

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CK0407SQPC 15L 35K ND xx NL xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Narrow Beam

Test Number

SP-01449_M-15L

Test Date

11/29/2022

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

Summary of Results

Power

Input Watts	9.5 W
-------------	-------

Lumen Output

Output Lumens	734
Efficacy	77.23 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.42
Two luminaires, plane 90°	0.41
Four luminaires	0.44

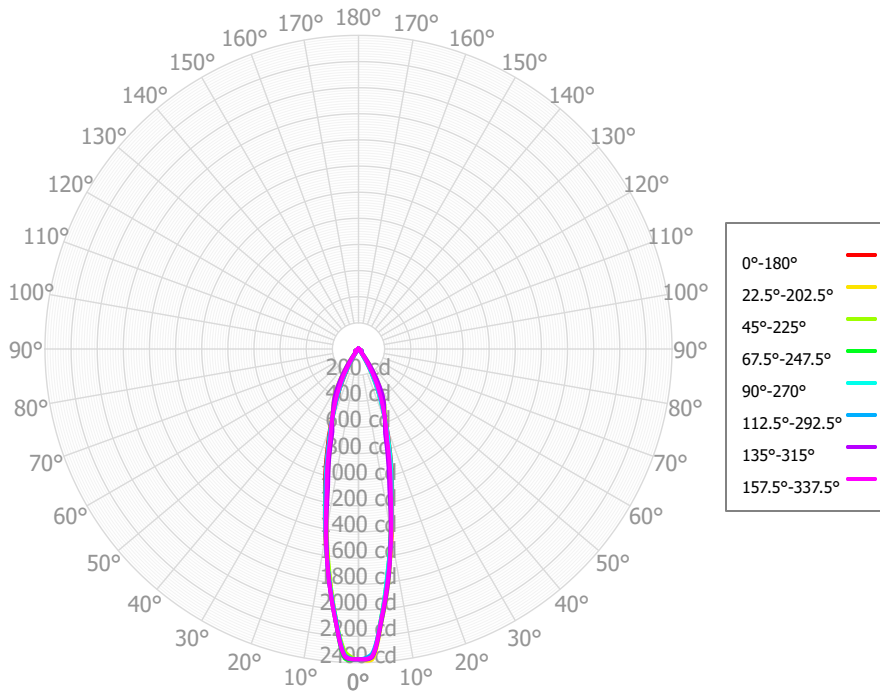
Full Beam Angle

0° - 180°	25°
90° - 270°	25°

IES File Header Contents

Keyword	Value
TEST	SP-01449_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/29/2022
ISSUEDATE	12/1/2022
LUMCAT	CK0407SQPC 15L 35K ND xx NL xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Narrow Beam
OTHER	No lens, Matte White finish
OTHER	25 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 0.95, 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°	177.43	24.18%	90.00° - 100.00°	2.02	0.28%
10.00° - 20.00°	255.48	34.82%	100.00° - 110.00°	1.91	0.26%
20.00° - 30.00°	178.66	24.35%	100.00° - 120.00°	3.67	0.50%
30.00° - 40.00°	56.78	7.74%	120.00° - 130.00°	1.64	0.22%
40.00° - 50.00°	9.94	1.36%	130.00° - 140.00°	1.47	0.20%
50.00° - 60.00°	20.35	2.77%	140.00° - 150.00°	1.21	0.16%
60.00° - 70.00°	15.15	2.06%	150.00° - 160.00°	0.94	0.13%
70.00° - 80.00°	5.05	0.69%	160.00° - 170.00°	0.56	0.08%
80.00° - 90.00°	3.09	0.42%	170.00° - 180.00°	0.19	0.03%
0.00° - 90.00°	721.94	98.40%	0.00° - 180.00°	733.64	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°	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64	2375.64
2.50°	2364.33	2379.49	2353.17	2361.21	2349.20	2347.68	2361.51	2355.52	2352.69	2359.19	2323.86	2372.20	2353.28	2337.61	2363.23	2355.12	2364.33
5.00°	2052.38	2069.50	2074.89	2041.32	2043.19	2053.54	2066.99	2067.39	2053.15	2043.08	2049.90	2064.74	2048.79	2061.45	2068.77	2052.57	2052.38
7.50°	1743.70	1759.32	1774.50	1718.80	1711.41	1753.45	1756.52	1757.79	1741.12	1728.18	1715.83	1756.04	1746.17	1737.60	1766.97	1748.60	1743.70
10.00°	1456.62	1446.54	1424.16	1419.07	1439.74	1436.10	1414.26	1441.46	1460.11	1432.61	1400.54	1435.06	1453.06	1430.27	1418.22	1437.33	1456.62
12.50°	1183.93	1144.50	1116.46	1126.22	1170.90	1149.72	1076.28	1125.68	1182.35	1146.00	1089.41	1127.19	1175.21	1125.45	1092.23	1144.50	1183.93
15.00°	982.46	931.95	890.12	924.51	975.37	937.78	866.45	918.95	981.11	937.38	873.91	902.24	957.87	916.59	870.37	925.83	982.46
17.50°	788.98	732.15	711.37	731.62	781.24	748.28	665.98	716.88	783.08	739.72	673.64	696.79	756.86	716.91	677.83	730.50	788.98
20.00°	625.13	605.89	607.62	607.01	618.75	602.74	587.06	600.34	622.28	609.42	587.95	584.30	606.07	600.75	591.46	607.72	625.13
22.50°	473.08	485.49	524.12	486.43	460.31	473.54	510.08	485.64	466.51	483.78	515.04	478.18	466.33	488.35	514.14	492.31	473.08
25.00°	355.22	389.72	467.20	387.14	344.60	371.59	447.94	389.83	347.75	378.77	451.89	395.01	353.65	393.09	462.55	395.49	355.22
27.50°	245.96	295.68	394.42	290.15	233.17	275.40	381.42	295.43	234.41	277.35	389.32	311.01	248.33	298.12	399.12	301.08	245.96
30.00°	157.40	207.42	303.70	202.56	150.10	187.19	291.16	210.26	148.75	188.09	299.09	224.67	158.17	207.82	307.74	211.69	157.40
32.50°	87.08	128.13	219.66	123.22	76.31	115.20	204.71	130.02	74.43	109.55	209.06	144.87	86.63	120.73	221.44	133.44	87.08
35.00°	52.52	72.69	141.94	70.05	48.59	61.98	133.83	73.87	45.26	60.66	139.80	80.37	46.64	69.49	144.93	74.25	52.52
37.50°	27.55	31.72	83.81	29.35	25.18	30.26	72.78	27.85	21.93	24.98	73.29	33.68	20.95	23.56	83.17	34.17	27.55
40.00°	18.59	21.84	41.22	20.09	17.83	20.00	42.68	19.05	16.56	18.75	43.86	21.11	15.39	16.70	44.89	22.08	18.59
42.50°	11.95	14.06	20.12	12.81	11.69	13.25	19.61	11.96	11.80	13.54	17.34	12.48	10.95	10.75	20.08	14.03	11.95
45.00°	8.53	10.06	13.66	9.75	9.07	9.43	14.78	9.81	8.51	10.29	13.50	10.09	7.86	9.42	13.67	10.93	8.53
47.50°	7.73	8.82	11.90	9.06	7.57	8.51	12.14	9.10	7.12	9.47	10.79	9.47	6.64	8.90	10.93	10.01	7.73
50.00°	9.98	11.71	12.78	12.50	8.80	9.61	14.13	11.84	9.67	12.45	14.47	11.27	7.33	11.61	12.39	11.33	9.98
52.50°	15.99	17.29	18.75	17.86	12.71	15.50	18.71	16.77	14.80	17.58	18.84	15.96	12.95	15.66	17.76	16.23	15.99
55.00°	25.76	26.25	27.15	26.02	21.90	24.25	27.79	25.98	24.33	25.49	26.05	23.94	22.90	23.82	26.88	24.30	25.76
57.50°	29.89	29.77	28.78	29.83	28.37	27.36	31.19	30.40	29.58	28.76	30.25	27.16	27.92	28.71	28.71	26.85	29.89
60.00°	29.31	27.40	27.76	28.24	30.26	27.69	26.18	27.13	28.78	26.86	24.48	25.72	29.34	25.57	24.55	25.34	29.31
62.50°	24.18	21.95	21.91	22.99	27.08	22.08	20.29	22.00	24.37	21.37	18.69	21.16	24.80	20.97	19.30	20.28	24.18
65.00°	15.88	13.71	14.57	13.91	16.83	14.01	13.34	14.31	15.59	12.53	12.84	14.05	16.65	13.37	13.31	13.03	15.88
67.50°	10.51	8.30	9.71	7.96	9.83	9.34	8.43	8.81	9.70	7.33	8.07	9.46	11.05	7.73	8.81	8.32	10.51
70.00°	6.91	5.12	5.47	4.81	6.59	5.80	5.62	5.83	6.75	4.98	5.61	6.59	6.78	5.41	5.15	4.94	6.91
72.50°	5.74	4.10	4.21	3.94	5.26	4.60	4.09	4.21	5.61	3.98	4.00	5.44	5.58	4.23	3.75	3.94	5.74
75.00°	5.77	4.50	3.50	4.78	5.85	3.99	3.72	3.88	6.04	3.88	3.94	5.31	5.69	4.67	3.46	3.96	5.77
77.50°	5.71	5.33	3.68	4.90	5.77	4.52	3.39	3.91	6.15	4.24	3.95	5.25	5.89	4.81	3.42	4.43	5.71
80.00°	5.62	6.38	3.97	4.58	5.12	5.27	3.08	4.26	6.02	4.86	4.06	5.22	6.12	4.58	3.49	5.07	5.62
82.50°	4.14	5.15	3.29	3.59	4.13	4.04	2.70	3.57	4.62	3.95	3.59	3.82	4.36	3.72	2.81	3.79	4.14
85.00°	2.21	2.88	2.53	2.25	2.89	2.52	2.27	2.18	2.46	2.34	2.39	1.88	2.05	2.20	1.89	1.98	2.21
87.50°	1.82	1.94	2.11	1.87	2.32	2.22	2.02	1.71	1.68	1.71	1.89	1.55	1.86	1.61	1.82	1.83	1.82
90.00°	1.84	1.49	1.70	1.90	2.13	2.02	1.88	1.79	1.60	1.46	2.13	1.74	2.11	1.81	1.95	2.01	1.84
92.50°	1.80	1.73	1.78	1.92	1.99	2.18	1.68	1.72	1.74	1.65	2.07	1.83	1.87	1.80	1.98	1.97	1.80
95.00°	1.73	2.17	1.86	1.95	1.87	2.34	1.45	1.57	1.97	1.98	1.72	1.89	1.55	1.62	1.99	1.89	1.73
97.50°	1.99	2.00	1.90	1.82	1.83	1.94	1.58	1.56	1.86	2.03	1.63	1.85	1.78	1.72	2.02	1.98	1.99
100.00°	2.30	1.68	1.92	1.66	1.82	1.56	1.84	1.60	1.63	2.02	1.72	1.80	2.06	2.01	2.05	2.09	2.30

CK0407SQPC 15L 35K ND 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	871	871	871	871	849	849	849	849	809	809	809	772	772	772	738	738	722
	1	832	813	795	780	813	796	780	766	764	752	741	735	725	717	708	701	686
	2	796	762	735	712	779	749	724	703	724	703	686	700	684	670	679	666	652
	3	762	719	686	659	746	708	678	653	687	662	642	668	648	630	651	634	621
	4	730	681	645	617	717	672	638	613	655	627	604	639	616	596	625	605	593
	5	701	647	609	582	689	640	605	579	626	596	572	613	587	567	601	579	568
	6	674	617	579	552	663	611	575	549	599	568	545	588	561	540	578	555	545
	7	649	590	552	525	639	585	549	524	575	543	520	566	538	517	557	532	523
	8	625	566	528	502	617	561	526	501	553	521	498	545	517	496	538	512	504
	9	604	543	507	482	596	540	505	481	532	501	478	526	497	476	519	493	486
	10	583	523	487	463	576	520	485	462	514	482	460	508	479	459	502	476	469

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	78.5 fc	2.4 ft
6.5 ft	56.2 fc	2.9 ft
7.5 ft	42.2 fc	3.3 ft
8.0 ft	37.1 fc	3.5 ft
10.0 ft	23.8 fc	4.4 ft
12.0 ft	16.5 fc	5.3 ft
14.0 ft	12.1 fc	6.2 ft
16.0 ft	9.3 fc	7.1 ft
20.0 ft	5.9 fc	8.8 ft
24.0 ft	4.1 fc	10.6 ft
28.0 ft	3.0 fc	12.4 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	639278	639278	639278
45.00°	3245	5200	3451
55.00°	12084	12739	10277
65.00°	10110	9275	10718
75.00°	6001	3636	6082
85.00°	6810	7825	8937

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	17.1	18.1	17.5	18.5	18.8	16.9	17.9	17.3	18.2	18.6
	3H	17.4	18.3	17.8	18.7	19.1	17.3	18.1	17.7	18.5	18.9
	4H	17.5	18.3	18.0	18.7	19.2	17.4	18.2	17.8	18.6	19.0
	6H	17.9	18.6	18.3	19.0	19.5	17.8	18.5	18.2	18.9	19.3
	8H	18.1	18.8	18.6	19.2	19.6	18.0	18.7	18.4	19.1	19.5
	12H	18.2	18.8	18.6	19.3	19.7	18.1	18.7	18.5	19.2	19.6
4H	2H	17.2	18.0	17.7	18.4	18.9	17.0	17.8	17.4	18.1	18.6
	3H	17.5	18.2	18.0	18.6	19.1	17.4	18.0	17.8	18.5	18.9
	4H	17.7	18.3	18.2	18.8	19.2	17.6	18.2	18.1	18.6	19.1
	6H	18.3	18.8	18.8	19.3	19.8	18.2	18.7	18.7	19.2	19.7
	8H	18.6	19.1	19.1	19.5	20.1	18.5	18.9	19.0	19.4	19.9
	12H	18.8	19.2	19.3	19.7	20.2	18.7	19.1	19.2	19.6	20.1
8H	4H	17.7	18.1	18.2	18.6	19.1	17.5	18.0	18.1	18.5	19.0
	6H	18.4	18.8	19.0	19.3	19.9	18.3	18.7	18.8	19.2	19.7
	8H	18.9	19.2	19.5	19.8	20.3	18.7	19.1	19.3	19.6	20.1
	12H	19.2	19.5	19.8	20.0	20.6	19.0	19.3	19.6	19.9	20.5
12H	4H	17.6	18.0	18.2	18.6	19.1	17.5	17.9	18.1	18.5	19.0
	6H	18.5	18.8	19.0	19.3	19.9	18.3	18.7	18.9	19.2	19.7
	8H	19.0	19.3	19.5	19.8	20.4	18.8	19.1	19.4	19.6	20.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0