

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

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

### Test Number

SP-01209

### 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
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#### Lumen Output

Output Lumens	2785
Efficacy	54.49 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

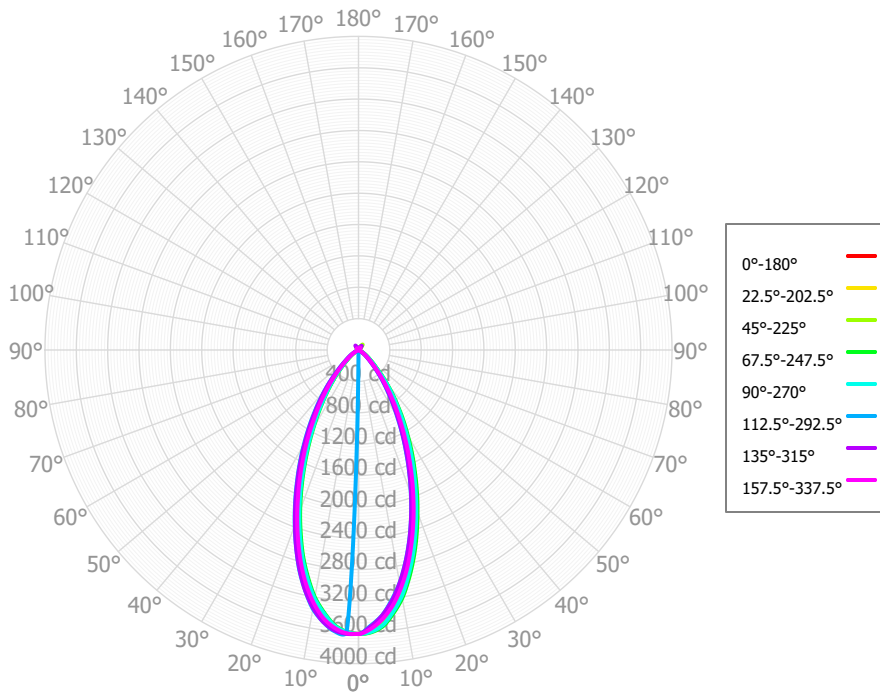
#### Full Beam Angle

0° - 180°	47°
90° - 270°	47°

### IES File Header Contents

Keyword	Value
TEST	SP-01209
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 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
_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°	328.83	11.81%	90.00° - 100.00°	1.50	0.05%
10.00° - 20.00°	749.46	26.91%	100.00° - 110.00°	1.58	0.06%
20.00° - 30.00°	756.86	27.18%	100.00° - 120.00°	4.51	0.16%
30.00° - 40.00°	516.76	18.56%	120.00° - 130.00°	8.37	0.30%
40.00° - 50.00°	247.36	8.88%	130.00° - 140.00°	16.00	0.57%
50.00° - 60.00°	94.10	3.38%	140.00° - 150.00°	26.43	0.95%
60.00° - 70.00°	14.97	0.54%	150.00° - 160.00°	12.75	0.46%
70.00° - 80.00°	1.62	0.06%	160.00° - 170.00°	3.41	0.12%
80.00° - 90.00°	1.45	0.05%	170.00° - 180.00°	0.28	0.01%
0.00° - 90.00°	2711.41	97.37%	0.00° - 180.00°	2784.65	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°	3623.23	3623.23	3623.23	3623.23	3623.23	0.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23	3623.23
2.50°	3565.02	3597.31	3599.41	3606.50	3600.05	3621.91	3624.28	3616.74	3611.96	3610.27	3612.04	3597.18	3600.40	3521.98	3532.50	3562.86	3565.02
5.00°	3460.30	3505.47	3507.23	3540.58	3525.68	3598.09	3588.27	3556.48	3556.12	3529.85	3535.04	3522.67	3530.73	3404.12	3407.01	3453.02	3460.30
7.50°	3301.32	3367.25	3358.90	3391.94	3370.46	3494.05	3493.41	3449.21	3443.96	3407.47	3409.29	3376.66	3389.63	3222.95	3234.90	3298.78	3301.32
10.00°	3100.50	3168.38	3165.05	3214.95	3187.09	3354.16	3340.86	3281.91	3284.65	3229.25	3242.13	3204.13	3223.58	3017.57	3020.73	3094.32	3100.50
12.50°	2860.49	2943.02	2929.18	2980.93	2943.83	3143.90	3143.00	3073.15	3078.59	3017.86	3031.86	2974.18	2998.88	2768.60	2772.95	2859.55	2860.49
15.00°	2603.89	2685.90	2677.39	2729.49	2690.83	2913.07	2903.78	2827.17	2836.63	2768.74	2787.51	2728.70	2755.57	2504.41	2508.01	2592.86	2603.89
17.50°	2333.02	2425.18	2412.13	2465.85	2419.00	2645.47	2644.55	2557.68	2573.43	2498.87	2521.42	2452.75	2485.04	2230.08	2230.31	2323.23	2333.02
20.00°	2066.37	2160.52	2151.62	2198.84	2152.94	2378.70	2368.56	2285.74	2295.07	2225.18	2239.58	2176.11	2206.86	1952.60	1960.22	2050.77	2066.37
22.50°	1803.08	1903.84	1894.86	1946.24	1897.20	2113.30	2102.19	2012.40	2023.41	1949.59	1965.67	1898.20	1932.68	1690.88	1695.31	1788.27	1803.08
25.00°	1557.71	1655.33	1654.55	1697.12	1652.67	1858.38	1843.19	1756.27	1756.14	1687.91	1697.01	1631.31	1659.49	1433.61	1450.26	1534.75	1557.71
27.50°	1325.48	1423.68	1426.13	1472.98	1426.40	1619.28	1600.92	1509.32	1507.78	1432.64	1447.84	1382.64	1415.30	1209.52	1217.58	1302.50	1325.48
30.00°	1116.71	1207.87	1216.90	1254.07	1214.41	1393.03	1370.58	1285.83	1270.86	1207.85	1210.65	1152.88	1177.49	993.64	1013.63	1087.82	1116.71
32.50°	923.90	1013.43	1020.52	1062.94	1024.00	1184.55	1162.18	1073.70	1063.29	995.76	1004.38	952.12	981.17	819.10	826.26	899.73	923.90
35.00°	757.63	837.43	847.06	876.91	848.10	993.08	968.11	892.28	871.93	820.25	815.43	773.51	792.69	653.45	672.18	732.08	757.63
37.50°	607.87	677.57	687.65	718.62	692.28	823.45	800.40	724.34	712.89	658.72	660.78	625.97	648.74	524.34	535.58	585.73	607.87
40.00°	476.70	530.64	545.35	564.62	548.50	665.92	648.42	581.74	570.33	523.96	523.90	493.25	512.09	402.13	417.05	454.37	476.70
42.50°	356.08	410.52	412.61	442.49	419.99	522.62	512.35	449.35	446.14	398.36	406.53	379.84	400.73	310.44	307.12	348.19	356.08
45.00°	272.18	310.12	316.88	324.54	317.42	402.04	385.06	346.41	330.45	305.23	298.34	286.98	292.80	223.62	233.49	258.21	272.18
47.50°	207.54	238.10	240.28	257.37	245.45	306.03	293.82	254.12	250.95	221.99	226.62	218.68	228.19	174.27	175.80	196.53	207.54
50.00°	161.55	185.45	187.71	195.51	188.15	233.04	220.70	195.92	186.61	170.54	170.68	164.18	168.48	129.83	135.65	151.74	161.55
52.50°	124.44	143.26	146.41	155.36	146.74	183.24	172.00	148.94	142.04	127.83	130.98	124.83	132.50	99.48	102.44	116.52	124.44
55.00°	92.68	107.59	111.03	117.01	109.70	141.79	134.43	112.97	105.06	96.05	97.60	91.93	98.60	70.67	73.64	86.51	92.68
57.50°	63.27	75.98	78.15	84.17	76.98	108.06	100.93	80.22	76.10	66.92	70.17	65.64	71.60	47.94	46.43	59.43	63.27
60.00°	37.67	46.71	47.65	51.65	47.11	75.42	69.12	52.97	49.89	44.33	44.83	43.26	45.03	25.72	27.15	33.79	37.67
62.50°	13.59	25.07	18.08	27.67	19.86	43.70	42.02	27.18	29.70	23.11	26.43	24.55	27.81	13.81	10.44	17.43	13.59
65.00°	5.20	7.44	7.03	3.99	5.84	21.96	16.70	13.62	11.36	12.24	10.24	12.06	10.99	2.55	4.71	5.29	5.20
67.50°	2.40	1.74	2.43	2.75	3.06	8.09	7.08	2.88	4.97	3.26	4.59	4.92	5.97	1.81	2.20	1.96	2.40
70.00°	1.66	1.76	1.52	1.88	1.85	1.89	2.86	1.14	1.88	1.81	1.91	1.57	1.20	1.48	1.57	2.27	1.66
72.50°	1.59	1.59	1.74	1.81	1.87	1.31	1.67	1.19	1.40	1.52	1.34	1.27	1.44	1.62	1.43	1.97	1.59
75.00°	1.51	1.35	1.58	1.75	1.69	1.30	1.41	1.23	1.54	1.62	1.28	1.28	1.67	1.77	1.42	1.43	1.51
77.50°	1.42	1.21	1.30	1.75	1.36	1.67	1.31	1.27	1.66	1.77	1.38	1.51	1.55	1.56	1.44	1.34	1.42
80.00°	1.47	1.12	1.31	1.74	1.18	1.73	1.25	1.38	1.78	1.59	1.51	1.64	1.43	1.36	1.35	1.39	1.47
82.50°	1.56	1.02	1.40	1.64	1.09	1.58	1.17	1.49	1.60	1.38	1.51	1.71	1.30	1.41	1.24	1.26	1.56
85.00°	1.41	0.92	1.36	1.53	1.10	1.40	1.08	1.38	1.36	1.14	1.49	1.59	1.18	1.46	1.33	1.08	1.41
87.50°	1.20	1.16	1.31	1.17	1.17	1.18	1.25	1.25	1.17	0.89	1.32	1.36	1.27	1.43	1.44	1.20	1.20
90.00°	1.33	1.49	1.38	0.87	1.26	1.37	1.48	1.20	0.98	1.26	1.14	1.22	1.34	1.41	1.42	1.41	1.33
92.50°	1.52	1.41	1.49	1.27	1.36	1.77	1.59	1.15	1.07	1.67	1.14	1.14	1.15	1.44	1.37	1.29	1.52
95.00°	1.54	1.20	1.40	1.64	1.56	1.62	1.67	1.06	1.19	1.62	1.18	1.24	1.01	1.46	1.35	1.10	1.54
97.50°	1.54	1.32	1.27	1.69	1.82	1.20	1.77	0.96	1.32	1.55	1.29	1.42	1.29	1.37	1.32	1.15	1.54
100.00°	1.64	1.52	1.32	1.72	1.80	1.04	1.87	1.13	1.45	1.52	1.42	1.51	1.52	1.28	1.37	1.25	1.64
102.50°	1.76	1.46	1.39	1.59	1.66	0.99	1.64	1.31	1.45	1.48	1.36	1.57	1.42	1.14	1.42	1.55	1.76
105.00°	1.56	1.35	1.63	1.50	1.90	1.10	1.35	1.06	1.43	1.33	1.29	1.59	1.37	1.04	1.80	1.87	1.56
107.50°	1.32	1.51	1.89	1.62	2.30	1.28	1.36	0.79	1.21	1.19	1.48	1.60	1.62	1.27	2.20	1.82	1.32
110.00°	1.85	1.74	1.85	1.77	2.14	1.38	1.40	1.27	0.98	1.42	1.69	1.66	1.84	1.49	1.64	1.71	1.85
112.50°	2.44	2.49	1.78	2.04	1.76	1.45	1.35	1.76	1.25	1.67	1.60	1.74	1.88	1.68	1.03	4.36	2.44

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	3298	3298	3298	3298	3212	3212	3212	3212	3053	3053	3053	2908	2908	2908	2774	2774	2711
	<b>1</b>	3137	3058	2986	2922	3061	2990	2926	2869	2864	2813	2767	2748	2708	2672	2641	2610	2582
	<b>2</b>	2974	2834	2718	2621	2905	2779	2674	2585	2677	2591	2517	2583	2514	2453	2496	2440	2391
	<b>3</b>	2817	2632	2489	2375	2754	2588	2457	2351	2504	2394	2304	2426	2335	2259	2354	2279	2215
	<b>4</b>	2668	2451	2292	2171	2611	2414	2267	2154	2344	2219	2121	2280	2174	2088	2219	2130	2056
	<b>5</b>	2528	2289	2122	1998	2477	2258	2102	1986	2199	2065	1961	2145	2029	1937	2094	1994	1914
	<b>6</b>	2398	2143	1972	1850	2351	2117	1957	1840	2067	1927	1822	2021	1898	1804	1978	1870	1786
	<b>7</b>	2277	2013	1841	1721	2235	1990	1829	1714	1948	1804	1699	1908	1781	1686	1871	1758	1672
	<b>8</b>	2165	1895	1725	1608	2127	1876	1714	1602	1839	1694	1591	1804	1675	1580	1772	1656	1569
	<b>9</b>	2062	1788	1621	1508	2027	1772	1612	1503	1740	1596	1495	1710	1579	1486	1682	1564	1477
	<b>10</b>	1966	1692	1528	1419	1934	1678	1521	1416	1650	1507	1408	1623	1493	1401	1599	1480	1394

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	119.8 fc	4.6 ft
6.5 ft	85.8 fc	5.5 ft
7.5 ft	64.4 fc	6.3 ft
8.0 ft	56.6 fc	6.8 ft
10.0 ft	36.2 fc	8.4 ft
12.0 ft	25.2 fc	10.1 ft
14.0 ft	18.5 fc	11.8 ft
16.0 ft	14.2 fc	13.5 ft
20.0 ft	9.1 fc	16.9 ft
24.0 ft	6.3 fc	20.3 ft
28.0 ft	4.6 fc	23.6 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	125111	125111	125111
<b>45.00°</b>	13291	15474	15501
<b>55.00°</b>	5579	6684	6604
<b>65.00°</b>	425	574	478
<b>75.00°</b>	201	210	225
<b>85.00°</b>	558	540	438

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	10.2	11.2	10.6	11.6	11.9	12.0	13.0	12.4	13.4	13.7
	<b>3H</b>	10.0	10.9	10.4	11.3	11.7	11.8	12.7	12.2	13.1	13.5
	<b>4H</b>	9.9	10.7	10.3	11.1	11.6	11.7	12.5	12.1	12.9	13.4
	<b>6H</b>	9.8	10.6	10.3	11.0	11.4	11.6	12.3	12.1	12.8	13.2
	<b>8H</b>	9.7	10.5	10.2	10.9	11.4	11.5	12.3	12.0	12.7	13.2
	<b>12H</b>	9.7	10.4	10.2	10.8	11.3	11.5	12.2	12.0	12.6	13.1
<b>4H</b>	<b>2H</b>	9.9	10.7	10.4	11.1	11.6	11.7	12.6	12.2	13.0	13.4
	<b>3H</b>	9.7	10.4	10.2	10.9	11.3	11.6	12.2	12.0	12.7	13.2
	<b>4H</b>	9.6	10.2	10.1	10.7	11.2	11.4	12.0	11.9	12.5	13.0
	<b>6H</b>	9.5	10.0	10.0	10.5	11.1	11.3	11.9	11.9	12.4	12.9
	<b>8H</b>	9.5	9.9	10.0	10.4	11.0	11.3	11.8	11.8	12.3	12.8
	<b>12H</b>	9.4	9.8	9.9	10.4	10.9	11.2	11.6	11.8	12.2	12.7
<b>8H</b>	<b>4H</b>	9.4	9.9	10.0	10.4	11.0	11.3	11.7	11.8	12.2	12.8
	<b>6H</b>	9.3	9.7	9.9	10.3	10.8	11.2	11.5	11.7	12.1	12.6
	<b>8H</b>	9.3	9.6	9.9	10.2	10.7	11.1	11.4	11.7	12.0	12.6
	<b>12H</b>	9.2	9.5	9.8	10.1	10.7	11.1	11.4	11.6	11.9	12.5
<b>12H</b>	<b>4H</b>	9.4	9.8	9.9	10.3	10.9	11.2	11.6	11.7	12.2	12.7
	<b>6H</b>	9.3	9.6	9.8	10.1	10.7	11.1	11.4	11.7	12.0	12.6
	<b>8H</b>	9.2	9.5	9.8	10.1	10.7	11.0	11.3	11.6	11.9	12.5

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0