

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CK0407SQPC 30L 35K WD xx NL xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Wide Beam

Test Number

SP-01451_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	1404
Efficacy	78.86 lm/W

Luminous Dimensions

0° - 180° Size	0.2
90° - 270° Size	0.2
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.65
Two luminaires, plane 90°	0.65
Four luminaires	0.71

Full Beam Angle

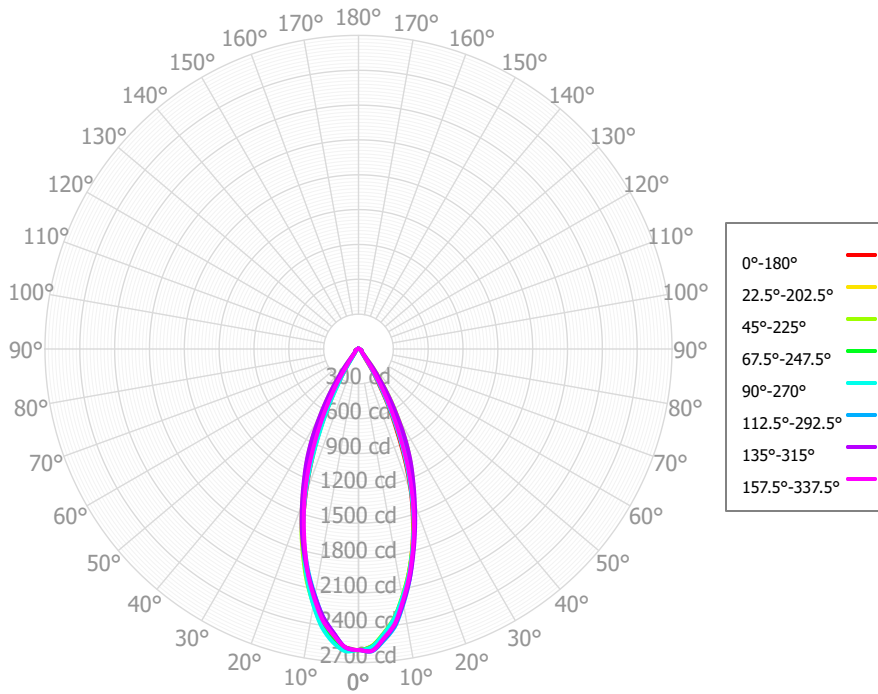
0° - 180°	40°
90° - 270°	41°

IES File Header Contents

Keyword	Value
TEST	SP-01451_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/26/2022
ISSUEDATE	11/22/2022
LUMCAT	CK0407SQPC 30L 35K WD xx NL xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Wide Beam
OTHER	No lens, Matte White finish
OTHER	41 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

CK0407SQPC 30L 35K WD xx NL xx MW

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	231.31	16.48%	90.00° - 100.00°	1.83	0.13%
10.00° - 20.00°	495.05	35.27%	100.00° - 110.00°	1.88	0.13%
20.00° - 30.00°	412.21	29.37%	100.00° - 120.00°	3.65	0.26%
30.00° - 40.00°	143.42	10.22%	120.00° - 130.00°	1.61	0.11%
40.00° - 50.00°	39.07	2.78%	130.00° - 140.00°	1.49	0.11%
50.00° - 60.00°	28.67	2.04%	140.00° - 150.00°	1.25	0.09%
60.00° - 70.00°	26.42	1.88%	150.00° - 160.00°	0.97	0.07%
70.00° - 80.00°	12.78	0.91%	160.00° - 170.00°	0.58	0.04%
80.00° - 90.00°	3.16	0.23%	170.00° - 180.00°	0.19	0.01%
0.00° - 90.00°	1392.10	99.18%	0.00° - 180.00°	1403.66	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°	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86	2592.86
2.50°	2564.71	2567.29	2562.22	2567.89	2569.35	2574.62	2572.32	2572.58	2571.72	2578.55	2586.40	2586.38	2605.22	2606.80	2601.80	2603.39	2564.71
5.00°	2485.15	2467.04	2459.75	2467.82	2466.62	2455.08	2453.45	2473.92	2494.50	2503.45	2500.05	2508.23	2534.95	2519.22	2506.42	2500.38	2485.15
7.50°	2356.20	2347.88	2339.14	2347.51	2342.66	2328.99	2329.28	2358.14	2386.93	2392.37	2404.94	2391.64	2416.94	2410.40	2395.62	2388.45	2356.20
10.00°	2186.19	2171.05	2167.38	2177.07	2173.35	2155.69	2163.42	2185.48	2214.25	2224.87	2231.65	2222.09	2240.39	2228.83	2219.22	2200.81	2186.19
12.50°	1993.12	1988.54	1987.05	1999.93	1996.27	1979.12	1994.30	1998.12	2020.68	2032.39	2053.42	2028.08	2040.45	2033.80	2033.61	2009.87	1993.12
15.00°	1787.22	1783.00	1791.82	1793.71	1791.06	1787.01	1813.38	1781.56	1805.67	1814.21	1844.23	1811.19	1821.00	1811.37	1825.06	1802.55	1787.22
17.50°	1559.71	1576.94	1597.31	1585.58	1582.16	1587.95	1625.30	1567.06	158718	1593.44	1633.74	1588.15	1583.30	1590.39	1619.38	1589.21	1559.71
20.00°	1324.83	1366.78	1403.63	1360.82	1335.63	1370.77	1421.49	1355.19	1327.64	1370.91	1419.15	1361.33	1335.72	1371.31	1418.20	1359.65	1324.83
22.50°	1059.11	1152.74	1222.14	1134.38	1087.83	1146.51	1228.71	1130.25	1066.83	1131.94	1217.04	1122.75	1066.58	1141.18	1230.65	1123.44	1059.11
25.00°	787.90	924.62	1050.05	900.52	833.17	910.37	1051.45	893.92	815.26	885.67	1039.44	879.69	790.06	901.21	1057.11	875.77	787.90
27.50°	568.36	707.39	863.84	679.66	593.39	691.44	862.00	681.31	573.90	673.25	851.80	665.66	563.60	686.04	866.25	651.89	568.36
30.00°	355.98	514.07	670.63	490.82	395.91	491.43	661.24	482.15	384.87	469.53	651.41	458.00	346.09	485.29	663.33	454.75	355.98
32.50°	225.27	342.49	498.59	323.66	236.55	324.05	484.72	322.02	224.38	312.66	473.85	300.63	221.09	323.00	485.26	295.06	225.27
35.00°	109.54	201.43	332.82	191.14	143.93	180.35	323.34	175.52	145.31	161.46	315.43	149.54	105.35	174.78	318.22	163.16	109.54
37.50°	82.20	113.43	219.70	108.36	84.64	108.71	208.66	116.56	87.44	116.70	198.67	103.82	80.12	112.81	204.05	98.84	82.20
40.00°	59.67	75.90	114.60	77.69	64.53	71.61	112.27	74.58	66.78	75.32	105.34	62.43	57.51	68.26	103.41	67.77	59.67
42.50°	51.73	56.03	82.45	58.48	51.33	55.99	75.66	60.08	52.45	60.18	66.94	51.98	49.56	54.58	72.12	55.04	51.73
45.00°	44.52	47.19	54.04	47.17	43.51	46.46	52.30	47.56	45.34	46.91	47.48	42.91	42.52	43.28	49.19	47.68	44.52
47.50°	38.63	41.77	44.94	40.25	38.18	41.12	44.51	41.44	40.13	41.30	40.90	38.58	38.13	39.18	41.82	42.49	38.63
50.00°	34.88	37.69	36.97	35.31	34.14	36.35	38.19	35.90	36.41	36.67	36.78	34.28	33.78	35.39	35.21	37.61	34.88
52.50°	33.74	35.01	34.43	32.74	31.98	33.75	35.51	33.85	33.24	34.33	34.92	30.05	29.53	33.60	35.50	35.33	33.74
55.00°	31.64	32.66	32.36	30.78	30.40	31.30	33.05	32.05	30.35	32.37	33.18	27.42	27.17	31.77	35.30	33.19	31.64
57.50°	28.77	32.06	31.53	29.76	29.02	29.90	32.25	30.99	29.56	30.97	31.14	26.96	27.08	29.86	33.08	31.81	28.77
60.00°	27.86	31.60	30.99	28.86	27.67	28.63	31.43	30.30	29.40	29.96	29.42	26.97	27.37	28.25	31.38	30.61	27.86
62.50°	27.99	30.21	30.93	28.00	27.28	28.02	30.55	30.34	29.09	29.34	29.58	27.40	27.97	27.27	30.87	30.27	27.99
65.00°	26.92	28.52	29.01	27.07	26.82	26.95	28.98	28.95	28.75	27.65	28.48	25.54	26.55	25.77	29.21	28.69	26.92
67.50°	25.46	24.52	25.00	25.51	24.86	24.71	26.00	25.79	25.65	25.23	23.54	22.33	24.06	23.61	25.80	23.89	25.46
70.00°	20.61	20.30	20.85	23.08	22.30	21.46	22.15	21.56	22.31	21.09	19.25	18.98	20.42	20.19	21.53	19.27	20.61
72.50°	15.17	15.34	16.60	16.88	16.83	16.58	17.09	16.45	17.07	16.20	16.15	15.58	16.40	15.70	16.39	14.96	15.17
75.00°	10.99	10.86	12.19	11.62	11.93	12.10	12.77	12.13	12.09	11.84	12.36	11.16	11.79	11.09	11.54	10.76	10.99
77.50°	7.00	7.39	7.69	8.60	8.58	8.07	9.12	8.26	8.46	7.60	7.69	6.54	7.08	6.43	6.88	6.69	7.00
80.00°	5.22	5.16	5.08	6.09	5.91	5.47	6.09	5.94	5.34	5.58	4.71	4.37	4.91	4.31	4.57	4.51	5.22
82.50°	3.55	4.60	3.01	4.36	4.39	3.88	3.44	4.15	3.64	3.78	3.10	2.44	2.95	3.09	3.27	3.72	3.55
85.00°	2.47	3.64	2.31	2.98	3.07	2.83	2.42	2.88	2.39	2.70	2.29	2.30	2.26	2.50	2.45	2.96	2.47
87.50°	1.66	2.33	1.79	1.97	1.99	2.01	2.02	1.71	1.93	1.74	1.93	2.13	1.68	2.04	1.76	2.23	1.66
90.00°	1.64	1.68	1.72	1.55	1.50	1.63	1.82	1.89	1.66	1.82	1.76	1.80	1.66	1.72	1.77	1.75	1.64
92.50°	1.59	1.43	1.66	1.52	1.45	1.37	1.66	2.13	1.58	1.87	1.66	1.59	1.60	1.42	1.85	1.34	1.59
95.00°	1.48	1.52	1.69	1.59	1.52	1.67	1.71	2.02	1.61	1.84	1.71	1.78	1.39	1.47	1.67	1.61	1.48
97.50°	1.47	1.74	1.72	1.70	1.66	2.04	1.77	1.91	1.72	1.75	1.79	1.87	1.38	1.55	1.56	1.97	1.47
100.00°	1.54	2.18	1.70	1.67	1.68	2.00	1.68	1.80	1.71	1.56	1.70	1.75	1.72	1.86	1.93	1.72	1.54

CK0407SQPC 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%	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	1668	1668	1668	1668	1628	1628	1628	1628	1553	1553	1553	1485	1485	1485	1422	1422	1392
	1	1592	1553	1519	1488	1556	1522	1491	1463	1463	1439	1416	1409	1390	1372	1359	1344	1330
	2	1517	1451	1396	1350	1485	1426	1376	1334	1379	1338	1303	1336	1303	1274	1296	1269	1243
	3	1447	1362	1295	1242	1419	1341	1280	1231	1303	1252	1210	1268	1226	1190	1235	1200	1177
	4	1382	1282	1209	1154	1357	1266	1198	1146	1235	1177	1131	1206	1157	1117	1179	1137	1103
	5	1321	1212	1136	1079	1298	1198	1127	1074	1173	1111	1063	1148	1095	1053	1126	1080	1043
	6	1265	1149	1071	1015	1244	1137	1064	1011	1116	1052	1004	1096	1039	996	1077	1027	989
	7	1211	1092	1014	959	1193	1082	1009	956	1064	998	951	1047	988	945	1031	979	940
	8	1162	1040	963	910	1145	1031	958	907	1016	950	903	1001	942	899	987	934	895
	9	1116	992	916	865	1101	985	913	863	972	906	860	959	899	857	947	893	853
	10	1072	948	874	825	1059	942	871	823	931	866	821	920	860	818	909	855	816

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	85.7 fc	4.1 ft
6.5 ft	61.4 fc	4.8 ft
7.5 ft	46.1 fc	5.5 ft
8.0 ft	40.5 fc	5.9 ft
10.0 ft	25.9 fc	7.4 ft
12.0 ft	18.0 fc	8.8 ft
14.0 ft	13.2 fc	10.3 ft
16.0 ft	10.1 fc	11.8 ft
20.0 ft	6.5 fc	14.7 ft
24.0 ft	4.5 fc	17.7 ft
28.0 ft	3.3 fc	20.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	697732	697732	697732
45.00°	16942	20565	16558
55.00°	14846	15183	14264
65.00°	17142	18469	17074
75.00°	11429	12671	12400
85.00°	7633	7121	9479

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	15.6	16.6	16.0	16.9	17.2	14.9	15.9	15.3	16.2	16.6
	3H	17.8	18.7	18.2	19.1	19.4	17.5	18.3	17.9	18.7	19.1
	4H	18.3	19.1	18.7	19.5	19.9	18.1	18.9	18.5	19.2	19.7
	6H	18.4	19.2	18.9	19.6	20.0	18.3	19.0	18.7	19.4	19.8
	8H	18.5	19.1	18.9	19.6	20.0	18.3	19.0	18.8	19.4	19.8
	12H	18.5	19.1	18.9	19.5	20.0	18.3	19.0	18.8	19.4	19.8
4H	2H	16.5	17.3	16.9	17.7	18.1	16.0	16.8	16.4	17.2	17.6
	3H	18.7	19.4	19.1	19.8	20.2	18.4	19.1	18.9	19.5	20.0
	4H	19.2	19.8	19.6	20.2	20.7	19.0	19.6	19.5	20.1	20.6
	6H	19.4	19.9	19.8	20.3	20.8	19.3	19.8	19.8	20.3	20.8
	8H	19.4	19.9	19.9	20.3	20.8	19.3	19.8	19.8	20.3	20.8
	12H	19.4	19.9	20.0	20.4	20.9	19.4	19.8	19.9	20.3	20.8
8H	4H	19.3	19.8	19.8	20.2	20.7	19.2	19.7	19.7	20.1	20.6
	6H	19.5	19.9	20.1	20.4	20.9	19.5	19.9	20.0	20.4	20.9
	8H	19.6	20.0	20.2	20.5	21.0	19.6	19.9	20.1	20.5	21.0
	12H	19.8	20.1	20.3	20.6	21.2	19.7	20.0	20.2	20.5	21.1
12H	4H	19.2	19.7	19.8	20.2	20.7	19.2	19.6	19.7	20.1	20.6
	6H	19.5	19.8	20.1	20.3	20.9	19.5	19.8	20.0	20.3	20.9
	8H	19.7	19.9	20.2	20.5	21.1	19.6	19.9	20.1	20.4	21.0

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0