

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
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Spectrum Lighting Photometric Lab

Luminaire

CR2 835 15 xx xx RD2FL RB2BSA3 xx xx
Nom 2.5 inch dia cylinder with flood optic and 6 inch acrylic style bezel

Test Number

SP-01273_12

Test Date

10/4/2021

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	1080
Efficacy	55.39 lm/W

Luminous Dimensions

0° - 180° Size	-0.21
90° - 270° Size	-0.21
Height	0.42

Spacing Criterion

Two luminaires, plane 0°	0.29
Two luminaires, plane 90°	0.29
Four luminaires	0.28

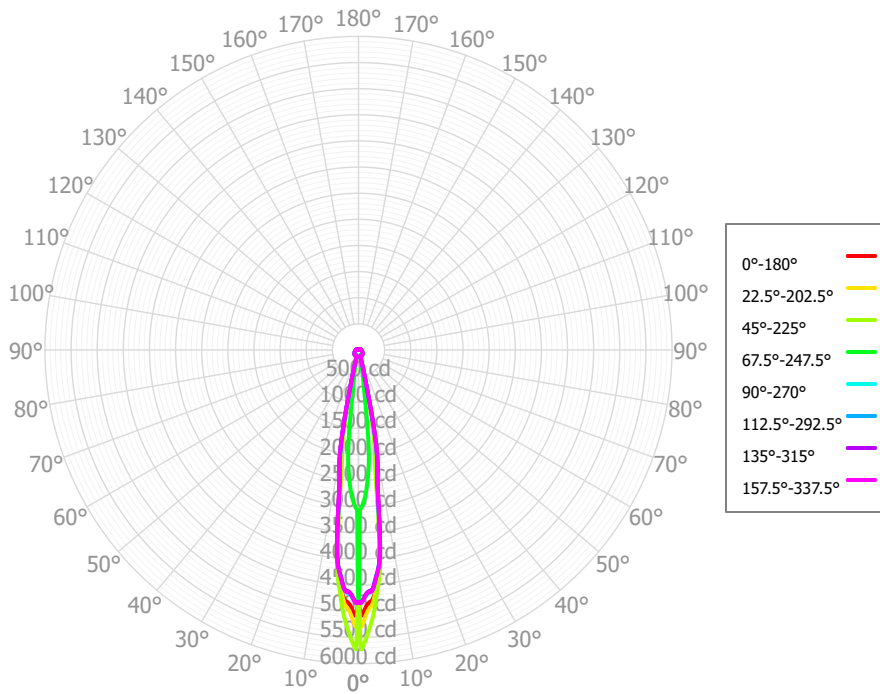
Full Beam Angle

0° - 180°	15°
90° - 270°	15°

IES File Header Contents

Keyword	Value
TEST	SP-01273_12
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/4/2021
ISSUEDATE	11/5/2021
LUMCAT	CR2 835 15 xx xx RD2FL RB2BSA3 xx xx
LUMINAIRE	Nom 2.5 inch dia cylinder with flood optic and 6 inch acrylic style bezel
OTHER	Beam Angle: 15 deg
LAMPCAT	N/A
LAMP	N/A, 6mm LES
OTHER	80 CRI, 3500K tested
OTHER	LER (luminaire efficacy) = 55 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°	293.73	27.19%	90.00° - 100.00°	53.11	4.92%
10.00° - 20.00°	108.18	10.02%	100.00° - 110.00°	44.98	4.16%
20.00° - 30.00°	56.55	5.24%	100.00° - 120.00°	81.03	7.50%
30.00° - 40.00°	73.88	6.84%	120.00° - 130.00°	21.99	2.04%
40.00° - 50.00°	83.29	7.71%	130.00° - 140.00°	7.75	0.72%
50.00° - 60.00°	84.45	7.82%	140.00° - 150.00°	1.84	0.17%
60.00° - 70.00°	79.65	7.37%	150.00° - 160.00°	0.74	0.07%
70.00° - 80.00°	71.41	6.61%	160.00° - 170.00°	0.45	0.04%
80.00° - 90.00°	61.92	5.73%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	913.05	84.53%	0.00° - 180.00°	1080.10	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°	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26	4829.26
0.50°	5093.01	5300.29	5730.06	3064.37	4831.06	4835.24	4831.20	4847.49	5093.01	5300.29	5730.06	3064.37	4831.06	4835.24	4831.20	4847.49	5093.01
1.00°	5040.93	5220.98	5638.51	3018.73	4791.62	4796.31	4784.78	4799.64	5040.93	5220.98	5638.51	3018.73	4791.62	4796.31	4784.78	4799.64	5040.93
1.50°	4948.76	5101.08	5531.69	2959.50	4732.42	4707.19	4707.30	4724.25	4948.76	5101.08	5531.69	2959.50	4732.42	4707.19	4707.30	4724.25	4948.76
2.00°	4874.23	4999.12	5395.77	2893.16	4682.34	4651.66	4650.39	4661.21	4874.23	4999.12	5395.77	2893.16	4682.34	4651.66	4650.39	4661.21	4874.23
2.50°	4830.29	4938.14	5273.50	2823.34	4662.27	4632.73	4620.91	4635.62	4830.29	4938.14	5273.50	2823.34	4662.27	4632.73	4620.91	4635.62	4830.29
3.00°	4804.13	4893.64	5138.88	2729.32	4636.82	4626.08	4606.97	4630.23	4804.13	4893.64	5138.88	2729.32	4636.82	4626.08	4606.97	4630.23	4804.13
3.50°	4732.03	4782.17	4980.63	2615.03	4564.93	4587.61	4560.04	4575.30	4732.03	4782.17	4980.63	2615.03	4564.93	4587.61	4560.04	4575.30	4732.03
4.00°	4623.88	4634.74	4793.08	2496.51	4449.81	4443.80	4458.54	4471.61	4623.88	4634.74	4793.08	2496.51	4449.81	4443.80	4458.54	4471.61	4623.88
4.50°	4495.82	4483.86	4604.59	2371.08	4340.10	4334.15	4346.13	4354.95	4495.82	4483.86	4604.59	2371.08	4340.10	4334.15	4346.13	4354.95	4495.82
5.00°	4373.92	4339.63	4444.09	2235.40	4240.06	4235.52	4242.68	4255.85	4373.92	4339.63	4444.09	2235.40	4240.06	4235.52	4242.68	4255.85	4373.92
5.50°	4209.40	4155.85	4231.55	2074.16	4106.36	4120.89	4114.24	4136.25	4209.40	4155.85	4231.55	2074.16	4106.36	4120.89	4114.24	4136.25	4209.40
6.00°	3960.25	3870.56	3887.84	1851.12	3878.62	3908.15	3906.61	3926.31	3960.25	3870.56	3887.84	1851.12	3878.62	3908.15	3906.61	3926.31	3960.25
6.50°	3628.80	3501.77	3454.68	1563.43	3549.46	3584.29	3603.50	3618.92	3628.80	3501.77	3454.68	1563.43	3549.46	3584.29	3603.50	3618.92	3628.80
7.00°	3257.16	3110.03	2998.83	1249.91	3180.53	3214.64	3245.92	3252.78	3257.16	3110.03	2998.83	1249.91	3180.53	3214.64	3245.92	3252.78	3257.16
7.50°	2902.09	2740.72	2600.42	968.64	2838.70	2857.61	2899.33	2904.28	2902.09	2740.72	2600.42	968.64	2838.70	2857.61	2899.33	2904.28	2902.09
8.00°	2635.44	2472.12	2307.53	764.57	2580.14	2575.70	2624.31	2631.14	2635.44	2472.12	2307.53	764.57	2580.14	2575.70	2624.31	2631.14	2635.44
8.50°	2460.32	2315.96	2131.56	644.32	2414.86	2409.01	2443.98	2464.66	2460.32	2315.96	2131.56	644.32	2414.86	2409.01	2443.98	2464.66	2460.32
9.00°	2337.29	2194.70	1997.01	562.32	2292.05	2296.64	2316.57	2345.80	2337.29	2194.70	1997.01	562.32	2292.05	2296.64	2316.57	2345.80	2337.29
9.50°	2213.66	2065.99	1855.33	492.70	2163.04	2175.18	2189.26	2219.76	2213.66	2065.99	1855.33	492.70	2163.04	2175.18	2189.26	2219.76	2213.66
10.00°	2066.06	1916.16	1686.43	428.73	2010.61	2028.76	2037.75	2066.89	2066.06	1916.16	1686.43	428.73	2010.61	2028.76	2037.75	2066.89	2066.06
10.50°	1865.19	1716.12	1483.98	374.14	1811.84	1837.96	1838.38	1872.40	1865.19	1716.12	1483.98	374.14	1811.84	1837.96	1838.38	1872.40	1865.19
11.00°	1597.05	1451.66	1260.29	328.40	1553.04	1578.20	1586.87	1610.47	1597.05	1451.66	1260.29	328.40	1553.04	1578.20	1586.87	1610.47	1597.05
11.50°	1293.25	1173.17	1013.32	292.32	1261.46	1285.36	1302.36	1322.85	1293.25	1173.17	1013.32	292.32	1261.46	1285.36	1302.36	1322.85	1293.25
12.00°	970.44	864.11	764.77	261.33	957.83	973.65	982.17	988.04	970.44	864.11	764.77	261.33	957.83	973.65	982.17	988.04	970.44
12.50°	722.89	633.37	588.17	236.37	708.01	700.96	716.79	703.25	722.89	633.37	588.17	236.37	708.01	700.96	716.79	703.25	722.89
13.00°	571.35	537.50	469.40	215.77	566.64	558.85	546.92	550.29	571.35	537.50	469.40	215.77	566.64	558.85	546.92	550.29	571.35
13.50°	459.80	430.94	370.01	195.36	456.85	457.58	437.01	438.72	459.80	430.94	370.01	195.36	456.85	457.58	437.01	438.72	459.80
14.00°	348.36	311.31	273.43	173.03	333.69	340.54	328.82	329.55	348.36	311.31	273.43	173.03	333.69	340.54	328.82	329.55	348.36
14.50°	242.84	203.24	195.57	152.64	220.78	229.36	228.85	226.90	242.84	203.24	195.57	152.64	220.78	229.36	228.85	226.90	242.84
15.00°	168.71	142.08	149.95	138.31	151.55	153.11	156.33	154.97	168.71	142.08	149.95	138.31	151.55	153.11	156.33	154.97	168.71
15.50°	132.86	130.01	136.07	130.20	127.51	124.17	127.13	125.05	132.86	130.01	136.07	130.20	127.51	124.17	127.13	125.05	132.86
16.00°	123.75	130.75	134.54	125.65	124.59	121.05	118.83	119.86	123.75	130.75	134.54	125.65	124.59	121.05	118.83	119.86	123.75
16.50°	122.61	130.03	134.18	121.43	125.16	121.15	119.86	120.23	122.61	130.03	134.18	121.43	125.16	121.15	119.86	120.23	122.61
17.00°	122.95	131.05	133.35	117.53	124.57	121.76	120.78	121.43	122.95	131.05	133.35	117.53	124.57	121.76	120.78	121.43	122.95
17.50°	123.04	130.13	132.73	114.79	123.94	121.29	119.90	122.39	123.04	130.13	132.73	114.79	123.94	121.29	119.90	122.39	123.04
18.00°	124.23	129.14	131.92	112.38	124.62	121.96	121.67	122.60	124.23	129.14	131.92	112.38	124.62	121.96	121.67	122.60	124.23
18.50°	124.48	129.05	131.50	109.41	124.79	123.49	120.81	122.29	124.48	129.05	131.50	109.41	124.79	123.49	120.81	122.29	124.48
19.00°	123.59	129.47	131.90	107.65	126.48	123.67	121.09	123.41	123.59	129.47	131.90	107.65	126.48	123.67	121.09	123.41	123.59
19.50°	124.68	130.09	130.72	106.38	126.05	122.74	120.47	122.83	124.68	130.09	130.72	106.38	126.05	122.74	120.47	122.83	124.68
20.00°	125.40	130.94	128.56	104.14	126.06	123.07	120.66	123.04	125.40	130.94	128.56	104.14	126.06	123.07	120.66	123.04	125.40
20.50°	125.23	130.03	128.54	102.51	126.64	123.93	121.76	123.36	125.23	130.03	128.54	102.51	126.64	123.93	121.76	123.36	125.23
21.00°	124.49	130.57	129.48	101.85	126.06	123.42	122.73	123.18	124.49	130.57	129.48	101.85	126.06	123.42	122.73	123.18	124.49
21.50°	125.20	130.80	130.19	100.94	126.27	123.65	122.30	122.55	125.20	130.80	130.19	100.94	126.27	123.65	122.30	122.55	125.20
22.00°	125.77	130.60	129.78	98.86	126.62	124.21	121.63	122.54	125.77	130.60	129.78	98.86	126.62	124.21	121.63	122.54	125.77
22.50°	125.37	130.24	129.38	96.94	127.00	124.58	121.85	122.56	125.37	130.24	129.38	96.94	127.00	124.58	121.85	122.56	125.37

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	1246	1246	1246	1246	1198	1198	1198	1107	1107	1107	1025	1025	1025	949	949	949	913
	1	1137	1086	1041	1000	1091	1045	1005	968	969	937	907	899	874	850	835	815	783
	2	1053	973	907	852	1010	939	879	829	874	826	785	815	777	743	760	730	702
	3	982	885	810	750	943	856	788	732	802	745	699	751	705	667	704	667	643
	4	923	815	736	676	888	791	718	662	744	684	636	701	651	611	661	620	598
	5	872	758	679	620	840	737	664	610	697	636	589	660	609	568	626	583	563
	6	827	711	633	577	799	693	621	569	659	597	552	627	575	535	597	553	536
	7	789	672	596	543	763	656	586	536	626	566	522	599	547	508	572	528	512
	8	755	639	566	516	731	625	557	510	599	540	498	574	523	486	551	507	493
	9	724	610	540	493	703	598	533	488	575	518	478	553	503	467	533	489	477
	10	698	586	519	474	678	575	512	470	555	499	461	535	486	452	517	474	463

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	159.6 fc	1.5 ft
6.5 ft	114.3 fc	1.7 ft
7.5 ft	85.9 fc	2.0 ft
8.0 ft	75.5 fc	2.1 ft
10.0 ft	48.3 fc	2.6 ft
12.0 ft	33.5 fc	3.2 ft
14.0 ft	24.6 fc	3.7 ft
16.0 ft	18.9 fc	4.2 ft
20.0 ft	12.1 fc	5.3 ft
24.0 ft	8.4 fc	6.3 ft
28.0 ft	6.2 fc	7.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1500798	1500798	1500798
45.00°	13695	13581	13935
55.00°	11127	11192	11574
65.00°	9326	9261	9526
75.00°	7605	7767	8034
85.00°	6737	6662	6981

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	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
4H	2H	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
8H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
12H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0