

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CR2 835 20 xx xx RD2WW RB2BW xx xx

Nom 2.5 inch dia cylinder with flood optic, wall wash lens and standard black bezel

Test Number

SP-01273_14

Test Date

9/23/2021

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

Summary of Results

Power

Input Watts	27 W
-------------	------

Lumen Output

Output Lumens	1475
Efficacy	54.63 lm/W

Luminous Dimensions

0° - 180° Size	-0.21
90° - 270° Size	-0.21
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.77
Two luminaires, plane 90°	0.85
Four luminaires	1.06

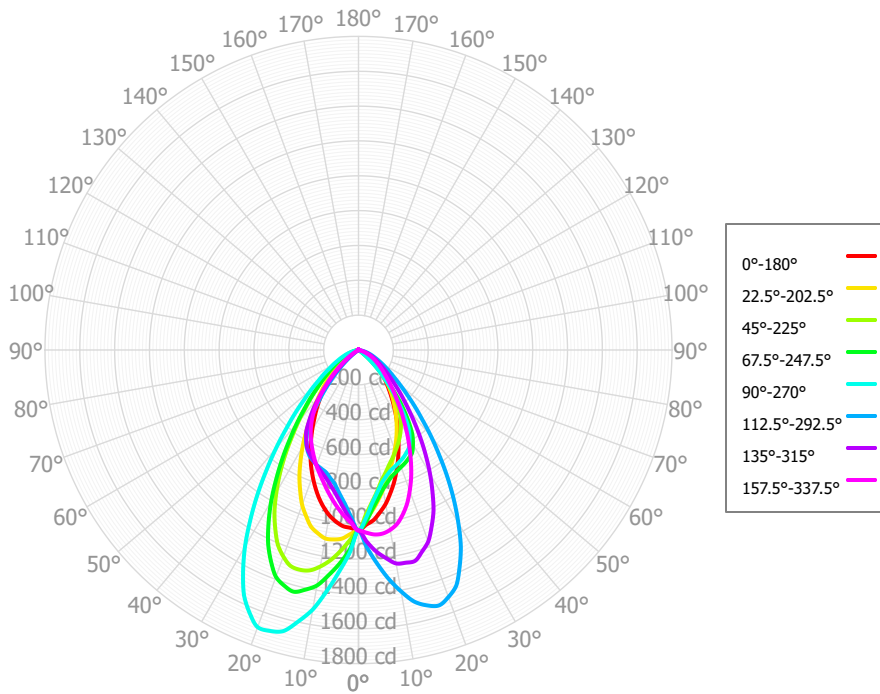
Full Beam Angle

0° - 180°	29°
90° - 270°	44°

IES File Header Contents

Keyword	Value
TEST	SP-01273_14
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/23/2021
ISSUEDATE	11/4/2021
LUMCAT	CR2 835 20 xx xx RD2WW RB2BW xx xx
LUMINAIRE	Nom 2.5 inch dia cylinder with flood optic, wall wash lens and standard black bezel
OTHER	Beam Angle: xx deg
LAMPCAT	N/A
LAMP	N/A, 6mm LES
OTHER	80 CRI, 3500K tested
OTHER	LER (luminaire efficacy) = xx lms / watt
OTHER	CCT Output Multipliers: 822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
OTHER	CCT Output Multipliers: 927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87
OTHER	Total luminaire wattages are approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	100.09	6.79%	90.00° - 100.00°	1.53	0.10%
10.00° - 20.00°	279.75	18.97%	100.00° - 110.00°	1.45	0.10%
20.00° - 30.00°	380.46	25.80%	100.00° - 120.00°	2.88	0.20%
30.00° - 40.00°	340.76	23.10%	120.00° - 130.00°	1.36	0.09%
40.00° - 50.00°	207.87	14.09%	130.00° - 140.00°	1.19	0.08%
50.00° - 60.00°	97.53	6.61%	140.00° - 150.00°	0.97	0.07%
60.00° - 70.00°	42.85	2.91%	150.00° - 160.00°	0.73	0.05%
70.00° - 80.00°	14.08	0.95%	160.00° - 170.00°	0.47	0.03%
80.00° - 90.00°	2.26	0.15%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1465.64	99.37%	0.00° - 180.00°	1474.93	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°	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30	1036.30
2.50°	1004.58	975.17	948.18	987.07	967.58	960.06	979.61	992.55	1022.63	1057.69	1089.94	1145.54	1165.55	1136.36	1102.30	1050.09	1004.58
5.00°	981.13	924.22	878.39	915.91	885.45	888.06	920.10	955.12	1015.38	1086.89	1156.56	1229.46	1277.58	1231.35	1161.15	1063.21	981.13
7.50°	940.68	868.81	818.40	859.92	824.54	832.41	865.15	913.21	993.48	1097.07	1215.78	1302.55	1395.79	1325.37	1204.87	1062.98	940.68
10.00°	897.44	813.43	760.90	810.70	773.71	782.43	818.68	869.65	964.00	1098.58	1262.37	1372.99	1513.19	1407.49	1244.39	1048.50	897.44
12.50°	842.89	758.07	720.20	775.86	741.05	752.31	780.41	825.87	924.57	1077.82	1296.06	1409.34	1596.40	1479.83	1251.16	1022.94	842.89
15.00°	787.48	706.20	681.46	748.19	715.89	726.10	750.35	782.04	878.24	1050.77	1305.91	1436.77	1671.12	1517.93	1253.55	979.27	787.48
17.50°	726.06	655.78	650.13	730.46	699.94	713.62	725.72	743.69	825.68	1000.15	1299.50	1418.58	1691.19	1537.47	1213.68	926.37	726.06
20.00°	664.34	609.25	618.90	714.77	684.66	701.94	703.64	705.78	770.22	946.29	1261.90	1386.02	1693.26	1509.57	1170.56	860.22	664.34
22.50°	600.94	563.66	588.45	700.96	669.95	685.78	682.64	666.67	713.03	874.91	1210.10	1313.25	1634.03	1465.71	1096.99	789.93	600.94
25.00°	539.28	518.68	557.38	684.39	650.78	667.96	659.61	627.63	652.68	802.51	1131.08	1227.51	1555.01	1373.69	1019.04	712.82	539.28
27.50°	482.82	473.78	523.61	666.07	629.19	638.82	636.08	589.09	591.13	721.69	1044.68	1118.28	1435.16	1272.55	920.30	634.56	482.82
30.00°	428.13	429.99	487.72	625.38	586.58	602.29	598.48	549.28	532.39	641.11	942.62	1002.55	1303.27	1146.41	820.97	560.76	428.13
32.50°	376.73	386.54	446.53	575.62	536.88	540.52	559.21	504.73	474.29	561.64	838.54	879.05	1155.17	1018.62	720.10	487.77	376.73
35.00°	329.60	346.34	398.43	499.98	458.49	470.62	491.94	456.51	423.17	486.14	732.24	761.85	1009.32	889.16	622.65	425.10	329.60
37.50°	287.87	306.29	339.06	418.30	374.65	383.90	423.35	400.17	372.73	421.39	627.08	649.69	865.56	761.89	531.15	364.61	287.87
40.00°	251.31	266.88	278.94	332.90	294.21	302.25	343.82	341.53	324.10	361.53	536.02	551.67	736.27	648.87	449.95	316.87	251.31
42.50°	219.11	226.91	217.98	247.18	214.91	227.53	267.32	279.59	276.24	310.28	449.00	461.35	615.92	541.92	380.60	271.85	219.11
45.00°	190.37	185.53	164.90	184.88	158.03	164.04	203.60	222.30	234.22	264.57	380.69	387.74	516.28	455.02	321.22	235.19	190.37
47.50°	163.55	147.25	117.56	124.31	103.34	110.99	144.89	169.59	193.20	225.29	317.19	319.79	424.79	376.01	269.50	202.61	163.55
50.00°	138.89	113.89	81.40	78.88	63.04	67.49	98.81	126.13	155.94	191.25	266.63	271.40	355.01	312.89	228.59	177.77	138.89
52.50°	115.03	84.92	50.69	38.61	28.55	29.91	59.57	88.76	121.97	161.28	221.93	226.56	290.31	259.49	193.29	154.56	115.03
55.00°	93.89	60.70	29.51	18.76	13.35	12.65	31.31	59.09	95.40	134.77	187.22	193.58	243.90	219.31	165.21	133.44	93.89
57.50°	73.31	40.77	11.16	4.23	2.83	3.41	13.07	32.67	71.50	110.03	157.01	161.69	199.43	184.39	139.44	114.70	73.31
60.00°	57.17	23.96	5.50	2.45	1.76	1.53	5.54	18.17	51.47	89.76	131.86	137.65	168.23	154.27	119.71	98.01	57.17
62.50°	41.41	13.21	1.71	1.35	1.25	1.37	2.08	6.74	34.02	70.95	109.19	114.50	137.93	128.69	101.00	81.69	41.41
65.00°	27.85	5.33	1.57	1.32	1.51	1.42	1.62	3.72	19.16	53.25	88.45	96.80	115.68	105.87	85.46	65.59	27.85
67.50°	15.22	2.89	1.56	1.24	1.59	1.49	1.33	1.68	9.97	35.74	70.40	79.54	94.28	87.85	70.12	51.16	15.22
70.00°	9.09	2.03	1.41	1.12	1.51	1.66	1.12	1.53	4.57	22.98	53.73	63.72	76.30	71.68	55.18	37.35	9.09
72.50°	4.03	1.71	1.30	1.23	1.30	1.78	1.34	1.39	2.36	10.82	38.61	48.59	58.95	56.59	40.41	24.04	4.03
75.00°	2.61	1.46	1.36	1.52	1.03	1.41	1.68	1.23	1.51	6.42	23.97	34.86	43.09	41.74	26.62	10.82	2.61
77.50°	1.65	1.32	1.39	1.67	1.03	1.14	1.46	1.12	1.16	2.56	13.95	22.39	27.95	27.22	14.46	6.04	1.65
80.00°	1.65	1.19	1.36	1.77	1.14	1.25	1.15	1.23	0.93	1.88	4.71	11.58	13.96	12.86	7.38	2.00	1.65
82.50°	1.58	1.34	1.37	1.61	1.19	1.37	1.14	1.35	1.14	1.41	2.86	5.07	5.48	7.12	2.51	1.70	1.58
85.00°	1.40	1.46	1.48	1.39	1.22	1.48	1.16	1.50	1.39	1.57	1.45	2.43	2.68	1.98	1.92	1.43	1.40
87.50°	1.31	1.40	1.54	1.41	1.39	1.48	1.32	1.53	1.37	1.62	1.56	1.51	1.51	1.87	1.49	1.47	1.31
90.00°	1.32	1.35	1.56	1.46	1.57	1.29	1.45	1.36	1.34	1.47	1.69	1.63	1.45	1.75	1.26	1.50	1.32
92.50°	1.28	1.34	1.52	1.43	1.42	1.19	1.40	1.26	1.38	1.45	1.91	1.59	1.29	1.59	1.15	1.57	1.28
95.00°	1.22	1.43	1.44	1.41	1.26	1.18	1.40	1.25	1.37	1.59	1.95	1.50	1.08	1.46	1.15	1.61	1.22
97.50°	1.34	1.67	1.40	1.38	1.16	1.20	1.52	1.22	1.16	1.57	1.44	1.54	1.16	1.36	1.25	1.63	1.34
100.00°	1.54	1.69	1.39	1.38	1.17	1.22	1.50	1.16	1.09	1.42	1.15	1.63	1.31	1.28	1.40	1.58	1.54
102.50°	1.55	1.45	1.35	1.52	1.57	1.28	1.23	1.22	1.36	1.41	1.28	1.63	1.30	1.21	1.36	1.45	1.55
105.00°	1.50	1.35	1.30	1.56	1.72	1.36	1.12	1.34	1.43	1.48	1.32	1.64	1.27	1.29	1.25	1.38	1.50
107.50°	1.47	1.37	1.25	1.35	1.26	1.29	1.22	1.36	1.18	1.44	1.24	1.76	1.23	1.52	1.20	1.37	1.47
110.00°	1.44	1.31	1.20	1.38	1.15	1.19	1.30	1.35	1.09	1.37	1.23	1.86	1.19	1.64	1.16	1.42	1.44
112.50°	1.62	1.19	1.30	1.82	1.56	1.38	1.37	1.49	1.20	1.42	1.30	1.82	1.17	1.69	1.35	1.49	1.62

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	1754	1754	1754	1754	1712	1712	1712	1712	1634	1634	1634	1562	1562	1562	1496	1496	1466
	1	1653	1605	1561	1522	1615	1571	1532	1496	1509	1477	1448	1452	1427	1403	1399	1379	1351
	2	1550	1463	1392	1331	1514	1436	1371	1316	1386	1331	1285	1339	1294	1255	1296	1260	1233
	3	1451	1337	1249	1178	1419	1315	1233	1168	1273	1204	1147	1234	1176	1128	1199	1150	1127
	4	1359	1225	1128	1053	1329	1207	1116	1046	1172	1094	1032	1140	1073	1018	1110	1053	1031
	5	1274	1127	1025	949	1247	1112	1016	944	1083	998	934	1055	982	924	1030	966	947
	6	1196	1040	936	861	1171	1027	929	858	1003	915	850	979	902	843	958	890	873
	7	1124	964	859	786	1102	953	854	784	931	843	778	912	832	773	893	822	807
	8	1059	896	793	722	1039	886	788	720	868	779	716	851	771	712	835	762	749
	9	1000	835	734	666	981	827	730	664	811	723	661	796	716	658	782	709	697
	10	945	781	682	617	928	774	679	616	760	673	613	747	667	611	735	661	651

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	34.3 fc	1.8 ft
6.5 ft	24.5 fc	2.2 ft
7.5 ft	18.4 fc	2.5 ft
8.0 ft	16.2 fc	2.7 ft
10.0 ft	10.4 fc	3.3 ft
12.0 ft	7.2 fc	4.0 ft
14.0 ft	5.3 fc	4.7 ft
16.0 ft	4.0 fc	5.3 ft
20.0 ft	2.6 fc	6.7 ft
24.0 ft	1.8 fc	8.0 ft
28.0 ft	1.3 fc	9.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	322052	322052	322052
45.00°	83666	72475	69454
55.00°	50874	15991	7235
65.00°	20479	1154	1114
75.00°	3136	1629	1232
85.00°	4976	5262	4368

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	21.5	22.7	21.8	23.0	23.3	24.0	25.2	24.4	25.6	25.9
	3H	21.7	22.8	22.1	23.1	23.5	25.1	26.2	25.5	26.5	26.9
	4H	21.7	22.7	22.1	23.0	23.4	25.4	26.4	25.8	26.8	27.2
	6H	21.6	22.5	22.0	22.9	23.3	25.5	26.4	25.9	26.8	27.2
	8H	21.5	22.4	22.0	22.8	23.2	25.4	26.3	25.9	26.7	27.1
	12H	21.5	22.3	21.9	22.7	23.2	25.4	26.2	25.9	26.6	27.1
4H	2H	22.0	23.0	22.5	23.4	23.8	24.2	25.2	24.6	25.6	26.0
	3H	22.5	23.3	22.9	23.7	24.2	25.4	26.3	25.9	26.7	27.1
	4H	22.5	23.2	22.9	23.6	24.1	25.8	26.5	26.2	26.9	27.4
	6H	22.4	23.0	22.9	23.5	24.0	25.9	26.5	26.4	27.0	27.5
	8H	22.3	22.9	22.8	23.4	23.9	25.9	26.4	26.3	26.9	27.4
	12H	22.3	22.8	22.8	23.3	23.8	25.8	26.3	26.3	26.8	27.3
8H	4H	22.6	23.2	23.1	23.7	24.1	25.7	26.3	26.2	26.7	27.2
	6H	22.5	23.0	23.1	23.5	24.0	25.8	26.3	26.3	26.8	27.3
	8H	22.5	22.9	23.0	23.4	23.9	25.8	26.2	26.3	26.7	27.2
	12H	22.4	22.8	23.0	23.3	23.9	25.8	26.1	26.3	26.6	27.2
12H	4H	22.6	23.1	23.1	23.6	24.1	25.7	26.2	26.2	26.7	27.1
	6H	22.5	22.9	23.0	23.4	24.0	25.8	26.2	26.3	26.7	27.2
	8H	22.5	22.8	23.0	23.3	23.9	25.7	26.1	26.3	26.6	27.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0