

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

CR2 835 20 xx xx RD2XS RB2BS xx xx

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

### **Test Number**

SP-01276\_9

### **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
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#### Lumen Output

Output Lumens	2130
Efficacy	78.88 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.21
Two luminaires, plane 90°	0.21
Four luminaires	0.23

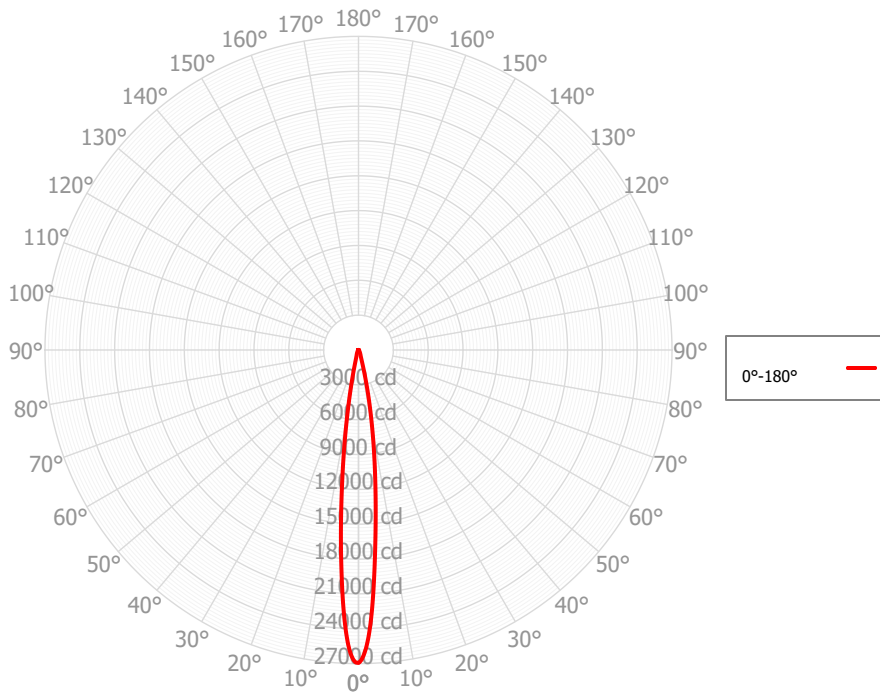
#### Full Beam Angle

0° - 180°	13°
90° - 270°	N/A°

### IES File Header Contents

Keyword	Value
TEST	SP-01276_9
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 RD2XS RB2BS xx xx
LUMINAIRE	Nom 2.5 inch dia cylinder with xtra narrow optic 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°	1254.47	58.90%	90.00° - 100.00°	1.05	0.05%
10.00° - 20.00°	489.82	23.00%	100.00° - 110.00°	1.34	0.06%
20.00° - 30.00°	157.41	7.39%	100.00° - 120.00°	2.33	0.11%
30.00° - 40.00°	107.09	5.03%	120.00° - 130.00°	0.92	0.04%
40.00° - 50.00°	69.63	3.27%	130.00° - 140.00°	1.31	0.06%
50.00° - 60.00°	33.20	1.56%	140.00° - 150.00°	0.96	0.05%
60.00° - 70.00°	7.82	0.37%	150.00° - 160.00°	0.74	0.03%
70.00° - 80.00°	1.51	0.07%	160.00° - 170.00°	0.38	0.02%
80.00° - 90.00°	1.04	0.05%	170.00° - 180.00°	0.11	0.01%
0.00° - 90.00°	2121.98	99.63%	0.00° - 180.00°	2129.77	100.00%

### Candela Distribution

	0.00°	180.00°
0.00°	26935.13	26935.13
0.50°	26713.49	26906.01
1.00°	26260.42	26637.97
1.50°	25605.75	26145.21
2.00°	24723.77	25398.01
2.50°	23622.38	24389.50
3.00°	22335.13	23178.21
3.50°	20908.27	21806.92
4.00°	19434.11	20314.85
4.50°	17994.38	18783.88
5.00°	16622.03	17292.07
5.50°	15353.95	15801.58
6.00°	14159.63	14333.42
6.50°	13040.55	12923.09
7.00°	11972.44	11590.86
7.50°	10979.19	10353.09
8.00°	10049.31	9198.33
8.50°	9148.88	8128.86
9.00°	8315.04	7096.97
9.50°	7514.65	6152.50
10.00°	6753.93	5303.60
10.50°	6041.70	4541.72
11.00°	5374.75	3865.07
11.50°	4757.46	3260.28
12.00°	4162.29	2749.61
12.50°	3618.04	2304.72
13.00°	3120.06	1936.58
13.50°	2678.47	1622.88
14.00°	2283.43	1376.09
14.50°	1933.09	1175.48
15.00°	1645.04	1018.68
15.50°	1404.47	900.10
16.00°	1212.95	812.87
16.50°	1062.98	733.62
17.00°	940.50	668.26
17.50°	843.48	620.08
18.00°	764.30	575.66
18.50°	697.70	540.42
19.00°	644.38	513.99
19.50°	599.13	484.62
20.00°	561.53	462.50
20.50°	526.83	446.92
21.00°	508.67	431.34
21.50°	489.25	415.76
22.00°	469.84	400.18
22.50°	450.42	384.60

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	2534	2534	2534	2534	2474	2474	2474	2474	2362	2362	2362	2260	2260	2260	2166	2166	2122
	<b>1</b>	2454	2411	2373	2338	2403	2365	2332	2301	2279	2253	2229	2201	2181	2162	2128	2113	2099
	<b>2</b>	2380	2307	2248	2197	2336	2272	2218	2173	2205	2162	2125	2143	2109	2079	2085	2059	2036
	<b>3</b>	2311	2219	2148	2091	2274	2191	2126	2074	2138	2085	2041	2089	2046	2009	2043	2009	1979
	<b>4</b>	2249	2144	2066	2007	2217	2121	2050	1995	2079	2019	1972	2040	1990	1950	2003	1962	1928
	<b>5</b>	2193	2078	1998	1939	2164	2060	1986	1931	2026	1963	1914	1994	1940	1898	1964	1919	1882
	<b>6</b>	2141	2021	1941	1883	2116	2007	1932	1877	1979	1914	1865	1953	1896	1853	1928	1880	1842
	<b>7</b>	2094	1971	1892	1836	2072	1959	1884	1831	1936	1870	1822	1915	1857	1814	1894	1844	1805
	<b>8</b>	2051	1927	1849	1795	2032	1917	1843	1792	1897	1832	1785	1879	1821	1778	1862	1810	1772
	<b>9</b>	2011	1887	1811	1760	1994	1879	1806	1757	1862	1797	1752	1847	1788	1746	1833	1780	1741
	<b>10</b>	1975	1851	1777	1728	1959	1844	1773	1726	1830	1766	1722	1817	1759	1718	1805	1752	1714

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	890.4 fc	0.6 ft
6.5 ft	637.5 fc	0.7 ft
7.5 ft	478.8 fc	0.8 ft
8.0 ft	420.9 fc	0.9 ft
10.0 ft	269.4 fc	1.1 ft
12.0 ft	187.0 fc	1.3 ft
14.0 ft	137.4 fc	1.5 ft
16.0 ft	105.2 fc	1.8 ft
20.0 ft	67.3 fc	2.2 ft
24.0 ft	46.8 fc	2.7 ft
28.0 ft	34.4 fc	3.1 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	8370679	8370679	8370679
<b>45.00°</b>	41519	40336	39153
<b>55.00°</b>	19094	19435	19776
<b>65.00°</b>	4696	5009	5321
<b>75.00°</b>	1214	1382	1550
<b>85.00°</b>	2739	3039	3338

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>Wall reflectance</b>		<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>Plane reflectance</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	11.7	12.7	12.1	13.0	13.3	12.4	13.4	12.8	13.7	14.0
	<b>3H</b>	11.6	12.4	12.0	12.8	13.2	12.3	13.1	12.7	13.5	13.9
	<b>4H</b>	11.5	12.3	11.9	12.6	13.0	12.2	13.0	12.6	13.4	13.8
	<b>6H</b>	11.4	12.1	11.9	12.5	12.9	12.1	12.8	12.6	13.2	13.6
	<b>8H</b>	11.4	12.1	11.8	12.5	12.9	12.1	12.8	12.6	13.2	13.6
	<b>12H</b>	11.4	12.0	11.8	12.4	12.8	12.1	12.7	12.5	13.1	13.5
<b>4H</b>	<b>2H</b>	11.6	12.3	12.0	12.7	13.1	12.3	13.1	12.7	13.4	13.8
	<b>3H</b>	11.5	12.1	11.9	12.5	12.9	12.2	12.8	12.6	13.2	13.6
	<b>4H</b>	11.4	11.9	11.8	12.3	12.8	12.1	12.6	12.5	13.1	13.5
	<b>6H</b>	11.3	11.8	11.8	12.2	12.7	12.0	12.5	12.5	12.9	13.4
	<b>8H</b>	11.3	11.7	11.7	12.2	12.6	12.0	12.4	12.5	12.9	13.4
	<b>12H</b>	11.2	11.6	11.7	12.1	12.6	12.0	12.4	12.5	12.8	13.3
<b>8H</b>	<b>4H</b>	11.2	11.6	11.7	12.1	12.6	11.9	12.4	12.4	12.8	13.3
	<b>6H</b>	11.2	11.5	11.7	12.0	12.5	11.9	12.2	12.4	12.7	13.2
	<b>8H</b>	11.1	11.4	11.7	12.0	12.5	11.9	12.2	12.4	12.7	13.2
	<b>12H</b>	11.2	11.4	11.7	11.9	12.5	11.9	12.2	12.4	12.7	13.3
<b>12H</b>	<b>4H</b>	11.1	11.5	11.6	12.0	12.5	11.9	12.2	12.4	12.7	13.2
	<b>6H</b>	11.1	11.4	11.6	11.9	12.4	11.8	12.1	12.3	12.6	13.2
	<b>8H</b>	11.1	11.4	11.6	11.9	12.5	11.8	12.1	12.4	12.6	13.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0