

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

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

### Test Number

SP-01205

### 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	2605
Efficacy	50.98 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°	0.75
Four luminaires	0.78

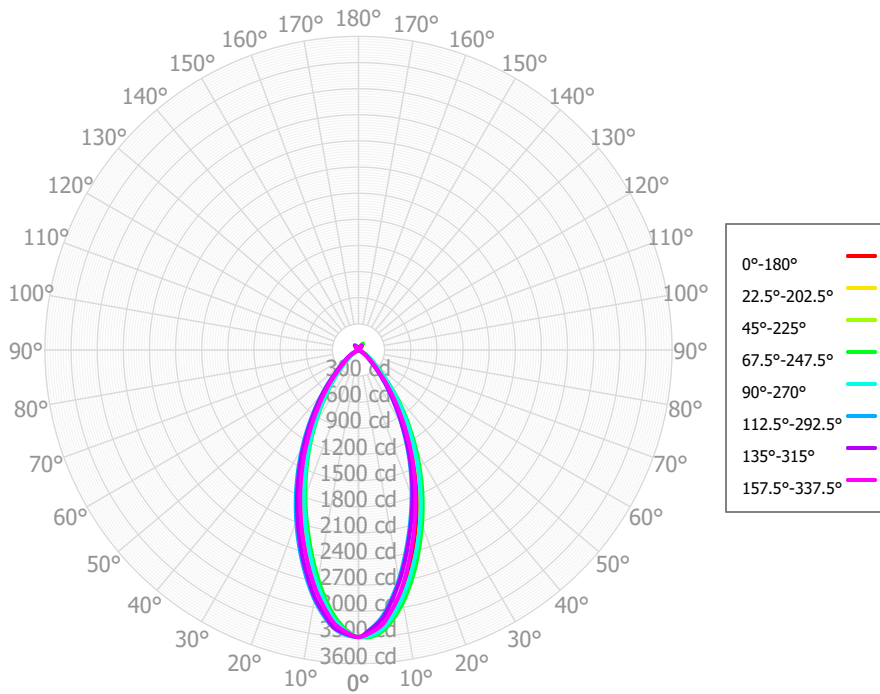
#### Full Beam Angle

0° - 180°	47°
90° - 270°	47°

### IES File Header Contents

Keyword	Value
TEST	SP-01205
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/2/2021
LUMCAT	SGRTE8XT 50L 35K MD 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°	293.17	11.25%	90.00° - 100.00°	1.63	0.06%
10.00° - 20.00°	657.91	25.26%	100.00° - 110.00°	1.61	0.06%
20.00° - 30.00°	698.64	26.82%	100.00° - 120.00°	4.27	0.16%
30.00° - 40.00°	501.49	19.25%	120.00° - 130.00°	7.96	0.31%
40.00° - 50.00°	248.11	9.52%	130.00° - 140.00°	17.63	0.68%
50.00° - 60.00°	104.23	4.00%	140.00° - 150.00°	28.79	1.10%
60.00° - 70.00°	17.89	0.69%	150.00° - 160.00°	15.55	0.60%
70.00° - 80.00°	1.68	0.06%	160.00° - 170.00°	4.17	0.16%
80.00° - 90.00°	1.69	0.06%	170.00° - 180.00°	0.28	0.01%
0.00° - 90.00°	2524.81	96.92%	0.00° - 180.00°	2605.07	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°	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32	3296.32
2.50°	3271.47	3290.65	3289.93	3296.74	3282.03	3274.63	3261.30	3242.04	3251.81	3225.82	3229.78	3218.25	3235.21	3206.24	3210.62	3247.69	3271.47
5.00°	3172.66	3218.53	3226.10	3235.59	3209.50	3210.00	3201.51	3155.09	3137.61	3092.42	3110.81	3081.02	3118.66	3079.66	3101.29	3164.40	3172.66
7.50°	3027.26	3086.27	3086.54	3104.98	3066.60	3075.78	3052.95	2988.23	2976.14	2917.97	2921.37	2890.14	2933.10	2886.13	2908.49	2993.36	3027.26
10.00°	2832.08	2912.70	2919.55	2943.14	2890.75	2909.53	2887.33	2804.09	2781.48	2710.50	2716.56	2667.51	2725.38	2674.13	2699.79	2804.72	2832.08
12.50°	2622.76	2710.16	2720.08	2751.73	2692.53	2713.46	2682.20	2593.44	2569.57	2492.82	2489.10	2440.53	2491.34	2440.22	2470.22	2577.97	2622.76
15.00°	2400.99	2499.39	2511.57	2549.26	2486.02	2506.54	2474.16	2378.86	2352.45	2268.32	2266.10	2211.45	2262.27	2213.68	2237.94	2352.23	2400.99
17.50°	2180.62	2283.92	2302.19	2338.17	2278.67	2297.70	2260.72	2163.86	2133.12	2051.53	2048.48	1995.33	2038.08	1994.36	2022.88	2128.27	2180.62
20.00°	1961.28	2071.28	2092.62	2131.22	2071.08	2088.31	2050.11	1948.82	1919.89	1838.93	1837.35	1784.21	1824.61	1783.57	1809.05	1910.52	1961.28
22.50°	1748.31	1859.96	1882.33	1926.95	1865.40	1882.50	1843.84	1743.18	1708.68	1633.52	1632.66	1581.20	1619.90	1579.73	1605.89	1701.74	1748.31
25.00°	1539.16	1652.19	1671.94	1722.05	1660.14	1677.45	1640.08	1538.02	1505.98	1431.26	1431.70	1380.62	1418.45	1378.53	1403.12	1496.64	1539.16
27.50°	1338.16	1445.74	1473.36	1516.82	1459.99	1480.55	1439.49	1343.31	1305.40	1237.36	1233.83	1188.22	1219.18	1179.08	1206.07	1295.88	1338.16
30.00°	1141.10	1247.66	1275.74	1320.97	1260.61	1284.85	1248.24	1150.05	1120.69	1046.39	1048.97	997.68	1034.21	995.40	1011.30	1102.65	1141.10
32.50°	960.10	1052.02	1091.30	1129.08	1083.54	1107.66	1066.64	978.94	938.90	879.03	872.99	833.78	857.04	820.32	844.61	916.75	960.10
35.00°	785.37	880.40	907.70	956.24	908.41	932.08	901.10	811.71	786.48	717.99	722.08	674.09	706.38	672.70	682.43	753.33	785.37
37.50°	635.88	713.95	748.38	789.80	755.18	780.83	749.43	677.12	637.56	590.55	585.10	552.86	567.52	537.30	553.38	608.22	635.88
40.00°	494.05	568.70	590.95	634.77	603.12	630.79	610.71	545.55	518.95	469.64	465.86	435.52	451.19	423.51	429.11	477.50	494.05
42.50°	381.52	426.58	460.33	482.65	477.85	505.80	481.18	430.53	402.33	370.58	354.67	341.40	342.75	317.29	328.42	356.38	381.52
45.00°	275.77	334.97	336.99	379.89	356.08	383.91	378.50	325.64	320.51	274.42	275.08	248.53	268.28	246.19	238.85	270.88	275.77
47.50°	217.51	247.99	271.98	286.15	287.47	309.38	291.33	260.61	240.32	218.33	206.82	196.80	202.89	184.69	189.45	204.74	217.51
50.00°	166.95	201.00	211.23	233.41	221.77	238.09	231.51	202.55	195.54	165.21	163.06	146.19	159.05	146.34	144.88	160.10	166.95
52.50°	134.05	155.67	172.90	185.72	180.41	194.09	184.63	165.61	151.79	132.28	126.03	116.89	119.51	112.61	113.91	125.00	134.05
55.00°	102.91	124.98	136.17	149.59	139.71	151.68	147.59	129.82	119.86	99.93	95.72	87.81	93.31	85.69	84.98	96.70	102.91
57.50°	75.21	94.30	105.67	114.22	102.60	117.98	114.24	96.74	88.36	71.03	66.80	60.75	68.88	59.71	60.55	70.77	75.21
60.00°	47.68	63.67	73.68	77.37	66.07	83.38	79.58	64.63	59.77	42.83	44.33	35.35	45.89	37.32	37.96	46.29	47.68
62.50°	26.02	34.44	37.29	41.02	31.85	45.25	44.53	34.38	33.15	23.91	22.76	19.52	23.00	15.21	18.66	22.19	26.02
65.00°	5.35	16.95	10.30	20.68	5.63	14.61	22.95	13.10	15.97	6.87	11.84	6.18	12.37	8.13	5.92	10.94	5.35
67.50°	3.29	2.10	5.10	1.92	3.63	6.63	4.31	5.91	2.56	3.90	1.81	3.39	2.29	1.55	2.89	2.24	3.29
70.00°	1.43	1.64	1.59	2.16	2.12	1.13	1.76	1.72	2.40	1.48	1.58	1.28	2.05	1.28	1.30	1.28	1.43
72.50°	1.56	1.31	1.27	2.32	1.81	1.50	1.63	1.42	2.21	1.86	1.63	1.34	1.80	1.04	1.47	1.35	1.56
75.00°	1.64	1.46	1.15	1.98	1.60	1.70	1.72	1.35	1.94	2.08	1.55	1.50	1.41	1.38	1.51	1.49	1.64
77.50°	1.45	1.61	1.34	1.72	1.59	1.58	1.82	1.55	1.70	1.73	1.48	1.89	1.10	1.65	1.43	1.64	1.45
80.00°	1.30	1.75	1.45	1.86	1.61	1.41	1.89	1.52	1.49	1.52	1.49	2.05	1.32	1.41	1.33	1.36	1.30
82.50°	1.31	1.88	1.47	1.97	1.68	1.15	1.95	1.29	1.39	1.69	1.47	1.76	1.53	1.23	1.23	1.08	1.31
85.00°	1.43	1.96	1.44	1.98	1.71	1.24	1.79	1.43	1.50	1.75	1.30	1.46	1.62	1.36	1.31	1.26	1.43
87.50°	1.91	1.95	1.35	1.86	1.68	1.75	1.63	1.83	1.49	1.54	1.18	1.12	1.71	1.52	1.52	1.43	1.91
90.00°	2.14	1.73	1.42	1.36	1.53	1.89	1.74	1.80	1.31	1.43	1.34	1.01	1.81	1.79	1.37	1.37	2.14
92.50°	1.71	1.61	1.60	1.13	1.26	1.62	1.79	1.51	1.40	1.49	1.46	1.21	1.82	1.86	1.01	1.34	1.71
95.00°	1.46	1.64	1.63	1.45	1.27	1.46	1.38	1.69	1.81	1.45	1.41	1.47	1.60	1.42	0.99	1.47	1.46
97.50°	1.58	1.69	1.53	1.63	1.51	1.39	1.10	2.10	1.82	1.24	1.30	1.79	1.37	1.14	1.13	1.56	1.58
100.00°	1.72	1.77	1.50	1.54	1.47	1.39	1.63	2.18	1.43	1.25	1.02	1.73	1.14	1.25	1.33	1.39	1.72
102.50°	1.90	1.86	1.52	1.52	1.23	1.44	1.94	2.13	1.34	1.52	0.92	1.30	0.98	1.49	1.54	1.27	1.90
105.00°	1.99	1.95	1.61	1.60	1.24	1.54	1.39	1.76	1.50	1.69	1.26	1.22	0.95	1.97	1.40	1.36	1.99
107.50°	1.93	2.05	1.74	1.63	1.41	1.65	0.98	1.29	1.49	1.74	1.53	1.40	1.03	2.15	1.15	1.50	1.93
110.00°	1.92	2.17	1.80	1.61	1.47	1.76	0.97	1.33	1.36	1.66	1.68	1.55	1.26	1.87	1.33	1.78	1.92
112.50°	1.98	3.91	1.85	1.60	1.49	1.85	0.95	1.49	1.39	1.45	1.83	1.69	1.26	1.71	1.60	2.75	1.98

### 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>	3082	3082	3082	3082	3001	3001	3001	3001	2850	2850	2850	2712	2712	2712	2585	2585	2525
	<b>1</b>	2929	2853	2785	2723	2856	2788	2727	2672	2668	2620	2575	2557	2520	2484	2455	2426	2371
	<b>2</b>	2772	2638	2527	2434	2706	2586	2486	2400	2488	2406	2335	2398	2332	2274	2315	2262	2214
	<b>3</b>	2621	2444	2308	2199	2561	2402	2276	2176	2321	2217	2130	2247	2160	2087	2177	2106	2045
	<b>4</b>	2478	2271	2119	2003	2424	2235	2095	1987	2168	2049	1954	2106	2005	1923	2048	1963	1892
	<b>5</b>	2345	2116	1956	1838	2295	2086	1937	1826	2030	1901	1802	1977	1866	1779	1928	1833	1756
	<b>6</b>	2220	1977	1814	1697	2176	1952	1799	1688	1904	1770	1670	1859	1742	1652	1817	1715	1635
	<b>7</b>	2105	1853	1689	1574	2065	1831	1677	1567	1790	1653	1553	1752	1630	1540	1715	1608	1526
	<b>8</b>	1999	1741	1579	1467	1962	1723	1569	1462	1687	1549	1451	1654	1530	1440	1622	1512	1429
	<b>9</b>	1901	1641	1481	1373	1867	1624	1473	1369	1594	1456	1360	1564	1440	1351	1537	1425	1342
	<b>10</b>	1811	1550	1394	1290	1780	1536	1387	1286	1509	1373	1279	1483	1359	1272	1459	1346	1264

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	109.0 fc	5.0 ft
6.5 ft	78.0 fc	5.9 ft
7.5 ft	58.6 fc	6.8 ft
8.0 ft	51.5 fc	7.3 ft
10.0 ft	33.0 fc	9.1 ft
12.0 ft	22.9 fc	10.9 ft
14.0 ft	16.8 fc	12.7 ft
16.0 ft	12.9 fc	14.5 ft
20.0 ft	8.2 fc	18.2 ft
24.0 ft	5.7 fc	21.8 ft
28.0 ft	4.2 fc	25.4 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	113822	113822	113822
<b>45.00°</b>	13467	16456	17388
<b>55.00°</b>	6195	8198	8411
<b>65.00°</b>	437	842	460
<b>75.00°</b>	219	153	214
<b>85.00°</b>	565	569	678

### 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>	11.7	12.8	12.2	13.2	13.6	12.6	13.7	13.0	14.0	14.4
	<b>3H</b>	11.6	12.5	12.0	12.9	13.3	12.4	13.4	12.9	13.8	14.2
	<b>4H</b>	11.5	12.3	11.9	12.7	13.2	12.3	13.2	12.8	13.6	14.1
	<b>6H</b>	11.4	12.2	11.9	12.6	13.1	12.2	13.0	12.7	13.5	13.9
	<b>8H</b>	11.3	12.1	11.8	12.5	13.0	12.2	12.9	12.7	13.4	13.9
	<b>12H</b>	11.3	12.0	11.8	12.4	12.9	12.2	12.8	12.6	13.3	13.8
<b>4H</b>	<b>2H</b>	11.5	12.3	12.0	12.8	13.2	12.4	13.3	12.9	13.7	14.1
	<b>3H</b>	11.3	12.0	11.8	12.5	12.9	12.2	12.9	12.7	13.4	13.9
	<b>4H</b>	11.2	11.8	11.7	12.3	12.8	12.1	12.7	12.6	13.2	13.7
	<b>6H</b>	11.1	11.6	11.6	12.1	12.7	12.0	12.5	12.6	13.1	13.6
	<b>8H</b>	11.0	11.5	11.6	12.0	12.6	12.0	12.5	12.5	13.0	13.5
	<b>12H</b>	11.0	11.4	11.5	12.0	12.5	11.9	12.3	12.5	12.9	13.4
<b>8H</b>	<b>4H</b>	11.0	11.5	11.6	12.0	12.6	12.0	12.4	12.5	12.9	13.5
	<b>6H</b>	10.9	11.3	11.5	11.9	12.4	11.8	12.2	12.4	12.8	13.3
	<b>8H</b>	10.9	11.2	11.5	11.8	12.4	11.8	12.1	12.4	12.7	13.3
	<b>12H</b>	10.8	11.1	11.4	11.7	12.3	11.8	12.1	12.3	12.6	13.3
<b>12H</b>	<b>4H</b>	11.0	11.4	11.5	11.9	12.5	11.9	12.3	12.4	12.9	13.4
	<b>6H</b>	10.9	11.2	11.4	11.7	12.4	11.8	12.1	12.4	12.7	13.3
	<b>8H</b>	10.8	11.1	11.4	11.7	12.3	11.7	12.0	12.3	12.6	13.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0