

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CF06XXPC 20L 35K XW XX CL XX

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

Test Number

SP-01044_M-20L

Test Date

2/3/2020

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

Summary of Results

Power

Input Watts	12.9 W
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Lumen Output

Output Lumens	1453
Efficacy	112.66 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

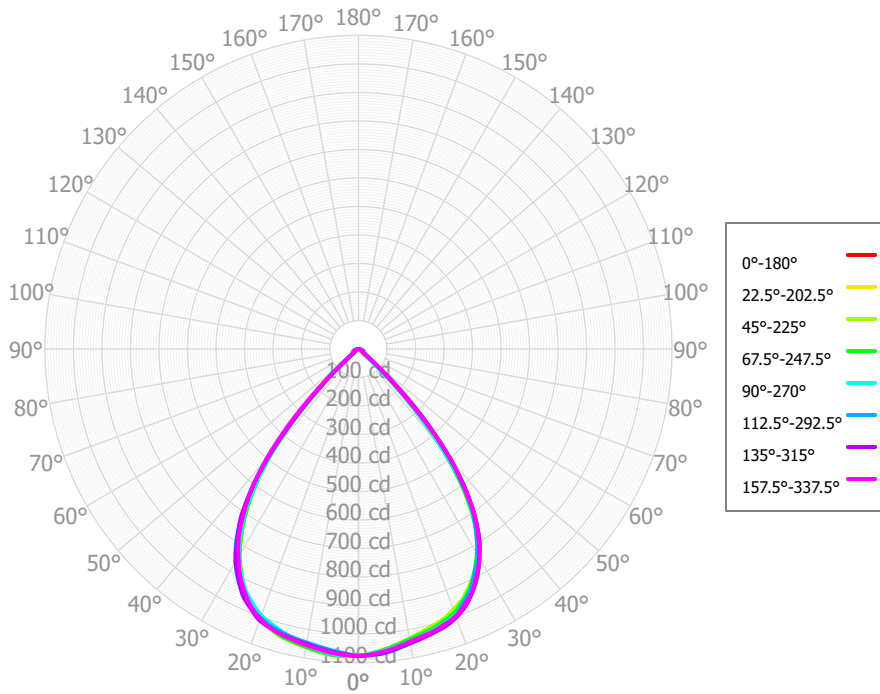
Full Beam Angle

0° - 180°	78°
90° - 270°	77°

IES File Header Contents

Keyword	Value
TEST	SP-01044_M-20L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	2/3/2020
ISSUEDATE	05/16/2022
LUMCAT	CF06XXPC 20L 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, 35HK x 0.82
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting, scaled from 40L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	102.76	7.07%	90.00° - 100.00°	0.04	0.00%
10.00° - 20.00°	289.98	19.95%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	428.36	29.48%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	423.97	29.17%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	165.19	11.37%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	17.57	1.21%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	16.17	1.11%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	8.13	0.56%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.11	0.08%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1453.23	100.00%	0.00° - 180.00°	1453.27	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°	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75	1076.75
2.50°	1070.86	1068.57	1068.17	1069.00	1069.99	1069.18	1072.10	1074.51	1077.38	1078.33	1079.43	1078.05	1077.80	1074.81	1074.27	1072.13	1070.86
5.00°	1062.19	1059.28	1057.37	1059.11	1061.49	1061.77	1066.41	1070.18	1073.01	1078.13	1076.25	1076.95	1072.52	1070.49	1069.50	1064.30	1062.19
7.50°	1050.92	1047.69	1045.20	1046.64	1051.68	1053.47	1058.79	1062.70	1066.21	1069.97	1070.99	1069.07	1064.48	1060.18	1058.36	1053.96	1050.92
10.00°	1039.15	1035.78	1031.70	1034.44	1041.80	1045.75	1050.53	1054.87	1058.22	1061.06	1062.43	1061.13	1054.02	1048.33	1048.01	1042.14	1039.15
12.50°	1026.85	1022.83	1017.79	1024.38	1031.87	1039.09	1043.88	1046.69	1050.81	1053.13	1053.38	1052.65	1041.60	1037.62	1038.82	1032.49	1026.85
15.00°	1014.97	1010.06	1005.44	1013.81	1020.73	1030.60	1037.62	1037.23	1043.62	1045.04	1043.70	1043.06	1027.79	1027.13	1029.27	1023.84	1014.97
17.50°	1003.46	997.74	993.44	1000.62	1009.00	1019.45	1026.17	1026.77	1028.06	1027.33	1027.90	1026.45	1012.10	1012.05	1019.29	1011.62	1003.46
20.00°	985.68	981.38	973.13	984.49	992.80	1003.96	1013.86	1006.78	1010.01	1008.60	1005.85	1007.17	995.31	996.43	1002.34	998.13	985.68
22.50°	963.43	957.02	951.46	957.37	974.85	983.25	986.46	980.90	977.25	975.20	975.89	976.40	967.88	963.94	978.35	971.72	963.43
25.00°	931.44	927.78	918.42	925.52	941.42	953.38	957.43	942.88	941.36	939.68	939.21	941.12	935.52	930.50	943.91	941.72	931.44
27.50°	893.71	890.86	884.30	880.45	903.35	914.58	910.77	898.90	892.56	888.19	890.81	891.71	890.53	884.01	900.94	897.07	893.71
30.00°	843.75	842.02	832.43	830.44	847.41	861.92	863.10	842.63	841.83	833.30	834.37	835.82	841.02	836.58	848.05	849.54	843.75
32.50°	788.07	777.67	779.50	769.81	787.60	798.33	791.74	781.48	770.10	761.75	763.16	763.87	769.98	769.29	788.63	781.52	788.07
35.00°	702.78	693.53	687.07	692.50	697.02	712.29	718.42	700.13	696.61	684.32	683.84	682.49	693.06	698.83	707.34	710.92	702.78
37.50°	606.77	588.56	591.99	585.87	601.74	612.00	610.65	612.70	595.39	585.44	582.85	582.83	589.41	599.09	614.21	606.82	606.77
40.00°	475.52	461.58	457.59	459.75	460.72	479.86	497.54	493.38	492.60	475.27	472.20	467.71	480.48	493.82	496.00	500.47	475.52
42.50°	334.31	315.84	322.30	306.16	315.74	331.11	339.34	367.13	349.16	334.27	334.68	328.64	339.69	357.31	367.12	350.23	334.31
45.00°	200.40	188.64	180.16	176.64	180.57	197.07	191.41	224.30	209.55	206.58	187.93	204.39	194.87	226.80	234.00	201.65	200.40
47.50°	67.96	74.55	56.74	74.50	47.78	69.03	97.79	78.92	118.24	107.12	106.51	99.15	111.96	120.90	99.50	109.22	67.96
50.00°	34.68	25.42	30.43	21.10	27.60	27.90	22.36	42.82	37.41	41.49	41.73	39.95	33.00	38.90	50.46	24.71	34.68
52.50°	14.26	13.12	9.54	12.60	8.90	13.80	17.75	16.25	29.17	32.68	28.61	28.51	26.22	29.06	22.80	18.83	14.26
55.00°	12.88	9.36	8.47	9.02	9.44	11.27	14.37	16.80	22.32	26.90	25.15	24.53	20.73	22.41	18.61	13.85	12.88
57.50°	12.91	9.43	8.02	9.21	9.99	11.49	14.57	18.11	22.13	25.34	23.32	26.82	21.46	23.18	18.47	14.55	12.91
60.00°	13.70	10.42	9.22	10.08	10.62	12.53	15.00	18.46	22.01	24.00	21.69	26.66	22.04	23.29	18.30	15.21	13.70
62.50°	14.47	11.75	10.51	11.36	11.30	13.70	15.93	18.75	22.11	22.90	19.74	24.80	21.11	22.16	18.13	15.76	14.47
65.00°	14.63	12.79	11.98	12.63	12.17	13.84	16.17	18.20	21.78	21.57	17.76	21.92	19.87	20.20	17.73	15.87	14.63
67.50°	14.56	13.75	12.51	13.90	12.74	13.86	15.21	17.39	20.38	20.03	14.71	18.49	16.89	17.01	17.17	14.71	14.56
70.00°	13.09	11.89	11.71	12.68	12.57	13.30	13.83	15.36	18.26	17.26	11.58	15.31	13.54	13.61	13.94	13.00	13.09
72.50°	10.71	9.49	9.90	10.63	10.92	11.82	12.09	12.46	15.22	13.78	8.03	12.21	9.39	10.04	10.60	10.52	10.71
75.00°	7.05	6.06	7.45	6.96	8.04	8.29	8.02	8.40	10.92	10.55	5.03	8.96	6.15	6.41	7.05	6.73	7.05
77.50°	3.87	3.50	3.67	3.81	4.74	4.41	4.31	4.68	6.49	6.94	2.58	5.62	3.60	3.54	3.76	3.33	3.87
80.00°	1.72	1.73	1.80	1.57	2.16	1.72	1.87	2.20	2.76	2.78	1.87	2.47	2.15	2.04	1.55	2.01	1.72
82.50°	0.85	0.90	0.94	0.77	0.87	1.06	1.45	1.25	1.78	1.81	1.59	1.72	1.23	1.33	1.14	1.09	0.85
85.00°	0.70	0.68	0.54	0.73	0.69	0.89	0.86	1.00	1.30	1.40	1.23	0.98	1.16	1.00	0.94	0.75	0.70
87.50°	0.60	0.61	0.44	0.70	0.52	0.64	0.69	0.68	0.73	1.02	0.85	0.89	0.70	1.07	0.93	0.80	0.60
90.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.56	0.59	0.57	0.68	0.68	0.46	0.69	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.

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	1730	1730	1730	1730	1690	1690	1690	1690	1615	1615	1615	1546	1546	1546	1483	1483	1453
	1	1640	1596	1556	1520	1604	1564	1528	1496	1505	1476	1450	1450	1428	1406	1400	1382	1354
	2	1547	1469	1404	1350	1514	1444	1384	1334	1396	1347	1305	1352	1312	1277	1311	1279	1253
	3	1458	1354	1274	1210	1428	1334	1260	1200	1294	1232	1181	1258	1206	1162	1225	1181	1158
	4	1373	1251	1162	1094	1345	1234	1151	1087	1202	1130	1074	1172	1110	1061	1144	1091	1070
	5	1293	1158	1064	994	1268	1144	1056	990	1117	1040	980	1092	1024	971	1068	1010	991
	6	1218	1074	978	909	1195	1062	971	905	1039	959	899	1018	947	892	998	935	918
	7	1148	999	902	834	1128	989	897	831	969	887	827	951	877	822	934	868	853
	8	1084	931	835	768	1065	922	830	767	905	822	763	890	814	760	875	807	794
	9	1024	869	775	710	1007	862	771	709	847	765	706	834	758	704	821	752	740
	10	969	814	721	659	954	807	718	658	795	713	656	783	707	654	772	702	691

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	35.6 fc	8.8 ft
6.5 ft	25.5 fc	10.5 ft
7.5 ft	19.1 fc	12.1 ft
8.0 ft	16.8 fc	12.9 ft
10.0 ft	10.8 fc	16.1 ft
12.0 ft	7.5 fc	19.3 ft
14.0 ft	5.5 fc	22.5 ft
16.0 ft	4.2 fc	25.7 ft
20.0 ft	2.7 fc	32.2 ft
24.0 ft	1.9 fc	38.6 ft
28.0 ft	1.4 fc	45.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	59027	59027	59027
45.00°	15536	13967	13999
55.00°	1231	810	902
65.00°	1898	1554	1578
75.00°	1494	1577	1703
85.00°	441	341	434

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	2.6	3.7	3.0	4.0	4.3	5.9	7.0	6.3	7.3	7.6
	3H	6.6	7.6	7.0	7.9	8.3	8.2	9.2	8.6	9.5	9.9
	4H	7.4	8.3	7.8	8.6	9.0	8.8	9.7	9.2	10.0	10.4
	6H	7.5	8.3	7.9	8.7	9.1	8.9	9.7	9.3	10.1	10.5
	8H	7.5	8.2	7.9	8.6	9.0	8.9	9.6	9.3	10.0	10.4
	12H	7.4	8.1	7.9	8.5	9.0	8.8	9.5	9.3	9.9	10.4
4H	2H	4.2	5.0	4.6	5.4	5.8	6.7	7.5	7.1	7.9	8.3
	3H	7.8	8.5	8.2	8.9	9.3	9.1	9.8	9.5	10.2	10.6
	4H	8.5	9.1	8.9	9.5	10.0	9.8	10.4	10.2	10.8	11.3
	6H	8.6	9.1	9.1	9.6	10.1	9.9	10.4	10.4	10.9	11.4
	8H	8.5	9.1	9.0	9.5	10.0	9.9	10.4	10.3	10.8	11.3
	12H	8.5	9.0	9.0	9.4	9.9	9.8	10.3	10.3	10.7	11.2
8H	4H	8.6	9.1	9.1	9.6	10.1	9.9	10.4	10.3	10.8	11.3
	6H	8.8	9.2	9.3	9.7	10.2	10.0	10.4	10.5	10.9	11.4
	8H	8.7	9.1	9.3	9.6	10.1	10.0	10.4	10.5	10.9	11.4
	12H	8.7	9.0	9.2	9.5	10.1	10.0	10.3	10.5	10.8	11.4
12H	4H	8.6	9.0	9.1	9.5	10.0	9.8	10.3	10.3	10.7	11.2
	6H	8.7	9.1	9.3	9.5	10.1	10.0	10.3	10.5	10.8	11.3
	8H	8.7	9.0	9.2	9.5	10.1	10.0	10.3	10.5	10.8	11.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0