

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CF04XXPC 10L 35K MD XX CL XX

Nom 4" diam Gamma Cylinder (damp location), MD optic, clear glass lens

Test Number

SP-01068_M-10L

Test Date

1/31/2020

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

Summary of Results

Power

Input Watts	6.5 W
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Lumen Output

Output Lumens	736
Efficacy	113.16 lm/W

Luminous Dimensions

0° - 180° Size	-0.33
90° - 270° Size	-0.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.43
Two luminaires, plane 90°	0.43
Four luminaires	0.46

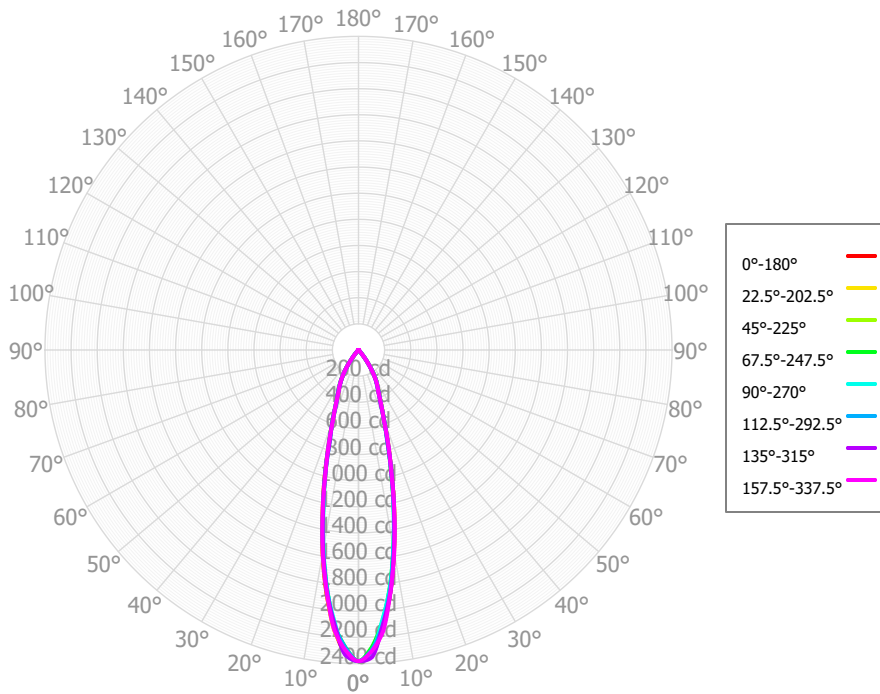
Full Beam Angle

0° - 180°	26°
90° - 270°	26°

IES File Header Contents

Keyword	Value
TEST	SP-01068_M-10L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/31/2020
ISSUEDATE	3/19/2020
LUMCAT	CF04XXPC 10L 35K MD XX CL XX
LUMINAIRE	Nom 4" diam Gamma Cylinder (damp location), MD optic, clear glass lens
OTHER	Beam Angle: 26.4 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.972, 30K x 0.981, 40K x 1.04, 27HK x 0.89, 30HK x 0.83
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°	185.43	25.21%	90.00° - 100.00°	0.05	0.01%
10.00° - 20.00°	269.27	36.61%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	175.34	23.84%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	89.14	12.12%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	9.73	1.32%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	2.83	0.39%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.73	0.24%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.18	0.16%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	0.82	0.11%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	735.48	99.99%	0.00° - 180.00°	735.52	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°	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62	2381.62
2.50°	2334.20	2303.48	2308.37	2281.37	2317.77	2282.50	2335.45	2299.57	2325.53	2301.98	2306.17	2279.85	2331.69	2300.56	2354.45	2308.67	2334.20
5.00°	2123.30	2148.04	2099.32	2090.44	2079.75	2117.15	2107.68	2147.13	2138.64	2151.65	2122.17	2114.99	2092.82	2118.48	2118.95	2162.57	2123.30
7.50°	1870.64	1862.04	1847.90	1833.33	1837.90	1846.49	1864.01	1862.83	1877.90	1865.22	1859.09	1842.81	1851.43	1852.78	1872.97	1869.98	1870.64
10.00°	1561.62	1567.80	1543.52	1537.22	1535.68	1561.57	1559.11	1576.00	1581.96	1575.36	1565.21	1555.02	1542.32	1548.45	1559.45	1574.91	1561.62
12.50°	1263.13	1265.87	1249.63	1246.16	1237.16	1256.27	1251.72	1268.74	1268.35	1266.79	1254.79	1249.08	1236.59	1254.00	1253.15	1268.60	1263.13
15.00°	977.07	964.01	967.23	957.68	975.04	984.14	988.90	974.61	998.36	975.19	989.61	981.08	976.57	963.51	982.84	966.95	977.07
17.50°	746.37	760.67	742.46	744.59	726.75	754.16	729.25	761.30	747.17	758.84	745.70	751.73	727.56	749.66	734.92	759.81	746.37
20.00°	573.76	561.02	573.02	565.12	578.27	576.20	584.82	566.27	582.71	565.46	581.73	579.24	579.86	561.88	576.47	560.93	573.76
22.50°	451.21	460.77	452.60	453.28	442.25	456.09	444.45	458.78	450.05	455.00	449.93	457.54	443.02	452.15	439.13	457.17	451.21
25.00°	374.73	364.04	374.02	367.16	374.40	370.58	377.44	363.53	374.96	360.63	375.13	375.02	378.28	364.55	372.67	360.07	374.73
27.50°	315.86	318.02	315.37	314.13	310.49	318.79	311.83	316.59	317.94	314.60	319.74	323.60	315.45	312.96	310.04	315.36	315.86
30.00°	271.20	270.22	271.59	271.71	264.02	264.85	261.15	266.60	263.63	264.60	264.24	266.81	262.62	269.91	258.17	267.98	271.20
32.50°	212.23	206.15	212.95	211.09	213.18	209.05	208.84	206.69	210.02	204.40	208.70	206.31	207.11	205.93	202.88	204.53	212.23
35.00°	143.04	142.99	144.47	145.53	146.61	149.44	143.94	146.40	147.21	144.37	145.02	143.58	140.44	138.01	139.40	142.07	143.04
37.50°	86.57	85.84	88.67	89.90	86.57	86.94	83.05	85.01	82.47	84.71	79.40	79.50	79.95	83.15	83.23	84.28	86.57
40.00°	38.04	35.32	40.15	36.44	46.58	46.45	45.36	36.66	45.53	39.06	43.91	40.97	41.04	30.18	42.25	35.15	38.04
42.50°	15.60	19.58	17.56	19.67	16.08	20.54	13.69	19.13	13.24	20.01	14.27	16.02	11.08	16.14	13.99	19.71	15.60
45.00°	7.27	6.61	8.08	9.25	10.09	9.40	9.38	7.02	7.87	7.44	7.98	6.90	7.19	6.25	8.61	7.51	7.27
47.50°	4.25	5.19	4.86	6.61	5.61	6.90	5.79	5.94	5.84	5.69	5.16	5.03	4.35	5.34	4.99	5.72	4.25
50.00°	3.75	3.99	4.35	5.01	4.46	5.31	4.92	4.94	4.86	4.38	4.22	4.06	4.12	5.05	4.15	4.23	3.75
52.50°	3.27	3.53	3.65	3.88	3.49	4.19	4.23	4.11	3.96	3.71	3.49	3.44	3.79	4.11	3.41	3.58	3.27
55.00°	2.78	3.03	2.88	2.79	2.86	3.68	4.11	3.50	2.93	2.99	2.64	2.98	3.26	3.16	2.78	2.97	2.78
57.50°	2.31	2.40	2.50	2.39	2.30	3.46	3.92	3.23	1.90	2.22	1.79	2.58	2.69	2.70	2.29	2.46	2.31
60.00°	1.84	1.88	2.24	2.03	1.87	2.97	3.56	3.11	1.71	1.73	1.72	2.13	2.05	2.24	1.97	2.09	1.84
62.50°	1.56	1.66	1.75	1.85	1.67	2.39	3.14	3.21	1.53	1.55	1.68	1.67	1.60	1.80	1.82	1.99	1.56
65.00°	1.35	1.41	1.21	1.68	1.84	2.25	2.63	3.07	1.48	1.34	1.52	1.46	1.44	1.39	1.84	1.83	1.35
67.50°	1.16	1.13	1.28	1.36	1.79	2.24	2.29	2.67	1.41	1.10	1.35	1.32	1.27	1.26	1.65	1.55	1.16
70.00°	0.98	0.98	1.40	1.10	1.52	1.78	2.23	2.63	1.25	0.94	1.15	1.01	1.09	1.14	1.28	1.46	0.98
72.50°	0.86	0.93	1.05	1.01	1.47	1.27	2.05	2.92	1.16	0.84	1.00	0.72	0.81	1.03	1.23	1.50	0.86
75.00°	0.66	0.92	1.00	1.00	1.48	1.26	1.79	2.42	1.25	0.85	1.02	0.71	0.52	0.94	1.18	0.92	0.66
77.50°	0.47	0.86	1.18	1.00	1.37	1.23	1.17	1.68	0.96	0.85	1.18	0.61	0.65	0.86	0.89	0.77	0.47
80.00°	0.79	0.78	0.75	0.88	1.34	1.19	0.87	0.86	0.60	0.69	1.30	0.46	0.71	0.83	0.94	0.94	0.79
82.50°	0.67	0.73	0.74	0.85	1.10	1.17	0.90	0.76	0.79	0.85	1.07	0.57	0.64	0.76	0.94	0.89	0.67
85.00°	0.72	0.89	0.64	0.74	0.83	0.93	0.81	0.79	0.76	0.90	0.81	0.86	0.56	0.60	0.89	0.90	0.72
87.50°	0.58	0.83	0.60	1.11	0.76	0.77	0.73	0.89	0.63	0.91	0.84	0.70	0.82	0.70	0.71	0.88	0.58
90.00°	0.00	0.00	0.00	0.00	0.00	0.80	0.76	0.67	0.68	0.74	0.68	0.68	0.71	0.00	0.00	0.00	0.00
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	876	876	876	876	855	855	855	855	817	817	817	782	782	782	750	750	735
	1	841	824	808	794	824	808	794	781	778	767	757	751	743	735	726	720	706
	2	808	778	753	732	793	765	743	724	742	724	708	721	706	693	701	689	676
	3	777	737	707	682	763	727	699	677	709	685	666	691	672	656	676	660	647
	4	747	701	667	642	735	693	662	638	678	651	630	664	641	623	651	632	621
	5	719	668	633	607	708	662	629	604	649	621	599	638	613	594	627	606	595
	6	692	638	602	577	682	633	599	575	623	593	571	613	587	567	604	581	572
	7	667	611	575	550	658	607	573	548	598	568	546	590	563	543	583	559	550
	8	643	586	551	526	636	583	549	525	575	545	523	568	541	521	562	537	529
	9	621	564	528	504	614	560	527	503	554	523	502	548	520	500	543	517	510
	10	601	542	508	485	594	540	506	484	534	504	483	529	501	482	524	499	492

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	78.7 fc	2.5 ft
6.5 ft	56.4 fc	3.0 ft
7.5 ft	42.3 fc	3.5 ft
8.0 ft	37.2 fc	3.7 ft
10.0 ft	23.8 fc	4.6 ft
12.0 ft	16.5 fc	5.6 ft
14.0 ft	12.2 fc	6.5 ft
16.0 ft	9.3 fc	7.4 ft
20.0 ft	6.0 fc	9.3 ft
24.0 ft	4.1 fc	11.1 ft
28.0 ft	3.0 fc	13.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	299726	299726	299726
45.00°	1294	1438	1797
55.00°	611	633	627
65.00°	401	359	547
75.00°	319	487	720
85.00°	1039	923	1192

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	-3.4	-2.5	-3.1	-2.2	-1.9	-2.0	-1.1	-1.6	-0.8	-0.5
	3H	-2.3	-1.5	-1.9	-1.1	-0.8	-0.7	0.1	-0.3	0.4	0.8
	4H	-1.8	-1.0	-1.4	-0.7	-0.3	-0.2	0.6	0.3	0.9	1.3
	6H	-1.2	-0.5	-0.8	-0.2	0.2	0.7	1.3	1.1	1.7	2.1
	8H	-0.7	-0.1	-0.3	0.3	0.7	1.2	1.8	1.6	2.2	2.6
	12H	0.0	0.6	0.4	1.0	1.4	1.6	2.2	2.1	2.6	3.1
4H	2H	-3.1	-2.3	-2.7	-2.0	-1.6	-1.5	-0.8	-1.1	-0.4	0.0
	3H	-1.5	-0.9	-1.1	-0.5	-0.1	0.0	0.6	0.4	1.0	1.4
	4H	-0.9	-0.3	-0.4	0.1	0.5	0.7	1.2	1.1	1.6	2.1
	6H	0.0	0.4	0.4	0.9	1.4	1.7	2.1	2.1	2.6	3.0
	8H	0.6	1.0	1.1	1.5	2.0	2.3	2.7	2.7	3.1	3.6
	12H	1.5	1.8	2.0	2.3	2.8	2.9	3.3	3.4	3.8	4.2
8H	4H	-0.4	0.0	0.0	0.4	0.9	1.2	1.6	1.6	2.0	2.5
	6H	0.7	1.1	1.2	1.6	2.1	2.3	2.7	2.8	3.2	3.7
	8H	1.6	1.9	2.1	2.4	2.9	3.1	3.4	3.6	3.9	4.4
	12H	2.8	3.0	3.3	3.5	4.1	4.0	4.2	4.5	4.7	5.3
12H	4H	-0.4	0.0	0.1	0.5	1.0	1.2	1.6	1.7	2.1	2.5
	6H	0.9	1.2	1.5	1.7	2.3	2.5	2.8	3.0	3.3	3.8
	8H	1.9	2.2	2.5	2.7	3.3	3.4	3.7	3.9	4.1	4.7

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0