

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 MD xx SO xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Medium Beam

Test Number

SP-01448_M-30L

Test Date

11/28/2022

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	1241
Efficacy	69.74 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.54
Two luminaires, plane 90°	0.55
Four luminaires	0.6

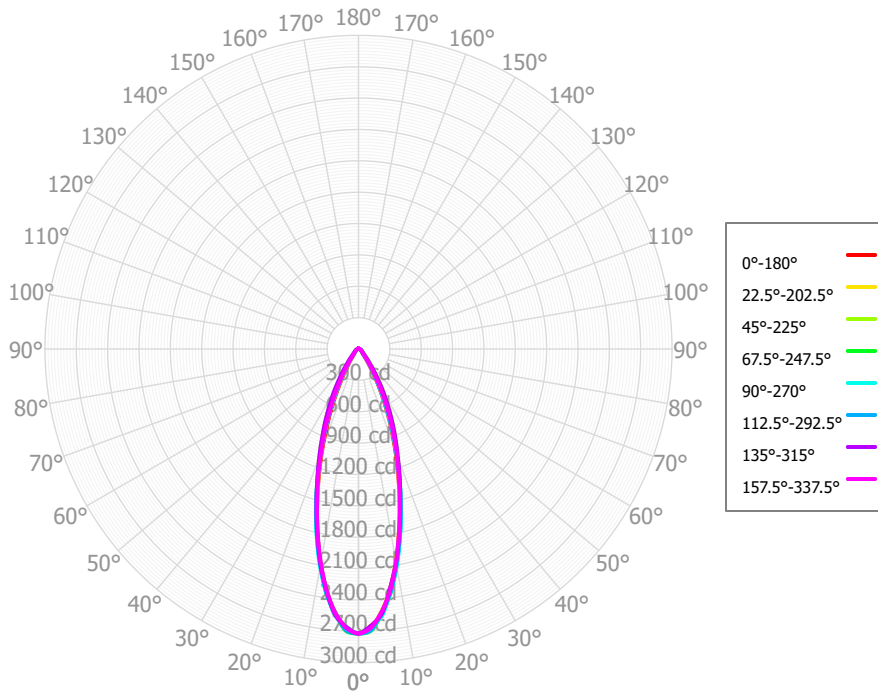
Full Beam Angle

0° - 180°	33°
90° - 270°	34°

IES File Header Contents

Keyword	Value
TEST	SP-01448_M-30L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/28/2022
ISSUEDATE	12/1/2022
LUMCAT	CK0407SQPC 30L 35K MD xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Medium Beam
OTHER	Solite lens, Matte White finish
OTHER	33 Degree Beam Angle
OTHER	Reference Project SL378
LAMP	N/A
LAMPCAT	N/A, Min. 80 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	CCT Output Multipliers: 27K x 0.xx, 30K x 0.xx, 40K x 1.xx
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	27K x 0.95, 30K x 0.97, 40K x 1.03

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	230.15	18.54%	90.00° - 100.00°	2.12	0.17%
10.00° - 20.00°	423.37	34.10%	100.00° - 110.00°	2.03	0.16%
20.00° - 30.00°	310.96	25.05%	100.00° - 120.00°	4.01	0.32%
30.00° - 40.00°	133.68	10.77%	120.00° - 130.00°	1.76	0.14%
40.00° - 50.00°	53.14	4.28%	130.00° - 140.00°	1.63	0.13%
50.00° - 60.00°	35.37	2.85%	140.00° - 150.00°	1.39	0.11%
60.00° - 70.00°	25.44	2.05%	150.00° - 160.00°	1.05	0.08%
70.00° - 80.00°	13.16	1.06%	160.00° - 170.00°	0.64	0.05%
80.00° - 90.00°	3.33	0.27%	170.00° - 180.00°	0.21	0.02%
0.00° - 90.00°	1228.60	98.97%	0.00° - 180.00°	1241.42	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°	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13	2722.13
2.50°	2655.16	2680.37	2666.64	2700.77	2660.06	2694.04	2664.79	2672.46	2663.39	2677.50	2664.98	2701.73	2662.55	2694.90	2655.02	2672.09	2655.16
5.00°	2549.91	2518.29	2562.01	2536.32	2564.11	2539.10	2553.37	2536.33	2557.82	2533.71	2546.65	2536.52	2560.09	2529.49	2546.76	2526.03	2549.91
7.50°	2312.62	2328.69	2336.11	2351.93	2340.91	2356.32	2335.01	2332.62	2336.15	2342.36	2329.94	2357.03	2348.92	2350.46	2314.06	2327.18	2312.62
10.00°	2068.77	2061.93	2095.90	2091.22	2109.93	2100.63	2092.30	2076.37	2094.46	2080.78	2088.51	2093.41	2117.82	2090.56	2071.36	2069.47	2068.77
12.50°	1789.43	1791.37	1815.86	1826.10	1836.76	1836.28	1815.34	1807.34	1809.45	1808.08	1817.22	1827.40	1843.62	1829.00	1802.18	1796.08	1789.43
15.00°	1517.65	1526.18	1542.59	1551.90	1566.57	1558.74	1554.09	1532.38	1529.87	1524.97	1557.15	1554.55	1571.60	1560.27	1539.91	1535.96	1517.65
17.50°	1266.41	1271.62	1311.18	1297.63	1304.24	1301.50	1306.47	1282.55	1257.32	1271.75	1305.70	1296.11	1302.48	1302.93	1311.54	1278.40	1266.41
20.00°	1030.46	1062.94	1094.08	1068.74	1058.30	1063.85	1093.80	1039.20	1008.84	1035.63	1093.17	1061.42	1054.07	1071.11	1097.63	1070.94	1030.46
22.50°	818.58	863.87	919.44	868.15	838.19	857.11	900.11	838.20	780.17	832.86	898.53	851.49	822.69	859.17	919.32	868.20	818.58
25.00°	629.79	687.11	755.39	689.85	647.03	668.63	737.93	642.84	589.57	641.26	733.64	666.58	631.68	673.77	752.62	693.97	629.79
27.50°	463.64	525.96	609.25	541.07	483.91	522.25	585.28	494.55	417.86	489.08	576.28	513.23	460.70	516.63	602.74	529.73	463.64
30.00°	332.13	386.28	476.81	406.24	357.10	390.02	462.33	353.86	298.62	342.85	448.89	380.07	341.01	383.46	469.19	394.73	332.13
32.50°	221.77	275.50	358.55	306.18	252.46	295.99	343.43	257.06	194.08	251.68	325.81	283.75	235.70	283.77	350.63	279.19	221.77
35.00°	156.28	189.30	264.77	215.26	183.22	208.13	262.17	173.77	141.54	166.06	244.29	201.08	176.17	201.26	259.27	196.15	156.28
37.50°	106.50	133.65	187.03	161.76	126.36	159.59	185.39	127.55	95.32	124.06	168.60	152.15	122.07	151.29	183.13	136.07	106.50
40.00°	82.25	94.22	136.28	112.63	96.77	114.02	141.40	92.01	77.56	87.86	125.80	109.21	95.80	110.48	136.08	99.49	82.25
42.50°	62.37	73.06	95.83	89.68	71.59	88.10	102.78	73.40	61.11	72.07	90.04	87.27	71.44	87.05	98.52	75.96	62.37
45.00°	52.35	57.28	76.01	68.51	60.24	65.68	81.83	60.32	53.25	59.94	73.31	67.08	59.46	65.86	78.44	60.88	52.35
47.50°	43.32	50.57	60.22	57.85	49.71	56.13	64.76	52.77	46.53	54.90	59.87	57.17	49.42	56.31	60.89	52.19	43.32
50.00°	41.27	45.03	52.22	48.62	43.55	48.12	54.81	47.23	43.17	49.99	51.59	48.38	45.13	47.46	54.10	45.90	41.27
52.50°	39.21	41.53	44.87	43.37	38.20	43.20	46.67	42.92	39.83	45.23	45.96	44.03	41.02	43.49	47.48	43.08	39.21
55.00°	37.06	38.05	41.23	38.93	35.82	38.97	40.53	38.71	36.51	40.87	42.97	39.81	37.21	39.70	41.75	40.94	37.06
57.50°	34.78	34.80	37.67	35.82	33.23	35.59	35.73	34.53	34.14	36.81	38.62	35.89	34.08	36.51	36.61	37.67	34.78
60.00°	32.23	31.61	34.43	32.44	30.17	31.92	31.88	31.18	32.78	33.19	33.46	32.31	31.66	33.17	33.44	34.28	32.23
62.50°	29.35	28.62	30.98	28.79	26.98	28.03	28.00	27.98	29.78	29.77	28.78	29.18	29.05	29.60	30.57	29.97	29.35
65.00°	26.05	25.83	27.04	26.10	23.65	24.26	24.12	24.16	25.72	25.67	24.29	25.78	26.31	26.52	28.25	26.02	26.05
67.50°	22.83	23.42	23.71	24.02	20.34	20.56	21.27	20.50	22.10	21.40	20.69	22.15	22.38	23.99	25.31	23.59	22.83
70.00°	19.66	20.28	21.21	20.59	17.06	17.41	18.66	18.65	18.66	18.37	17.23	18.46	17.97	20.95	21.65	20.91	19.66
72.50°	16.34	16.35	18.27	16.68	13.75	14.40	16.10	16.38	14.87	15.40	14.71	14.73	14.13	17.56	17.84	17.69	16.34
75.00°	12.95	12.75	14.96	13.04	10.44	10.82	13.48	12.52	11.02	11.40	12.11	11.66	10.39	13.57	13.91	14.21	12.95
77.50°	9.48	9.40	10.89	9.45	8.21	7.27	9.92	8.95	7.64	7.71	8.41	8.76	7.98	9.33	9.92	10.38	9.48
80.00°	6.00	6.40	6.43	6.61	6.27	5.59	6.54	5.97	4.42	5.63	5.13	5.99	5.66	6.36	5.91	7.18	6.00
82.50°	3.78	3.54	4.05	3.95	4.37	3.99	4.01	3.73	3.14	3.79	3.48	3.26	3.87	3.65	3.93	4.51	3.78
85.00°	1.74	2.35	2.27	2.94	2.52	2.88	2.15	2.45	2.08	2.58	2.38	2.55	2.44	2.70	2.44	2.87	1.74
87.50°	1.83	1.50	1.76	2.10	2.22	2.11	1.94	1.84	1.94	1.88	2.44	1.95	2.54	1.90	2.15	1.75	1.83
90.00°	1.91	1.77	1.41	1.91	1.96	2.24	1.79	1.77	1.83	1.95	2.40	1.98	2.53	1.97	1.95	1.66	1.91
92.50°	1.92	2.07	1.54	1.81	1.90	2.24	1.72	1.69	1.81	1.93	2.23	2.03	2.27	2.08	1.66	1.86	1.92
95.00°	1.90	1.90	1.66	1.88	1.92	2.04	1.80	1.61	1.91	1.82	2.16	2.11	2.03	2.39	1.46	1.84	1.90
97.50°	1.79	1.76	1.77	2.01	2.20	2.09	2.00	1.76	2.17	1.77	2.15	2.16	1.84	2.47	1.71	1.80	1.79
100.00°	1.73	1.70	1.85	2.21	2.27	2.37	2.02	1.97	2.08	1.74	2.12	2.15	1.83	2.05	1.89	1.98	1.73

CK0407SQPC 30L 35K MD xx SO xx MW

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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	1475	1475	1475	1475	1439	1439	1439	1439	1372	1372	1372	1311	1311	1311	1255	1255	1255	1229
	1	1406	1371	1340	1313	1374	1343	1316	1290	1291	1269	1248	1242	1225	1209	1198	1184	1172	1160
	2	1339	1279	1230	1188	1310	1257	1212	1174	1215	1178	1146	1176	1146	1120	1140	1116	1095	1093
	3	1276	1199	1139	1091	1250	1180	1126	1081	1146	1100	1063	1115	1077	1044	1085	1054	1027	1033
	4	1218	1128	1062	1012	1195	1113	1052	1006	1085	1033	992	1059	1015	980	1035	998	967	979
	5	1163	1065	997	947	1143	1053	989	942	1030	975	932	1008	961	923	988	947	914	929
	6	1113	1010	940	890	1095	999	934	887	980	923	880	962	912	873	945	901	866	885
	7	1067	960	890	842	1050	951	886	839	935	876	834	919	867	829	905	859	824	844
	8	1023	914	846	799	1008	907	842	797	893	834	793	880	827	789	867	820	785	807
	9	983	873	806	760	970	867	803	759	855	797	756	843	791	753	833	785	750	773
	10	946	836	770	726	933	830	767	725	820	762	722	810	757	720	800	752	717	741

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	90.0 fc	3.3 ft
6.5 ft	64.4 fc	3.9 ft
7.5 ft	48.4 fc	4.5 ft
8.0 ft	42.5 fc	4.8 ft
10.0 ft	27.2 fc	5.9 ft
12.0 ft	18.9 fc	7.1 ft
14.0 ft	13.9 fc	8.3 ft
16.0 ft	10.6 fc	9.5 ft
20.0 ft	6.8 fc	11.9 ft
24.0 ft	4.7 fc	14.3 ft
28.0 ft	3.5 fc	16.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	732518	732518	732518
45.00°	19923	28926	22924
55.00°	17388	19345	16807
65.00°	16589	17216	15058
75.00°	13463	15557	10849
85.00°	5375	7020	7782

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	16.9	17.9	17.3	18.2	18.6	16.7	17.8	17.1	18.1	18.5
	3H	18.6	19.5	19.0	19.8	20.2	18.2	19.1	18.6	19.5	19.9
	4H	19.1	20.0	19.5	20.3	20.7	18.6	19.5	19.0	19.8	20.3
	6H	19.4	20.2	19.8	20.6	21.0	18.9	19.6	19.3	20.0	20.4
	8H	19.4	20.2	19.9	20.6	21.0	18.9	19.6	19.4	20.0	20.5
	12H	19.4	20.1	19.9	20.5	21.0	18.9	19.6	19.4	20.0	20.5
4H	2H	17.5	18.3	17.9	18.7	19.1	17.2	18.0	17.6	18.4	18.8
	3H	19.3	20.0	19.8	20.5	20.9	18.8	19.5	19.3	20.0	20.4
	4H	20.0	20.6	20.5	21.1	21.5	19.3	20.0	19.8	20.4	20.9
	6H	20.4	20.9	20.8	21.4	21.8	19.7	20.2	20.1	20.7	21.2
	8H	20.4	20.9	20.9	21.4	21.9	19.7	20.2	20.2	20.7	21.2
	12H	20.4	20.8	20.9	21.3	21.8	19.8	20.2	20.3	20.7	21.2
8H	4H	20.2	20.7	20.7	21.2	21.7	19.5	20.0	20.0	20.5	21.0
	6H	20.6	21.0	21.2	21.5	22.1	19.9	20.3	20.4	20.8	21.3
	8H	20.7	21.1	21.3	21.6	22.1	20.0	20.4	20.6	20.9	21.4
	12H	20.8	21.1	21.3	21.6	22.2	20.1	20.4	20.7	21.0	21.6
12H	4H	20.2	20.6	20.7	21.1	21.6	19.5	19.9	20.0	20.4	20.9
	6H	20.6	21.0	21.2	21.5	22.0	19.9	20.3	20.5	20.7	21.3
	8H	20.8	21.1	21.3	21.6	22.2	20.1	20.4	20.6	20.9	21.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0