

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGRTE8XT 20L 35K XW XX AR8466XT SG GL
N/A

Test Number

SP-01211_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
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Lumen Output

Output Lumens	1353
Efficacy	68 lm/W

Luminous Dimensions

0° - 180° Size	-0.63
90° - 270° Size	-0.63
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.82
Two luminaires, plane 90°	0.83
Four luminaires	0.86

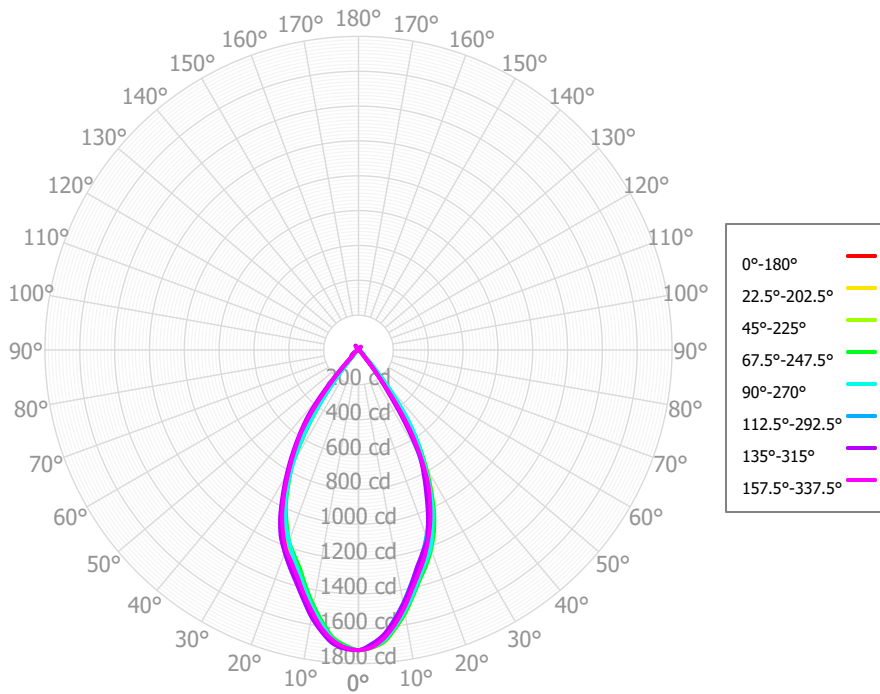
Full Beam Angle

0° - 180°	56°
90° - 270°	56°

IES File Header Contents

Keyword	Value
TEST	SP-01211_1_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/11/2021
ISSUEDATE	2/25/2021
LUMCAT	SGRTE8XT 20L 35K XW 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°	156.17	11.54%	90.00° - 100.00°	0.64	0.05%
10.00° - 20.00°	375.82	27.77%	100.00° - 110.00°	0.61	0.04%
20.00° - 30.00°	452.60	33.45%	100.00° - 120.00°	1.35	0.10%
30.00° - 40.00°	280.77	20.75%	120.00° - 130.00°	1.10	0.08%
40.00° - 50.00°	45.91	3.39%	130.00° - 140.00°	1.92	0.14%
50.00° - 60.00°	18.42	1.36%	140.00° - 150.00°	8.27	0.61%
60.00° - 70.00°	5.33	0.39%	150.00° - 160.00°	2.78	0.21%
70.00° - 80.00°	0.64	0.05%	160.00° - 170.00°	0.76	0.06%
80.00° - 90.00°	0.62	0.05%	170.00° - 180.00°	0.12	0.01%
0.00° - 90.00°	1336.29	98.75%	0.00° - 180.00°	1353.24	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°	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14	1723.14
2.50°	1700.93	1710.47	1707.79	1710.65	1707.12	1710.72	1717.76	1710.11	1712.82	1700.80	1710.42	1698.84	1707.75	1691.38	1691.54	1709.43	1700.93
5.00°	1664.33	1683.69	1667.86	1680.66	1673.24	1689.60	1691.61	1674.11	1681.21	1667.99	1663.27	1659.65	1670.79	1645.93	1642.41	1663.23	1664.33
7.50°	1592.66	1613.31	1607.67	1610.91	1602.10	1627.40	1630.54	1612.48	1608.98	1589.19	1591.61	1578.71	1592.52	1563.27	1566.20	1591.34	1592.66
10.00°	1509.81	1536.96	1526.09	1534.77	1522.09	1551.84	1556.54	1527.03	1528.73	1504.23	1505.42	1488.70	1508.33	1476.29	1479.25	1505.96	1509.81
12.50°	1419.90	1443.40	1441.63	1444.94	1435.69	1464.82	1464.97	1439.77	1435.46	1411.26	1411.52	1394.26	1412.22	1382.38	1387.16	1412.37	1419.90
15.00°	1328.25	1358.11	1354.64	1362.65	1348.18	1374.93	1382.28	1351.12	1351.05	1317.67	1328.59	1299.15	1323.21	1296.77	1293.48	1329.81	1328.25
17.50°	1257.16	1291.91	1277.63	1293.64	1276.93	1304.40	1309.67	1278.93	1278.44	1253.99	1250.34	1231.88	1245.79	1222.03	1221.68	1252.80	1257.16
20.00°	1189.68	1215.57	1207.88	1217.48	1207.49	1237.37	1237.11	1217.25	1205.76	1190.47	1177.66	1167.13	1168.88	1139.40	1154.97	1166.40	1189.68
22.50°	1079.76	1120.40	1112.85	1131.03	1107.38	1146.90	1164.61	1132.76	1133.02	1097.85	1106.89	1077.87	1092.64	1048.12	1043.23	1076.24	1079.76
25.00°	964.82	1016.96	1002.73	1025.80	1005.46	1053.55	1064.71	1036.41	1035.76	1003.59	1003.17	987.40	998.76	948.20	923.89	972.83	964.82
27.50°	861.70	900.79	886.33	898.31	878.43	929.02	943.29	921.43	915.99	887.30	890.85	873.57	885.14	840.46	814.17	865.26	861.70
30.00°	759.32	769.96	766.84	770.33	751.53	802.45	823.47	798.53	798.89	769.46	773.05	756.84	752.42	695.20	705.48	720.90	759.32
32.50°	564.60	620.61	609.81	641.84	633.48	687.51	704.68	681.78	683.83	639.57	654.22	588.75	602.04	521.93	504.34	567.67	564.60
35.00°	370.38	448.46	438.05	495.82	511.14	571.72	587.15	567.08	553.61	503.49	484.06	420.79	428.19	347.28	298.46	374.88	370.38
37.50°	216.56	252.58	275.70	335.44	341.73	424.21	470.31	412.46	413.96	335.27	307.24	254.00	236.45	171.78	176.33	175.30	216.56
40.00°	73.35	126.00	116.30	198.99	184.35	278.70	307.34	247.71	260.44	184.56	176.42	105.37	122.04	85.51	59.12	100.36	73.35
42.50°	49.00	59.93	62.36	78.91	106.53	156.75	124.59	145.65	99.81	100.12	48.91	63.50	56.72	44.27	42.44	39.10	49.00
45.00°	26.98	29.03	33.15	34.48	42.41	50.46	67.74	55.36	46.01	37.09	37.72	28.63	30.26	27.54	26.66	28.62	26.98
47.50°	21.13	23.41	26.11	32.30	42.69	52.66	53.38	42.37	36.10	37.23	29.02	23.01	23.86	20.72	20.45	21.07	21.13
50.00°	15.59	18.69	22.74	29.15	41.59	53.47	49.97	38.97	32.99	36.84	27.74	18.02	18.79	16.19	14.59	16.25	15.59
52.50°	11.55	14.50	18.55	25.56	35.71	47.61	49.42	34.17	32.12	35.22	26.35	15.01	14.28	12.40	10.92	11.51	11.55
55.00°	8.06	11.30	14.26	20.27	29.40	41.29	43.15	29.28	29.81	32.51	23.43	12.18	11.48	9.71	7.58	8.40	8.06
57.50°	6.48	8.57	11.40	14.37	21.91	33.37	35.79	24.57	27.15	27.73	20.27	9.82	9.24	7.28	5.75	5.48	6.48
60.00°	4.88	6.35	8.61	10.39	14.82	25.21	28.28	19.79	22.66	21.74	15.41	7.45	7.37	5.75	4.10	4.63	4.88
62.50°	3.26	4.32	5.18	6.95	8.57	16.39	20.75	12.35	17.84	13.89	10.48	5.08	5.60	4.38	3.04	3.68	3.26
65.00°	1.89	2.56	1.86	3.97	3.86	8.74	11.13	5.29	9.73	7.45	5.27	3.04	3.38	2.57	2.04	2.11	1.89
67.50°	1.09	0.88	1.26	1.10	1.83	3.72	1.35	2.82	1.23	2.85	1.11	1.52	1.09	0.70	1.19	0.81	1.09
70.00°	0.59	0.55	0.71	0.66	0.64	0.53	0.95	0.65	0.63	0.49	0.95	0.62	0.67	0.69	0.63	0.77	0.59
72.50°	0.62	0.53	0.66	0.58	0.66	0.65	0.74	0.58	0.53	0.54	0.80	0.56	0.47	0.80	0.67	0.73	0.62
75.00°	0.59	0.52	0.62	0.53	0.69	0.67	0.59	0.54	0.56	0.53	0.73	0.58	0.48	0.66	0.70	0.69	0.59
77.50°	0.50	0.52	0.61	0.48	0.73	0.54	0.45	0.62	0.58	0.49	0.65	0.68	0.51	0.52	0.72	0.64	0.50
80.00°	0.50	0.50	0.60	0.57	0.66	0.49	0.43	0.67	0.64	0.49	0.60	0.66	0.54	0.60	0.69	0.58	0.50
82.50°	0.61	0.48	0.57	0.65	0.49	0.53	0.44	0.58	0.68	0.53	0.53	0.54	0.58	0.66	0.59	0.57	0.61
85.00°	0.63	0.51	0.55	0.68	0.52	0.59	0.59	0.52	0.57	0.52	0.45	0.56	0.57	0.50	0.58	0.63	0.63
87.50°	0.56	0.53	0.54	0.69	0.72	0.66	0.68	0.51	0.47	0.49	0.45	0.68	0.55	0.38	0.67	0.68	0.56
90.00°	0.51	0.59	0.52	0.58	0.71	0.67	0.56	0.55	0.48	0.53	0.59	0.66	0.50	0.55	0.71	0.71	0.51
92.50°	0.48	0.66	0.47	0.49	0.56	0.63	0.48	0.69	0.51	0.60	0.69	0.54	0.46	0.68	0.70	0.67	0.48
95.00°	0.53	0.67	0.46	0.59	0.55	0.54	0.58	0.74	0.66	0.61	0.76	0.53	0.48	0.63	0.67	0.53	0.53
97.50°	0.62	0.67	0.55	0.66	0.61	0.42	0.66	0.63	0.74	0.59	0.74	0.58	0.50	0.58	0.61	0.47	0.62
100.00°	0.58	0.56	0.61	0.60	0.65	0.45	0.71	0.53	0.57	0.52	0.63	0.59	0.57	0.53	0.60	0.51	0.58
102.50°	0.46	0.46	0.60	0.57	0.68	0.58	0.71	0.44	0.45	0.44	0.57	0.59	0.63	0.51	0.60	0.55	0.46
105.00°	0.54	0.44	0.60	0.61	0.70	0.54	0.63	0.43	0.49	0.46	0.56	0.65	0.65	0.59	0.58	0.59	0.54
107.50°	0.70	0.44	0.59	0.66	0.73	0.42	0.60	0.50	0.48	0.51	0.56	0.74	0.64	0.68	0.55	0.61	0.70
110.00°	0.70	0.57	0.62	0.74	0.70	0.47	0.65	0.56	0.40	0.54	0.57	0.67	0.57	0.80	0.57	0.60	0.70
112.50°	0.65	0.67	0.69	0.83	0.66	0.57	0.66	0.61	0.37	0.56	0.62	0.56	0.55	0.92	0.61	0.70	0.65

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	1607	1607	1607	1607	1568	1568	1568	1568	1494	1494	1494	1427	1427	1427	1365	1365	1336
	1	1533	1496	1463	1433	1498	1465	1435	1409	1407	1384	1362	1354	1336	1319	1305	1291	1264
	2	1459	1394	1340	1295	1427	1369	1320	1279	1323	1283	1249	1280	1248	1219	1240	1215	1189
	3	1387	1301	1235	1183	1358	1281	1221	1172	1243	1193	1151	1208	1166	1131	1176	1141	1118
	4	1318	1218	1144	1088	1292	1201	1133	1081	1170	1112	1066	1141	1092	1052	1114	1073	1052
	5	1253	1142	1064	1007	1230	1128	1056	1002	1102	1040	991	1078	1024	981	1055	1009	990
	6	1191	1073	994	937	1171	1062	987	933	1040	974	925	1019	962	918	1000	950	933
	7	1134	1011	931	875	1115	1001	925	872	982	915	866	965	905	860	948	895	880
	8	1080	954	874	820	1063	945	870	817	929	861	813	914	853	809	900	845	831
	9	1030	902	823	770	1014	894	820	768	881	813	765	868	806	762	855	799	787
	10	983	854	777	726	969	848	774	724	836	768	722	824	763	719	814	757	745

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	57.0 fc	5.8 ft
6.5 ft	40.8 fc	6.8 ft
7.5 ft	30.6 fc	7.9 ft
8.0 ft	26.9 fc	8.4 ft
10.0 ft	17.2 fc	10.5 ft
12.0 ft	12.0 fc	12.6 ft
14.0 ft	8.8 fc	14.7 ft
16.0 ft	6.7 fc	16.8 ft
20.0 ft	4.3 fc	21.0 ft
24.0 ft	3.0 fc	25.2 ft
28.0 ft	2.2 fc	29.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	59500	59500	59500
45.00°	1318	1619	2071
55.00°	485	858	1770
65.00°	155	152	316
75.00°	79	83	92
85.00°	251	218	207

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	-2.7	-1.8	-2.3	-1.4	-1.1	5.5	6.5	5.9	6.8	7.2
	3H	-2.8	-2.0	-2.4	-1.6	-1.2	5.4	6.2	5.8	6.6	7.0
	4H	-2.9	-2.1	-2.4	-1.7	-1.3	5.3	6.0	5.7	6.4	6.8
	6H	-2.9	-2.2	-2.5	-1.8	-1.4	5.2	5.9	5.6	6.3	6.7
	8H	-2.9	-2.2	-2.4	-1.8	-1.4	5.1	5.8	5.6	6.2	6.6
	12H	-2.8	-2.2	-2.3	-1.7	-1.3	5.1	5.7	5.5	6.1	6.6
4H	2H	-2.9	-2.1	-2.4	-1.7	-1.3	5.5	6.3	5.9	6.7	7.1
	3H	-3.0	-2.3	-2.5	-1.9	-1.5	5.3	5.9	5.8	6.4	6.8
	4H	-3.0	-2.4	-2.5	-2.0	-1.5	5.2	5.8	5.7	6.2	6.7
	6H	-3.0	-2.5	-2.5	-2.0	-1.5	5.1	5.6	5.6	6.1	6.6
	8H	-2.9	-2.5	-2.4	-2.0	-1.5	5.1	5.5	5.6	6.0	6.5
	12H	-2.7	-2.3	-2.2	-1.8	-1.3	5.0	5.4	5.5	5.9	6.4
8H	4H	-3.1	-2.7	-2.6	-2.2	-1.7	5.0	5.5	5.5	5.9	6.4
	6H	-3.0	-2.7	-2.5	-2.1	-1.6	4.9	5.3	5.5	5.8	6.3
	8H	-2.9	-2.5	-2.3	-2.0	-1.5	4.9	5.2	5.4	5.7	6.3
	12H	-2.5	-2.2	-1.9	-1.7	-1.1	4.9	5.1	5.4	5.6	6.3
12H	4H	-3.2	-2.8	-2.6	-2.3	-1.8	5.0	5.3	5.5	5.8	6.4
	6H	-3.0	-2.7	-2.5	-2.2	-1.6	4.9	5.2	5.4	5.7	6.2
	8H	-2.8	-2.5	-2.3	-2.0	-1.4	4.8	5.1	5.4	5.6	6.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0