

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CR2 835 15 xx xx RD2XF RB2BS xx xx

Nom 2.5 inch dia cylinder with xtra wide flood optic and standard black bezel

Test Number

SP-01275

Test Date

9/24/2021

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	1954
Efficacy	100.23 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.01
Two luminaires, plane 90°	1.01
Four luminaires	0.87

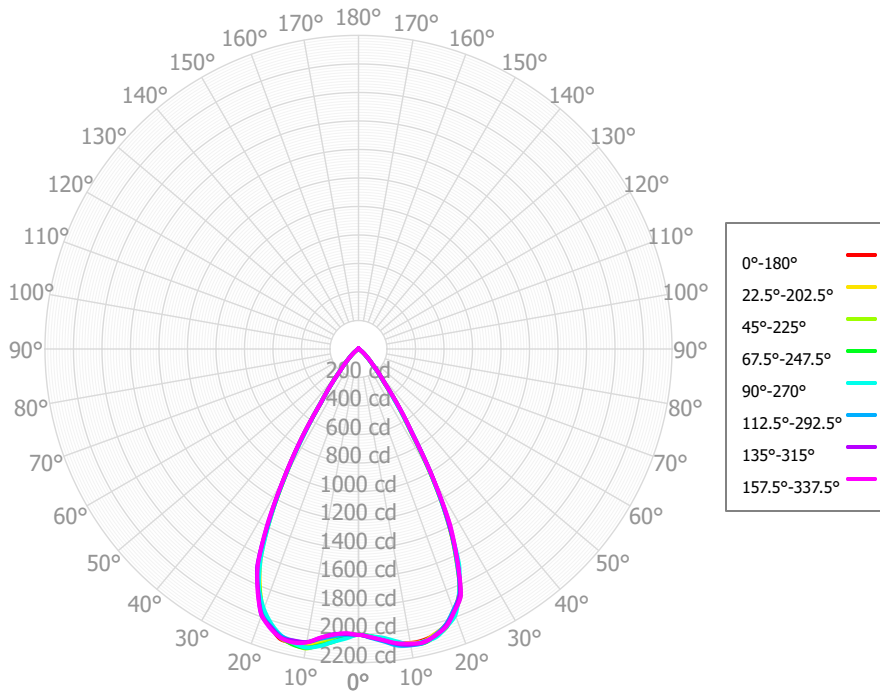
Full Beam Angle

0° - 180°	60°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-01275
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/24/2021
ISSUEDATE	10/1/2021
LUMCAT	CR2 835 15 xx xx RD2XF RB2BS xx xx
LUMINAIRE	Nom 2.5 inch dia cylinder with xtra wide flood optic and standard black bezel
OTHER	Beam Angle: 60 deg
LAMPCAT	N/A
LAMP	N/A, 6mm LES
OTHER	80 CRI, 3500K tested
OTHER	LER (luminaire efficacy) = 100 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+

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	200.29	10.25%	90.00° - 100.00°	1.85	0.09%
10.00° - 20.00°	583.65	29.86%	100.00° - 110.00°	1.70	0.09%
20.00° - 30.00°	719.15	36.80%	100.00° - 120.00°	3.41	0.17%
30.00° - 40.00°	319.55	16.35%	120.00° - 130.00°	1.61	0.08%
40.00° - 50.00°	85.96	4.40%	130.00° - 140.00°	1.42	0.07%
50.00° - 60.00°	24.26	1.24%	140.00° - 150.00°	1.27	0.06%
60.00° - 70.00°	6.36	0.33%	150.00° - 160.00°	1.00	0.05%
70.00° - 80.00°	2.07	0.11%	160.00° - 170.00°	0.62	0.03%
80.00° - 90.00°	1.73	0.09%	170.00° - 180.00°	0.21	0.01%
0.00° - 90.00°	1943.03	99.42%	0.00° - 180.00°	1954.42	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°	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18	2006.18
2.50°	2024.04	2020.16	2019.49	2017.90	2017.75	2007.82	2001.62	1996.08	2003.40	2009.97	2021.38	2023.56	2034.04	2029.99	2026.41	2024.48	2024.04
5.00°	2048.86	2048.62	2042.68	2045.40	2035.07	2024.99	2009.17	2012.73	2014.10	2036.95	2051.03	2063.83	2063.58	2060.91	2053.47	2052.10	2048.86
7.50°	2078.22	2082.24	2080.81	2083.08	2070.01	2052.21	2044.59	2042.89	2053.75	2068.49	2091.27	2098.92	2102.83	2099.03	2087.20	2082.49	2078.22
10.00°	2095.51	2094.45	2104.77	2101.90	2106.67	2088.84	2088.00	2090.94	2100.42	2108.22	2133.49	2127.82	2127.14	2111.78	2106.54	2098.12	2095.51
12.50°	2093.95	2102.49	2102.74	2114.20	2102.49	2097.66	2095.99	2110.42	2107.41	2120.89	2120.31	2125.05	2113.76	2112.54	2105.85	2109.22	2093.95
15.00°	2073.88	2069.97	2082.63	2086.81	2095.42	2086.05	2097.10	2100.24	2108.41	2096.06	2101.63	2093.01	2084.32	2077.49	2083.08	2080.72	2073.88
17.50°	2031.87	2033.14	2037.58	2049.70	2046.68	2041.93	2046.51	2056.63	2045.41	2040.29	2033.18	2035.30	2025.20	2030.29	2036.90	2044.26	2031.87
20.00°	1956.95	1950.16	1960.80	1964.73	1987.87	1979.82	1990.49	1986.55	1977.79	1951.86	1960.31	1959.54	1941.17	1948.05	1959.83	1963.30	1956.95
22.50°	1852.27	1860.79	1849.73	1872.65	1844.75	1840.77	1840.60	1849.15	1825.05	1810.41	1813.31	1820.35	1822.53	1857.80	1857.77	1877.38	1852.27
25.00°	1640.92	1618.05	1639.82	1630.03	1671.83	1670.49	1682.01	1671.42	1661.54	1626.26	1649.44	1647.68	1623.29	1623.22	1645.55	1641.01	1640.92
27.50°	1354.08	1364.39	1348.43	1377.50	1350.24	1368.30	1363.11	1382.52	1349.05	1349.35	1341.53	1358.86	1336.37	1367.90	1363.87	1395.35	1354.08
30.00°	1035.74	1011.45	1030.78	1020.62	1029.81	1027.84	1045.52	1042.67	1037.32	1014.18	1034.01	1023.69	1028.92	1027.40	1044.72	1042.07	1035.74
32.50°	700.67	682.54	696.75	673.70	713.18	733.83	739.69	747.07	730.77	728.91	728.45	737.38	704.42	682.98	707.99	702.39	700.67
35.00°	482.03	473.79	472.76	470.00	449.35	448.73	461.56	465.98	456.94	466.95	461.18	464.66	477.33	485.78	489.01	492.16	482.03
37.50°	308.57	293.58	301.52	283.09	307.67	315.22	321.12	319.77	318.03	318.21	320.20	324.26	311.52	296.82	309.69	301.70	308.57
40.00°	215.86	210.60	207.94	205.34	197.23	197.35	201.19	203.05	201.45	207.42	204.87	207.28	212.91	218.11	217.71	218.75	215.86
42.50°	145.82	141.26	141.16	135.78	141.81	147.00	148.06	148.49	147.55	148.77	149.37	151.47	146.78	145.01	146.43	145.95	145.82
45.00°	107.88	104.65	102.57	100.27	98.57	99.27	102.24	102.34	102.61	102.40	104.13	101.71	105.96	107.28	108.33	108.55	107.88
47.50°	75.69	73.84	70.57	69.05	71.48	74.17	73.88	75.32	76.47	75.65	77.11	77.46	73.96	73.46	74.94	76.02	75.69
50.00°	56.03	53.25	52.08	49.97	50.51	50.18	50.40	49.53	54.02	51.65	54.49	54.16	53.33	54.83	55.77	55.42	56.03
52.50°	37.52	36.27	35.47	33.85	35.72	35.93	35.47	34.90	37.34	36.60	37.76	38.52	35.37	38.09	37.47	37.88	37.52
55.00°	27.73	24.14	25.67	23.82	24.88	22.98	23.70	20.96	24.43	22.11	25.14	23.84	25.80	26.63	26.88	25.99	27.73
57.50°	18.36	15.97	16.33	15.95	17.06	16.37	16.14	14.62	15.99	16.25	16.72	17.38	17.49	17.31	16.78	17.20	18.36
60.00°	13.55	11.91	12.30	11.49	12.19	10.78	11.01	8.92	10.22	10.63	11.06	11.52	13.11	12.32	13.11	12.71	13.55
62.50°	8.94	8.65	8.44	7.96	9.08	8.58	8.42	7.12	6.93	8.18	7.63	8.57	9.01	8.47	9.57	9.28	8.94
65.00°	5.91	6.01	6.75	5.55	6.40	6.39	6.02	5.35	4.69	5.84	5.48	5.94	6.75	6.32	6.81	6.96	5.91
67.50°	3.30	4.23	5.06	3.79	3.92	4.23	3.78	3.69	3.20	4.20	4.10	4.35	4.55	4.61	4.34	4.85	3.30
70.00°	2.70	2.96	3.46	2.63	2.74	2.70	2.47	2.38	2.45	2.73	3.15	3.11	3.25	3.41	3.09	2.92	2.70
72.50°	2.18	2.30	2.16	2.00	1.97	2.28	1.73	1.94	2.12	1.92	2.39	2.70	2.10	2.48	2.09	2.10	2.18
75.00°	1.94	1.91	2.08	1.75	1.52	1.96	1.53	1.61	1.85	1.36	2.02	2.20	1.95	1.80	1.78	1.99	1.94
77.50°	1.80	1.82	2.01	1.67	1.14	1.76	1.58	1.51	1.60	1.51	1.78	1.56	1.77	1.57	1.48	1.89	1.80
80.00°	1.89	1.82	1.96	1.67	1.13	1.71	1.48	1.50	1.31	1.55	1.48	1.41	1.50	1.65	1.21	1.80	1.89
82.50°	1.91	1.64	1.89	1.79	1.18	1.83	1.33	1.64	1.01	1.39	1.15	1.90	1.26	1.64	1.11	1.63	1.91
85.00°	1.80	1.42	1.78	1.95	1.23	1.80	1.38	1.69	1.40	1.37	1.50	2.07	1.09	1.59	1.27	1.43	1.80
87.50°	1.76	1.49	1.74	1.95	1.28	1.66	1.47	1.62	1.92	1.58	1.93	1.94	1.02	1.67	1.50	1.72	1.76
90.00°	1.83	1.59	1.81	1.90	1.27	1.60	1.60	1.59	1.99	1.70	1.96	1.81	1.16	1.79	1.79	2.13	1.83
92.50°	1.93	1.53	1.78	1.76	1.27	1.58	1.74	1.60	2.02	1.75	1.98	1.69	1.37	1.71	1.75	2.20	1.93
95.00°	2.07	1.47	1.66	1.61	1.26	1.61	1.61	1.58	2.00	1.85	1.94	1.64	1.68	1.57	1.42	2.22	2.07
97.50°	2.04	1.51	1.59	1.72	1.28	1.67	1.47	1.56	1.96	2.01	1.88	1.61	1.74	1.47	1.33	1.97	2.04
100.00°	1.89	1.55	1.57	1.86	1.45	1.72	1.50	1.73	1.77	1.88	1.61	1.73	1.50	1.37	1.41	1.71	1.89

CR2 835 15 xx xx RD2XF RB2BS xx xx

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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	2324	2324	2324	2324	2269	2269	2269	2269	2165	2165	2165	2071	2071	2071	1984	1984	1943
	1	2218	2164	2116	2073	2168	2121	2078	2039	2040	2006	1975	1965	1939	1914	1897	1876	1838
	2	2111	2018	1941	1876	2067	1983	1913	1854	1918	1861	1812	1859	1812	1771	1803	1766	1730
	3	2008	1885	1791	1715	1968	1858	1770	1700	1805	1732	1672	1756	1695	1644	1711	1661	1628
	4	1910	1766	1660	1580	1874	1743	1645	1570	1700	1616	1550	1660	1588	1531	1622	1562	1532
	5	1816	1657	1546	1464	1784	1638	1535	1457	1602	1512	1443	1569	1491	1429	1538	1470	1443
	6	1728	1559	1445	1363	1699	1543	1436	1358	1512	1418	1348	1484	1401	1338	1458	1385	1360
	7	1645	1469	1354	1274	1619	1455	1347	1270	1429	1333	1262	1405	1319	1255	1383	1306	1284
	8	1568	1386	1272	1194	1544	1375	1267	1191	1353	1255	1185	1332	1244	1180	1313	1234	1214
	9	1495	1311	1199	1122	1474	1301	1194	1120	1282	1185	1116	1265	1175	1112	1248	1167	1149
	10	1428	1242	1132	1058	1408	1234	1128	1056	1217	1120	1053	1202	1112	1049	1187	1105	1089

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	66.3 fc	6.3 ft
6.5 ft	47.5 fc	7.4 ft
7.5 ft	35.7 fc	8.6 ft
8.0 ft	31.3 fc	9.1 ft
10.0 ft	20.1 fc	11.4 ft
12.0 ft	13.9 fc	13.7 ft
14.0 ft	10.2 fc	16.0 ft
16.0 ft	7.8 fc	18.3 ft
20.0 ft	5.0 fc	22.9 ft
24.0 ft	3.5 fc	27.4 ft
28.0 ft	2.6 fc	32.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	623465	623465	623465
45.00°	47414	45081	43320
55.00°	15026	13906	13478
65.00°	4347	4962	4710
75.00°	2325	2499	1826
85.00°	6410	6354	4372

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	9.7	10.7	10.1	11.0	11.3	9.7	10.7	10.1	11.0	11.3
	3H	9.8	10.6	10.2	11.0	11.4	9.8	10.7	10.2	11.0	11.4
	4H	9.8	10.6	10.2	11.0	11.4	9.8	10.6	10.2	11.0	11.4
	6H	9.9	10.6	10.3	11.0	11.4	9.8	10.5	10.3	10.9	11.3
	8H	10.0	10.6	10.4	11.0	11.5	9.8	10.5	10.3	10.9	11.3
	12H	10.1	10.7	10.6	11.1	11.6	9.9	10.5	10.3	10.9	11.4
4H	2H	9.7	10.5	10.1	10.9	11.3	9.6	10.4	10.0	10.8	11.2
	3H	9.8	10.5	10.3	10.9	11.3	9.8	10.4	10.2	10.8	11.3
	4H	9.9	10.4	10.3	10.9	11.3	9.8	10.4	10.3	10.8	11.3
	6H	10.0	10.5	10.5	11.0	11.5	9.9	10.4	10.4	10.8	11.3
	8H	10.2	10.6	10.7	11.1	11.6	10.0	10.4	10.5	10.9	11.4
	12H	10.4	10.8	11.0	11.3	11.8	10.1	10.5	10.6	11.0	11.5
8H	4H	9.8	10.2	10.3	10.7	11.2	9.7	10.2	10.2	10.6	11.1
	6H	10.0	10.4	10.6	10.9	11.4	9.9	10.2	10.4	10.8	11.3
	8H	10.3	10.6	10.8	11.1	11.7	10.1	10.4	10.6	10.9	11.4
	12H	10.7	11.0	11.2	11.5	12.1	10.5	10.7	11.0	11.2	11.8
12H	4H	9.7	10.1	10.2	10.6	11.1	9.7	10.1	10.2	10.6	11.1
	6H	10.0	10.3	10.6	10.8	11.4	9.9	10.2	10.4	10.7	11.2
	8H	10.3	10.6	10.9	11.1	11.7	10.1	10.4	10.7	10.9	11.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0