Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CF04XXPC 15L 35K WD XX CL XX

Nom 4" diam Gamma Cylinder, WD optic, clear glass lens

Test Number

SP-01070_M-15L

Test Date

1/31/2020

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

Summary of Results

Power

Input Watts	9.5 W

Lumen Output

Output Lumens	1101
Efficacy	115.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.81
Two luminaires, plane 90°	0.81
Four luminaires	0.79

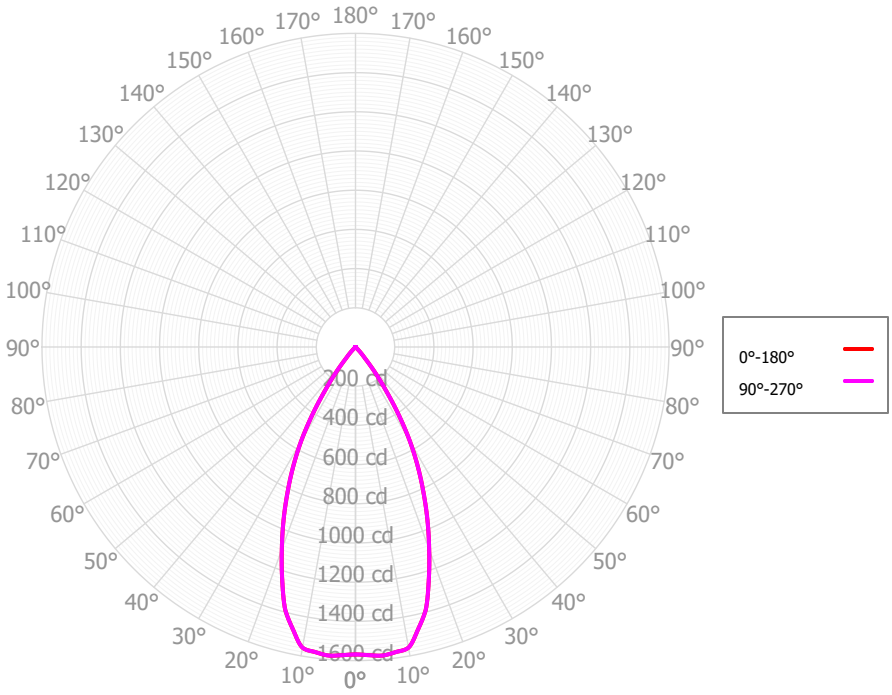
Full Beam Angle

0° - 180°	51°
90° - 270°	51°

IES File Header Contents

Keyword	Value
TEST	SP-01070_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/31/2020
ISSUEDATE	3/19/2020
LUMCAT	CF04XXPC 15L 35K WD XX CL XX
LUMINAIRE	Nom 4" diam Gamma Cylinder, WD optic, clear glass lens
OTHER	Beam Angle: 51.2 deg
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.972, 30K x 0.981, 40K x 1.04
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°	153.00	13.90%	90.00° - 100.00°	0.10	0.01%
10.00° - 20.00°	377.15	34.27%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	372.81	33.88%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	175.04	15.91%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	17.47	1.59%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	1.79	0.16%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.36	0.12%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.49	0.14%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.07	0.10%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1101.19	100.06%	0.00° - 180.00°	1101.29	100.07%

Candela Distribution

	0.00°	90.00°	180.00°
0.00°	1569.22	1569.22	1569.22
2.50°	1574.30	1574.30	1574.30
5.00°	1580.55	1580.55	1580.55
7.50°	1570.59	1570.59	1570.59
10.00°	1557.96	1557.96	1557.96
12.50°	1475.95	1475.95	1475.95
15.00°	1386.96	1386.96	1386.96
17.50°	1244.16	1244.16	1244.16
20.00°	1099.12	1099.12	1099.12
22.50°	960.37	960.37	960.37
25.00°	821.97	821.97	821.97
27.50°	689.32	689.32	689.32
30.00°	555.28	555.28	555.28
32.50°	409.58	409.58	409.58
35.00°	270.18	270.18	270.18
37.50°	165.41	165.41	165.41
40.00°	74.60	74.60	74.60
42.50°	38.80	38.80	38.80
45.00°	10.92	10.92	10.92
47.50°	6.36	6.36	6.36
50.00°	2.97	2.97	2.97
52.50°	2.32	2.32	2.32
55.00°	1.83	1.83	1.83
57.50°	1.65	1.65	1.65
60.00°	1.52	1.52	1.52
62.50°	1.46	1.46	1.46
65.00°	1.37	1.37	1.37
67.50°	1.25	1.25	1.25
70.00°	1.31	1.31	1.31
72.50°	1.49	1.49	1.49
75.00°	1.52	1.52	1.52
77.50°	1.42	1.42	1.42
80.00°	1.14	1.14	1.14
82.50°	1.04	1.04	1.04
85.00°	0.99	0.99	0.99
87.50°	0.96	0.96	0.96
90.00°	0.72	0.72	0.72
92.50°	0.00	0.00	0.00
95.00°	0.00	0.00	0.00
97.50°	0.00	0.00	0.00
100.00°	0.00	0.00	0.00
102.50°	0.00	0.00	0.00
105.00°	0.00	0.00	0.00
107.50°	0.00	0.00	0.00
110.00°	0.00	0.00	0.00
112.50°	0.00	0.00	0.00

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1311	1311	1311	1311	1281	1281	1281	1281	1224	1224	1224	1172	1172	1172	1124	1124	1124	1101
	1	1255	1226	1201	1178	1228	1203	1180	1159	1158	1140	1124	1118	1104	1090	1080	1069	1059	1048
	2	1200	1150	1109	1075	1176	1132	1095	1063	1096	1066	1040	1064	1039	1018	1034	1014	997	994
	3	1146	1082	1032	992	1125	1067	1021	984	1038	1000	968	1012	980	953	988	961	939	943
	4	1095	1020	964	922	1076	1007	956	916	984	940	906	963	925	895	943	911	885	894
RCR	5	1047	963	905	862	1030	953	898	858	934	887	850	916	875	843	900	864	836	849
	6	1001	911	852	809	985	903	847	806	887	837	800	872	829	795	858	820	790	806
	7	957	864	804	762	943	857	800	760	844	793	756	831	786	752	819	779	748	766
	8	916	821	761	719	904	815	758	718	803	752	715	792	746	712	782	740	709	729
	9	878	781	721	681	866	775	719	680	766	714	678	756	709	676	747	705	673	694
	10	841	744	685	646	831	739	683	645	731	679	644	723	675	642	715	672	640	662

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	51.9 fc	5.3 ft
6.5 ft	37.1 fc	6.2 ft
7.5 ft	27.9 fc	7.2 ft
8.0 ft	24.5 fc	7.7 ft
10.0 ft	15.7 fc	9.6 ft
12.0 ft	10.9 fc	11.5 ft
14.0 ft	8.0 fc	13.4 ft
16.0 ft	6.1 fc	15.3 ft
20.0 ft	3.9 fc	19.2 ft
24.0 ft	2.7 fc	23.0 ft
28.0 ft	2.0 fc	26.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	197486	197486	197486
45.00°	1943	1943	1943
55.00°	401	401	401
65.00°	409	409	409
75.00°	738	738	738
85.00°	1431	1431	1431

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	-7.4	-6.5	-7.0	-6.2	-5.9	-7.4	-6.5	-7.0	-6.2	-5.9
	3H	-4.9	-4.1	-4.5	-3.8	-3.4	-4.9	-4.1	-4.5	-3.8	-3.4
	4H	-2.8	-2.1	-2.4	-1.7	-1.4	-2.8	-2.1	-2.4	-1.7	-1.4
	6H	-1.1	-0.4	-0.7	-0.1	0.3	-1.1	-0.4	-0.7	-0.1	0.3
	8H	-0.4	0.2	0.0	0.6	1.0	-0.4	0.2	0.0	0.6	1.0
	12H	0.4	1.0	0.9	1.4	1.8	0.4	1.0	0.9	1.4	1.8
4H	2H	-6.7	-6.0	-6.3	-5.6	-5.2	-6.7	-6.0	-6.3	-5.6	-5.2
	3H	-3.8	-3.2	-3.3	-2.7	-2.3	-3.8	-3.2	-3.3	-2.7	-2.3
	4H	-1.5	-0.9	-1.0	-0.5	-0.1	-1.5	-0.9	-1.0	-0.5	-0.1
	6H	0.4	0.8	0.8	1.3	1.7	0.4	0.8	0.8	1.3	1.7
	8H	1.1	1.5	1.6	2.0	2.5	1.1	1.5	1.6	2.0	2.5
	12H	2.0	2.4	2.5	2.9	3.4	2.0	2.4	2.5	2.9	3.4
8H	4H	-0.7	-0.3	-0.3	0.1	0.6	-0.7	-0.3	-0.3	0.1	0.6
	6H	1.2	1.6	1.7	2.1	2.5	1.2	1.6	1.7	2.1	2.5
	8H	2.1	2.4	2.7	3.0	3.5	2.1	2.4	2.7	3.0	3.5
	12H	3.3	3.5	3.8	4.0	4.6	3.3	3.5	3.8	4.0	4.6
12H	4H	-0.6	-0.3	-0.1	0.2	0.7	-0.6	-0.3	-0.1	0.2	0.7
	6H	1.4	1.7	2.0	2.2	2.7	1.4	1.7	2.0	2.2	2.7
	8H	2.5	2.7	3.0	3.2	3.8	2.5	2.7	3.0	3.2	3.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0