Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
SGRTE8XT 10L 35K WD XX AR8466XT SG FG
N/A

Test Number
SP-01209_M-10L

Test Date
2/11/2021

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

Summary of Results

Power

Input Watts	10.2 W

Lumen Output

Output Lumens	529
Efficacy	51.88 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.69
Two luminaires, plane 90°	0.72
Four luminaires	0.77

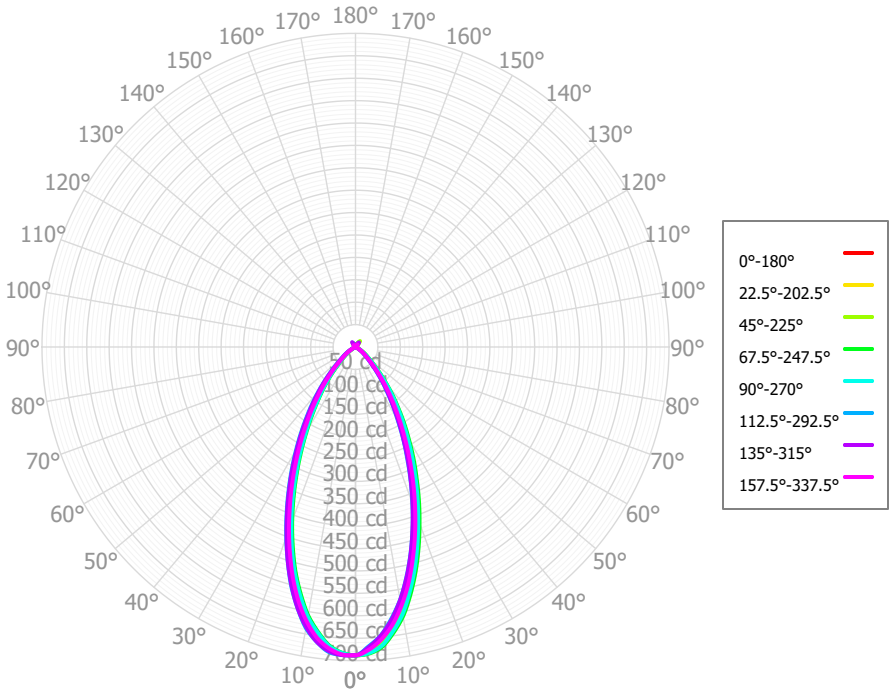
Full Beam Angle

0° - 180°	47°
90° - 270°	47°

IES File Header Contents

Keyword	Value
TEST	SP-01209_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 10L 35K WD XX AR8466XT SG FG
LUMINAIRE	N/A
OTHER	Beam Angle: 47 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, scaled from 50L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	62.54	11.82%	90.00° - 100.00°	0.28	0.05%
10.00° - 20.00°	142.40	26.91%	100.00° - 110.00°	0.30	0.06%
20.00° - 30.00°	143.80	27.18%	100.00° - 120.00°	0.86	0.16%
30.00° - 40.00°	98.18	18.56%	120.00° - 130.00°	1.59	0.30%
40.00° - 50.00°	47.00	8.88%	130.00° - 140.00°	3.04	0.57%
50.00° - 60.00°	17.88	3.38%	140.00° - 150.00°	5.02	0.95%
60.00° - 70.00°	2.84	0.54%	150.00° - 160.00°	2.42	0.46%
70.00° - 80.00°	0.31	0.06%	160.00° - 170.00°	0.65	0.12%
80.00° - 90.00°	0.27	0.05%	170.00° - 180.00°	0.05	0.01%
0.00° - 90.00°	515.23	97.37%	0.00° - 180.00°	529.15	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°	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41	688.41
2.50°	677.35	683.49	683.89	685.23	684.01	688.16	688.61	687.18	686.27	685.95	686.29	683.46	684.08	669.18	671.17	676.94	677.35
5.00°	657.46	666.04	666.37	672.71	669.88	683.64	681.77	675.73	675.66	670.67	671.66	669.31	670.84	646.78	647.33	656.07	657.46
7.50°	627.25	639.78	638.19	644.47	640.39	663.87	663.75	655.35	654.35	647.42	647.77	641.57	644.03	612.36	614.63	626.77	627.25
10.00°	589.09	601.99	601.36	610.84	605.55	637.29	634.76	623.56	624.08	613.56	616.01	608.78	612.48	573.34	573.94	587.92	589.09
12.50°	543.49	559.17	556.54	566.38	559.33	597.34	597.17	583.90	584.93	573.39	576.05	565.09	569.79	526.03	526.86	543.31	543.49
15.00°	494.74	510.32	508.70	518.60	511.26	553.48	551.72	537.16	538.96	526.06	529.63	518.45	523.56	475.84	476.52	492.64	494.74
17.50°	443.27	460.78	458.31	468.51	459.61	502.64	502.47	485.96	488.95	474.79	479.07	466.02	472.16	423.72	423.76	441.41	443.27
20.00°	392.61	410.50	408.81	417.78	409.06	451.95	450.03	434.29	436.06	422.79	425.52	413.46	419.30	370.99	372.44	389.65	392.61
22.50°	342.58	361.73	360.02	369.79	360.47	401.53	399.42	382.36	384.45	370.42	373.48	360.66	367.21	321.27	322.11	339.77	342.58
25.00°	295.97	314.51	314.36	322.45	314.01	353.09	350.21	333.69	333.67	320.70	322.43	309.95	315.30	272.39	275.55	291.60	295.97
27.50°	251.84	270.50	270.97	279.87	271.02	307.66	304.17	286.77	286.48	272.20	275.09	262.70	268.91	229.81	231.34	247.47	251.84
30.00°	212.17	229.49	231.21	238.27	230.74	264.68	260.41	244.31	241.46	229.49	230.02	219.05	223.72	188.79	192.59	206.69	212.17
32.50°	175.54	192.55	193.90	201.96	194.56	225.07	220.81	204.00	202.03	189.19	190.83	180.90	186.42	155.63	156.99	170.95	175.54
35.00°	143.95	159.11	160.94	166.61	161.14	188.68	183.94	169.53	165.67	155.85	154.93	146.97	150.61	124.16	127.71	139.09	143.95
37.50°	115.49	128.74	130.65	136.54	131.53	156.46	152.08	137.62	135.45	125.16	125.55	118.93	123.26	99.62	101.76	111.29	115.49
40.00°	90.57	100.82	103.62	107.28	104.22	126.52	123.20	110.53	108.36	99.55	99.54	93.72	97.30	76.40	79.24	86.33	90.57
42.50°	67.66	78.00	78.40	84.07	79.80	99.30	97.35	85.38	84.77	75.69	77.24	72.17	76.14	58.98	58.35	66.16	67.66
45.00°	51.71	58.92	60.21	61.66	60.31	76.39	73.16	65.82	62.79	57.99	56.68	54.53	55.63	42.49	44.36	49.06	51.71
47.50°	39.43	45.24	45.65	48.90	46.63	58.15	55.83	48.28	47.68	42.18	43.06	41.55	43.36	33.11	33.40	37.34	39.43
50.00°	30.69	35.24	35.66	37.15	35.75	44.28	41.93	37.23	35.46	32.40	32.43	31.19	32.01	24.67	25.77	28.83	30.69
52.50°	23.64	27.22	27.82	29.52	27.88	34.82	32.68	28.30	26.99	24.29	24.89	23.72	25.18	18.90	19.46	22.14	23.64
55.00°	17.61	20.44	21.10	22.23	20.84	26.94	25.54	21.46	19.96	18.25	18.54	17.47	18.73	13.43	13.99	16.44	17.61
57.50°	12.02	14.44	14.85	15.99	14.63	20.53	19.18	15.24	14.46	12.71	13.33	12.47	13.60	9.11	8.82	11.29	12.02
60.00°	7.16	8.88	9.05	9.81	8.95	14.33	13.13	10.06	9.48	8.42	8.52	8.22	8.56	4.89	5.16	6.42	7.16
62.50°	2.58	4.76	3.43	5.26	3.77	8.30	7.98	5.16	5.64	4.39	5.02	4.67	5.28	2.62	1.98	3.31	2.58
65.00°	0.99	1.41	1.33	0.76	1.11	4.17	3.17	2.59	2.16	2.32	1.95	2.29	2.09	0.48	0.90	1.00	0.99
67.50°	0.46	0.33	0.46	0.52	0.58	1.54	1.34	0.55	0.94	0.62	0.87	0.93	1.14	0.34	0.42	0.37	0.46
70.00°	0.32	0.33	0.29	0.36	0.35	0.36	0.54	0.22	0.36	0.34	0.36	0.30	0.23	0.28	0.30	0.43	0.32
72.50°	0.30	0.30	0.33	0.34	0.35	0.25	0.32	0.23	0.27	0.29	0.25	0.24	0.27	0.31	0.27	0.37	0.30
75.00°	0.29	0.26	0.30	0.33	0.32	0.25	0.27	0.23	0.29	0.31	0.24	0.24	0.32	0.34	0.27	0.27	0.29
77.50°	0.27	0.23	0.25	0.33	0.26	0.32	0.25	0.24	0.32	0.34	0.26	0.29	0.30	0.30	0.27	0.25	0.27
80.00°	0.28	0.21	0.25	0.33	0.22	0.33	0.24	0.26	0.34	0.30	0.29	0.31	0.27	0.26	0.26	0.26	0.28
82.50°	0.30	0.19	0.27	0.31	0.21	0.30	0.22	0.28	0.30	0.26	0.29	0.32	0.25	0.27	0.24	0.24	0.30
85.00°	0.27	0.18	0.26	0.29	0.21	0.27	0.20	0.26	0.26	0.22	0.28	0.30	0.22	0.28	0.25	0.20	0.27
87.50°	0.23	0.22	0.25	0.22	0.22	0.22	0.24	0.24	0.22	0.17	0.25	0.26	0.24	0.27	0.27	0.23	0.23
90.00°	0.25	0.28	0.26	0.17	0.24	0.26	0.28	0.23	0.19	0.24	0.22	0.23	0.25	0.27	0.27	0.27	0.25
92.50°	0.29	0.27	0.28	0.24	0.26	0.34	0.30	0.22	0.20	0.32	0.22	0.22	0.22	0.27	0.26	0.25	0.29
95.00°	0.29	0.23	0.27	0.31	0.30	0.31	0.32	0.20	0.23	0.31	0.22	0.23	0.19	0.28	0.26	0.21	0.29
97.50°	0.29	0.25	0.24	0.32	0.35	0.23	0.34	0.18	0.25	0.30	0.25	0.27	0.24	0.26	0.25	0.22	0.29
100.00°	0.31	0.29	0.25	0.33	0.34	0.20	0.36	0.21	0.28	0.29	0.27	0.29	0.29	0.24	0.26	0.24	0.31
102.50°	0.33	0.28	0.26	0.30	0.32	0.19	0.31	0.25	0.27	0.28	0.26	0.30	0.27	0.22	0.27	0.29	0.33
105.00°	0.30	0.26	0.31	0.29	0.36	0.21	0.26	0.20	0.27	0.25	0.25	0.30	0.26	0.20	0.34	0.36	0.30
107.50°	0.25	0.29	0.36	0.31	0.44	0.24	0.26	0.15	0.23	0.23	0.28	0.30	0.31	0.24	0.42	0.35	0.25
110.00°	0.35	0.33	0.35	0.34	0.41	0.26	0.27	0.24	0.19	0.27	0.32	0.32	0.35	0.28	0.31	0.33	0.35
112.50°	0.46	0.47	0.34	0.39	0.33	0.28	0.26	0.33	0.24	0.32	0.30	0.33	0.36	0.32	0.20	0.83	0.46

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%
	0	627	627	627	627	610	610	610	610	580	580	580	553	553	553	527	527	527	515
	1	596	581	567	555	582	568	556	545	544	535	526	522	515	508	502	496	491	485
	2	565	539	516	498	552	528	508	491	509	492	478	491	478	466	474	464	454	454
	3	535	500	473	451	523	492	467	447	476	455	438	461	444	429	447	433	421	424
	4	507	466	436	413	496	459	431	409	446	422	403	433	413	397	422	405	391	396
RCR	5	480	435	403	380	471	429	399	377	418	392	373	408	385	368	398	379	364	371
	6	456	407	375	352	447	402	372	350	393	366	346	384	361	343	376	355	339	349
	7	433	382	350	327	425	378	347	326	370	343	323	363	338	320	355	334	318	328
	8	411	360	328	306	404	356	326	304	349	322	302	343	318	300	337	315	298	309
	9	392	340	308	287	385	337	306	286	331	303	284	325	300	282	320	297	281	292
	10	374	322	290	270	368	319	289	269	314	286	268	309	284	266	304	281	265	277

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	22.8 fc	4.6 ft
6.5 ft	16.3 fc	5.5 ft
7.5 ft	12.2 fc	6.3 ft
8.0 ft	10.8 fc	6.8 ft
10.0 ft	6.9 fc	8.4 ft
12.0 ft	4.8 fc	10.1 ft
14.0 ft	3.5 fc	11.8 ft
16.0 ft	2.7 fc	13.5 ft
20.0 ft	1.7 fc	16.9 ft
24.0 ft	1.2 fc	20.3 ft
28.0 ft	0.9 fc	23.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	23771	23771	23771
45.00°	2525	2940	2945
55.00°	1060	1270	1255
65.00°	81	109	91
75.00°	38	40	43
85.00°	106	103	83

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	4.4	5.4	4.8	5.8	6.2	6.2	7.2	6.6	7.6	8.0
	3H	4.2	5.1	4.6	5.5	5.9	6.0	6.9	6.4	7.3	7.7
	4H	4.1	5.0	4.6	5.4	5.8	5.9	6.8	6.4	7.2	7.6
	6H	4.0	4.8	4.5	5.2	5.7	5.8	6.6	6.3	7.0	7.5
	8H	4.0	4.7	4.5	5.1	5.6	5.8	6.5	6.3	6.9	7.4
	12H	3.9	4.6	4.4	5.1	5.5	5.7	6.4	6.2	6.8	7.3
4H	2H	4.1	5.0	4.6	5.4	5.8	6.0	6.8	6.4	7.2	7.7
	3H	3.9	4.6	4.4	5.1	5.6	5.8	6.5	6.2	6.9	7.4
	4H	3.8	4.4	4.3	4.9	5.4	5.7	6.3	6.2	6.7	7.3
	6H	3.7	4.3	4.3	4.8	5.3	5.6	6.1	6.1	6.6	7.1
	8H	3.7	4.2	4.2	4.7	5.2	5.5	6.0	6.0	6.5	7.0
	12H	3.6	4.1	4.2	4.6	5.1	5.5	5.9	6.0	6.4	6.9
8H	4H	3.7	4.1	4.2	4.6	5.2	5.5	6.0	6.0	6.5	7.0
	6H	3.6	3.9	4.1	4.5	5.0	5.4	5.8	5.9	6.3	6.9
	8H	3.5	3.8	4.1	4.4	5.0	5.3	5.7	5.9	6.2	6.8
	12H	3.5	3.8	4.0	4.3	5.0	5.3	5.6	5.9	6.1	6.8
12H	4H	3.6	4.0	4.1	4.6	5.1	5.4	5.8	6.0	6.4	6.9
	6H	3.5	3.8	4.1	4.4	5.0	5.3	5.7	5.9	6.2	6.8
	8H	3.5	3.8	4.0	4.3	4.9	5.3	5.6	5.8	6.1	6.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0