5177.75	5287.12	5383.45	5444.34	5437.03	5199.47	5070.09	5
17.50°	4115.23	4132.67	4174.07	4220.98	4291.95	4190.42	4217.09	4167.69	4178.48	4189.44	4181.73	4153.58	4170.47	4115.03	4214.21	4144.91	4
20.00°	3226.26	3262.84	3332.06	3434.52	3496.13	3463.17	3320.57	3275.45	3280.68	3330.40	3369.66	3405.05	3427.01	3424.14	3304.60	3245.01	3
22.50°	2729.94	2745.59	2773.55	2797.45	2806.99	2748.88	2764.34	2757.61	2770.41	2772.36	2752.73	2739.60	2745.41	2741.43	2773.53	2742.27	2
25.00°	2234.00	2255.95	2290.70	2324.23	2332.52	2315.05	2271.56	2259.64	2261.43	2282.15	2284.42	2295.89	2306.03	2307.44	2268.39	2247.49	2
27.50°	1872.08	1882.21	1902.52	1908.78	1908.90	1886.94	1888.58	1896.07	1900.45	1904.64	1885.82	1877.84	1885.28	1876.31	1890.75	1880.24	1
30.00°	1510.38	1518.92	1541.34	1547.65	1552.67	1543.54	1526.23	1539.26	1540.02	1552.12	1540.53	1528.63	1537.93	1535.23	1522.66	1515.84	1
32.50°	1197.97	1198.75	1214.09	1205.76	1212.49	1201.96	1206.44	1220.76	1227.58	1233.41	1218.18	1197.31	1203.33	1196.17	1201.86	1195.11	1
35.00°	885.81	892.33	915.88	915.12	920.51	916.52	894.51	904.23	915.60	922.24	913.20	913.36	918.16	915.37	894.85	879.30	8
37.50°	639.69	641.80	653.77	642.41	639.83	632.13	648.89	647.90	648.59	652.48	647.96	649.53	650.22	637.44	654.87	635.89	6
40.00°	394.23	410.47	432.17	435.36	431.29	436.38	415.59	394.51	382.80	391.80	412.93	439.26	449.52	436.52	427.08	398.54	3
42.50°	254.22	257.75	261.16	251.40	239.41	242.38	242.60	222.47	211.38	219.90	233.20	252.25	264.23	238.87	258.99	251.79	2
45.00°	114.70	124.35	134.20	139.26	132.37	137.30	80.60	54.17	42.30	67.15	95.09	126.39	138.21	131.83	111.10	111.47	1
47.50°	67.35	68.82	61.71	52.05	45.03	33.75	37.22	28.65	25.78	27.29	28.02	31.53	34.88	28.38	60.50	63.38	6
50.00°	20.31	22.42	17.94	20.95	19.03	19.18	15.06	9.84	9.45	11.95	13.86	17.16	19.28	17.73	17.40	17.91	2
52.50°	12.20	13.08	9.31	9.06	7.05	6.24	7.37	5.81	5.57	5.98	6.12	6.09	6.42	7.40	9.78	10.79	1
55.00°	4.14	5.15	3.95	4.79	3.41	3.79	2.30	2.43	1.75	2.01	3.19	3.65	3.99	5.04	3.35	4.07	4
57.50°	2.85	2.80	2.59	3.14	1.64	1.50	1.55	1.71	1.72	1.20	1.69	1.71	1.91	2.75	2.56	2.88	2
60.00°	1.57	0.91	1.73	2.02	1.02	1.13	1.57	1.12	1.68	1.04	1.24	1.08	1.13	2.02	1.80	1.79	1
62.50°	1.16	0.86	1.48	1.08	0.66	0.78	1.33	1.12	1.37	0.99	0.84	0.66	0.58	1.32	1.19	1.90	1
65.00°	0.77	0.80	1.28	0.75	0.61	0.76	1.04	1.16	1.07	0.96	0.47	0.75	0.93	1.07	0.72	1.97	0
67.50°	1.09	0.74	1.13	0.63	0.63	0.75	0.83	1.15	1.09	0.84	0.42	0.81	1.12	0.84	0.80	1.41	1
70.00°	1.41	0.69	0.98	0.71	0.81	0.83	0.63	1.14	1.11	0.70	0.62	0.77	0.75	0.77	0.91	0.87	1
72.50°	1.21	0.68	0.84	0.86	1.03	0.92	0.54	1.35	1.10	0.66	0.75	0.71	0.48	0.73	1.12	0.64	1
75.00°	1.00	0.72	0.83	0.99	0.96	0.82	0.48	1.58	1.10	0.64	0.81	0.55	0.60	1.02	1.24	0.45	1
77.50°	1.02	0.89	0.97	1.11	0.82	0.71	0.60	1.23	1.04	0.71	0.75	0.57	0.72	1.30	0.99	0.73	1
80.00°	1.04	1.01	0.99	1.06	0.72	0.82	0.76	0.87	0.98	0.81	0.58	1.04	0.83	1.19	0.79	0.99	1
82.50°	1.26	0.90	0.87	0.94	0.62	0.93	0.68	0.77	0.78	0.85	0.54	1.28	0.94	1.08	0.80	0.97	1
85.00°	1.47	0.82	0.76	1.22	0.55	0.77	0.55	0.69	0.60	0.87	0.60	0.93	1.00	0.98	0.85	0.96	1
87.50°	1.35	0.84	0.65	1.63	0.48	0.60	0.85	0.78	0.70	0.87	0.84	0.68	1.08	0.88	1.01	0.98	1
90.00°	1.23	0.88	0.68	1.25	0.62	1.11	1.23	0.88	0.81	0.86	1.21	0.66	1.19	0.73	1.11	1.00	1
92.50°	1.13	0.97	0.85	0.61	0.81	1.62	0.92	0.87	1.04	0.78	1.14	0.64	1.21	0.59	0.98	1.06	1
95.00°	1.03	1.01	0.86	0.43	0.93	1.23	0.50	0.87	1.27	0.68	0.75	0.60	0.86	0.79	0.97	1.10	1
97.50°	0.84	0.83	0.67	0.40	1.05	0.83	0.77	0.83	1.00	0.57	0.52	0.60	0.62	0.98	1.50	0.84	0
100.00°	0.65	0.75	0.56	0.69	0.89	0.97	1.15	0.79	0.74	0.46	0.40	0.71	0.73	1.19	1.84	0.61	0
102.50°	0.82	1.06	0.52	1.09	0.66	1.11	1.31	0.71	0.63	0.79	0.55	0.81	0.81	1.40	1.38	0.85	0
105.00°	0.97	1.29	0.63	1.01	1.02	1.06	1.43	0.62	0.53	1.22	0.90	0.93	0.80	1.60	0.99	1.07	0
107.50°	0.89	1.23	0.93	0.77	1.51	1.01	1.13	0.89	1.00	1.13	1.01	0.93	0.88	1.78	0.90	0.95	0
110.00°	0.81	1.18	0.98	0.84	1.08	0.94	0.77	1.18	1.45	0.94	0.94	0.69	1.22	1.61	0.83	0.85	0
112.50°	1.03	1.23	0.72	1.00	0.46	0.87	0.95	1.21	1.30	0.77	0.83	0.56	1.45	1.43	0.89	0.99	1

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	5093	5093	5093	5093	4974	4974	4974	4974	4751	4751	4751	4547	4547	4547	4359	4359	4359	4271
	1	4893	4790	4698	4615	4789	4697	4615	4541	4524	4459	4400	4365	4315	4268	4219	4180	4144	4097
	2	4697	4519	4372	4248	4605	4446	4313	4200	4309	4201	4107	4183	4096	4019	4066	3997	3935	3919
	3	4509	4276	4097	3954	4428	4218	4054	3922	4109	3972	3859	4007	3894	3799	3913	3820	3740	3748
	4	4330	4059	3860	3709	4258	4012	3828	3687	3923	3767	3643	3840	3708	3601	3763	3652	3560	3585
	5	4161	3862	3654	3500	4097	3824	3629	3484	3751	3582	3453	3682	3537	3423	3619	3494	3394	3432
	6	4002	3684	3471	3318	3944	3652	3452	3306	3591	3415	3284	3534	3380	3262	3481	3346	3241	3290
	7	3851	3521	3307	3157	3800	3494	3292	3148	3443	3263	3132	3395	3235	3116	3350	3208	3100	3156
	8	3710	3372	3159	3013	3664	3349	3147	3006	3306	3124	2994	3265	3102	2982	3227	3080	2970	3032
	9	3578	3235	3025	2883	3536	3216	3015	2878	3179	2997	2869	3144	2978	2860	3111	2961	2851	2917
	10	3454	3109	2903	2766	3416	3093	2895	2762	3061	2880	2755	3030	2865	2748	3002	2850	2741	2810

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	449.7 fc	2.4 ft
6.5 ft	322.0 fc	2.9 ft
7.5 ft	241.8 fc	3.3 ft
8.0 ft	212.6 fc	3.6 ft
10.0 ft	136.0 fc	4.4 ft
12.0 ft	94.5 fc	5.3 ft
14.0 ft	69.4 fc	6.2 ft
16.0 ft	53.1 fc	7.1 ft
20.0 ft	34.0 fc	8.9 ft
24.0 ft	23.6 fc	10.7 ft
28.0 ft	17.4 fc	12.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	469734	469734	469734
45.00°	5601	6553	6464
55.00°	249	238	205
65.00°	63	105	50
75.00°	133	110	128
85.00°	582	300	218

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	-13.1	-12.2	-12.7	-11.8	-11.5	-16.8	-15.9	-16.4	-15.6	-15.3
	3H	-12.3	-11.5	-12.0	-11.2	-10.8	-15.6	-14.8	-15.2	-14.5	-14.1
	4H	-11.9	-11.1	-11.4	-10.8	-10.4	-14.7	-13.9	-14.3	-13.6	-13.2
	6H	-10.8	-10.2	-10.4	-9.8	-9.4	-13.3	-12.6	-12.9	-12.3	-11.9
	8H	-9.9	-9.3	-9.5	-8.9	-8.5	-12.3	-11.7	-11.9	-11.3	-10.9
	12H	-8.4	-7.8	-8.0	-7.4	-7.0	-11.2	-10.6	-10.7	-10.2	-9.7
4H	2H	-13.1	-12.4	-12.7	-12.1	-11.7	-16.7	-16.0	-16.3	-15.6	-15.2
	3H	-12.2	-11.6	-11.8	-11.2	-10.8	-15.1	-14.5	-14.7	-14.1	-13.7
	4H	-11.7	-11.1	-11.2	-10.7	-10.2	-14.0	-13.5	-13.6	-13.0	-12.6
	6H	-10.2	-9.7	-9.7	-9.3	-8.8	-12.2	-11.7	-11.7	-11.3	-10.8
	8H	-9.0	-8.6	-8.5	-8.1	-7.6	-10.9	-10.4	-10.4	-10.0	-9.5
	12H	-7.3	-6.9	-6.8	-6.4	-5.9	-9.5	-9.2	-9.0	-8.7	-8.2
8H	4H	-11.3	-10.9	-10.8	-10.4	-9.9	-13.5	-13.1	-13.1	-12.7	-12.2
	6H	-9.5	-9.2	-9.0	-8.7	-8.2	-11.3	-10.9	-10.8	-10.4	-9.9
	8H	-8.1	-7.9	-7.6	-7.3	-6.8	-9.5	-9.2	-9.0	-8.7	-8.2
	12H	-6.2	-6.0	-5.7	-5.5	-4.9	-7.9	-7.7	-7.4	-7.2	-6.6
12H	4H	-11.1	-10.8	-10.6	-10.3	-9.8	-13.4	-13.0	-12.9	-12.5	-12.0
	6H	-9.3	-9.0	-8.7	-8.5	-8.0	-11.1	-10.8	-10.5	-10.3	-9.7
	8H	-7.8	-7.6	-7.3	-7.1	-6.5	-9.2	-9.0	-8.7	-8.5	-7.9

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0