

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CK0407PC 15L 35K WD xx SO xx MW
Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam

Test Number

SP-01444_M-15L

Test Date

11/22/2022

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

Summary of Results

Power

Input Watts	9.5 W
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Lumen Output

Output Lumens	971
Efficacy	102.17 lm/W

Luminous Dimensions

0° - 180° Size	-0.38
90° - 270° Size	-0.38
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.61
Two luminaires, plane 90°	0.61
Four luminaires	0.64

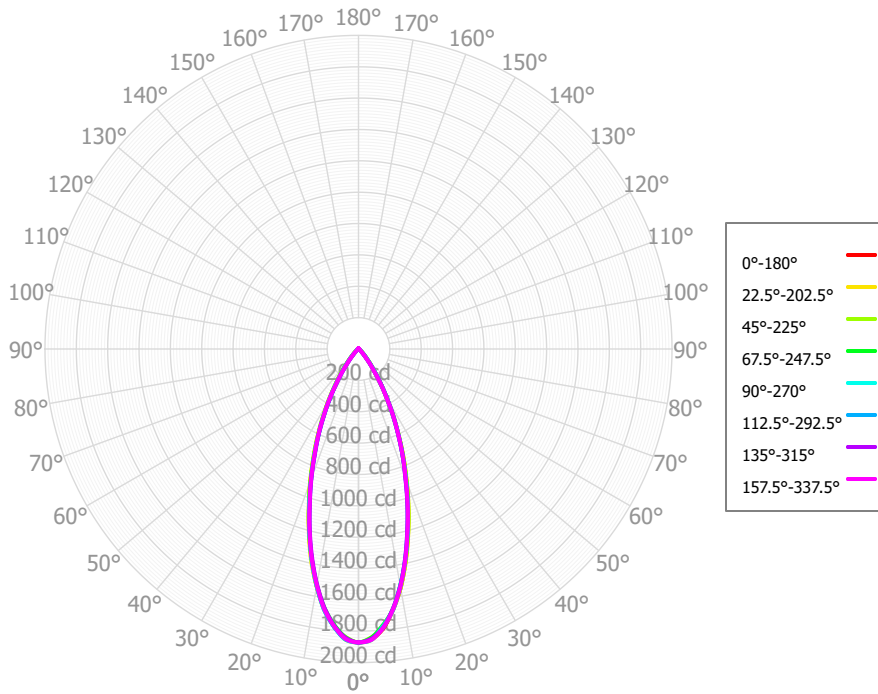
Full Beam Angle

0° - 180°	39°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-01444_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/22/2022
ISSUEDATE	11/22/2022
LUMCAT	CK0407PC 15L 35K WD xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam
OTHER	Solite lens, Matte White finish
OTHER	39 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Multipliers: 27K x 0.95, 30K x 0.97, 40K x 1.03
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	163.97	16.89%	90.00° - 100.00°	2.09	0.22%
10.00° - 20.00°	332.09	34.21%	100.00° - 110.00°	2.05	0.21%
20.00° - 30.00°	274.92	28.32%	100.00° - 120.00°	3.97	0.41%
30.00° - 40.00°	124.96	12.87%	120.00° - 130.00°	1.72	0.18%
40.00° - 50.00°	34.63	3.57%	130.00° - 140.00°	1.57	0.16%
50.00° - 60.00°	12.29	1.27%	140.00° - 150.00°	1.29	0.13%
60.00° - 70.00°	7.93	0.82%	150.00° - 160.00°	0.99	0.10%
70.00° - 80.00°	4.90	0.50%	160.00° - 170.00°	0.60	0.06%
80.00° - 90.00°	2.51	0.26%	170.00° - 180.00°	0.20	0.02%
0.00° - 90.00°	958.20	98.72%	0.00° - 180.00°	970.64	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°	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68	1871.68
2.50°	1854.30	1858.84	1842.57	1844.70	1858.31	1854.93	1845.35	1852.92	1847.44	1857.37	1839.93	1843.45	1856.43	1855.08	1850.75	1858.11	1854.30
5.00°	1792.58	1781.47	1786.62	1770.16	1777.46	1780.56	1773.38	1777.34	1778.80	1775.42	1777.48	1767.47	1780.30	1784.43	1786.74	1787.72	1792.58
7.50°	1680.26	1681.47	1674.19	1679.08	1682.26	1677.65	1665.15	1674.67	1672.54	1679.06	1670.02	1665.56	1679.09	1675.35	1673.94	1679.43	1680.26
10.00°	1546.91	1543.46	1546.82	1532.68	1532.73	1533.11	1524.58	1531.20	1536.56	1537.28	1536.08	1526.63	1536.43	1534.34	1535.57	1538.78	1546.91
12.50°	1384.47	1391.97	1386.39	1379.52	1378.41	1375.19	1366.34	1375.10	1379.89	1391.43	1376.90	1375.01	1380.60	1373.91	1372.19	1378.69	1384.47
15.00°	1215.20	1225.67	1221.76	1212.71	1209.26	1205.60	1200.07	1206.54	1215.35	1221.46	1215.18	1211.44	1210.14	1203.01	1200.58	1207.80	1215.20
17.50°	1051.41	1061.55	1058.00	1046.69	1041.70	1034.00	1031.13	1036.07	1047.33	1053.80	1051.87	1049.37	1044.83	1039.11	1035.82	1042.74	1051.41
20.00°	888.32	899.03	895.83	889.30	884.93	881.62	877.99	884.60	892.20	901.65	898.20	888.25	883.30	877.50	872.22	879.73	888.32
22.50°	743.98	747.85	748.91	735.67	733.14	731.38	727.73	735.38	740.37	753.76	748.42	743.31	739.32	736.34	733.16	735.69	743.98
25.00°	601.73	602.11	605.77	597.66	598.12	602.22	600.00	607.49	611.74	619.94	616.68	604.82	603.61	598.81	596.13	595.19	601.73
27.50°	476.01	475.66	478.77	468.38	471.42	475.94	474.41	482.57	485.90	494.19	489.03	485.28	483.46	479.16	475.95	473.39	476.01
30.00°	357.19	354.67	361.90	360.44	361.43	365.26	365.67	372.86	377.54	384.92	383.94	369.96	367.80	361.76	359.73	353.97	357.19
32.50°	263.42	266.33	269.44	265.76	265.90	263.52	261.65	271.27	272.86	289.16	281.35	282.90	277.44	270.97	264.61	262.30	263.42
35.00°	181.54	182.62	192.29	191.49	189.66	187.35	184.52	192.04	201.05	211.12	212.68	199.07	190.54	185.54	179.51	176.08	181.54
37.50°	125.88	133.38	138.41	134.39	130.31	124.09	117.23	126.94	135.29	149.66	147.31	147.13	138.59	130.02	122.63	121.93	125.88
40.00°	82.16	86.97	96.77	94.64	85.84	84.23	79.01	85.95	94.41	102.99	106.61	97.95	89.45	82.30	76.81	75.07	82.16
42.50°	55.24	63.85	67.72	65.77	56.85	54.36	49.18	55.23	60.51	70.70	70.26	70.18	62.95	57.33	50.79	51.10	55.24
45.00°	36.64	42.75	47.89	44.37	36.76	36.28	34.50	36.27	43.02	46.79	49.89	45.66	39.46	37.36	32.69	32.56	36.64
47.50°	25.76	30.96	34.31	31.69	25.88	24.78	23.63	24.67	29.38	32.35	33.45	32.86	29.43	26.61	23.81	24.32	25.76
50.00°	19.34	21.11	25.40	22.81	18.36	18.41	17.35	18.64	21.47	21.31	25.46	22.47	20.69	19.11	17.67	17.90	19.34
52.50°	15.72	16.19	18.49	18.22	15.16	14.81	13.75	14.50	16.31	16.65	19.07	17.19	15.29	15.50	13.69	13.69	15.72
55.00°	12.97	12.49	14.31	14.70	12.81	12.65	12.28	11.27	13.92	13.27	14.89	13.40	11.95	12.87	11.27	11.35	12.97
57.50°	10.56	10.72	10.83	12.92	11.63	11.00	10.55	10.30	12.23	11.85	12.20	11.70	11.95	11.03	9.63	10.56	10.56
60.00°	9.52	9.37	10.22	11.35	10.50	9.51	8.67	10.00	11.00	10.58	10.89	9.96	11.16	9.58	8.57	9.57	9.52
62.50°	8.78	8.47	9.93	10.03	8.94	8.92	7.74	9.27	10.29	9.72	9.65	8.18	9.54	8.33	7.69	8.48	8.78
65.00°	7.87	7.49	8.04	8.72	7.49	8.47	7.12	8.49	9.80	8.86	8.44	7.26	7.97	7.60	6.73	7.28	7.87
67.50°	6.96	6.45	6.31	7.55	6.80	7.26	6.85	7.32	8.32	7.95	7.93	6.87	6.44	7.02	5.74	6.04	6.96
70.00°	6.36	5.52	6.03	6.39	6.08	6.04	6.64	6.18	6.60	6.93	7.69	6.29	6.01	5.85	5.31	5.76	6.36
72.50°	5.73	4.63	5.53	5.31	5.29	5.07	6.00	5.45	5.66	5.58	6.66	5.64	6.08	4.58	4.87	5.65	5.73
75.00°	4.80	4.00	4.18	4.51	4.49	4.22	5.32	4.74	4.80	4.60	5.44	4.67	4.97	3.96	3.96	4.20	4.80
77.50°	3.84	3.45	3.10	4.35	3.67	3.94	4.07	4.08	4.93	4.34	4.59	3.63	3.54	3.37	3.17	2.75	3.84
80.00°	2.79	2.90	2.68	3.87	2.96	3.52	2.96	3.36	4.92	3.82	3.76	2.99	2.95	2.79	3.02	2.71	2.79
82.50°	2.03	2.35	2.38	2.90	2.41	2.72	2.53	2.44	3.67	2.96	2.77	2.38	2.48	2.25	2.77	2.60	2.03
85.00°	1.89	2.04	2.25	2.26	1.98	2.15	2.15	1.79	2.58	2.47	1.90	2.24	2.20	1.93	2.27	2.09	1.89
87.50°	1.86	1.77	2.10	1.96	1.66	1.97	1.88	1.58	2.17	2.28	1.95	2.09	1.94	1.77	1.90	1.75	1.86
90.00°	1.96	1.88	1.95	1.96	1.55	1.96	1.71	1.56	1.96	2.13	2.00	1.87	1.92	2.06	1.76	1.88	1.96
92.50°	2.05	1.95	2.03	2.16	1.55	2.13	1.74	1.72	2.22	2.00	2.09	1.70	1.91	2.08	1.59	1.97	2.05
95.00°	2.13	1.90	2.27	2.26	1.63	2.15	1.72	1.67	2.28	1.95	2.19	1.69	1.95	1.61	1.40	1.98	2.13
97.50°	2.04	1.84	2.35	2.32	1.75	2.05	1.64	1.47	2.05	1.93	2.33	1.70	1.96	1.47	1.39	2.15	2.04
100.00°	1.84	1.77	2.36	2.08	2.15	1.97	1.69	1.58	1.98	1.98	2.41	1.74	1.91	1.72	1.53	2.50	1.84

CK0407PC 15L 35K WD xx SO xx MW

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	1153	1153	1153	1153	1124	1124	1124	1124	1072	1072	1072	1023	1023	1023	979	979	958
	1	1101	1075	1052	1031	1076	1053	1032	1013	1011	995	980	973	961	949	938	928	909
	2	1051	1006	969	938	1029	988	955	927	955	928	904	925	903	883	896	879	861
	3	1003	945	900	864	983	931	889	856	904	869	841	879	850	826	856	832	816
	4	958	890	841	803	940	879	833	797	857	818	787	836	803	776	817	789	774
	5	916	841	789	751	900	832	783	747	813	771	739	796	760	732	781	749	735
	6	876	797	744	706	862	789	739	703	774	730	697	759	721	692	746	713	700
	7	839	757	704	666	826	750	700	664	737	693	660	725	685	656	714	678	667
	8	805	720	668	631	793	715	664	630	704	658	626	693	653	623	683	647	636
	9	772	687	635	600	762	682	632	598	672	627	596	663	623	593	655	618	608
	10	742	656	605	571	732	652	603	570	644	599	568	636	595	566	628	591	582

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	61.9 fc	3.8 ft
6.5 ft	44.3 fc	4.5 ft
7.5 ft	33.3 fc	5.2 ft
8.0 ft	29.2 fc	5.6 ft
10.0 ft	18.7 fc	7.0 ft
12.0 ft	13.0 fc	8.4 ft
14.0 ft	9.5 fc	9.8 ft
16.0 ft	7.3 fc	11.2 ft
20.0 ft	4.7 fc	14.0 ft
24.0 ft	3.2 fc	16.8 ft
28.0 ft	2.4 fc	19.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	177641	177641	177641
45.00°	4918	6428	4935
55.00°	2146	2367	2120
65.00°	1768	1806	1682
75.00°	1759	1532	1647
85.00°	2062	2448	2159

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	4.8	5.8	5.2	6.1	6.5	5.3	6.3	5.7	6.6	7.0
	3H	6.5	7.3	6.9	7.7	8.1	6.9	7.7	7.3	8.1	8.5
	4H	7.2	8.0	7.7	8.4	8.8	7.6	8.3	8.0	8.7	9.1
	6H	7.8	8.5	8.2	8.9	9.3	8.1	8.8	8.5	9.2	9.6
	8H	8.0	8.6	8.4	9.0	9.5	8.3	9.0	8.8	9.4	9.8
	12H	8.2	8.8	8.6	9.2	9.7	8.6	9.2	9.0	9.6	10.1
4H	2H	5.3	6.1	5.7	6.5	6.9	5.8	6.5	6.2	6.9	7.3
	3H	7.1	7.8	7.6	8.2	8.7	7.6	8.2	8.0	8.7	9.1
	4H	8.0	8.5	8.4	9.0	9.5	8.4	9.0	8.9	9.4	9.9
	6H	8.6	9.1	9.1	9.6	10.1	9.1	9.6	9.6	10.0	10.5
	8H	8.9	9.4	9.4	9.8	10.3	9.4	9.8	9.9	10.3	10.8
	12H	9.2	9.6	9.7	10.1	10.6	9.7	10.1	10.2	10.6	11.1
8H	4H	8.2	8.6	8.7	9.1	9.6	8.7	9.2	9.2	9.7	10.2
	6H	9.0	9.4	9.5	9.9	10.4	9.6	10.0	10.1	10.5	11.0
	8H	9.4	9.7	10.0	10.3	10.8	10.0	10.3	10.6	10.9	11.4
	12H	9.9	10.2	10.5	10.7	11.3	10.5	10.8	11.1	11.3	11.9
12H	4H	8.2	8.6	8.7	9.1	9.6	8.8	9.2	9.3	9.7	10.2
	6H	9.1	9.4	9.7	9.9	10.5	9.7	10.0	10.2	10.5	11.1
	8H	9.6	9.9	10.2	10.4	11.0	10.2	10.5	10.7	11.0	11.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0