

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01209_2_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
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Lumen Output

Output Lumens	1346
Efficacy	67.64 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°	0.72
Four luminaires	0.73

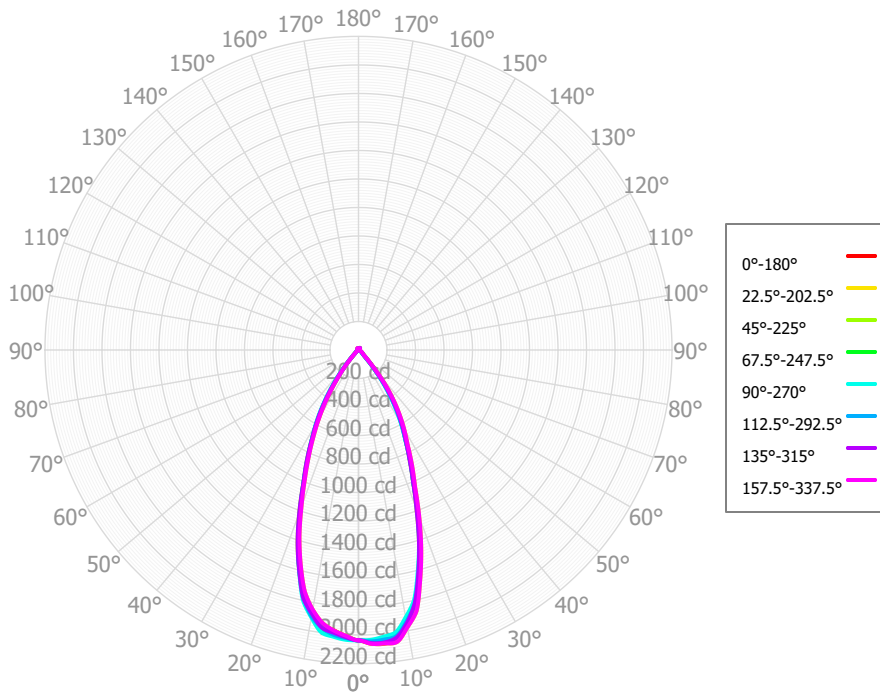
Full Beam Angle

0° - 180°	44°
90° - 270°	44°

IES File Header Contents

Keyword	Value
TEST	SP-01209_2_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	3/1/2021
LUMCAT	SGRTE8XT 20L 35K WD XX AR8466XT SG SO
LUMINAIRE	N/A
OTHER	Beam Angle: 44 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°	192.77	14.32%	90.00° - 100.00°	0.65	0.05%
10.00° - 20.00°	440.34	32.71%	100.00° - 110.00°	0.66	0.05%
20.00° - 30.00°	392.39	29.15%	100.00° - 120.00°	1.47	0.11%
30.00° - 40.00°	226.19	16.80%	120.00° - 130.00°	1.43	0.11%
40.00° - 50.00°	50.64	3.76%	130.00° - 140.00°	2.53	0.19%
50.00° - 60.00°	19.89	1.48%	140.00° - 150.00°	6.39	0.47%
60.00° - 70.00°	5.26	0.39%	150.00° - 160.00°	3.40	0.25%
70.00° - 80.00°	0.64	0.05%	160.00° - 170.00°	1.31	0.10%
80.00° - 90.00°	0.64	0.05%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1328.75	98.71%	0.00° - 180.00°	1346.06	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°	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61	2037.61
2.50°	2062.82	2063.66	2058.85	2046.76	2035.54	2023.17	2017.54	2007.87	2008.99	2007.87	2017.54	2023.17	2035.54	2046.76	2058.85	2063.66	2062.82
5.00°	2068.96	2067.13	2060.60	2040.45	2019.83	2005.80	1991.68	1976.54	1975.50	1976.54	1991.68	2005.80	2019.83	2040.45	2060.60	2067.13	2068.96
7.50°	2047.23	2066.80	2036.59	2026.20	1998.47	1965.85	1965.26	1932.09	1941.11	1932.09	1965.26	1965.85	1998.47	2026.20	2036.59	2066.80	2047.23
10.00°	1968.61	1976.37	1949.58	1937.04	1905.33	1897.25	1879.23	1850.05	1854.32	1850.05	1879.23	1897.25	1905.33	1937.04	1949.58	1976.37	1968.61
12.50°	1843.77	1878.50	1822.68	1821.74	1799.22	1776.39	1785.99	1738.75	1758.53	1738.75	1785.99	1776.39	1799.22	1821.74	1822.68	1878.50	1843.77
15.00°	1646.86	1672.01	1621.24	1629.56	1607.42	1603.14	1606.09	1564.95	1584.15	1564.95	1606.09	1603.14	1607.42	1629.56	1621.24	1672.01	1646.86
17.50°	1438.26	1463.32	1411.85	1418.54	1412.19	1406.64	1421.51	1378.25	1402.51	1378.25	1421.51	1406.64	1412.19	1418.54	1411.85	1463.32	1438.26
20.00°	1215.34	1246.10	1191.05	1210.29	1202.69	1191.98	1214.08	1170.61	1200.85	1170.61	1214.08	1191.98	1202.69	1210.29	1191.05	1246.10	1215.34
22.50°	1024.25	1035.91	1001.75	1002.48	1007.51	1007.80	1010.73	984.87	1000.48	984.87	1010.73	1007.80	1007.51	1002.48	1001.75	1035.91	1024.25
25.00°	863.62	886.26	847.87	856.31	854.12	842.32	858.17	827.12	849.51	827.12	858.17	842.32	854.12	856.31	847.87	886.26	863.62
27.50°	733.84	744.14	719.88	715.24	712.37	706.99	709.53	683.89	700.45	683.89	709.53	706.99	712.37	715.24	719.88	744.14	733.84
30.00°	627.40	639.88	614.77	606.29	596.10	585.74	586.07	555.12	569.01	555.12	586.07	585.74	596.10	606.29	614.77	639.88	627.40
32.50°	521.35	534.67	506.35	497.58	479.71	462.43	462.89	430.24	440.00	430.24	462.89	462.43	479.71	497.58	506.35	534.67	521.35
35.00°	415.54	426.30	395.65	384.08	363.11	338.42	340.85	308.43	324.10	308.43	340.85	338.42	363.11	384.08	395.65	426.30	415.54
37.50°	302.55	315.64	282.39	271.70	253.99	234.60	228.37	209.78	216.23	209.78	228.37	234.60	253.99	271.70	282.39	315.64	302.55
40.00°	186.33	199.30	167.78	168.85	154.62	135.77	143.58	125.22	137.17	125.22	143.58	135.77	154.62	168.85	167.78	199.30	186.33
42.50°	114.78	109.67	102.79	78.96	87.05	83.71	76.79	75.17	72.69	75.17	76.79	83.71	87.05	78.96	102.79	109.67	114.78
45.00°	57.99	69.98	57.76	54.96	51.78	39.01	49.10	41.24	46.34	41.24	49.10	39.01	51.78	54.96	57.76	69.98	57.99
47.50°	42.93	44.45	43.84	35.58	33.65	30.29	30.29	28.61	27.47	28.61	30.29	30.29	33.65	35.58	43.84	44.45	42.93
50.00°	37.42	39.56	39.03	31.99	29.28	24.45	26.14	23.38	23.21	23.38	26.14	24.45	29.28	31.99	39.03	39.56	37.42
52.50°	32.89	34.60	33.94	28.21	25.29	20.85	22.14	19.72	19.33	19.72	22.14	20.85	25.29	28.21	33.94	34.60	32.89
55.00°	28.51	29.57	28.79	23.97	21.53	17.33	18.34	16.44	16.01	16.44	18.34	17.33	21.53	23.97	28.79	29.57	28.51
57.50°	23.26	24.58	23.78	19.67	17.52	14.61	14.97	13.37	13.00	13.37	14.97	14.61	17.52	19.67	23.78	24.58	23.26
60.00°	17.95	19.64	18.79	15.27	13.39	11.71	12.03	10.33	10.34	10.33	12.03	11.71	13.39	15.27	18.79	19.64	17.95
62.50°	9.88	12.68	10.71	10.24	8.62	7.30	8.24	6.65	7.16	6.65	8.24	7.30	8.62	10.24	10.71	12.68	9.88
65.00°	2.20	4.31	2.61	4.27	3.62	3.38	3.75	2.93	3.50	2.93	3.75	3.38	3.62	4.27	2.61	4.31	2.20
67.50°	1.34	1.14	1.54	1.01	1.78	1.87	1.59	1.72	1.54	1.72	1.59	1.87	1.78	1.01	1.54	1.14	1.34
70.00°	0.58	0.76	0.55	0.84	0.73	0.69	0.84	0.59	0.82	0.59	0.84	0.69	0.73	0.84	0.55	0.76	0.58
72.50°	0.58	0.64	0.54	0.71	0.57	0.66	0.60	0.55	0.59	0.55	0.60	0.66	0.57	0.71	0.54	0.64	0.58
75.00°	0.59	0.62	0.53	0.61	0.56	0.64	0.61	0.51	0.62	0.51	0.61	0.64	0.56	0.61	0.53	0.62	0.59
77.50°	0.61	0.68	0.54	0.54	0.53	0.60	0.60	0.50	0.67	0.50	0.60	0.60	0.53	0.54	0.54	0.68	0.61
80.00°	0.62	0.76	0.56	0.49	0.50	0.57	0.59	0.51	0.73	0.51	0.59	0.57	0.50	0.49	0.56	0.76	0.62
82.50°	0.63	0.71	0.61	0.53	0.52	0.55	0.54	0.58	0.78	0.58	0.54	0.55	0.52	0.53	0.61	0.71	0.63
85.00°	0.61	0.64	0.62	0.61	0.54	0.58	0.49	0.65	0.84	0.65	0.49	0.58	0.54	0.61	0.62	0.64	0.61
87.50°	0.51	0.55	0.54	0.64	0.53	0.69	0.49	0.68	0.72	0.68	0.49	0.69	0.53	0.64	0.54	0.55	0.51
90.00°	0.46	0.46	0.49	0.65	0.53	0.72	0.50	0.68	0.57	0.68	0.50	0.72	0.53	0.65	0.49	0.46	0.46
92.50°	0.49	0.53	0.53	0.60	0.60	0.66	0.63	0.58	0.59	0.58	0.63	0.66	0.60	0.60	0.53	0.53	0.49
95.00°	0.50	0.61	0.55	0.54	0.65	0.61	0.78	0.55	0.63	0.55	0.78	0.61	0.65	0.54	0.55	0.61	0.50
97.50°	0.50	0.64	0.52	0.59	0.62	0.58	0.64	0.61	0.61	0.61	0.64	0.58	0.62	0.59	0.52	0.64	0.50
100.00°	0.52	0.68	0.55	0.66	0.59	0.59	0.49	0.65	0.58	0.65	0.49	0.59	0.59	0.66	0.55	0.68	0.52
102.50°	0.57	0.74	0.62	0.60	0.56	0.62	0.52	0.65	0.56	0.65	0.52	0.62	0.56	0.60	0.62	0.74	0.57
105.00°	0.64	0.78	0.63	0.52	0.55	0.63	0.56	0.66	0.54	0.66	0.56	0.63	0.55	0.52	0.63	0.78	0.64
107.50°	0.71	0.75	0.58	0.64	0.61	0.62	0.60	0.70	0.52	0.70	0.60	0.62	0.61	0.64	0.58	0.75	0.71
110.00°	0.69	0.73	0.58	0.78	0.67	0.62	0.64	0.67	0.51	0.67	0.64	0.62	0.67	0.78	0.58	0.73	0.69
112.50°	0.61	0.72	0.64	0.90	0.71	0.63	0.65	0.58	0.60	0.58	0.65	0.63	0.71	0.90	0.64	0.72	0.61

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1598	1598	1598	1598	1559	1559	1559	1559	1486	1486	1486	1419	1419	1419	1358	1358	1329
	1	1527	1492	1460	1431	1493	1461	1432	1406	1404	1381	1360	1351	1333	1317	1302	1288	1261
	2	1457	1394	1343	1299	1426	1370	1323	1283	1324	1286	1253	1281	1251	1224	1242	1217	1192
	3	1388	1306	1243	1193	1361	1287	1229	1182	1249	1201	1161	1215	1175	1141	1183	1150	1127
	4	1323	1228	1157	1104	1298	1211	1146	1096	1181	1125	1082	1152	1105	1067	1126	1086	1065
	5	1262	1156	1082	1028	1240	1143	1074	1022	1117	1058	1012	1093	1042	1001	1071	1027	1008
	6	1204	1092	1016	962	1184	1080	1009	958	1059	996	950	1039	984	942	1020	972	955
	7	1150	1033	957	904	1132	1023	952	901	1005	941	895	988	931	889	972	922	906
	8	1100	979	904	852	1083	971	900	850	956	891	845	941	883	841	927	875	861
	9	1052	931	856	806	1037	924	852	804	910	846	800	897	839	797	885	832	819
	10	1008	886	813	764	995	880	810	763	868	804	760	857	798	757	846	793	781

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	67.4 fc	4.5 ft
6.5 ft	48.2 fc	5.3 ft
7.5 ft	36.2 fc	6.1 ft
8.0 ft	31.8 fc	6.5 ft
10.0 ft	20.4 fc	8.2 ft
12.0 ft	14.2 fc	9.8 ft
14.0 ft	10.4 fc	11.5 ft
16.0 ft	8.0 fc	13.1 ft
20.0 ft	5.1 fc	16.4 ft
24.0 ft	3.5 fc	19.6 ft
28.0 ft	2.6 fc	22.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	70359	70359	70359
45.00°	2832	2820	2529
55.00°	1717	1733	1296
65.00°	179	213	295
75.00°	78	71	75
85.00°	242	246	212

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	5.9	6.9	6.3	7.2	7.6	2.6	3.6	3.0	3.9	4.3
	3H	5.7	6.6	6.1	6.9	7.3	2.5	3.3	2.9	3.7	4.1
	4H	5.6	6.4	6.1	6.8	7.2	2.4	3.1	2.8	3.5	4.0
	6H	5.5	6.2	6.0	6.6	7.1	2.3	3.0	2.7	3.4	3.8
	8H	5.5	6.1	5.9	6.6	7.0	2.2	2.9	2.7	3.3	3.8
	12H	5.4	6.1	5.9	6.5	6.9	2.2	2.8	2.7	3.3	3.7
4H	2H	5.6	6.4	6.1	6.8	7.2	2.4	3.2	2.9	3.6	4.0
	3H	5.4	6.1	5.9	6.5	6.9	2.3	2.9	2.7	3.3	3.8
	4H	5.3	5.9	5.8	6.3	6.8	2.2	2.7	2.6	3.2	3.7
	6H	5.2	5.7	5.7	6.2	6.7	2.1	2.6	2.6	3.1	3.6
	8H	5.2	5.6	5.7	6.1	6.6	2.1	2.5	2.6	3.0	3.5
	12H	5.1	5.5	5.7	6.0	6.5	2.0	2.4	2.6	2.9	3.5
8H	4H	5.1	5.6	5.7	6.1	6.6	2.0	2.4	2.5	2.9	3.4
	6H	5.1	5.4	5.6	5.9	6.4	1.9	2.3	2.5	2.8	3.3
	8H	5.0	5.3	5.6	5.9	6.4	1.9	2.2	2.5	2.8	3.3
	12H	5.0	5.3	5.6	5.8	6.4	2.0	2.2	2.5	2.7	3.4
12H	4H	5.1	5.5	5.6	6.0	6.5	1.9	2.3	2.5	2.8	3.3
	6H	5.0	5.3	5.5	5.8	6.4	1.9	2.2	2.4	2.7	3.3
	8H	5.0	5.2	5.5	5.8	6.4	1.9	2.1	2.4	2.7	3.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0