

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CK0407PC 30L 35K WD xx NL xx MW
Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam

Test Number

SP-01443_M-30L

Test Date

10/26/2022

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

Summary of Results

Power

Input Watts	17.8 W
-------------	--------

Lumen Output

Output Lumens	1958
Efficacy	110.02 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.58
Two luminaires, plane 90°	0.59
Four luminaires	0.62

Full Beam Angle

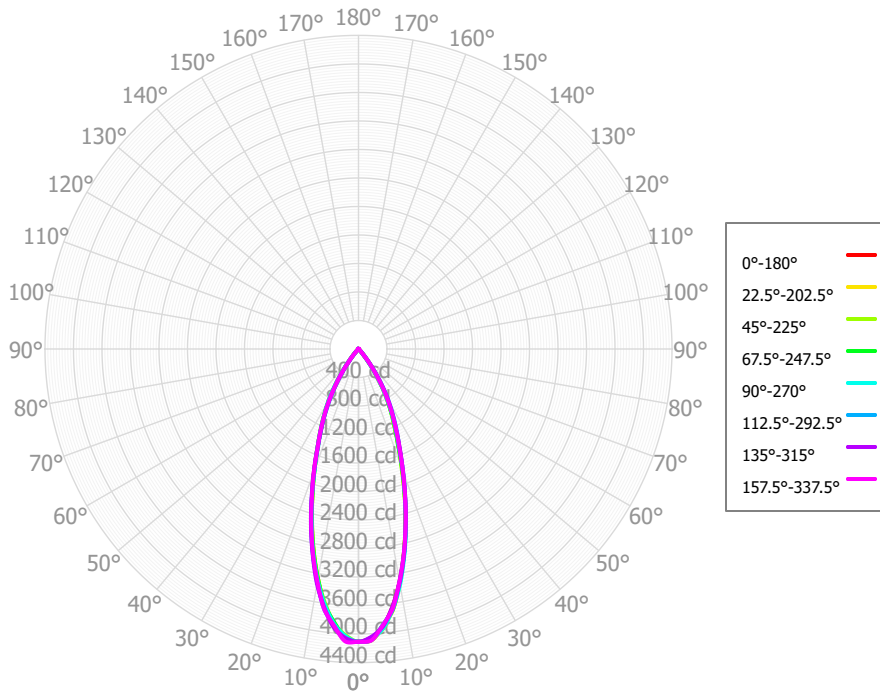
0° - 180°	37°
90° - 270°	37°

IES File Header Contents

Keyword	Value
TEST	SP-01443_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/26/2022
ISSUEDATE	11/22/2022
LUMCAT	CK0407PC 30L 35K WD xx NL xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Round Cylinder, Wide Beam
OTHER	No lens, Matte White finish
OTHER	37 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.95, 30K x 0.97, 40K x 1.03
_LAMPMULT	10L x 0.34, 15L x 0.49, 20L x 0.67

CK0407PC 30L 35K WD xx NL xx MW

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	357.92	18.28%	90.00° - 100.00°	2.13	0.11%
10.00° - 20.00°	697.77	35.63%	100.00° - 110.00°	2.05	0.10%
20.00° - 30.00°	568.83	29.05%	100.00° - 120.00°	4.01	0.20%
30.00° - 40.00°	258.80	13.22%	120.00° - 130.00°	1.93	0.10%
40.00° - 50.00°	33.20	1.70%	130.00° - 140.00°	1.73	0.09%
50.00° - 60.00°	11.14	0.57%	140.00° - 150.00°	1.48	0.08%
60.00° - 70.00°	9.08	0.46%	150.00° - 160.00°	1.13	0.06%
70.00° - 80.00°	5.42	0.28%	160.00° - 170.00°	0.68	0.03%
80.00° - 90.00°	2.81	0.14%	170.00° - 180.00°	0.24	0.01%
0.00° - 90.00°	1944.98	99.32%	0.00° - 180.00°	1958.29	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°	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98	4108.98
2.50°	4057.88	4095.11	4056.33	4090.46	4077.18	4096.58	4062.73	4111.48	4061.86	4059.13	4025.78	4065.44	4038.62	4089.85	4046.51	4095.84	4057.88
5.00°	3914.00	3921.14	3942.17	3897.24	3937.93	3900.98	3928.42	3902.63	3910.07	3865.14	3879.23	3857.74	3880.31	3891.07	3912.61	3893.52	3914.00
7.50°	3651.57	3698.48	3658.82	3688.13	3681.71	3685.52	3666.71	3687.03	3643.73	3623.02	3598.90	3627.80	3622.10	3684.23	3648.94	3677.35	3651.57
10.00°	3318.07	3338.95	3334.08	3319.12	3358.03	3322.94	3351.13	3318.39	3319.20	3271.47	3285.92	3275.26	3301.01	3320.27	3325.30	3308.97	3318.07
12.50°	2943.34	2947.92	2942.59	2944.24	2968.09	2955.52	2964.39	2948.18	2934.00	2908.48	2901.86	2916.10	2934.54	2954.55	2949.74	2938.55	2943.34
15.00°	2547.92	2553.34	2538.43	2551.61	2574.29	2562.53	2576.22	2557.80	2551.02	2523.88	2521.48	2529.51	2543.70	2560.01	2554.45	2553.27	2547.92
17.50°	2168.01	2158.15	2150.37	2160.10	2177.22	2175.73	2186.46	2172.37	2169.99	2152.73	2147.88	2153.25	2168.86	2169.32	2179.81	2173.65	2168.01
20.00°	1794.64	1801.47	1764.56	1796.44	1818.88	1814.21	1830.38	1825.99	1822.97	1803.24	1803.88	1811.29	1801.28	1827.20	1811.64	1823.47	1794.64
22.50°	1494.30	1449.53	1467.44	1443.23	1488.34	1480.56	1506.39	1495.88	1501.90	1496.90	1505.68	1499.04	1510.59	1498.25	1516.64	1495.50	1494.30
25.00°	1219.15	1218.73	1178.22	1211.06	1227.38	1236.51	1238.62	1258.21	1246.56	1250.11	1244.87	1266.37	1248.57	1271.63	1240.11	1255.42	1219.15
27.50°	999.15	997.39	980.44	982.11	1008.55	999.00	1017.02	1024.57	1033.63	1019.80	1032.97	1040.65	1036.62	1048.59	1031.18	1022.07	999.15
30.00°	794.66	793.11	786.59	776.74	792.72	778.76	799.24	808.10	820.51	808.78	819.35	830.47	839.70	845.13	835.19	810.14	794.66
32.50°	592.32	589.49	589.08	574.36	578.45	567.64	584.13	597.31	607.29	603.11	603.80	623.99	632.93	642.71	629.23	604.12	592.32
35.00°	390.45	406.30	393.13	387.98	389.77	376.35	393.99	405.84	417.13	402.76	410.20	424.40	423.80	444.64	421.90	413.63	390.45
37.50°	244.02	227.38	243.64	219.17	212.23	215.67	218.71	236.88	237.54	243.42	237.63	255.24	267.04	265.82	266.27	247.67	244.02
40.00°	106.49	137.36	102.32	123.24	115.97	111.35	118.49	129.38	132.81	119.21	124.39	134.37	119.76	151.89	115.31	134.73	106.49
42.50°	63.56	53.29	63.97	46.17	48.63	41.96	55.65	49.17	56.82	53.82	60.12	55.50	71.43	62.11	69.19	54.40	63.56
45.00°	31.29	35.04	29.14	30.54	27.18	26.59	29.56	31.16	30.93	31.82	29.23	32.92	36.11	37.83	28.13	32.79	31.29
47.50°	23.00	18.70	21.61	18.36	18.80	16.62	18.89	18.47	20.58	21.30	21.69	19.46	25.61	19.97	21.74	18.66	23.00
50.00°	16.36	16.01	14.87	15.24	15.26	13.79	14.79	15.82	16.97	17.93	17.44	16.50	17.14	16.38	15.69	16.02	16.36
52.50°	14.07	13.47	12.66	12.64	12.82	12.04	12.94	13.59	15.00	15.65	15.16	14.48	13.69	13.47	13.94	13.51	14.07
55.00°	11.92	11.67	10.80	11.23	11.82	11.50	12.17	12.05	12.85	13.94	13.23	13.39	10.46	11.84	12.21	11.18	11.92
57.50°	11.01	10.31	10.46	10.06	11.07	10.67	11.71	11.26	10.67	12.59	11.48	12.36	10.40	10.69	10.90	9.92	11.01
60.00°	10.12	10.72	10.01	9.36	9.93	9.56	11.12	11.48	10.88	11.39	11.14	11.38	10.32	10.31	9.72	9.84	10.12
62.50°	9.53	10.68	9.19	8.67	8.75	9.26	10.50	10.90	11.43	10.73	11.40	10.64	9.79	9.65	9.49	9.75	9.53
65.00°	8.89	9.26	8.36	7.98	9.30	9.63	9.31	9.38	10.52	10.27	10.58	10.09	9.28	8.63	9.12	9.65	8.89
67.50°	7.78	7.82	7.48	7.34	9.98	8.73	8.03	8.41	9.48	9.40	9.40	8.73	8.89	7.51	7.96	8.56	7.78
70.00°	6.70	6.34	6.60	6.75	8.33	6.95	6.70	7.99	7.98	8.41	7.55	6.88	8.30	6.28	6.80	6.65	6.70
72.50°	5.89	5.12	5.73	5.99	6.63	5.69	5.37	7.17	6.47	7.13	5.52	5.66	6.13	5.37	5.67	5.26	5.89
75.00°	5.13	4.45	4.92	5.04	5.89	4.76	5.31	6.03	5.31	5.78	4.70	4.78	4.19	4.80	4.61	4.23	5.13
77.50°	4.66	4.01	4.22	4.04	5.14	3.98	5.33	4.94	4.16	4.88	4.14	4.24	3.53	4.12	3.78	3.37	4.66
80.00°	4.14	3.96	3.48	2.98	4.23	3.29	4.02	3.90	3.32	4.06	3.22	3.84	3.03	3.37	3.07	2.60	4.14
82.50°	3.39	3.58	2.67	2.33	3.35	2.77	2.70	3.25	2.56	3.29	2.25	2.99	3.19	2.84	2.72	2.16	3.39
85.00°	2.73	2.69	2.24	2.02	2.82	2.32	2.22	2.85	2.66	2.52	2.29	1.98	3.19	2.47	2.45	1.90	2.73
87.50°	2.32	2.10	2.32	2.06	2.36	2.08	1.76	2.37	2.70	2.20	2.43	1.70	2.66	2.06	2.37	1.86	2.32
90.00°	2.01	1.92	2.31	2.34	2.32	1.91	1.76	1.83	2.30	1.90	2.16	1.65	2.27	1.60	2.18	1.92	2.01
92.50°	1.96	1.79	2.19	2.34	2.26	1.86	1.80	1.61	1.93	1.83	1.86	1.78	2.24	1.69	1.75	1.73	1.96
95.00°	2.04	1.70	2.23	2.17	2.13	1.84	2.15	1.53	1.71	1.77	1.75	1.95	2.21	2.06	1.63	1.46	2.04
97.50°	2.43	1.73	2.43	2.01	2.07	1.86	2.37	1.70	1.57	1.89	1.65	1.83	2.20	2.24	1.99	1.72	2.43
100.00°	2.57	1.88	2.26	1.84	2.30	1.90	1.71	1.98	1.76	2.01	1.86	1.66	2.16	2.34	2.08	2.12	2.57

CK0407PC 30L 35K WD xx NL xx MW

© Spectrum Lighting

Page 4 of 6

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%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	2328	2328	2328	2328	2272	2272	2272	2272	2168	2168	2168	2073	2073	2073	1986	1986	1986	1945
	1	2230	2180	2135	2095	2181	2137	2097	2060	2055	2024	1995	1981	1956	1933	1912	1893	1875	1854
	2	2134	2048	1977	1917	2091	2014	1949	1894	1949	1896	1851	1889	1847	1810	1834	1801	1770	1765
	3	2043	1930	1843	1774	2004	1903	1823	1759	1851	1784	1730	1803	1748	1701	1758	1713	1674	1679
	4	1956	1825	1729	1656	1922	1802	1714	1645	1760	1685	1625	1721	1657	1605	1684	1630	1585	1599
	5	1874	1730	1629	1555	1843	1711	1617	1547	1676	1595	1533	1643	1573	1518	1613	1553	1504	1525
	6	1797	1643	1540	1466	1769	1628	1531	1461	1599	1514	1450	1571	1497	1440	1546	1481	1430	1455
	7	1724	1564	1461	1388	1699	1551	1454	1384	1527	1440	1376	1503	1426	1369	1482	1413	1361	1390
	8	1656	1492	1389	1319	1633	1481	1383	1316	1460	1372	1310	1440	1361	1304	1421	1351	1298	1329
	9	1591	1426	1324	1256	1571	1416	1319	1253	1398	1310	1249	1381	1301	1244	1365	1293	1239	1273
	10	1531	1364	1265	1198	1513	1356	1261	1197	1340	1253	1193	1326	1246	1189	1312	1238	1186	1220

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	135.8 fc	3.6 ft
6.5 ft	97.3 fc	4.3 ft
7.5 ft	73.0 fc	5.0 ft
8.0 ft	64.2 fc	5.3 ft
10.0 ft	41.1 fc	6.6 ft
12.0 ft	28.5 fc	7.9 ft
14.0 ft	21.0 fc	9.3 ft
16.0 ft	16.1 fc	10.6 ft
20.0 ft	10.3 fc	13.2 ft
24.0 ft	7.1 fc	15.9 ft
28.0 ft	5.2 fc	18.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	389984	389984	389984
45.00°	4200	3912	3648
55.00°	1972	1788	1957
65.00°	1998	1876	2089
75.00°	1881	1803	2160
85.00°	2970	2437	3073

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	2.3	3.2	2.7	3.6	3.9	3.0	3.9	3.4	4.2	4.6
	3H	4.5	5.3	4.9	5.7	6.1	5.3	6.1	5.7	6.5	6.9
	4H	5.3	6.0	5.7	6.4	6.8	6.0	6.7	6.4	7.1	7.5
	6H	6.0	6.7	6.5	7.1	7.5	6.5	7.2	7.0	7.6	8.0
	8H	6.4	7.1	6.9	7.5	7.9	6.8	7.5	7.3	7.9	8.3
	12H	6.8	7.4	7.3	7.8	8.3	7.2	7.8	7.7	8.2	8.7
4H	2H	3.0	3.8	3.5	4.2	4.6	3.8	4.5	4.2	4.9	5.3
	3H	5.3	5.9	5.7	6.3	6.8	6.1	6.7	6.5	7.1	7.5
	4H	6.1	6.6	6.5	7.1	7.5	6.8	7.3	7.2	7.8	8.2
	6H	7.0	7.5	7.5	7.9	8.4	7.5	8.0	8.0	8.4	8.9
	8H	7.5	7.9	8.0	8.4	8.9	7.9	8.3	8.4	8.8	9.3
	12H	8.0	8.3	8.5	8.8	9.3	8.3	8.7	8.8	9.2	9.7
8H	4H	6.4	6.8	6.9	7.3	7.8	7.1	7.5	7.6	8.0	8.5
	6H	7.4	7.8	8.0	8.3	8.8	8.0	8.3	8.5	8.8	9.3
	8H	8.0	8.3	8.6	8.9	9.4	8.4	8.7	9.0	9.3	9.8
	12H	8.7	9.0	9.2	9.5	10.1	9.0	9.3	9.6	9.8	10.4
12H	4H	6.4	6.8	6.9	7.3	7.7	7.1	7.5	7.6	8.0	8.5
	6H	7.5	7.8	8.1	8.3	8.9	8.0	8.3	8.6	8.8	9.4
	8H	8.2	8.4	8.7	9.0	9.6	8.6	8.8	9.1	9.3	9.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0