Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire
SGRTE8XT 20L 35K ND XX AR8466XT SG SO
N/A

Test Number
SP-01207_1_M-20L

Test Date
2/11/2021

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

Summary of Results

Power

Input Watts	19.9 W

Lumen Output

Output Lumens	1712
Efficacy	86.03 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

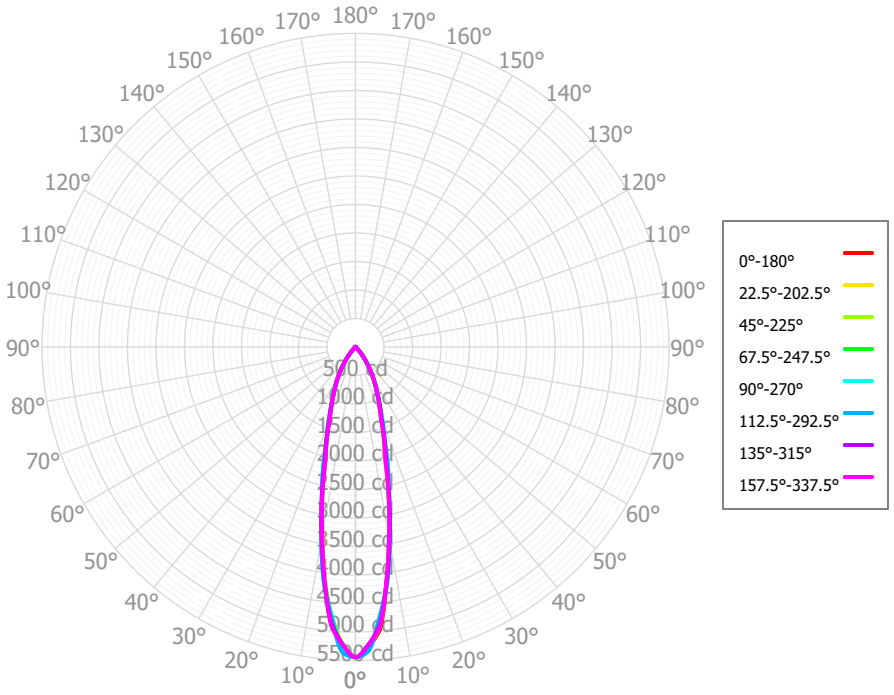
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-01207_1_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/2/2021
LUMCAT	SGRTE8XT 20L 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, scaled from 50L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	417.27	24.37%	90.00° - 100.00°	0.38	0.02%
10.00° - 20.00°	592.29	34.59%	100.00° - 110.00°	0.41	0.02%
20.00° - 30.00°	422.25	24.66%	100.00° - 120.00°	0.81	0.05%
30.00° - 40.00°	228.12	13.32%	120.00° - 130.00°	0.43	0.03%
40.00° - 50.00°	45.45	2.65%	130.00° - 140.00°	0.57	0.03%
50.00° - 60.00°	1.99	0.12%	140.00° - 150.00°	0.63	0.04%
60.00° - 70.00°	0.40	0.02%	150.00° - 160.00°	0.45	0.03%
70.00° - 80.00°	0.37	0.02%	160.00° - 170.00°	0.24	0.01%
80.00° - 90.00°	0.39	0.02%	170.00° - 180.00°	0.07	0.00%
0.00° - 90.00°	1708.52	99.79%	0.00° - 180.00°	1712.10	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°	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42	5441.42
2.50°	5264.05	5251.60	5267.44	5291.19	5319.42	5356.76	5218.95	5227.30	5225.31	5208.05	5217.42	5261.06	5288.20	5335.59	5223.67	5235.21	5264.05
5.00°	4963.69	4917.85	4878.66	4815.64	4818.24	4790.44	4856.51	4894.76	4885.82	4812.94	4760.20	4747.48	4768.22	4776.74	4891.27	4917.49	4963.69
7.50°	4170.81	4157.02	4175.00	4189.17	4205.57	4208.71	4162.09	4146.61	4119.50	4115.44	4133.32	4169.81	4202.47	4212.46	4167.89	4153.82	4170.81
10.00°	3375.85	3404.48	3451.37	3472.10	3492.36	3464.26	3403.91	3374.56	3354.03	3349.56	3375.13	3417.56	3453.05	3458.55	3446.74	3394.07	3375.85
12.50°	2688.55	2687.67	2702.38	2722.43	2754.72	2715.82	2738.94	2704.60	2691.94	2697.39	2709.52	2716.57	2740.65	2711.25	2736.80	2701.81	2688.55
15.00°	2001.68	2034.80	2096.15	2170.32	2212.39	2193.11	2091.54	2040.23	2032.03	2071.10	2114.85	2153.38	2177.74	2174.81	2079.79	2028.04	2001.68
17.50°	1646.09	1653.07	1669.63	1688.39	1716.78	1676.17	1686.84	1667.08	1671.39	1675.78	1672.69	1661.43	1668.19	1646.01	1685.68	1657.97	1646.09
20.00°	1290.51	1305.14	1332.83	1373.81	1398.45	1385.27	1328.23	1310.18	1312.27	1332.16	1347.86	1362.02	1370.80	1369.66	1321.84	1298.00	1290.51
22.50°	1091.97	1098.24	1109.42	1118.98	1122.80	1099.55	1105.74	1103.04	1108.16	1108.94	1101.09	1095.84	1098.17	1096.57	1109.41	1096.91	1091.97
25.00°	893.60	902.38	916.28	929.69	933.01	926.02	908.62	903.86	904.57	912.86	913.77	918.35	922.41	922.97	907.36	899.00	893.60
27.50°	748.83	752.89	761.01	763.51	763.56	754.77	755.43	758.43	760.18	761.86	754.33	751.13	754.11	750.52	756.30	752.10	748.83
30.00°	604.15	607.57	616.54	619.06	621.07	617.42	610.49	615.70	616.01	620.85	616.21	611.45	615.17	614.09	609.06	606.34	604.15
32.50°	479.19	479.50	485.64	482.31	485.00	480.79	482.58	488.30	491.03	493.36	487.27	478.92	481.33	478.47	480.74	478.04	479.19
35.00°	354.32	356.93	366.35	366.05	368.20	366.61	357.80	361.69	366.24	368.90	365.28	365.34	367.26	366.15	357.94	351.72	354.32
37.50°	255.88	256.72	261.51	256.96	255.93	252.85	259.56	259.16	259.44	260.99	259.19	259.81	260.09	254.98	261.95	254.36	255.88
40.00°	157.69	164.19	172.87	174.14	172.52	174.55	166.24	157.80	153.12	156.72	165.17	175.71	179.81	174.61	170.83	159.42	157.69
42.50°	101.69	103.10	104.46	100.56	95.76	96.95	97.04	88.99	84.55	87.96	93.28	100.90	105.69	95.55	103.60	100.71	101.69
45.00°	45.88	49.74	53.68	55.71	52.95	54.92	32.24	21.67	16.92	26.86	38.03	50.56	55.29	52.73	44.44	44.59	45.88
47.50°	26.94	27.53	24.68	20.82	18.01	13.50	14.89	11.46	10.31	10.92	11.21	12.61	13.95	11.35	24.20	25.35	26.94
50.00°	8.12	8.97	7.18	8.38	7.61	7.67	6.02	3.94	3.78	4.78	5.54	6.86	7.71	7.09	6.96	7.17	8.12
52.50°	4.88	5.23	3.72	3.62	2.82	2.50	2.95	2.32	2.23	2.39	2.45	2.44	2.57	2.96	3.91	4.32	4.88
55.00°	1.65	2.06	1.58	1.92	1.36	1.51	0.92	0.97	0.70	0.81	1.28	1.46	1.60	2.02	1.34	1.63	1.65
57.50°	1.14	1.12	1.04	1.26	0.66	0.60	0.62	0.68	0.69	0.48	0.68	0.68	0.76	1.10	1.02	1.15	1.14
60.00°	0.63	0.37	0.69	0.81	0.41	0.45	0.63	0.45	0.67	0.41	0.50	0.43	0.45	0.81	0.72	0.71	0.63
62.50°	0.47	0.34	0.59	0.43	0.26	0.31	0.53	0.45	0.55	0.39	0.34	0.26	0.23	0.53	0.48	0.76	0.47
65.00°	0.31	0.32	0.51	0.30	0.24	0.30	0.42	0.46	0.43	0.38	0.19	0.30	0.37	0.43	0.29	0.79	0.31
67.50°	0.44	0.30	0.45	0.25	0.25	0.30	0.33	0.46	0.44	0.33	0.17	0.32	0.45	0.33	0.32	0.56	0.44
70.00°	0.57	0.28	0.39	0.29	0.32	0.33	0.25	0.46	0.44	0.28	0.25	0.31	0.30	0.31	0.36	0.35	0.57
72.50°	0.48	0.27	0.34	0.34	0.41	0.37	0.22	0.54	0.44	0.26	0.30	0.28	0.19	0.29	0.45	0.26	0.48
75.00°	0.40	0.29	0.33	0.40	0.38	0.33	0.19	0.63	0.44	0.25	0.33	0.22	0.24	0.41	0.50	0.18	0.40
77.50°	0.41	0.36	0.39	0.44	0.33	0.28	0.24	0.49	0.42	0.29	0.30	0.23	0.29	0.52	0.40	0.29	0.41
80.00°	0.42	0.40	0.40	0.42	0.29	0.33	0.30	0.35	0.39	0.32	0.23	0.42	0.33	0.48	0.31	0.39	0.42
82.50°	0.50	0.36	0.35	0.38	0.25	0.37	0.27	0.31	0.31	0.34	0.22	0.51	0.38	0.43	0.32	0.39	0.50
85.00°	0.59	0.33	0.30	0.49	0.22	0.31	0.22	0.28	0.24	0.35	0.24	0.37	0.40	0.39	0.34	0.38	0.59
87.50°	0.54	0.34	0.26	0.65	0.19	0.24	0.34	0.31	0.28	0.35	0.34	0.27	0.43	0.35	0.40	0.39	0.54
90.00°	0.49	0.35	0.27	0.50	0.25	0.44	0.49	0.35	0.32	0.34	0.48	0.27	0.48	0.29	0.45	0.40	0.49
92.50°	0.45	0.39	0.34	0.24	0.32	0.65	0.37	0.35	0.42	0.31	0.46	0.26	0.48	0.24	0.39	0.43	0.45
95.00°	0.41	0.40	0.34	0.17	0.37	0.49	0.20	0.35	0.51	0.27	0.30	0.24	0.35	0.31	0.39	0.44	0.41
97.50°	0.34	0.33	0.27	0.16	0.42	0.33	0.31	0.33	0.40	0.23	0.21	0.24	0.25	0.39	0.60	0.34	0.34
100.00°	0.26	0.30	0.22	0.28	0.35	0.39	0.46	0.32	0.29	0.18	0.16	0.28	0.29	0.48	0.74	0.25	0.26
102.50°	0.33	0.42	0.21	0.44	0.26	0.44	0.52	0.28	0.25	0.32	0.22	0.33	0.32	0.56	0.55	0.34	0.33
105.00°	0.39	0.52	0.25	0.40	0.41	0.42	0.57	0.25	0.21	0.49	0.36	0.37	0.32	0.64	0.40	0.43	0.39
107.50°	0.35	0.49	0.37	0.31	0.60	0.40	0.45	0.36	0.40	0.45	0.40	0.37	0.35	0.71	0.36	0.38	0.35
110.00°	0.32	0.47	0.39	0.33	0.43	0.38	0.31	0.47	0.58	0.38	0.38	0.27	0.49	0.65	0.33	0.34	0.32
112.50°	0.41	0.49	0.29	0.40	0.19	0.35	0.38	0.48	0.52	0.31	0.33	0.23	0.58	0.57	0.35	0.39	0.41

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	2037	2037	2037	2037	1990	1990	1990	1990	1900	1900	1900	1819	1819	1819	1744	1744	1744	1709
	1	1957	1916	1879	1846	1915	1879	1846	1816	1810	1784	1760	1746	1726	1707	1687	1672	1657	1639
	2	1879	1807	1749	1699	1842	1778	1725	1680	1724	1680	1643	1673	1638	1608	1626	1599	1574	1568
	3	1803	1711	1639	1581	1771	1687	1622	1569	1643	1589	1544	1603	1557	1519	1565	1528	1496	1499
	4	1732	1624	1544	1484	1703	1605	1531	1475	1569	1507	1457	1536	1483	1440	1505	1461	1424	1434
	5	1664	1545	1461	1400	1639	1529	1452	1394	1500	1433	1381	1473	1415	1369	1447	1398	1358	1373
	6	1601	1474	1388	1327	1578	1461	1381	1323	1436	1366	1314	1414	1352	1305	1392	1339	1296	1316
	7	1541	1408	1323	1263	1520	1398	1317	1259	1377	1305	1253	1358	1294	1246	1340	1283	1240	1263
	8	1484	1349	1264	1205	1466	1340	1259	1203	1322	1250	1198	1306	1241	1193	1291	1232	1188	1213
	9	1431	1294	1210	1153	1415	1286	1206	1151	1271	1199	1148	1257	1191	1144	1244	1184	1140	1167
	10	1382	1244	1161	1106	1366	1237	1158	1105	1224	1152	1102	1212	1146	1099	1201	1140	1096	1124

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	179.9 fc	2.4 ft
6.5 ft	128.8 fc	2.9 ft
7.5 ft	96.7 fc	3.3 ft
8.0 ft	85.0 fc	3.6 ft
10.0 ft	54.4 fc	4.4 ft
12.0 ft	37.8 fc	5.3 ft
14.0 ft	27.8 fc	6.2 ft
16.0 ft	21.3 fc	7.1 ft
20.0 ft	13.6 fc	8.9 ft
24.0 ft	9.4 fc	10.7 ft
28.0 ft	6.9 fc	12.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	187893	187893	187893
45.00°	2240	2621	2586
55.00°	100	95	82
65.00°	25	42	20
75.00°	53	44	51
85.00°	233	120	87

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	-16.3	-15.3	-15.9	-15.0	-14.7	-20.0	-19.1	-19.6	-18.8	-18.4
	3H	-15.5	-14.7	-15.1	-14.4	-14.0	-18.8	-18.0	-18.4	-17.7	-17.3
	4H	-15.0	-14.3	-14.6	-13.9	-13.5	-17.8	-17.1	-17.4	-16.8	-16.4
	6H	-14.0	-13.3	-13.6	-13.0	-12.6	-16.5	-15.8	-16.1	-15.4	-15.0
	8H	-13.1	-12.5	-12.6	-12.1	-11.6	-15.5	-14.9	-15.0	-14.5	-14.0
	12H	-11.6	-11.0	-11.2	-10.6	-10.2	-14.3	-13.7	-13.9	-13.4	-12.9
4H	2H	-16.3	-15.6	-15.9	-15.2	-14.8	-19.9	-19.1	-19.5	-18.8	-18.4
	3H	-15.4	-14.8	-15.0	-14.4	-14.0	-18.3	-17.7	-17.9	-17.3	-16.9
	4H	-14.8	-14.3	-14.4	-13.9	-13.4	-17.2	-16.6	-16.7	-16.2	-15.8
	6H	-13.4	-12.9	-12.9	-12.5	-12.0	-15.4	-14.9	-14.9	-14.5	-14.0
	8H	-12.2	-11.8	-11.7	-11.3	-10.8	-14.0	-13.6	-13.6	-13.2	-12.7
	12H	-10.4	-10.1	-9.9	-9.6	-9.1	-12.7	-12.3	-12.2	-11.8	-11.4
8H	4H	-14.5	-14.0	-14.0	-13.6	-13.1	-16.7	-16.3	-16.2	-15.8	-15.4
	6H	-12.7	-12.4	-12.2	-11.8	-11.4	-14.5	-14.1	-13.9	-13.6	-13.1
	8H	-11.3	-11.0	-10.8	-10.5	-10.0	-12.7	-12.4	-12.2	-11.9	-11.4
	12H	-9.4	-9.2	-8.9	-8.7	-8.1	-11.1	-10.9	-10.6	-10.4	-9.8
12H	4H	-14.3	-14.0	-13.8	-13.5	-13.0	-16.6	-16.2	-16.1	-15.7	-15.2
	6H	-12.5	-12.2	-11.9	-11.7	-11.1	-14.2	-13.9	-13.7	-13.5	-12.9
	8H	-11.0	-10.8	-10.5	-10.3	-9.7	-12.4	-12.1	-11.9	-11.6	-11.1

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0