

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01452_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	654
Efficacy	68.85 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	0.69

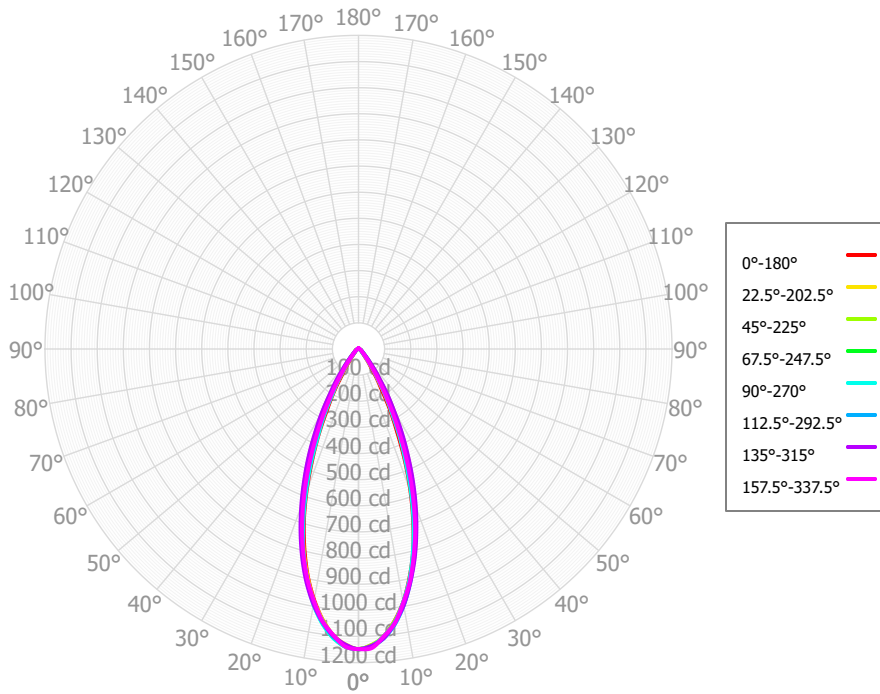
Full Beam Angle

0° - 180°	40°
90° - 270°	41°

IES File Header Contents

Keyword	Value
TEST	SP-01452_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 WD xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Wide Beam
OTHER	Solite lens, Matte White finish
OTHER	40 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°	103.00	15.75%	90.00° - 100.00°	1.95	0.30%
10.00° - 20.00°	222.73	34.05%	100.00° - 110.00°	1.95	0.30%
20.00° - 30.00°	182.40	27.89%	100.00° - 120.00°	3.78	0.58%
30.00° - 40.00°	76.12	11.64%	120.00° - 130.00°	1.66	0.25%
40.00° - 50.00°	26.04	3.98%	130.00° - 140.00°	1.49	0.23%
50.00° - 60.00°	14.11	2.16%	140.00° - 150.00°	1.21	0.18%
60.00° - 70.00°	9.86	1.51%	150.00° - 160.00°	0.91	0.14%
70.00° - 80.00°	5.67	0.87%	160.00° - 170.00°	0.55	0.08%
80.00° - 90.00°	2.44	0.37%	170.00° - 180.00°	0.19	0.03%
0.00° - 90.00°	642.37	98.21%	0.00° - 180.00°	654.10	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°	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82	1148.82
2.50°	1136.86	1134.60	1134.43	1142.12	1138.42	1136.35	1132.99	1140.84	1135.34	1132.05	1135.51	1140.85	1140.69	1139.97	1137.41	1146.17	1136.86
5.00°	1106.07	1104.72	1109.72	1105.98	1104.65	1105.15	1102.42	1099.86	1101.27	1101.93	1108.94	1106.59	1110.47	1111.34	1110.77	1104.50	1106.07
7.50°	1051.83	1053.95	1052.81	1059.11	1056.67	1051.64	1054.13	1052.14	1047.35	1046.94	1052.26	1057.42	1060.16	1063.29	1058.74	1059.78	1051.83
10.00°	985.42	986.37	993.29	986.13	984.88	987.96	991.59	980.42	976.72	981.33	987.33	988.53	993.29	996.50	995.90	985.77	985.42
12.50°	899.68	905.07	910.34	907.33	902.90	905.10	917.09	903.44	894.49	897.43	904.98	907.22	908.91	914.90	915.38	909.75	899.68
15.00°	807.13	811.77	826.17	811.54	804.58	816.54	830.54	814.38	798.78	808.32	818.79	814.05	814.18	820.54	830.02	817.28	807.13
17.50°	697.13	711.38	729.96	713.84	701.68	714.46	736.85	719.10	696.46	706.44	726.83	713.41	705.07	719.06	735.66	721.92	697.13
20.00°	583.32	603.53	633.30	607.82	589.86	610.03	640.00	613.72	583.46	602.51	632.38	607.68	590.06	611.61	639.88	614.50	583.32
22.50°	466.78	492.66	534.56	502.29	476.65	505.40	541.87	508.07	466.97	495.06	535.27	502.55	478.17	501.92	541.87	507.00	466.78
25.00°	349.95	388.74	437.91	406.56	376.77	401.03	448.60	402.12	361.39	387.90	441.38	397.69	367.10	403.15	444.01	399.30	349.95
27.50°	259.31	286.61	347.27	313.83	278.48	313.04	356.58	307.63	257.91	297.04	349.94	310.11	281.21	307.00	354.77	300.85	259.31
30.00°	171.86	211.93	264.33	238.57	208.67	228.14	277.77	222.55	187.27	209.53	269.07	227.99	198.85	234.92	268.21	219.22	171.86
32.50°	123.32	141.00	196.55	169.96	142.26	171.10	200.88	159.04	119.53	149.69	193.87	170.52	148.85	165.90	202.41	152.63	123.32
35.00°	78.83	101.26	140.01	123.92	103.25	118.72	150.68	108.22	86.47	96.21	140.28	117.73	101.19	125.00	141.99	105.29	78.83
37.50°	57.49	63.86	98.93	84.82	68.38	87.90	102.59	76.32	55.12	69.61	94.76	87.76	75.99	85.98	104.24	72.06	57.49
40.00°	39.22	48.47	68.70	61.24	50.69	60.97	75.78	52.12	42.40	47.45	68.76	59.77	52.41	65.01	71.63	51.74	39.22
42.50°	31.13	34.20	49.12	42.63	35.59	44.98	50.83	39.52	30.88	36.98	47.27	46.11	40.43	45.52	52.49	38.40	31.13
45.00°	24.33	27.75	36.05	31.70	27.23	32.13	38.94	29.93	25.34	28.51	36.93	33.17	29.79	35.50	37.35	29.60	24.33
47.50°	20.34	22.03	27.54	24.15	20.59	25.23	28.45	24.71	20.50	23.61	27.87	27.54	24.39	26.76	29.33	24.05	20.34
50.00°	17.49	19.12	22.46	20.33	17.00	19.95	23.44	20.09	17.79	19.88	23.05	22.30	19.90	22.65	23.04	20.02	17.49
52.50°	16.36	16.53	19.09	17.36	14.82	16.84	18.97	17.63	15.74	17.65	18.48	18.94	17.65	19.02	18.92	17.69	16.36
55.00°	14.62	14.76	16.19	15.07	14.46	14.53	15.82	15.27	15.07	16.01	16.78	15.94	15.76	16.52	15.89	15.88	14.62
57.50°	12.21	13.24	13.44	13.43	13.31	13.00	13.30	13.30	14.03	14.90	15.13	14.02	14.50	14.46	13.88	14.06	12.21
60.00°	10.87	12.13	12.09	12.18	11.44	12.08	11.85	11.52	12.46	13.29	13.85	12.37	12.90	13.11	12.09	12.24	10.87
62.50°	10.38	11.00	11.03	10.96	10.25	11.58	10.72	11.09	11.03	11.36	12.44	11.22	10.90	11.82	10.45	11.09	10.38
65.00°	9.60	9.85	10.37	9.76	9.49	10.41	9.96	10.46	9.74	9.92	10.60	9.92	9.63	10.59	9.33	9.98	9.60
67.50°	8.65	8.94	9.73	8.34	8.51	8.91	8.91	9.06	8.68	8.72	9.06	8.41	8.98	9.35	8.45	8.75	8.65
70.00°	7.57	8.21	8.38	6.86	7.43	7.63	7.63	7.65	7.79	7.75	8.14	7.13	7.75	8.09	7.46	7.52	7.57
72.50°	6.43	6.84	7.04	6.13	5.85	6.41	6.47	6.23	6.63	6.85	7.35	6.09	6.15	6.67	6.43	6.32	6.43
75.00°	5.18	5.06	5.87	5.48	4.13	5.66	5.39	4.94	5.33	5.44	6.73	5.03	5.02	5.15	5.19	5.14	5.18
77.50°	3.91	3.93	4.69	4.34	3.45	5.00	4.23	3.91	4.42	3.94	5.78	3.94	4.10	4.20	3.91	4.03	3.91
80.00°	3.19	3.07	3.46	3.19	2.96	3.82	3.02	3.02	3.64	3.28	4.43	3.10	3.30	3.47	3.11	3.04	3.19
82.50°	2.54	2.49	2.45	2.42	2.25	2.59	2.45	2.31	2.88	2.68	3.31	2.39	2.52	2.55	2.36	2.38	2.54
85.00°	2.33	1.97	2.12	1.76	1.54	2.23	2.07	1.83	2.13	2.16	2.38	2.20	2.35	1.59	2.12	1.89	2.33
87.50°	2.13	1.73	1.86	1.81	1.58	1.90	1.81	1.55	1.96	1.69	1.93	2.17	2.27	1.46	1.88	1.70	2.13
90.00°	1.92	1.53	1.73	1.88	1.62	1.96	1.57	1.56	1.84	1.81	1.76	1.97	2.15	1.44	1.65	1.64	1.92
92.50°	1.72	1.64	1.74	1.97	1.53	1.99	1.64	1.76	1.81	1.89	1.74	1.72	2.03	1.48	1.47	1.76	1.72
95.00°	1.65	1.76	1.95	2.03	1.46	1.95	1.71	1.78	1.78	1.80	1.78	2.07	2.04	1.53	1.59	1.79	1.65
97.50°	1.63	1.76	2.04	2.03	1.50	1.92	1.56	1.73	1.61	1.74	1.88	2.48	2.03	1.84	1.69	1.72	1.63
100.00°	1.79	1.78	1.99	2.06	1.54	1.92	1.41	1.76	1.53	1.78	2.00	2.29	1.91	2.07	1.73	1.73	1.79

CK0407SQPC 15L 35K WD 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%	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	776	776	776	776	756	756	756	756	720	720	720	687	687	687	657	657	642
	1	739	721	705	690	722	706	691	678	677	666	655	651	642	633	627	620	606
	2	704	672	646	625	688	660	637	617	637	618	601	616	601	587	596	584	572
	3	671	630	598	573	657	620	591	568	601	577	557	584	564	547	568	551	540
	4	640	592	557	531	627	584	552	527	569	541	520	554	531	512	541	521	511
	5	610	558	522	495	599	552	518	493	539	510	487	527	502	482	516	494	485
	6	583	528	491	465	573	523	488	463	512	481	459	502	475	455	492	469	461
	7	558	501	464	438	549	496	461	437	487	456	434	479	451	431	470	446	438
	8	535	476	440	415	526	472	438	413	464	433	411	457	429	409	450	425	418
	9	513	454	418	393	505	450	416	393	443	412	391	437	409	389	431	406	399
	10	492	433	398	374	485	430	396	374	424	393	372	419	391	371	413	388	382

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	38.0 fc	4.0 ft
6.5 ft	27.2 fc	4.8 ft
7.5 ft	20.4 fc	5.5 ft
8.0 ft	18.0 fc	5.9 ft
10.0 ft	11.5 fc	7.4 ft
12.0 ft	8.0 fc	8.8 ft
14.0 ft	5.9 fc	10.3 ft
16.0 ft	4.5 fc	11.8 ft
20.0 ft	2.9 fc	14.7 ft
24.0 ft	2.0 fc	17.7 ft
28.0 ft	1.5 fc	20.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	309145	309145	309145
45.00°	9260	13718	10364
55.00°	6859	7595	6782
65.00°	6110	6600	6044
75.00°	5384	6100	4290
85.00°	7191	6559	4746

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	12.2	13.2	12.6	13.6	13.9	12.3	13.3	12.7	13.7	14.0
	3H	14.0	14.8	14.4	15.2	15.6	14.0	14.9	14.4	15.2	15.6
	4H	14.6	15.4	15.0	15.8	16.2	14.5	15.3	14.9	15.7	16.1
	6H	15.0	15.7	15.4	16.1	16.6	14.9	15.7	15.4	16.1	16.5
	8H	15.1	15.8	15.6	16.3	16.7	15.1	15.8	15.5	16.2	16.7
	12H	15.3	16.0	15.8	16.4	16.9	15.2	15.9	15.7	16.3	16.8
4H	2H	12.7	13.5	13.2	13.9	14.4	12.9	13.7	13.3	14.1	14.5
	3H	14.7	15.4	15.2	15.8	16.3	14.7	15.4	15.2	15.8	16.3
	4H	15.4	16.0	15.9	16.5	17.0	15.4	16.0	15.9	16.5	16.9
	6H	15.9	16.4	16.4	16.9	17.4	16.0	16.5	16.5	17.0	17.5
	8H	16.1	16.6	16.6	17.1	17.6	16.2	16.6	16.7	17.1	17.6
	12H	16.4	16.8	16.9	17.3	17.9	16.4	16.8	16.9	17.3	17.8
8H	4H	15.6	16.1	16.2	16.6	17.1	15.7	16.2	16.2	16.7	17.2
	6H	16.3	16.7	16.8	17.2	17.7	16.4	16.8	17.0	17.3	17.9
	8H	16.6	16.9	17.1	17.5	18.0	16.7	17.1	17.3	17.6	18.2
	12H	17.0	17.3	17.5	17.8	18.4	17.1	17.4	17.6	17.9	18.5
12H	4H	15.6	16.1	16.2	16.6	17.1	15.7	16.1	16.2	16.6	17.2
	6H	16.3	16.7	16.9	17.2	17.8	16.5	16.8	17.1	17.3	17.9
	8H	16.7	17.0	17.2	17.5	18.1	16.9	17.2	17.4	17.7	18.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0