

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 FG
N/A

Test Number

SP-01209_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	1114
Efficacy	55.98 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

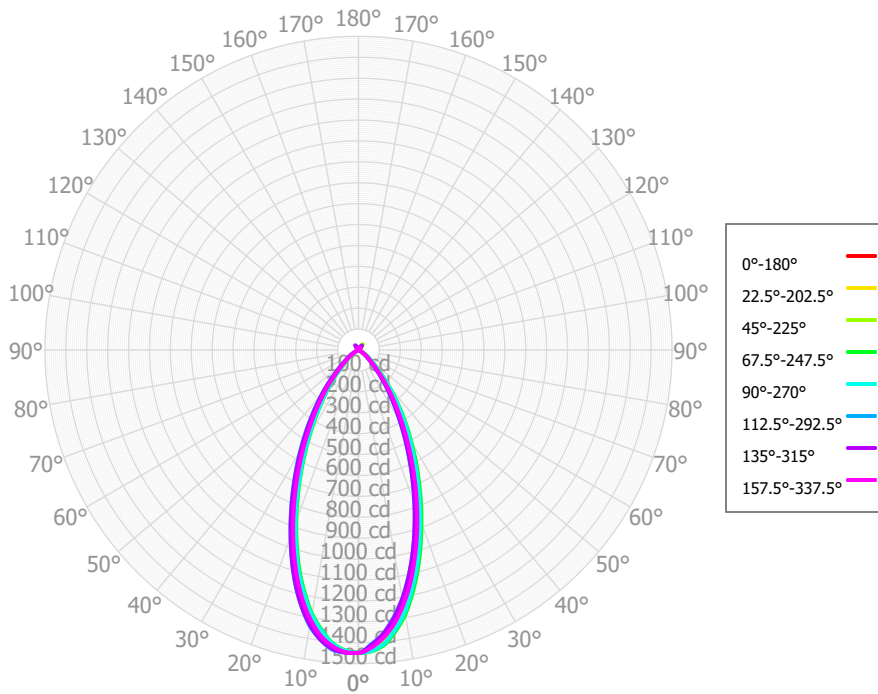
Full Beam Angle

0° - 180°	47°
90° - 270°	47°

IES File Header Contents

Keyword	Value
TEST	SP-01209_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 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, scaled from 50L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	131.67	11.82%	90.00° - 100.00°	0.60	0.05%
10.00° - 20.00°	299.78	26.91%	100.00° - 110.00°	0.63	0.06%
20.00° - 30.00°	302.74	27.18%	100.00° - 120.00°	1.80	0.16%
30.00° - 40.00°	206.70	18.56%	120.00° - 130.00°	3.35	0.30%
40.00° - 50.00°	98.95	8.88%	130.00° - 140.00°	6.40	0.57%
50.00° - 60.00°	37.64	3.38%	140.00° - 150.00°	10.57	0.95%
60.00° - 70.00°	5.99	0.54%	150.00° - 160.00°	5.10	0.46%
70.00° - 80.00°	0.65	0.06%	160.00° - 170.00°	1.36	0.12%
80.00° - 90.00°	0.58	0.05%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	1084.70	97.37%	0.00° - 180.00°	1114.00	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°	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29	1449.29
2.50°	1426.01	1438.93	1439.76	1442.60	1440.02	1448.76	1449.71	1446.69	1444.78	1444.11	1444.82	1438.87	1440.16	1408.79	1413.00	1425.14	1426.01
5.00°	1384.12	1402.19	1402.89	1416.23	1410.27	1439.23	1435.31	1422.59	1422.45	1411.94	1414.02	1409.07	1412.29	1361.65	1362.80	1381.21	1384.12
7.50°	1320.53	1346.90	1343.56	1356.78	1348.18	1397.62	1397.37	1379.69	1377.58	1362.99	1363.72	1350.67	1355.85	1289.18	1293.96	1319.51	1320.53
10.00°	1240.20	1267.35	1266.02	1285.98	1274.84	1341.66	1336.34	1312.76	1313.86	1291.70	1296.85	1281.65	1289.43	1207.03	1208.29	1237.73	1240.20
12.50°	1144.20	1177.21	1171.67	1192.37	1177.53	1257.56	1257.20	1229.26	1231.43	1207.15	1212.74	1189.67	1199.55	1107.44	1109.18	1143.82	1144.20
15.00°	1041.55	1074.36	1070.96	1091.80	1076.33	1165.23	1161.51	1130.87	1134.65	1107.50	1115.00	1091.48	1102.23	1001.76	1003.20	1037.14	1041.55
17.50°	933.21	970.07	964.85	986.34	967.60	1058.19	1057.82	1023.07	1029.37	999.55	1008.57	981.10	994.02	892.03	892.12	929.29	933.21
20.00°	826.55	864.21	860.65	879.54	861.18	951.48	947.43	914.30	918.03	890.07	895.83	870.44	882.74	781.04	784.09	820.31	826.55
22.50°	721.23	761.54	757.94	778.50	758.88	845.32	840.87	804.96	809.37	779.84	786.27	759.28	773.07	676.35	678.12	715.31	721.23
25.00°	623.08	662.13	661.82	678.85	661.07	743.35	737.28	702.51	702.46	675.16	678.81	652.52	663.80	573.44	580.10	613.90	623.08
27.50°	530.19	569.47	570.45	589.19	570.56	647.71	640.37	603.73	603.11	573.06	579.14	553.06	566.12	483.81	487.03	521.00	530.19
30.00°	446.68	483.15	486.76	501.63	485.76	557.21	548.23	514.33	508.34	483.14	484.26	461.15	471.00	397.46	405.45	435.13	446.68
32.50°	369.56	405.37	408.21	425.17	409.60	473.82	464.87	429.48	425.32	398.30	401.75	380.85	392.47	327.64	330.50	359.89	369.56
35.00°	303.05	334.97	338.82	350.76	339.24	397.23	387.24	356.91	348.77	328.10	326.17	309.40	317.08	261.38	268.87	292.83	303.05
37.50°	243.15	271.03	275.06	287.45	276.91	329.38	320.16	289.73	285.15	263.49	264.31	250.39	259.50	209.73	214.23	234.29	243.15
40.00°	190.68	212.26	218.14	225.85	219.40	266.37	259.37	232.70	228.13	209.58	209.56	197.30	204.84	160.85	166.82	181.75	190.68
42.50°	142.43	164.21	165.04	177.00	168.00	209.05	204.94	179.74	178.46	159.34	162.61	151.94	160.29	124.18	122.85	139.27	142.43
45.00°	108.87	124.05	126.75	129.82	126.97	160.82	154.02	138.56	132.18	122.09	119.34	114.79	117.12	89.45	93.40	103.28	108.87
47.50°	83.02	95.24	96.11	102.95	98.18	122.41	117.53	101.65	100.38	88.80	90.65	87.47	91.28	69.71	70.32	78.61	83.02
50.00°	64.62	74.18	75.08	78.20	75.26	93.22	88.28	78.37	74.64	68.22	68.27	65.67	67.39	51.93	54.26	60.69	64.62
52.50°	49.78	57.30	58.57	62.14	58.70	73.30	68.80	59.58	56.82	51.13	52.39	49.93	53.00	39.79	40.98	46.61	49.78
55.00°	37.07	43.04	44.41	46.81	43.88	56.72	53.77	45.19	42.03	38.42	39.04	36.77	39.44	28.27	29.46	34.61	37.07
57.50°	25.31	30.39	31.26	33.67	30.79	43.22	40.37	32.09	30.44	26.77	28.07	26.26	28.64	19.18	18.57	23.77	25.31
60.00°	15.07	18.68	19.06	20.66	18.84	30.17	27.65	21.19	19.96	17.73	17.93	17.31	18.01	10.29	10.86	13.52	15.07
62.50°	5.43	10.03	7.23	11.07	7.94	17.48	16.81	10.87	11.88	9.24	10.57	9.82	11.12	5.52	4.18	6.97	5.43
65.00°	2.08	2.98	2.81	1.60	2.34	8.79	6.68	5.45	4.54	4.89	4.10	4.82	4.40	1.02	1.89	2.11	2.08
67.50°	0.96	0.70	0.97	1.10	1.22	3.24	2.83	1.15	1.99	1.30	1.84	1.97	2.39	0.72	0.88	0.79	0.96
70.00°	0.66	0.70	0.61	0.75	0.74	0.76	1.14	0.46	0.75	0.72	0.76	0.63	0.48	0.59	0.63	0.91	0.66
72.50°	0.64	0.64	0.70	0.72	0.75	0.53	0.67	0.48	0.56	0.61	0.53	0.51	0.58	0.65	0.57	0.79	0.64
75.00°	0.60	0.54	0.63	0.70	0.67	0.52	0.56	0.49	0.62	0.65	0.51	0.51	0.67	0.71	0.57	0.57	0.60
77.50°	0.57	0.48	0.52	0.70	0.54	0.67	0.52	0.51	0.66	0.71	0.55	0.60	0.62	0.62	0.58	0.53	0.57
80.00°	0.59	0.45	0.53	0.70	0.47	0.69	0.50	0.55	0.71	0.64	0.60	0.66	0.57	0.54	0.54	0.56	0.59
82.50°	0.62	0.41	0.56	0.66	0.44	0.63	0.47	0.60	0.64	0.55	0.60	0.68	0.52	0.56	0.50	0.50	0.62
85.00°	0.56	0.37	0.55	0.61	0.44	0.56	0.43	0.55	0.54	0.45	0.59	0.64	0.47	0.58	0.53	0.43	0.56
87.50°	0.48	0.46	0.52	0.47	0.47	0.47	0.50	0.50	0.47	0.35	0.53	0.54	0.51	0.57	0.58	0.48	0.48
90.00°	0.53	0.60	0.55	0.35	0.50	0.55	0.59	0.48	0.39	0.50	0.45	0.49	0.54	0.56	0.57	0.56	0.53
92.50°	0.61	0.56	0.59	0.51	0.54	0.71	0.63	0.46	0.43	0.67	0.46	0.46	0.46	0.57	0.55	0.52	0.61
95.00°	0.62	0.48	0.56	0.66	0.62	0.65	0.67	0.42	0.48	0.65	0.47	0.49	0.41	0.58	0.54	0.44	0.62
97.50°	0.61	0.53	0.51	0.68	0.73	0.48	0.71	0.38	0.53	0.62	0.52	0.57	0.51	0.55	0.53	0.46	0.61
100.00°	0.66	0.61	0.53	0.69	0.72	0.42	0.75	0.45	0.58	0.61	0.57	0.60	0.61	0.51	0.55	0.50	0.66
102.50°	0.70	0.58	0.56	0.64	0.67	0.40	0.65	0.52	0.58	0.59	0.54	0.63	0.57	0.45	0.57	0.62	0.70
105.00°	0.62	0.54	0.65	0.60	0.76	0.44	0.54	0.42	0.57	0.53	0.52	0.64	0.55	0.42	0.72	0.75	0.62
107.50°	0.53	0.61	0.76	0.65	0.92	0.51	0.55	0.32	0.49	0.47	0.59	0.64	0.65	0.51	0.88	0.73	0.53
110.00°	0.74	0.70	0.74	0.71	0.86	0.55	0.56	0.51	0.39	0.57	0.67	0.66	0.73	0.60	0.65	0.68	0.74
112.50°	0.98	1.00	0.71	0.81	0.70	0.58	0.54	0.71	0.50	0.67	0.64	0.70	0.75	0.67	0.41	1.74	0.98

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	1319	1319	1319	1319	1285	1285	1285	1285	1221	1221	1221	1163	1163	1163	1110	1110	1085
	1	1255	1223	1195	1169	1225	1196	1171	1148	1146	1125	1107	1099	1083	1069	1057	1044	1021
	2	1190	1134	1087	1048	1162	1112	1070	1034	1071	1037	1007	1033	1006	981	998	976	955
	3	1127	1053	996	950	1102	1035	983	941	1002	958	922	971	934	904	942	912	886
	4	1067	981	917	869	1045	966	907	862	938	888	848	912	870	835	888	852	823
	5	1011	916	849	799	991	903	841	794	880	826	785	858	812	775	838	798	766
	6	959	857	789	740	941	847	783	736	827	771	729	809	759	722	791	748	715
	7	911	805	737	688	894	796	732	686	779	722	680	763	712	674	748	703	669
	8	866	758	690	643	851	750	686	641	736	678	637	722	670	632	709	663	628
	9	825	716	649	603	811	709	645	602	696	638	598	684	632	594	673	626	591
	10	787	677	611	568	774	671	609	566	660	603	563	650	597	561	640	592	558

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	47.9 fc	4.6 ft
6.5 ft	34.3 fc	5.5 ft
7.5 ft	25.8 fc	6.3 ft
8.0 ft	22.6 fc	6.8 ft
10.0 ft	14.5 fc	8.4 ft
12.0 ft	10.1 fc	10.1 ft
14.0 ft	7.4 fc	11.8 ft
16.0 ft	5.7 fc	13.5 ft
20.0 ft	3.6 fc	16.9 ft
24.0 ft	2.5 fc	20.3 ft
28.0 ft	1.8 fc	23.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	50044	50044	50044
45.00°	5317	6190	6200
55.00°	2232	2674	2642
65.00°	170	230	191
75.00°	80	84	90
85.00°	223	216	175

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	7.0	8.0	7.4	8.4	8.8	8.8	9.8	9.2	10.2	10.6
	3H	6.8	7.7	7.2	8.1	8.5	8.6	9.5	9.0	9.9	10.3
	4H	6.7	7.5	7.2	8.0	8.4	8.5	9.3	9.0	9.7	10.2
	6H	6.6	7.4	7.1	7.8	8.3	8.4	9.2	8.9	9.6	10.1
	8H	6.6	7.3	7.0	7.7	8.2	8.4	9.1	8.8	9.5	10.0
	12H	6.5	7.2	7.0	7.6	8.1	8.3	9.0	8.8	9.4	9.9
4H	2H	6.7	7.5	7.2	8.0	8.4	8.5	9.4	9.0	9.8	10.2
	3H	6.5	7.2	7.0	7.7	8.1	8.4	9.0	8.8	9.5	10.0
	4H	6.4	7.0	6.9	7.5	8.0	8.3	8.9	8.7	9.3	9.8
	6H	6.3	6.8	6.8	7.3	7.9	8.2	8.7	8.7	9.2	9.7
	8H	6.3	6.7	6.8	7.2	7.8	8.1	8.6	8.6	9.1	9.6
	12H	6.2	6.6	6.8	7.2	7.7	8.0	8.5	8.6	9.0	9.5
8H	4H	6.3	6.7	6.8	7.2	7.8	8.1	8.6	8.6	9.1	9.6
	6H	6.1	6.5	6.7	7.1	7.6	8.0	8.4	8.5	8.9	9.5
	8H	6.1	6.4	6.7	7.0	7.6	7.9	8.3	8.5	8.8	9.4
	12H	6.1	6.4	6.6	6.9	7.5	7.9	8.2	8.4	8.7	9.4
12H	4H	6.2	6.6	6.7	7.1	7.7	8.0	8.4	8.6	9.0	9.5
	6H	6.1	6.4	6.7	6.9	7.6	7.9	8.2	8.5	8.8	9.4
	8H	6.0	6.3	6.6	6.9	7.5	7.9	8.2	8.4	8.7	9.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0