

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CK0407SQPC 15L 35K XW xx SO xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Xtra Wide Beam

Test Number

SP-01454_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
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Lumen Output

Output Lumens	678
Efficacy	71.42 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.87
Two luminaires, plane 90°	0.86
Four luminaires	0.89

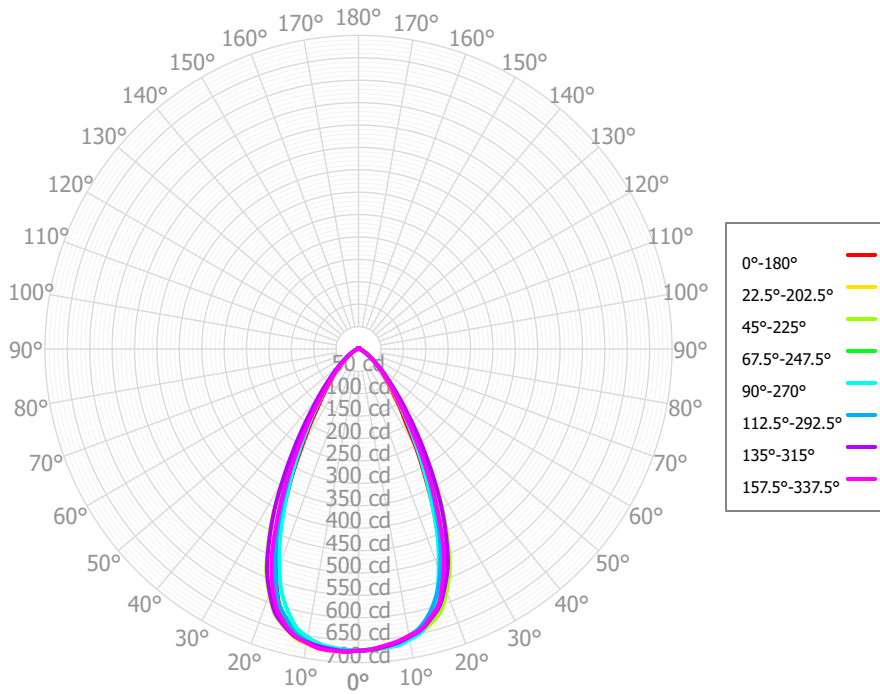
Full Beam Angle

0° - 180°	54°
90° - 270°	54°

IES File Header Contents

Keyword	Value
TEST	SP-01454_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 XW xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Xtra Wide Beam
OTHER	Solite lens, Matte White finish
OTHER	54 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°	64.61	9.52%	90.00° - 100.00°	2.05	0.30%
10.00° - 20.00°	173.41	25.56%	100.00° - 110.00°	1.92	0.28%
20.00° - 30.00°	194.05	28.60%	100.00° - 120.00°	3.79	0.56%
30.00° - 40.00°	121.66	17.93%	120.00° - 130.00°	1.70	0.25%
40.00° - 50.00°	62.80	9.26%	130.00° - 140.00°	1.49	0.22%
50.00° - 60.00°	29.60	4.36%	140.00° - 150.00°	1.22	0.18%
60.00° - 70.00°	12.59	1.86%	150.00° - 160.00°	0.92	0.14%
70.00° - 80.00°	5.43	0.80%	160.00° - 170.00°	0.56	0.08%
80.00° - 90.00°	2.40	0.35%	170.00° - 180.00°	0.19	0.03%
0.00° - 90.00°	666.54	98.24%	0.00° - 180.00°	678.46	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°	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72	673.72
2.50°	670.83	672.66	672.62	672.68	670.03	673.74	676.69	676.42	674.76	677.72	675.38	675.37	672.13	671.42	672.17	671.05	670.83
5.00°	665.90	667.08	668.61	669.81	669.06	673.01	673.27	675.96	675.07	676.74	673.87	672.26	668.74	667.22	667.22	665.00	665.90
7.50°	659.86	660.86	664.22	665.88	668.03	671.82	669.65	674.39	672.49	675.31	672.00	668.83	664.15	661.08	662.05	658.79	659.86
10.00°	649.79	652.53	656.23	657.01	658.71	662.23	664.53	666.34	665.69	667.95	665.46	658.35	652.94	651.65	652.97	650.60	649.79
12.50°	638.43	641.01	647.21	645.10	647.96	650.42	657.37	655.79	652.13	660.18	657.68	647.16	637.73	635.83	642.87	641.52	638.43
15.00°	612.97	621.40	632.24	623.01	616.16	623.62	640.16	635.26	630.65	636.63	641.29	621.99	607.31	611.35	623.95	620.76	612.97
17.50°	584.20	593.38	612.74	594.20	581.29	594.06	618.16	608.17	592.41	611.66	620.88	594.64	570.61	577.17	602.06	596.76	584.20
20.00°	528.60	548.81	575.29	548.36	523.54	541.72	579.26	561.95	538.38	559.51	582.11	546.84	516.27	532.46	564.07	549.93	528.60
22.50°	468.77	494.54	531.94	496.03	463.80	486.82	533.96	507.63	471.53	505.09	537.84	496.48	458.04	478.12	521.75	499.25	468.77
25.00°	395.98	425.21	471.41	430.93	394.43	419.90	471.83	435.23	394.98	429.90	475.37	431.71	391.46	415.36	463.19	430.85	395.98
27.50°	322.04	355.64	408.27	367.05	327.71	352.46	407.36	363.72	323.05	355.55	410.44	367.36	327.38	353.08	402.96	362.73	322.04
30.00°	259.89	285.75	339.29	305.05	270.10	292.88	338.11	293.80	253.91	286.02	339.34	304.70	267.51	291.13	338.13	295.52	259.89
32.50°	198.78	226.09	274.70	249.43	217.74	234.48	274.20	232.49	201.76	221.69	273.39	245.98	215.49	237.82	277.09	233.87	198.78
35.00°	163.41	176.63	217.74	201.74	178.92	193.84	218.86	183.29	157.68	177.52	217.37	198.54	174.01	189.35	224.13	185.98	163.41
37.50°	129.21	139.33	170.03	162.71	144.83	154.79	172.36	143.26	128.33	138.19	169.62	156.59	140.18	152.84	177.40	145.24	129.21
40.00°	108.52	111.85	135.22	132.33	120.20	127.70	137.16	113.57	104.35	112.68	134.53	126.64	114.69	121.57	141.10	118.24	108.52
42.50°	88.79	92.02	106.86	107.24	98.49	102.15	107.79	90.34	86.51	90.25	105.04	100.35	93.41	98.55	110.71	95.31	88.79
45.00°	75.26	77.11	85.72	86.42	81.39	84.00	84.39	72.97	70.33	74.56	82.43	80.34	75.84	78.29	88.19	78.55	75.26
47.50°	62.13	63.73	68.21	69.70	66.02	66.93	66.14	58.39	57.67	60.07	64.91	63.37	61.58	63.72	69.58	63.60	62.13
50.00°	50.67	51.14	53.98	55.65	52.87	53.55	52.14	45.84	45.68	47.63	52.40	50.61	49.65	50.54	55.15	50.87	50.67
52.50°	40.09	41.31	42.80	44.17	41.93	41.53	41.06	36.40	36.65	37.41	41.64	39.93	40.26	41.16	43.42	40.70	40.09
55.00°	32.28	32.58	33.83	34.01	33.24	33.00	31.92	28.76	27.98	30.23	32.26	31.54	32.28	32.41	34.01	33.04	32.28
57.50°	25.19	25.88	26.62	26.75	25.85	25.60	25.06	22.84	22.59	23.86	25.29	24.92	25.89	25.81	26.88	26.10	25.19
60.00°	19.82	19.77	20.43	20.63	19.53	20.48	19.40	17.71	17.39	18.36	19.85	19.88	20.21	19.41	21.31	19.72	19.82
62.50°	15.21	15.26	15.94	16.58	15.46	16.05	15.38	14.51	14.07	14.16	15.57	15.90	15.78	16.02	16.72	15.29	15.21
65.00°	12.03	11.10	12.21	13.14	12.86	12.69	12.02	11.98	10.85	11.11	11.88	12.68	11.77	12.75	12.66	12.08	12.03
67.50°	9.40	9.53	9.65	10.61	10.38	10.02	9.82	9.66	8.98	8.83	9.63	10.38	9.35	10.30	9.96	9.85	9.40
70.00°	7.59	8.31	7.50	8.27	7.95	8.22	7.97	7.38	7.18	7.10	7.95	8.60	7.31	7.92	7.86	8.09	7.59
72.50°	5.89	6.57	6.20	6.65	6.33	6.47	6.75	6.02	5.99	5.89	6.58	6.69	5.73	6.45	6.53	6.52	5.89
75.00°	4.33	4.79	5.12	5.13	5.02	4.78	5.66	4.82	4.82	4.97	5.31	4.70	4.23	5.05	5.46	5.01	4.33
77.50°	3.33	4.06	4.18	4.10	3.89	3.70	4.59	3.75	3.77	3.84	4.22	3.59	3.33	4.00	4.33	4.02	3.33
80.00°	2.88	3.34	3.27	3.10	2.82	3.11	3.52	2.68	2.86	2.61	3.18	2.77	2.50	3.04	3.18	3.18	2.88
82.50°	2.43	2.75	2.50	2.55	2.35	2.61	2.82	2.22	2.44	2.19	2.54	2.36	1.98	2.48	2.66	2.57	2.43
85.00°	1.98	2.20	1.74	2.02	2.01	2.15	2.16	1.78	2.15	2.04	1.96	2.04	1.48	2.05	2.24	2.00	1.98
87.50°	1.72	1.91	1.91	1.93	1.99	1.93	1.96	1.81	2.19	2.04	1.74	1.91	1.55	2.04	2.05	1.88	1.72
90.00°	1.59	1.67	2.12	1.87	2.00	1.83	1.79	1.84	2.23	2.08	1.55	1.80	1.63	2.00	1.89	1.83	1.59
92.50°	1.62	1.68	2.03	2.03	1.92	1.87	1.89	1.77	2.30	1.93	1.67	1.86	1.85	1.90	1.84	1.85	1.62
95.00°	1.71	1.68	1.94	2.14	1.82	1.98	1.98	1.71	2.30	1.74	1.80	1.93	2.03	1.86	1.81	1.88	1.71
97.50°	1.73	1.64	1.86	1.99	1.88	2.02	1.97	1.73	2.22	1.87	1.97	1.83	1.92	1.97	1.87	1.84	1.73
100.00°	1.71	1.61	1.77	1.86	1.93	2.05	1.94	1.75	2.02	2.03	2.10	1.72	1.80	2.05	1.94	1.79	1.71

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	805	805	805	805	785	785	785	785	747	747	747	713	713	713	681	681	667
	1	762	741	723	706	744	725	709	693	696	682	670	668	658	648	643	635	621
	2	720	683	653	627	703	670	643	619	646	623	604	624	605	589	603	588	576
	3	679	631	594	565	664	621	587	559	601	572	549	582	559	538	565	546	534
	4	641	585	544	513	628	577	539	509	560	528	502	545	517	495	531	507	497
	5	606	545	502	470	594	537	497	467	523	488	462	510	480	457	498	472	463
	6	573	508	464	433	562	502	461	431	490	454	427	479	447	423	469	441	433
	7	543	476	432	401	533	470	429	400	460	423	397	451	418	394	442	413	406
	8	515	446	403	373	506	442	401	372	433	396	370	425	392	368	418	388	381
	9	490	420	378	349	481	416	376	348	409	372	346	402	368	344	395	365	359
	10	466	397	355	327	458	393	353	327	387	350	325	380	347	324	375	344	339

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	22.3 fc	5.6 ft
6.5 ft	15.9 fc	6.6 ft
7.5 ft	12.0 fc	7.6 ft
8.0 ft	10.5 fc	8.1 ft
10.0 ft	6.7 fc	10.2 ft
12.0 ft	4.7 fc	12.2 ft
14.0 ft	3.4 fc	14.2 ft
16.0 ft	2.6 fc	16.3 ft
20.0 ft	1.7 fc	20.3 ft
24.0 ft	1.2 fc	24.4 ft
28.0 ft	0.9 fc	28.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	181297	181297	181297
45.00°	28643	32622	30972
55.00°	15143	15871	15596
65.00°	7657	7776	8191
75.00°	4498	5323	5218
85.00°	6100	5365	6220

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	16.5	17.6	16.9	17.9	18.3	16.3	17.4	16.7	17.8	18.2
	3H	17.0	18.0	17.4	18.3	18.8	17.0	17.9	17.4	18.3	18.7
	4H	17.2	18.1	17.6	18.4	18.9	17.1	18.0	17.6	18.4	18.8
	6H	17.3	18.1	17.7	18.5	18.9	17.2	18.0	17.7	18.5	18.9
	8H	17.3	18.1	17.8	18.5	19.0	17.3	18.0	17.7	18.5	18.9
	12H	17.4	18.1	17.8	18.5	19.0	17.3	18.0	17.8	18.5	18.9
4H	2H	16.6	17.5	17.0	17.9	18.3	16.5	17.3	16.9	17.7	18.2
	3H	17.3	18.0	17.7	18.5	18.9	17.3	18.0	17.7	18.4	18.9
	4H	17.5	18.2	18.0	18.6	19.1	17.5	18.1	18.0	18.6	19.1
	6H	17.7	18.3	18.2	18.8	19.3	17.7	18.2	18.2	18.7	19.2
	8H	17.8	18.3	18.3	18.8	19.3	17.7	18.3	18.2	18.7	19.3
	12H	17.9	18.4	18.5	18.9	19.4	17.8	18.3	18.3	18.8	19.3
8H	4H	17.6	18.1	18.1	18.6	19.1	17.5	18.1	18.0	18.5	19.1
	6H	17.9	18.3	18.4	18.8	19.3	17.8	18.2	18.3	18.8	19.3
	8H	18.0	18.4	18.6	19.0	19.5	17.9	18.3	18.5	18.9	19.4
	12H	18.3	18.6	18.8	19.1	19.7	18.1	18.5	18.7	19.0	19.6
12H	4H	17.5	18.0	18.1	18.5	19.0	17.5	18.0	18.0	18.5	19.0
	6H	17.9	18.2	18.4	18.7	19.3	17.8	18.2	18.4	18.7	19.3
	8H	18.1	18.4	18.6	18.9	19.6	18.0	18.3	18.5	18.9	19.5

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0