Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CF06XXPC 40L 35K XW XX CL XX

Nom 6" diam Gamma Cylinder (damp location), clear glass lens

Test Number

SP-01044

Test Date

2/3/2020

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

Summary of Results

Power

Input Watts	27.4 W

Lumen Output

Output Lumens	2907
Efficacy	106.08 lm/W

Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.17
Two luminaires, plane 90°	1.17
Four luminaires	1.11

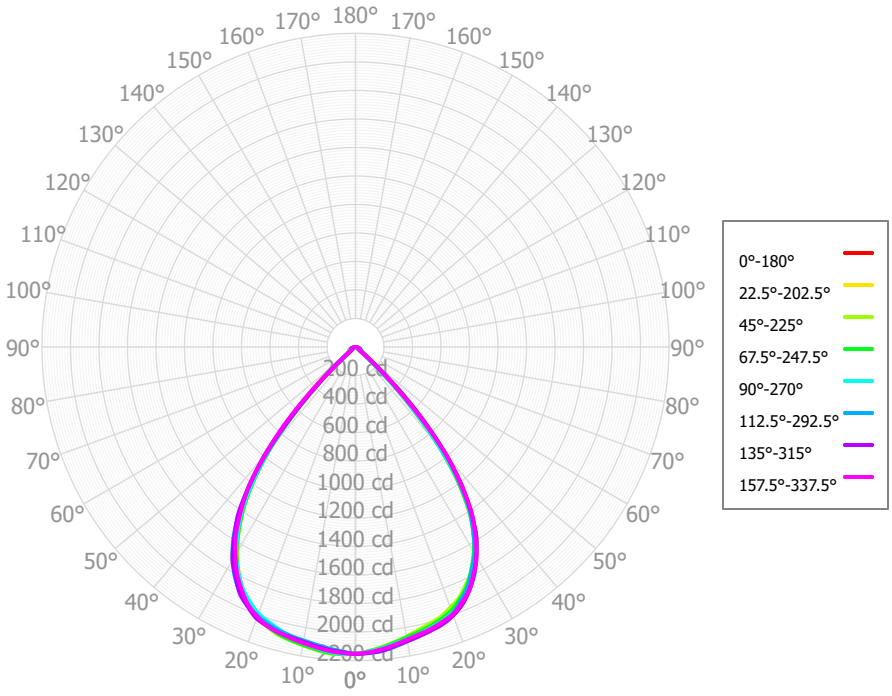
Full Beam Angle

0° - 180°	78°
90° - 270°	77°

IES File Header Contents

Keyword	Value
TEST	SP-01044
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/3/2020
ISSUEDATE	05/16/2022
LUMCAT	CF06XXPC 40L 35K XW XX CL XX
LUMINAIRE	Nom 6" diam Gamma Cylinder (damp location), clear glass lens
OTHER	Beam angle: 77.4 deg
OTHER	XTRA Wide optic
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.98, 40K x 1.04, 27HK x 0.78, 30HK x 0.82
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.97, 30K x 0.98, 40K x 1.04
_CCTMULTA	27HK x 0.78, 30HK x 0.82

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture
0.00° - 10.00°	205.51	7.07%
10.00° - 20.00°	579.95	19.95%
20.00° - 30.00°	856.73	29.48%
30.00° - 40.00°	847.93	29.17%
40.00° - 50.00°	330.38	11.37%
50.00° - 60.00°	35.14	1.21%
60.00° - 70.00°	32.33	1.11%
70.00° - 80.00°	16.26	0.56%
80.00° - 90.00°	2.22	0.08%
0.00° - 90.00°	2906.46	100.00%

Zone	Lumens	% Fixture
90.00° - 100.00°	0.08	0.00%
100.00° - 110.00°	0.00	0.00%
100.00° - 120.00°	0.00	0.00%
120.00° - 130.00°	0.00	0.00%
130.00° - 140.00°	0.00	0.00%
140.00° - 150.00°	0.00	0.00%
150.00° - 160.00°	0.00	0.00%
160.00° - 170.00°	0.00	0.00%
170.00° - 180.00°	0.00	0.00%
0.00° - 180.00°	2906.54	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°	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49	2153.49
2.50°	2141.71	2137.14	2136.34	2138.00	2139.99	2138.36	2144.21	2149.01	2154.75	2156.66	2158.86	2156.10	2155.61	2149.62	2148.54	2144.27	2141.71
5.00°	2124.37	2118.55	2114.74	2118.22	2122.98	2123.53	2132.81	2140.36	2146.02	2156.25	2152.51	2153.90	2145.04	2140.98	2139.00	2128.60	2124.37
7.50°	2101.83	2095.38	2090.39	2093.28	2103.36	2106.93	2117.57	2125.41	2132.42	2139.94	2141.97	2138.14	2128.96	2120.36	2116.73	2107.91	2101.83
10.00°	2078.31	2071.56	2063.40	2068.88	2083.60	2091.50	2101.06	2109.73	2116.45	2122.12	2124.87	2122.26	2108.05	2096.65	2096.01	2084.29	2078.31
12.50°	2053.69	2045.65	2035.57	2048.76	2063.75	2078.18	2087.76	2093.38	2101.62	2106.25	2106.77	2105.30	2083.20	2075.24	2077.63	2064.98	2053.69
15.00°	2029.93	2020.11	2010.87	2027.61	2041.46	2061.19	2075.24	2074.45	2087.25	2090.09	2087.41	2086.13	2055.57	2054.25	2058.54	2047.67	2029.93
17.50°	2006.92	1995.48	1986.89	2001.24	2017.99	2038.90	2052.35	2053.53	2056.11	2054.66	2055.80	2052.91	2024.19	2024.10	2038.59	2023.24	2006.92
20.00°	1971.37	1962.75	1946.26	1968.97	1985.61	2007.93	2027.72	2013.56	2020.02	2017.21	2011.71	2014.34	1990.63	1992.86	2004.68	1996.26	1971.37
22.50°	1926.85	1914.04	1902.91	1914.75	1949.70	1966.50	1972.92	1961.80	1954.50	1950.40	1951.79	1952.79	1935.76	1927.88	1956.70	1943.44	1926.85
25.00°	1862.88	1855.56	1836.85	1851.04	1882.84	1906.76	1914.86	1885.76	1882.71	1879.36	1878.43	1882.25	1871.05	1860.99	1887.82	1883.43	1862.88
27.50°	1787.43	1781.72	1768.60	1760.89	1806.69	1829.16	1821.55	1797.80	1785.12	1776.38	1781.62	1783.42	1781.06	1768.02	1801.88	1794.15	1787.43
30.00°	1687.50	1684.05	1664.87	1660.89	1694.81	1723.84	1726.21	1685.25	1683.66	1666.60	1668.75	1671.65	1682.04	1673.17	1696.10	1699.08	1687.50
32.50°	1576.14	1555.34	1559.00	1539.61	1575.19	1596.65	1583.47	1562.96	1540.21	1523.50	1526.31	1527.73	1539.95	1538.58	1577.26	1563.04	1576.14
35.00°	1405.56	1387.06	1374.15	1385.00	1394.04	1424.57	1436.84	1400.26	1393.23	1368.64	1367.68	1364.99	1386.11	1397.66	1414.67	1421.83	1405.56
37.50°	1213.53	1177.12	1183.98	1171.74	1203.48	1224.00	1221.31	1225.40	1190.78	1170.88	1165.70	1165.67	1178.82	1198.18	1228.42	1213.64	1213.53
40.00°	951.03	923.17	915.19	919.49	921.45	959.72	995.07	986.76	985.20	950.55	944.39	935.41	960.96	987.63	992.00	1000.94	951.03
42.50°	668.62	631.69	644.60	612.31	631.48	662.22	678.69	734.26	698.32	668.54	669.36	657.27	679.38	714.61	734.25	700.47	668.62
45.00°	400.80	377.27	360.31	353.28	361.13	394.14	382.81	448.59	419.10	413.16	375.87	408.78	389.73	453.59	468.01	403.30	400.80
47.50°	135.91	149.10	113.49	149.00	95.55	138.07	195.58	157.83	236.48	214.24	213.02	198.30	223.93	241.81	199.00	218.43	135.91
50.00°	69.35	50.84	60.87	42.20	55.20	55.79	44.72	85.64	74.82	82.98	83.46	79.90	65.99	77.79	100.92	49.42	69.35
52.50°	28.52	26.24	19.07	25.20	17.80	27.59	35.50	32.49	58.34	65.35	57.23	57.02	52.44	58.11	45.60	37.66	28.52
55.00°	25.76	18.73	16.95	18.04	18.88	22.54	28.74	33.61	44.63	53.80	50.31	49.07	41.46	44.82	37.22	27.71	25.76
57.50°	25.82	18.86	16.04	18.42	19.98	22.99	29.14	36.22	44.26	50.68	46.65	53.64	42.92	46.35	36.94	29.09	25.82
60.00°	27.39	20.85	18.44	20.15	21.25	25.06	29.99	36.93	44.02	48.00	43.37	53.32	44.07	46.57	36.61	30.42	27.39
62.50°	28.94	23.50	21.02	22.72	22.60	27.40	31.86	37.50	44.22	45.80	39.47	49.59	42.21	44.33	36.26	31.51	28.94
65.00°	29.27	25.58	23.96	25.27	24.33	27.68	32.34	36.40	43.57	43.14	35.53	43.84	39.75	40.40	35.47	31.73	29.27
67.50°	29.13	27.50	25.01	27.80	25.49	27.73	30.41	34.77	40.76	40.07	29.43	36.97	33.77	34.02	34.34	29.42	29.13
70.00°	26.18	23.77	23.41	25.35	25.14	26.60	27.66	30.71	36.52	34.51	23.16	30.62	27.09	27.22	27.87	26.01	26.18
72.50°	21.43	18.99	19.80	21.27	21.85	23.64	24.18	24.93	30.43	27.56	16.07	24.42	18.79	20.08	21.20	21.03	21.43
75.00°	14.11	12.12	14.89	13.93	16.08	16.57	16.04	16.80	21.84	21.11	10.05	17.92	12.29	12.81	14.09	13.45	14.11
77.50°	7.75	6.99	7.34	7.63	9.47	8.83	8.62	9.36	12.98	13.88	5.17	11.23	7.20	7.07	7.52	6.66	7.75
80.00°	3.45	3.47	3.60	3.15	4.33	3.44	3.74	4.39	5.52	5.55	3.74	4.94	4.30	4.08	3.10	4.01	3.45
82.50°	1.69	1.80	1.87	1.53	1.73	2.13	2.90	2.50	3.57	3.63	3.18	3.43	2.46	2.66	2.29	2.19	1.69
85.00°	1.40	1.37	1.08	1.47	1.38	1.79	1.71	2.00	2.59	2.79	2.45	1.95	2.33	2.00	1.88	1.50	1.40
87.50°	1.20	1.22	0.89	1.40	1.04	1.27	1.38	1.36	1.45	2.05	1.70	1.78	1.41	2.13	1.85	1.60	1.20
90.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	1.12	1.17	1.15	1.36	1.37	0.92	1.38	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

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	3460	3460	3460	3460	3380	3380	3380	3380	3229	3229	3229	3092	3092	3092	2966	2966	2966	2906
	1	3280	3191	3112	3040	3207	3128	3057	2992	3010	2952	2899	2901	2855	2813	2800	2765	2731	2709
	2	3095	2938	2808	2699	3029	2887	2769	2669	2792	2694	2609	2704	2623	2553	2622	2557	2499	2506
	3	2916	2709	2548	2420	2855	2667	2519	2400	2589	2464	2361	2517	2412	2324	2450	2362	2287	2316
	4	2746	2502	2323	2187	2691	2468	2302	2174	2403	2260	2147	2343	2221	2121	2287	2183	2096	2141
RCR	5	2586	2316	2128	1988	2535	2287	2111	1979	2233	2079	1961	2183	2048	1943	2136	2019	1925	1981
	6	2436	2148	1956	1817	2390	2124	1943	1810	2079	1918	1797	2036	1894	1785	1996	1870	1772	1837
	7	2297	1998	1804	1668	2255	1977	1793	1663	1938	1773	1654	1902	1754	1644	1868	1736	1635	1706
	8	2168	1862	1669	1537	2130	1844	1661	1533	1811	1645	1526	1779	1629	1519	1750	1614	1512	1587
	9	2049	1739	1549	1421	2014	1724	1542	1418	1695	1529	1413	1668	1516	1408	1642	1504	1402	1480
	10	1939	1628	1442	1318	1907	1615	1437	1316	1590	1425	1312	1566	1415	1308	1543	1404	1304	1383

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	71.2 fc	8.8 ft
6.5 ft	51.0 fc	10.5 ft
7.5 ft	38.3 fc	12.1 ft
8.0 ft	33.6 fc	12.9 ft
10.0 ft	21.5 fc	16.1 ft
12.0 ft	15.0 fc	19.3 ft
14.0 ft	11.0 fc	22.5 ft
16.0 ft	8.4 fc	25.7 ft
20.0 ft	5.4 fc	32.2 ft
24.0 ft	3.7 fc	38.6 ft
28.0 ft	2.7 fc	45.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	118055	118055	118055
45.00°	31073	27934	27997
55.00°	2462	1620	1804
65.00°	3796	3109	3156
75.00°	2988	3154	3406
85.00°	882	682	868

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	5.0	6.1	5.4	6.4	6.7	8.3	9.4	8.7	9.7	10.0
	3H	9.0	10.0	9.4	10.3	10.7	10.6	11.6	11.0	11.9	12.3
	4H	9.8	10.7	10.2	11.0	11.4	11.2	12.1	11.6	12.4	12.8
	6H	9.9	10.7	10.3	11.1	11.5	11.3	12.1	11.7	12.5	12.9
	8H	9.9	10.6	10.3	11.0	11.4	11.3	12.0	11.7	12.4	12.8
	12H	9.8	10.5	10.3	10.9	11.4	11.2	12.0	11.7	12.3	12.8
4H	2H	6.6	7.5	7.0	7.8	8.2	9.1	9.9	9.5	10.3	10.7
	3H	10.2	10.9	10.6	11.3	11.7	11.5	12.2	11.9	12.6	13.0
	4H	10.9	11.5	11.3	11.9	12.4	12.2	12.8	12.6	13.2	13.7
	6H	11.0	11.5	11.5	12.0	12.5	12.3	12.8	12.8	13.3	13.8
	8H	11.0	11.5	11.4	11.9	12.4	12.3	12.8	12.7	13.2	13.7
	12H	10.9	11.4	11.4	11.8	12.3	12.2	12.7	12.7	13.2	13.6
8H	4H	11.0	11.6	11.5	12.0	12.5	12.3	12.8	12.8	13.2	13.7
	6H	11.2	11.6	11.7	12.1	12.6	12.4	12.8	12.9	13.3	13.8
	8H	11.1	11.5	11.7	12.0	12.5	12.4	12.8	12.9	13.3	13.8
	12H	11.1	11.4	11.7	11.9	12.5	12.4	12.7	12.9	13.2	13.8
12H	4H	11.0	11.4	11.5	11.9	12.4	12.2	12.7	12.7	13.2	13.6
	6H	11.1	11.5	11.7	12.0	12.5	12.4	12.7	12.9	13.2	13.8
	8H	11.1	11.4	11.6	11.9	12.5	12.4	12.7	12.9	13.2	13.8

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0