Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
SGRTE8XT 30L 35K WD XX AR8466XT SG GL
N/A

Test Number
SP-01209_1_M-30L

Test Date
2/11/2021

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

Summary of Results

Power

Input Watts	32.2 W

Lumen Output

Output Lumens	1996
Efficacy	61.98 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

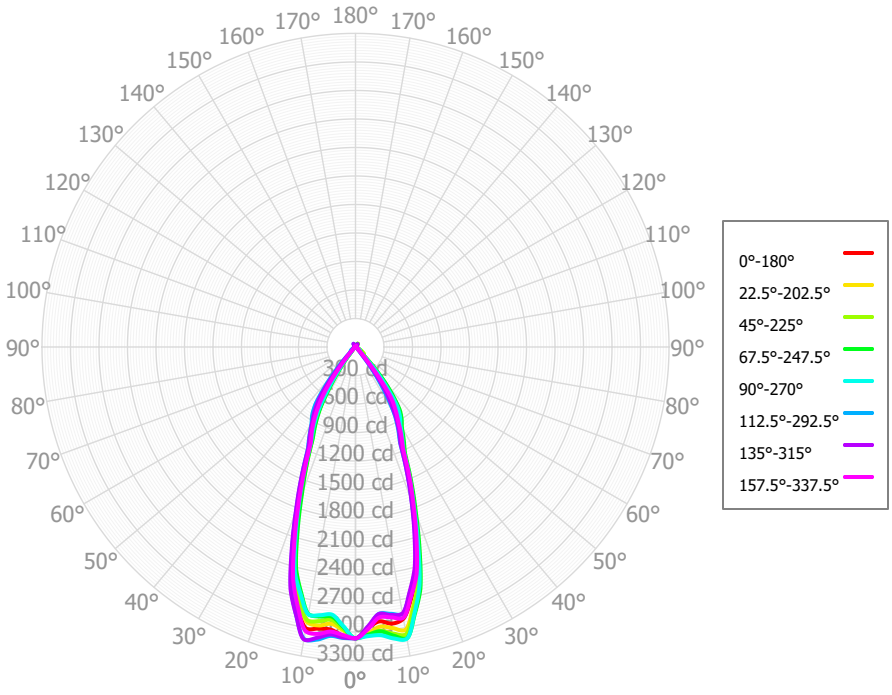
Full Beam Angle

0° - 180°	43°
90° - 270°	43°

IES File Header Contents

Keyword	Value
TEST	SP-01209_1_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 30L 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, scaled from 50L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	287.72	14.42%	90.00° - 100.00°	0.84	0.04%
10.00° - 20.00°	672.88	33.72%	100.00° - 110.00°	0.83	0.04%
20.00° - 30.00°	554.02	27.76%	100.00° - 120.00°	1.82	0.09%
30.00° - 40.00°	341.51	17.11%	120.00° - 130.00°	1.67	0.08%
40.00° - 50.00°	70.17	3.52%	130.00° - 140.00°	2.99	0.15%
50.00° - 60.00°	32.44	1.63%	140.00° - 150.00°	13.39	0.67%
60.00° - 70.00°	8.50	0.43%	150.00° - 160.00°	4.54	0.23%
70.00° - 80.00°	0.78	0.04%	160.00° - 170.00°	1.41	0.07%
80.00° - 90.00°	0.79	0.04%	170.00° - 180.00°	0.17	0.01%
0.00° - 90.00°	1968.81	98.66%	0.00° - 180.00°	1995.64	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°	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38	3066.38
2.50°	2960.85	3018.13	3030.60	3032.48	3046.37	3065.04	3060.30	3034.65	3042.44	2985.09	2970.61	2949.54	2940.20	2958.29	2946.18	2974.82	2960.85
5.00°	2899.11	2955.18	2999.15	3005.19	3045.28	3052.93	3036.91	3007.40	2986.97	2925.46	2883.56	2849.22	2828.22	2819.93	2821.47	2858.09	2899.11
7.50°	2936.87	2984.19	3042.91	3064.48	3094.82	3106.49	3086.86	3046.09	2989.38	2956.17	2910.18	2861.45	2847.41	2832.67	2845.46	2870.43	2936.87
10.00°	2904.15	3023.61	3069.93	3112.52	3117.98	3120.44	3125.76	3035.64	3007.01	2940.28	2920.28	2854.17	2858.44	2851.88	2848.53	2894.58	2904.15
12.50°	2711.19	2802.23	2817.55	2881.04	2869.49	2887.57	2889.76	2802.80	2806.61	2736.53	2724.39	2646.20	2666.69	2649.77	2636.26	2694.14	2711.19
15.00°	2462.08	2561.83	2553.11	2637.92	2601.87	2624.03	2641.26	2534.90	2558.93	2485.22	2505.73	2416.05	2462.28	2441.77	2407.83	2481.82	2462.08
17.50°	2103.50	2187.20	2161.40	2245.38	2196.73	2212.69	2232.30	2135.90	2169.45	2073.62	2098.65	2026.55	2095.25	2085.84	2063.24	2138.56	2103.50
20.00°	1760.26	1807.27	1780.15	1859.53	1803.96	1816.31	1830.21	1749.53	1755.99	1683.58	1703.52	1649.82	1732.60	1731.83	1722.75	1793.13	1760.26
22.50°	1442.87	1504.22	1475.55	1532.29	1480.12	1479.10	1488.45	1402.18	1429.62	1354.18	1383.18	1344.31	1408.39	1412.71	1405.07	1486.36	1442.87
25.00°	1191.37	1205.97	1197.76	1231.49	1192.29	1188.27	1174.58	1116.19	1114.52	1079.56	1090.95	1066.43	1108.16	1109.22	1121.94	1187.15	1191.37
27.50°	1037.65	1077.63	1071.72	1098.77	1062.27	1048.02	1038.15	992.27	975.66	935.31	934.67	909.66	960.39	971.63	990.27	1041.07	1037.65
30.00°	915.92	952.40	955.74	976.35	944.67	924.90	907.13	858.76	852.34	767.65	764.94	737.79	800.58	825.17	850.01	897.53	915.92
32.50°	835.51	876.65	884.53	904.48	871.30	848.33	802.63	703.71	651.07	551.60	541.90	512.18	581.75	613.51	679.16	784.45	835.51
35.00°	698.18	790.02	790.70	814.03	766.84	734.58	674.34	527.70	445.61	354.62	337.16	309.07	374.65	407.58	498.45	657.87	698.18
37.50°	495.67	597.00	613.66	649.05	568.81	533.67	450.58	311.35	268.93	191.59	191.95	173.67	214.58	234.22	288.05	422.78	495.67
40.00°	312.98	407.99	434.20	471.00	374.46	342.70	251.61	149.59	95.13	82.01	79.37	71.16	85.78	87.47	123.15	208.38	312.98
42.50°	150.14	247.60	247.35	249.91	189.41	171.66	134.23	80.04	65.81	56.16	57.26	52.02	59.87	59.32	73.62	120.45	150.14
45.00°	74.59	112.86	114.12	85.46	62.11	63.44	47.16	36.15	37.56	38.01	39.22	36.73	38.78	36.17	38.93	47.94	74.59
47.50°	76.49	116.39	118.13	79.62	61.60	65.62	44.98	29.89	31.43	30.35	30.77	29.78	30.93	31.15	36.29	48.54	76.49
50.00°	71.15	115.97	116.38	72.92	61.01	65.95	42.65	24.90	25.46	23.90	23.57	23.52	23.99	26.42	33.46	47.76	71.15
52.50°	60.19	98.74	101.88	64.18	60.28	63.48	39.96	21.54	21.38	18.90	18.90	18.57	19.21	22.59	30.30	41.61	60.19
55.00°	48.66	81.10	85.35	55.07	56.95	57.69	35.95	17.60	17.40	14.74	14.56	14.16	15.25	18.66	26.05	34.87	48.66
57.50°	36.75	62.00	64.99	45.17	49.33	47.47	29.24	12.98	14.34	11.48	10.81	10.65	12.94	14.42	20.04	26.24	36.75
60.00°	25.57	42.95	45.35	34.20	38.19	36.20	22.49	9.66	11.26	9.06	7.93	7.76	10.53	10.45	14.16	17.98	25.57
62.50°	14.83	24.07	26.90	21.33	22.00	23.72	15.66	7.63	8.00	7.41	6.40	5.74	7.94	7.03	8.47	10.71	14.83
65.00°	7.76	9.10	12.90	10.92	10.19	13.23	9.44	5.04	4.93	5.00	4.43	3.73	5.25	4.05	4.24	4.87	7.76
67.50°	2.59	4.03	5.36	4.32	3.87	4.77	4.16	1.97	2.72	1.97	1.89	1.73	2.43	1.92	1.84	2.39	2.59
70.00°	0.86	0.61	1.02	0.55	0.58	0.67	1.11	0.64	0.96	0.80	0.54	0.68	0.85	0.63	0.64	0.74	0.86
72.50°	0.64	0.71	0.75	0.63	0.65	0.56	1.09	0.64	0.89	0.95	0.59	0.70	0.96	0.73	0.80	0.75	0.64
75.00°	0.61	0.74	0.57	0.69	0.75	0.59	0.96	0.71	0.81	0.90	0.68	0.72	0.96	0.75	0.79	0.73	0.61
77.50°	0.65	0.65	0.51	0.73	0.90	0.76	0.72	0.84	0.68	0.73	0.82	0.75	0.84	0.68	0.63	0.67	0.65
80.00°	0.65	0.58	0.56	0.73	0.84	0.88	0.68	0.91	0.63	0.65	0.82	0.77	0.74	0.62	0.58	0.64	0.65
82.50°	0.64	0.54	0.70	0.69	0.62	0.98	0.85	0.93	0.77	0.61	0.70	0.78	0.68	0.56	0.61	0.67	0.64
85.00°	0.68	0.56	0.77	0.69	0.63	0.90	0.93	0.94	0.85	0.65	0.58	0.79	0.68	0.57	0.67	0.71	0.68
87.50°	0.73	0.65	0.77	0.73	0.81	0.69	0.92	0.94	0.80	0.72	0.46	0.82	0.73	0.66	0.73	0.75	0.73
90.00°	0.80	0.66	0.77	0.76	0.80	0.76	0.94	0.81	0.75	0.66	0.45	0.75	0.76	0.73	0.87	0.83	0.80
92.50°	0.87	0.58	0.77	0.78	0.66	0.96	1.00	0.63	0.71	0.54	0.50	0.63	0.76	0.76	1.05	0.97	0.87
95.00°	0.73	0.58	0.82	0.76	0.66	0.92	1.00	0.70	0.66	0.62	0.62	0.66	0.77	0.75	1.07	0.97	0.73
97.50°	0.55	0.68	0.90	0.72	0.74	0.78	0.96	0.85	0.57	0.78	0.77	0.77	0.78	0.69	0.99	0.83	0.55
100.00°	0.57	0.74	0.93	0.79	0.84	0.67	0.77	0.92	0.56	0.79	0.75	0.95	0.73	0.74	0.94	0.79	0.57
102.50°	0.61	0.79	0.92	0.93	0.95	0.58	0.50	0.96	0.65	0.76	0.64	1.15	0.65	0.88	0.88	0.84	0.61
105.00°	0.59	0.79	0.89	0.92	0.94	0.58	0.57	1.01	0.69	0.74	0.64	1.06	0.59	0.89	0.87	0.82	0.59
107.50°	0.57	0.76	0.84	0.81	0.89	0.62	0.83	1.06	0.64	0.74	0.70	0.83	0.55	0.82	0.87	0.74	0.57
110.00°	0.54	0.72	0.83	0.77	0.87	0.79	0.95	0.94	0.64	0.77	0.75	0.82	0.64	0.84	1.01	0.70	0.54
112.50°	0.52	0.68	0.84	0.76	0.87	0.99	1.00	0.79	0.70	0.81	0.80	0.89	0.79	0.92	1.21	0.68	0.52

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	2369	2369	2369	2369	2311	2311	2311	2311	2202	2202	2202	2103	2103	2103	2012	2012	2012	1969
	1	2264	2212	2164	2121	2213	2166	2124	2085	2081	2047	2016	2002	1976	1952	1930	1910	1891	1869
	2	2160	2067	1991	1927	2114	2031	1962	1903	1963	1906	1858	1900	1854	1814	1841	1805	1773	1768
	3	2059	1938	1844	1769	2017	1908	1822	1753	1853	1781	1722	1801	1742	1692	1754	1705	1663	1671
	4	1963	1821	1717	1638	1926	1797	1701	1627	1751	1669	1605	1709	1639	1583	1669	1611	1563	1580
	5	1872	1716	1606	1526	1839	1696	1594	1518	1658	1569	1502	1622	1546	1486	1589	1524	1471	1495
	6	1787	1620	1508	1428	1757	1603	1499	1422	1572	1479	1411	1542	1461	1399	1514	1443	1388	1417
	7	1707	1534	1421	1342	1680	1519	1413	1338	1492	1398	1329	1467	1383	1321	1443	1369	1312	1345
	8	1632	1455	1343	1266	1608	1443	1337	1263	1419	1324	1256	1398	1312	1249	1377	1300	1243	1279
	9	1563	1383	1273	1198	1540	1372	1267	1195	1352	1257	1190	1333	1247	1185	1315	1237	1180	1218
	10	1498	1317	1209	1137	1477	1308	1204	1134	1290	1196	1130	1274	1187	1126	1258	1179	1122	1161

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	101.4 fc	4.4 ft
6.5 ft	72.6 fc	5.2 ft
7.5 ft	54.5 fc	6.0 ft
8.0 ft	47.9 fc	6.4 ft
10.0 ft	30.7 fc	8.0 ft
12.0 ft	21.3 fc	9.6 ft
14.0 ft	15.6 fc	11.1 ft
16.0 ft	12.0 fc	12.7 ft
20.0 ft	7.7 fc	15.9 ft
24.0 ft	5.3 fc	19.1 ft
28.0 ft	3.9 fc	22.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	105883	105883	105883
45.00°	3643	5573	3033
55.00°	2930	5138	3429
65.00°	634	1054	833
75.00°	81	76	101
85.00°	268	304	250

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	8.8	9.7	9.2	10.1	10.4	7.0	7.9	7.4	8.3	8.6
	3H	8.6	9.4	9.0	9.8	10.2	6.8	7.7	7.2	8.0	8.4
	4H	8.5	9.3	8.9	9.7	10.1	6.7	7.5	7.2	7.9	8.3
	6H	8.4	9.1	8.8	9.5	9.9	6.6	7.3	7.1	7.7	8.2
	8H	8.3	9.0	8.8	9.4	9.9	6.6	7.2	7.0	7.6	8.1
	12H	8.3	8.9	8.8	9.3	9.8	6.5	7.1	7.0	7.6	8.0
4H	2H	8.6	9.4	9.0	9.7	10.2	6.8	7.5	7.2	7.9	8.3
	3H	8.4	9.0	8.8	9.4	9.9	6.6	7.2	7.0	7.6	8.1
	4H	8.3	8.8	8.7	9.3	9.8	6.5	7.0	6.9	7.5	8.0
	6H	8.2	8.6	8.7	9.1	9.6	6.4	6.8	6.9	7.3	7.8
	8H	8.1	8.5	8.6	9.0	9.5	6.3	6.8	6.8	7.2	7.7
	12H	8.0	8.4	8.5	8.9	9.4	6.3	6.6	6.8	7.2	7.7
8H	4H	8.1	8.5	8.6	9.0	9.5	6.3	6.7	6.8	7.2	7.7
	6H	8.0	8.3	8.5	8.8	9.4	6.2	6.5	6.7	7.1	7.6
	8H	7.9	8.2	8.5	8.7	9.3	6.1	6.4	6.7	7.0	7.5
	12H	7.9	8.1	8.4	8.6	9.3	6.1	6.4	6.7	6.9	7.5
12H	4H	8.0	8.4	8.5	8.9	9.4	6.2	6.6	6.7	7.1	7.6
	6H	7.9	8.2	8.4	8.7	9.3	6.1	6.4	6.7	6.9	7.5
	8H	7.8	8.1	8.4	8.6	9.2	6.1	6.4	6.6	6.9	7.5

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0