

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CR2 835 05 xx xx RD2WW RB2BW xx xx

Nom 2.5 inch dia CR2 wall wash cylinder with black bezel, flood optic, wall wash lens

Test Number

SP-01270

Test Date

9/21/2021

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

Summary of Results

Power

Input Watts	7 W
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Lumen Output

Output Lumens	473
Efficacy	67.54 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.36
Two luminaires, plane 90°	0.84
Four luminaires	1.04

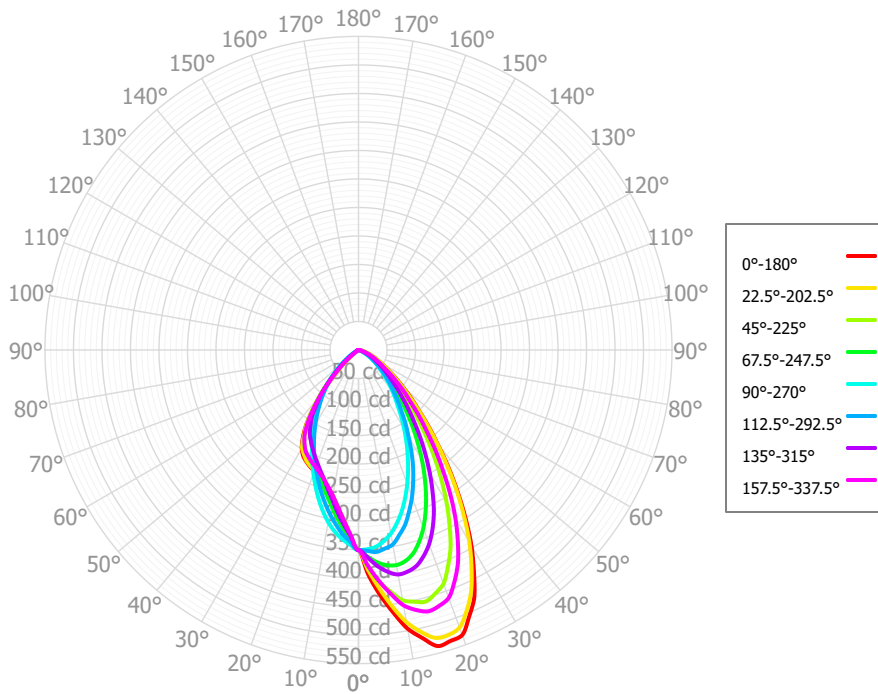
Full Beam Angle

0° - 180°	46°
90° - 270°	33°

IES File Header Contents

Keyword	Value
TEST	SP-01270
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	9/21/2021
ISSUEDATE	11/5/2021
LUMCAT	CR2 835 05 xx xx RD2WW RB2BW xx xx
LUMINAIRE	Nom 2.5 inch dia CR2 wall wash cylinder with black bezel, flood optic, wall wash lens
OTHER	Beam Angle: 46 X 33 degrees
LAMPCAT	N/A
LAMP	N/A, 6mm LES
OTHER	80 CRI, 35K tested
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 wattage is approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	33.75	7.14%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	92.87	19.64%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	124.35	26.30%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	110.57	23.39%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	65.53	13.86%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	28.36	6.00%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	11.62	2.46%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	4.03	0.85%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.68	0.35%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	472.75	100.00%	0.00° - 180.00°	472.75	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°	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19	351.19
2.50°	394.46	386.08	381.18	362.75	349.87	336.63	326.19	323.88	328.23	324.82	330.02	332.19	341.78	352.77	364.13	378.75	394.46
5.00°	431.03	419.77	407.27	373.90	346.57	323.91	305.70	298.87	299.46	298.18	305.50	313.70	332.62	355.61	380.39	406.02	431.03
7.50°	463.99	453.72	427.16	380.68	338.46	307.81	285.66	277.26	278.55	278.46	285.61	294.95	321.04	351.52	392.38	431.02	463.99
10.00°	496.58	484.87	445.78	383.15	327.00	291.32	265.76	259.30	259.50	259.58	266.06	276.09	306.46	346.41	399.84	454.85	496.58
12.50°	517.53	506.57	452.25	379.22	311.22	273.65	249.50	245.63	247.20	247.55	251.72	259.90	289.25	332.07	398.19	467.20	517.53
15.00°	537.74	522.91	456.64	369.73	292.90	255.72	234.02	234.56	236.72	236.00	238.09	244.58	270.50	316.86	392.33	474.50	537.74
17.50°	535.40	524.27	447.92	353.26	272.09	237.10	222.16	226.09	231.46	230.54	230.63	231.30	250.58	295.80	379.40	470.64	535.40
20.00°	532.17	518.27	436.23	332.62	250.04	219.00	210.85	219.10	226.35	225.25	223.16	218.56	231.03	274.46	362.36	462.81	532.17
22.50°	506.79	495.58	410.35	307.47	227.23	201.95	200.66	213.36	221.61	220.24	215.60	205.39	211.73	250.57	339.54	439.90	506.79
25.00°	480.42	467.55	382.20	280.32	204.12	184.96	190.59	207.11	216.27	215.07	208.04	192.13	193.30	226.59	312.92	412.74	480.42
27.50°	438.56	429.54	345.78	251.36	182.05	168.08	180.67	200.49	209.75	207.02	200.50	180.18	175.32	201.02	281.69	377.23	438.56
30.00°	396.16	388.87	309.01	222.44	160.33	151.51	170.77	189.52	199.02	197.96	191.18	168.41	157.73	175.70	250.59	339.82	396.16
32.50°	349.04	343.92	271.23	193.57	140.12	135.40	156.54	175.91	181.35	178.49	175.68	155.12	140.30	153.54	219.65	299.39	349.04
35.00°	302.36	299.36	234.38	166.46	120.32	120.14	142.13	154.70	159.51	157.74	157.85	141.68	123.69	131.83	190.22	258.45	302.36
37.50°	258.46	255.33	199.79	140.52	105.07	105.93	122.07	129.54	131.84	128.58	133.57	122.29	107.37	113.80	162.10	222.09	258.46
40.00°	216.23	215.06	167.74	118.77	90.76	91.81	101.94	103.89	104.62	100.16	108.96	102.64	93.27	96.59	137.37	186.26	216.23
42.50°	181.65	179.14	140.77	99.35	77.78	77.79	80.71	78.01	77.95	75.24	83.55	82.56	79.84	83.90	115.17	157.45	181.65
45.00°	149.42	148.27	116.51	84.22	65.00	63.89	59.98	56.81	54.83	51.65	60.53	62.64	66.07	71.52	96.63	129.13	149.42
47.50°	125.45	122.39	96.75	71.06	54.69	50.10	43.50	37.24	35.28	33.11	42.10	47.03	52.22	60.41	80.39	108.82	125.45
50.00°	102.90	100.41	79.66	60.57	44.63	38.04	27.97	22.97	20.52	17.29	26.48	31.81	40.70	49.70	67.47	88.75	102.90
52.50°	84.41	81.67	66.37	51.11	37.22	27.32	18.14	10.23	9.97	9.53	15.42	21.68	29.61	40.33	56.30	72.34	84.41
55.00°	67.87	67.36	54.53	43.42	29.94	19.00	9.48	5.30	4.29	3.73	7.50	12.16	21.47	32.01	46.49	56.32	67.87
57.50°	55.87	56.23	44.44	36.30	23.59	12.27	6.01	2.10	2.21	2.61	3.88	7.45	13.71	26.48	37.28	47.14	55.87
60.00°	45.16	46.55	36.06	29.63	17.29	7.77	3.08	1.56	1.38	1.89	1.85	3.36	9.44	20.90	30.73	38.19	45.16
62.50°	36.99	37.73	29.43	23.08	12.53	4.50	2.05	1.45	1.32	2.00	1.69	2.68	5.44	15.24	25.13	31.34	36.99
65.00°	29.61	30.42	23.84	18.37	7.94	2.96	1.32	1.43	1.31	2.00	1.61	2.08	3.65	10.37	19.55	24.71	29.61
67.50°	23.53	23.86	19.17	14.02	5.68	2.23	1.45	1.42	1.34	1.80	1.62	1.88	1.94	6.96	13.99	19.58	23.53
70.00°	17.96	18.59	14.71	9.97	3.55	1.99	1.52	1.49	1.39	1.68	1.51	1.71	1.55	4.36	10.32	14.61	17.96
72.50°	13.10	13.86	10.39	5.96	2.40	1.93	1.48	1.56	1.46	1.67	1.32	1.61	1.19	3.01	7.10	10.36	13.10
75.00°	8.82	10.03	7.01	4.07	1.45	1.79	1.37	1.32	1.56	1.56	1.31	1.51	1.50	2.08	4.87	6.68	8.82
77.50°	5.21	6.51	4.23	2.37	1.59	1.62	1.15	1.07	1.65	1.31	1.44	1.41	1.77	1.73	2.82	4.99	5.21
80.00°	2.98	4.14	2.66	1.87	1.66	1.31	1.13	1.07	1.62	1.22	1.45	1.37	1.67	1.56	2.08	3.43	2.98
82.50°	2.13	2.08	1.74	1.42	1.39	0.97	1.44	1.07	1.55	1.28	1.38	1.48	1.57	1.60	1.51	2.23	2.13
85.00°	1.70	1.71	1.43	1.23	1.22	1.21	1.57	1.17	1.61	1.29	1.34	1.56	1.43	1.56	1.52	1.41	1.70
87.50°	1.64	1.71	1.40	1.05	1.39	1.57	1.47	1.27	1.70	1.25	1.32	1.61	1.32	1.44	1.57	1.52	1.64
90.00°	1.59	1.59	1.47	1.32	1.48	1.63	1.45	1.24	1.54	1.25	1.40	1.63	1.30	1.53	1.59	1.58	1.59

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	563	563	563	563	550	550	550	550	525	525	525	503	503	503	482	482	473
	1	531	515	502	489	519	505	493	481	486	476	466	468	460	452	451	445	439
	2	498	471	448	429	487	463	442	424	447	430	415	432	418	406	419	407	397
	3	467	431	403	381	457	424	399	378	411	390	372	400	381	366	388	373	360
	4	438	396	365	341	429	390	362	339	380	355	335	370	348	331	360	342	327
	5	411	365	332	308	403	360	330	307	351	324	304	343	319	301	335	315	298
	6	386	337	304	281	379	333	302	279	326	298	277	319	294	275	312	290	273
	7	364	313	280	257	357	309	278	256	303	275	254	297	272	253	291	269	251
	8	343	291	258	236	337	288	257	235	283	254	234	277	252	233	272	249	232
	9	324	272	240	218	318	269	239	218	264	236	217	260	234	216	256	232	215
	10	306	254	223	202	301	252	222	202	248	220	201	244	219	201	240	217	200

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	11.6 fc	5.9 ft
6.5 ft	8.3 fc	7.0 ft
7.5 ft	6.2 fc	8.1 ft
8.0 ft	5.5 fc	8.6 ft
10.0 ft	3.5 fc	10.7 ft
12.0 ft	2.4 fc	12.9 ft
14.0 ft	1.8 fc	15.0 ft
16.0 ft	1.4 fc	17.2 ft
20.0 ft	0.9 fc	21.5 ft
24.0 ft	0.6 fc	25.8 ft
28.0 ft	0.4 fc	30.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	109140	109140	109140
45.00°	65669	51207	28568
55.00°	36773	29545	16224
65.00°	21771	17529	5837
75.00°	10586	8422	1737
85.00°	6076	5110	4354

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	22.3	23.5	22.7	23.8	24.2	11.8	13.0	12.2	13.4	13.7
	3H	23.1	24.1	23.4	24.4	24.8	12.0	13.1	12.4	13.4	13.8
	4H	23.2	24.2	23.6	24.5	24.9	12.1	13.1	12.5	13.4	13.8
	6H	23.2	24.1	23.6	24.5	24.8	12.3	13.2	12.7	13.5	13.9
	8H	23.2	24.0	23.6	24.4	24.8	12.4	13.2	12.8	13.6	14.0
	12H	23.1	23.9	23.6	24.3	24.8	12.6	13.4	13.0	13.8	14.2
4H	2H	22.4	23.3	22.8	23.7	24.1	11.6	12.6	12.0	13.0	13.3
	3H	23.2	24.0	23.6	24.4	24.8	11.9	12.7	12.3	13.1	13.5
	4H	23.4	24.1	23.8	24.5	25.0	12.0	12.7	12.4	13.1	13.6
	6H	23.4	24.1	23.9	24.5	25.0	12.3	12.9	12.8	13.4	13.9
	8H	23.4	24.0	23.9	24.4	24.9	12.6	13.1	13.0	13.6	14.0
	12H	23.4	23.9	23.9	24.4	24.9	12.9	13.4	13.4	13.9	14.4
8H	4H	23.3	23.9	23.8	24.3	24.8	12.0	12.5	12.4	13.0	13.5
	6H	23.4	23.8	23.9	24.3	24.8	12.4	12.9	12.9	13.4	13.8
	8H	23.3	23.8	23.9	24.3	24.8	12.7	13.1	13.3	13.7	14.2
	12H	23.3	23.7	23.9	24.2	24.8	13.3	13.7	13.8	14.2	14.7
12H	4H	23.3	23.8	23.7	24.2	24.7	11.9	12.4	12.4	12.9	13.4
	6H	23.3	23.7	23.8	24.2	24.7	12.4	12.8	12.9	13.3	13.9
	8H	23.3	23.7	23.8	24.2	24.7	12.8	13.2	13.4	13.7	14.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0