

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01444_M-30L

Test Date

11/21/2022

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

Summary of Results

Power

Input Watts	17.8 W
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Lumen Output

Output Lumens	1799
Efficacy	101.04 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

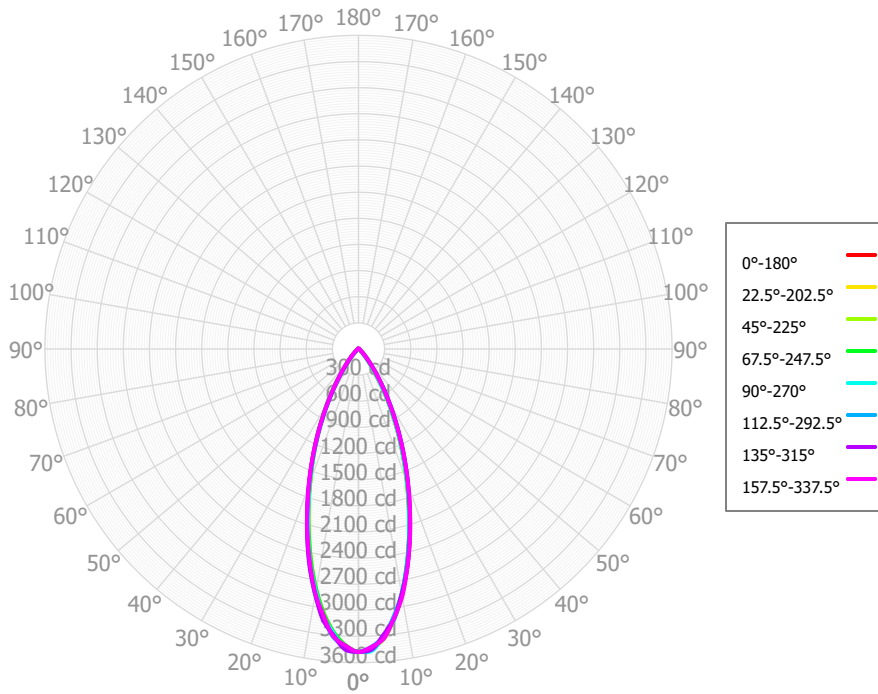
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-01444_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/21/2022
ISSUEDATE	12/01/2022
LUMCAT	CK0407PC 30L 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	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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	304.08	16.91%	90.00° - 100.00°	2.11	0.12%
10.00° - 20.00°	615.40	34.22%	100.00° - 110.00°	2.03	0.11%
20.00° - 30.00°	509.34	28.32%	100.00° - 120.00°	3.97	0.22%
30.00° - 40.00°	234.35	13.03%	120.00° - 130.00°	1.82	0.10%
40.00° - 50.00°	68.31	3.80%	130.00° - 140.00°	1.67	0.09%
50.00° - 60.00°	26.16	1.45%	140.00° - 150.00°	1.44	0.08%
60.00° - 70.00°	16.39	0.91%	150.00° - 160.00°	1.08	0.06%
70.00° - 80.00°	8.57	0.48%	160.00° - 170.00°	0.67	0.04%
80.00° - 90.00°	2.95	0.16%	170.00° - 180.00°	0.22	0.01%
0.00° - 90.00°	1785.56	99.28%	0.00° - 180.00°	1798.53	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°	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70	3477.70
2.50°	3431.47	3438.58	3440.84	3437.73	3470.24	3424.80	3456.00	3409.47	3417.46	3406.69	3410.23	3405.95	3448.31	3421.99	3454.93	3423.79	3431.47
5.00°	3325.10	3331.39	3343.69	3317.85	3310.11	3321.16	3297.57	3313.42	3297.97	3269.74	3287.92	3265.63	3279.10	3314.54	3293.74	3339.19	3325.10
7.50°	3119.55	3121.11	3126.31	3115.03	3134.68	3106.54	3135.58	3085.38	3081.79	3057.52	3063.10	3061.51	3098.88	3098.02	3125.26	3119.94	3119.55
10.00°	2867.79	2870.41	2877.13	2856.29	2853.43	2868.24	2859.03	2851.81	2834.28	2807.63	2806.58	2800.54	2826.36	2855.70	2856.80	2889.84	2867.79
12.50°	2574.52	2563.49	2560.67	2553.56	2566.19	2569.00	2580.85	2553.51	2540.30	2518.46	2506.84	2512.93	2550.21	2555.18	2583.99	2583.74	2574.52
15.00°	2264.52	2251.38	2242.42	2239.76	2245.85	2266.58	2269.97	2254.64	2243.22	2212.23	2195.92	2204.03	2234.41	2243.23	2271.33	2277.17	2264.52
17.50°	1952.96	1932.88	1920.84	1918.27	1930.19	1956.98	1961.01	1958.66	1942.09	1918.11	1903.33	1907.01	1918.95	1946.72	1961.96	1967.99	1952.96
20.00°	1640.85	1631.13	1616.62	1621.24	1635.27	1656.53	1675.72	1663.90	1656.83	1628.60	1614.74	1618.49	1641.72	1652.67	1675.49	1665.07	1640.85
22.50°	1363.72	1347.80	1340.88	1339.37	1349.20	1374.05	1393.98	1395.49	1390.19	1374.72	1365.51	1361.45	1366.51	1390.09	1394.44	1389.53	1363.72
25.00°	1097.00	1088.32	1083.05	1085.58	1095.48	1109.09	1142.36	1130.38	1140.35	1132.41	1123.10	1124.23	1132.10	1131.26	1142.66	1124.20	1097.00
27.50°	869.78	852.05	851.04	847.04	853.81	874.16	897.44	905.84	908.18	913.60	908.94	906.23	900.91	915.21	901.33	896.57	869.78
30.00°	652.35	646.65	643.18	643.88	649.97	663.31	696.42	688.00	703.37	701.35	698.65	698.83	707.98	702.66	705.42	684.60	652.35
32.50°	492.32	467.81	466.47	457.73	465.00	489.27	506.87	526.63	524.03	527.90	527.54	524.15	521.06	540.57	523.30	521.11	492.32
35.00°	344.19	331.03	322.87	322.52	331.33	345.64	376.09	373.94	380.26	363.39	360.31	365.47	385.48	381.06	391.78	374.16	344.19
37.50°	249.83	226.69	217.00	208.55	217.36	242.98	257.26	277.82	265.73	258.39	255.01	255.10	258.32	281.05	273.54	271.65	249.83
40.00°	164.30	153.83	140.62	141.19	149.46	164.78	189.25	189.11	184.58	164.73	153.88	165.57	184.88	182.79	197.12	184.49	164.30
42.50°	118.74	102.68	93.96	90.81	95.20	116.11	128.92	139.25	128.00	115.61	110.17	113.34	118.09	132.96	131.58	132.82	118.74
45.00°	78.31	71.72	63.56	64.58	68.61	80.05	95.66	94.41	89.54	73.11	68.36	74.96	85.58	84.29	95.20	90.31	78.31
47.50°	60.36	53.00	47.86	45.82	47.80	57.46	66.83	70.81	63.01	55.43	52.72	55.12	56.99	63.79	65.13	66.50	60.36
50.00°	44.44	40.55	37.76	36.45	37.40	42.30	51.42	50.25	46.59	40.58	37.36	41.13	44.77	44.19	49.59	47.53	44.44
52.50°	34.77	31.43	32.19	29.56	29.30	34.27	38.53	40.35	36.03	32.14	31.54	32.43	34.14	37.22	37.02	37.18	34.77
55.00°	25.46	25.95	27.06	24.93	24.86	27.78	32.18	31.72	29.40	24.19	25.90	25.17	29.09	30.50	30.49	29.10	25.46
57.50°	23.32	22.17	22.24	20.79	21.20	22.60	26.91	26.94	24.76	21.13	23.64	22.56	24.65	26.09	24.94	24.61	23.32
60.00°	21.37	19.84	19.57	18.80	18.62	19.31	24.06	22.66	22.15	18.27	21.44	21.02	22.01	22.12	21.18	20.75	21.37
62.50°	18.38	18.10	18.26	17.20	16.16	17.46	20.80	19.71	20.45	18.01	19.92	19.16	19.57	21.32	18.17	17.77	18.38
65.00°	15.43	16.70	16.01	15.07	13.86	15.69	16.70	16.84	18.23	17.77	18.34	17.24	17.61	20.00	16.33	15.50	15.43
67.50°	13.58	15.43	13.22	12.88	11.72	13.99	13.62	14.18	15.81	15.27	16.27	14.70	15.36	15.87	14.27	14.10	13.58
70.00°	11.71	12.29	10.85	11.45	9.74	12.01	12.30	11.94	13.80	12.80	14.15	12.06	12.49	12.09	11.90	12.05	11.71
72.50°	9.55	8.59	8.69	10.10	7.88	9.87	10.58	10.54	11.93	11.15	11.69	10.25	10.09	9.90	9.76	9.29	9.55
75.00°	7.44	6.55	7.19	7.50	6.15	8.11	8.26	9.02	9.35	9.46	9.34	8.52	8.66	7.75	7.91	7.19	7.44
77.50°	5.88	4.95	5.97	4.81	4.75	6.55	6.40	7.27	6.56	7.30	7.55	6.87	6.98	5.77	5.97	5.75	5.88
80.00°	4.38	3.62	4.49	3.26	3.64	4.95	5.17	5.47	4.76	5.21	5.83	5.22	4.90	3.97	3.93	4.29	4.38
82.50°	3.36	2.35	2.91	1.76	2.72	3.33	3.91	3.57	3.19	3.57	4.43	3.87	3.51	2.72	2.56	2.81	3.36
85.00°	2.47	1.86	2.55	1.85	1.96	2.34	2.60	2.45	2.59	2.11	3.20	2.54	3.17	1.85	1.84	2.13	2.47
87.50°	2.41	1.49	2.57	1.94	1.76	1.59	1.98	2.42	2.19	1.85	2.55	1.93	2.75	1.98	1.58	2.09	2.41
90.00°	2.32	1.55	2.34	1.70	1.96	1.75	2.11	2.38	1.98	1.63	2.06	1.35	2.23	2.06	1.73	1.97	2.32
92.50°	2.04	1.67	2.05	1.49	2.11	2.22	2.05	2.35	1.80	1.56	2.04	1.89	1.85	1.98	1.78	1.82	2.04
95.00°	1.82	1.63	1.93	1.75	2.25	2.16	1.81	2.28	2.10	1.51	2.01	2.41	1.62	1.97	1.77	1.97	1.82
97.50°	1.80	1.57	1.85	1.99	2.14	1.95	1.73	2.17	2.45	1.55	1.97	2.28	1.64	2.10	1.75	2.31	1.80
100.00°	1.74	1.75	1.78	1.99	1.89	1.77	1.78	2.03	2.15	1.58	1.97	2.16	1.93	2.24	1.73	2.14	1.74

CK0407PC 30L 35K WD xx SO xx MW

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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	2138	2138	2138	2138	2087	2087	2087	2087	1991	1991	1991	1904	1904	1904	1823	1823	1823	1786
	1	2043	1995	1952	1914	1998	1955	1917	1882	1880	1850	1822	1811	1788	1766	1748	1730	1712	1694
	2	1950	1867	1799	1741	1909	1835	1773	1721	1775	1725	1681	1720	1679	1643	1669	1636	1607	1604
	3	1861	1753	1670	1603	1825	1728	1651	1589	1679	1615	1562	1634	1581	1537	1593	1549	1512	1519
	4	1778	1652	1559	1489	1745	1631	1545	1479	1591	1518	1461	1554	1493	1443	1520	1468	1425	1440
	5	1699	1561	1464	1392	1670	1543	1453	1386	1511	1432	1372	1480	1412	1359	1452	1393	1347	1368
	6	1625	1478	1380	1309	1599	1464	1371	1304	1436	1355	1294	1411	1339	1285	1387	1324	1275	1301
	7	1556	1404	1305	1235	1533	1392	1298	1232	1368	1285	1224	1347	1273	1217	1326	1260	1210	1239
	8	1492	1336	1237	1170	1471	1325	1232	1167	1306	1222	1162	1287	1211	1156	1269	1202	1151	1182
	9	1432	1274	1177	1111	1412	1265	1172	1109	1248	1164	1105	1232	1155	1101	1216	1147	1097	1130
	10	1375	1217	1122	1059	1358	1209	1118	1057	1194	1111	1053	1180	1104	1050	1167	1097	1047	1081

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	115.0 fc	3.8 ft
6.5 ft	82.3 fc	4.5 ft
7.5 ft	61.8 fc	5.2 ft
8.0 ft	54.3 fc	5.6 ft
10.0 ft	34.8 fc	7.0 ft
12.0 ft	24.2 fc	8.4 ft
14.0 ft	17.7 fc	9.8 ft
16.0 ft	13.6 fc	11.2 ft
20.0 ft	8.7 fc	14.0 ft
24.0 ft	6.0 fc	16.8 ft
28.0 ft	4.4 fc	19.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	330069	330069	330069
45.00°	10511	8531	9209
55.00°	4213	4478	4114
65.00°	3465	3595	3114
75.00°	2728	2635	2254
85.00°	2693	2772	2135

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	8.2	9.2	8.6	9.5	9.8	8.0	9.0	8.4	9.3	9.6
	3H	9.7	10.5	10.1	10.9	11.3	9.5	10.4	9.9	10.7	11.1
	4H	10.1	10.9	10.5	11.3	11.7	10.0	10.8	10.4	11.2	11.6
	6H	10.4	11.1	10.8	11.5	11.9	10.3	11.1	10.8	11.4	11.9
	8H	10.5	11.1	10.9	11.6	12.0	10.4	11.1	10.9	11.5	11.9
	12H	10.5	11.2	11.0	11.6	12.0	10.5	11.2	11.0	11.6	12.0
4H	2H	8.6	9.4	9.1	9.8	10.2	8.6	9.4	9.0	9.7	10.1
	3H	10.3	10.9	10.7	11.3	11.8	10.3	10.9	10.7	11.4	11.8
	4H	10.8	11.3	11.2	11.8	12.2	10.9	11.5	11.3	11.9	12.4
	6H	11.1	11.6	11.6	12.1	12.6	11.3	11.8	11.8	12.3	12.8
	8H	11.2	11.7	11.7	12.2	12.7	11.5	11.9	12.0	12.4	12.9
	12H	11.4	11.8	11.9	12.3	12.8	11.6	12.0	12.1	12.5	13.0
8H	4H	10.9	11.4	11.4	11.8	12.3	11.1	11.6	11.6	12.1	12.5
	6H	11.3	11.7	11.9	12.2	12.7	11.7	12.1	12.3	12.6	13.1
	8H	11.5	11.8	12.1	12.4	12.9	11.9	12.3	12.5	12.8	13.3
	12H	11.7	12.0	12.2	12.5	13.1	12.2	12.4	12.7	13.0	13.6
12H	4H	10.9	11.3	11.4	11.8	12.3	11.1	11.5	11.6	12.0	12.5
	6H	11.3	11.7	11.9	12.2	12.7	11.8	12.1	12.3	12.6	13.1
	8H	11.6	11.8	12.1	12.3	12.9	12.1	12.3	12.6	12.8	13.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0