

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CR2 835 15 xx xx RD2FL RB2BS xx RA2HL

Nom 2.5 inch dia cylinder with flood optic, standard black bezel, and hex louver

Test Number

SP-01273_2

Test Date

9/23/2021

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

Summary of Results

Power

Input Watts	19.5 W
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Lumen Output

Output Lumens	1357
Efficacy	69.59 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.52
Two luminaires, plane 90°	0.52
Four luminaires	0.49

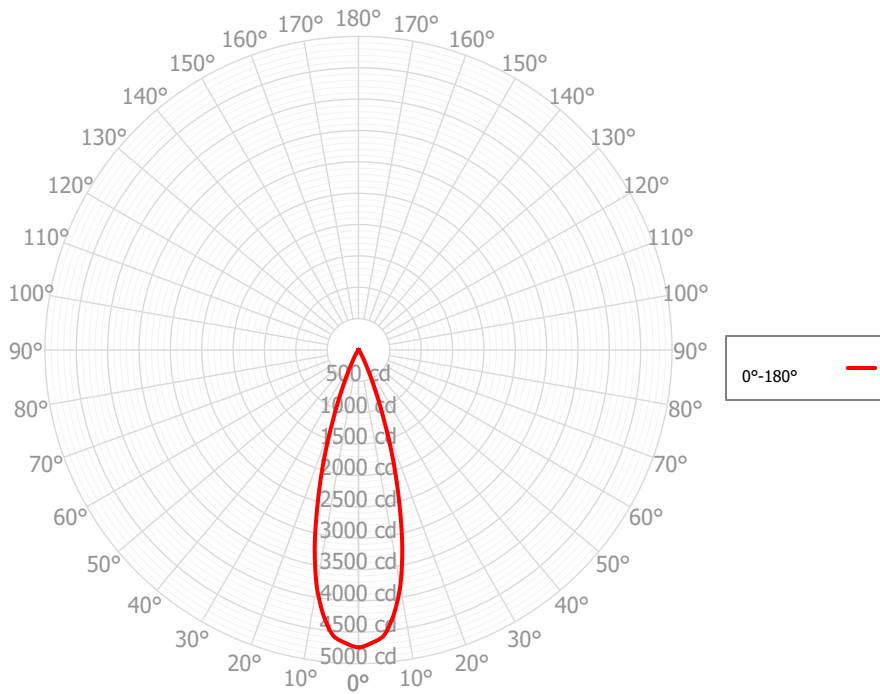
Full Beam Angle

0° - 180°	31°
90° - 270°	31°

IES File Header Contents

Keyword	Value
TEST	SP-01273_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/23/2021
ISSUEDATE	10/8/2021
LUMCAT	CR2 835 15 xx xx RD2FL RB2BS xx RA2HL
LUMINAIRE	Nom 2.5 inch dia cylinder with flood optic, standard black bezel, and hex louver
OTHER	Beam Angle: 31 deg
LAMPCAT	N/A
LAMP	N/A, 6mm LES
OTHER	80 CRI, 3500K tested
OTHER	LER (luminaire efficacy) = 70 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
_CRI	80+
_CCTMULT	822 x 0.75, 827 x 0.93, 830 x 1.0, 840 x 1.0
_CCTMULTA	927 x 0.81, 930 x 0.81, 935 x 0.81, 940 x 0.87
_LAMPMULT	N/A

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	416.50	30.69%	90.00° - 100.00°	1.48	0.11%
10.00° - 20.00°	666.69	49.13%	100.00° - 110.00°	1.56	0.12%
20.00° - 30.00°	215.83	15.90%	100.00° - 120.00°	2.97	0.22%
30.00° - 40.00°	35.91	2.65%	120.00° - 130.00°	1.26	0.09%
40.00° - 50.00°	6.00	0.44%	130.00° - 140.00°	1.14	0.08%
50.00° - 60.00°	1.81	0.13%	140.00° - 150.00°	1.07	0.08%
60.00° - 70.00°	1.53	0.11%	150.00° - 160.00°	0.90	0.07%
70.00° - 80.00°	1.65	0.12%	160.00° - 170.00°	0.51	0.04%
80.00° - 90.00°	1.59	0.12%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	1347.49	99.30%	0.00° - 180.00°	1356.97	100.00%

Candela Distribution

	0.00°
0.00°	4742.20
2.50°	4679.77
5.00°	4577.70
7.50°	4271.72
10.00°	3832.79
12.50°	3225.56
15.00°	2504.66
17.50°	1829.32
20.00°	1185.50
22.50°	729.02
25.00°	405.51
27.50°	218.82
30.00°	132.65
32.50°	79.56
35.00°	51.36
37.50°	31.91
40.00°	19.23
42.50°	11.00
45.00°	6.32
47.50°	3.70
50.00°	2.78
52.50°	2.21
55.00°	1.93
57.50°	1.75
60.00°	1.67
62.50°	1.59
65.00°	1.50
67.50°	1.48
70.00°	1.54
72.50°	1.57
75.00°	1.57
77.50°	1.55
80.00°	1.52
82.50°	1.49
85.00°	1.45
87.50°	1.43
90.00°	1.41
92.50°	1.38
95.00°	1.32
97.50°	1.32
100.00°	1.38
102.50°	1.44
105.00°	1.48
107.50°	1.52
110.00°	1.55
112.50°	1.51

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	1613	1613	1613	1613	1575	1575	1575	1575	1502	1502	1502	1437	1437	1437	1376	1376	1347
	1	1557	1527	1501	1477	1523	1497	1474	1453	1442	1423	1406	1390	1376	1363	1343	1333	1306
	2	1504	1454	1413	1378	1475	1431	1394	1362	1387	1357	1331	1347	1323	1302	1309	1291	1265
	3	1455	1391	1341	1301	1430	1372	1327	1291	1338	1300	1269	1305	1275	1249	1275	1251	1227
	4	1409	1335	1280	1239	1387	1320	1270	1231	1292	1250	1216	1266	1231	1202	1241	1212	1190
	5	1366	1285	1228	1186	1347	1273	1220	1181	1250	1204	1170	1228	1190	1159	1208	1176	1155
	6	1325	1239	1181	1140	1308	1229	1175	1136	1210	1163	1128	1193	1152	1120	1176	1141	1121
	7	1287	1197	1140	1099	1271	1189	1135	1096	1173	1125	1090	1159	1116	1085	1145	1107	1090
	8	1250	1159	1102	1062	1237	1152	1098	1060	1139	1090	1056	1126	1083	1051	1114	1076	1059
	9	1216	1123	1067	1029	1203	1118	1064	1027	1106	1058	1024	1095	1052	1020	1085	1046	1031
	10	1183	1090	1035	998	1172	1085	1032	997	1075	1027	994	1066	1022	991	1057	1018	1003

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	156.8 fc	3.0 ft
6.5 ft	112.2 fc	3.6 ft
7.5 ft	84.3 fc	4.2 ft
8.0 ft	74.1 fc	4.4 ft
10.0 ft	47.4 fc	5.5 ft
12.0 ft	32.9 fc	6.7 ft
14.0 ft	24.2 fc	7.8 ft
16.0 ft	18.5 fc	8.9 ft
20.0 ft	11.9 fc	11.1 ft
24.0 ft	8.2 fc	13.3 ft
28.0 ft	6.0 fc	15.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1473742	1473742	1473742
45.00°	2778	2778	2778
55.00°	1043	1043	1043
65.00°	1101	1101	1101
75.00°	1884	1884	1884
85.00°	5177	5177	5177

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	-4.6	-3.7	-4.2	-3.3	-3.0	-4.6	-3.7	-4.2	-3.3	-3.0
	3H	-1.7	-0.9	-1.3	-0.5	-0.2	-1.7	-0.9	-1.3	-0.5	-0.2
	4H	0.2	0.9	0.6	1.2	1.6	0.2	0.9	0.6	1.2	1.6
	6H	2.1	2.8	2.6	3.2	3.6	2.1	2.8	2.6	3.2	3.6
	8H	3.2	3.8	3.6	4.2	4.6	3.2	3.8	3.6	4.2	4.6
	12H	4.4	5.0	4.8	5.4	5.8	4.4	5.0	4.8	5.4	5.8
4H	2H	-3.8	-3.1	-3.4	-2.8	-2.3	-3.8	-3.1	-3.4	-2.8	-2.3
	3H	-0.5	0.0	-0.1	0.5	0.9	-0.5	0.0	-0.1	0.5	0.9
	4H	1.5	2.0	1.9	2.4	2.9	1.5	2.0	1.9	2.4	2.9
	6H	3.6	4.1	4.1	4.5	5.0	3.6	4.1	4.1	4.5	5.0
	8H	4.8	5.2	5.3	5.6	6.1	4.8	5.2	5.3	5.6	6.1
	12H	6.1	6.4	6.6	6.9	7.4	6.1	6.4	6.6	6.9	7.4
8H	4H	2.2	2.6	2.7	3.1	3.6	2.2	2.6	2.7	3.1	3.6
	6H	4.6	4.9	5.1	5.5	6.0	4.6	4.9	5.1	5.5	6.0
	8H	5.9	6.2	6.5	6.8	7.3	5.9	6.2	6.5	6.8	7.3
	12H	7.5	7.7	8.0	8.2	8.8	7.5	7.7	8.0	8.2	8.8
12H	4H	2.4	2.8	2.9	3.3	3.8	2.4	2.8	2.9	3.3	3.8
	6H	4.9	5.2	5.5	5.7	6.3	4.9	5.2	5.5	5.7	6.3
	8H	6.4	6.6	6.9	7.1	7.7	6.4	6.6	6.9	7.1	7.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0