

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

CK0407SQPC 10L 35K ND xx SO xx MW
Nom. 4.5" Diam x 7"H Square Cylinder, Narrow Beam

Test Number

SP-01450

Test Date

11/30/2022

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

Summary of Results

Power

Input Watts	6.7 W
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Lumen Output

Output Lumens	495
Efficacy	73.84 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.46
Two luminaires, plane 90°	0.48
Four luminaires	0.53

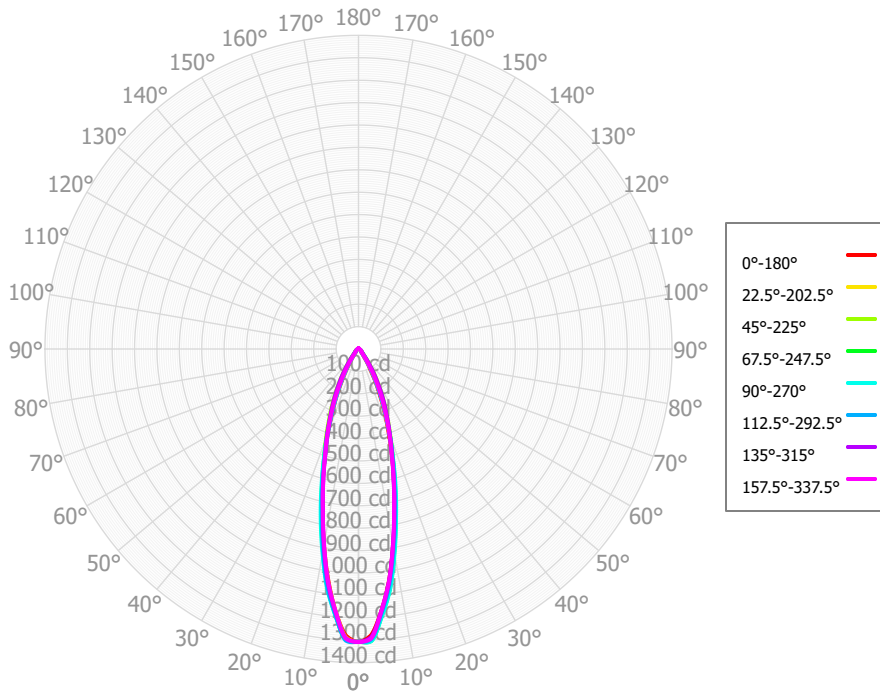
Full Beam Angle

0° - 180°	28°
90° - 270°	29°

IES File Header Contents

Keyword	Value
TEST	SP-01450
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/30/2022
ISSUEDATE	12/1/2022
LUMCAT	CK0407SQPC 10L 35K ND xx SO xx MW
LUMINAIRE	Nom. 4.5" Diam x 7"H Square Cylinder, Narrow Beam
OTHER	Solite lens, Matte White finish
OTHER	28 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°	105.02	21.23%	90.00° - 100.00°	2.20	0.45%
10.00° - 20.00°	170.35	34.43%	100.00° - 110.00°	2.09	0.42%
20.00° - 30.00°	115.68	23.38%	100.00° - 120.00°	4.08	0.82%
30.00° - 40.00°	45.33	9.16%	120.00° - 130.00°	1.84	0.37%
40.00° - 50.00°	16.89	3.41%	130.00° - 140.00°	1.60	0.32%
50.00° - 60.00°	12.34	2.49%	140.00° - 150.00°	1.29	0.26%
60.00° - 70.00°	8.57	1.73%	150.00° - 160.00°	0.98	0.20%
70.00° - 80.00°	5.15	1.04%	160.00° - 170.00°	0.59	0.12%
80.00° - 90.00°	2.63	0.53%	170.00° - 180.00°	0.20	0.04%
0.00° - 90.00°	481.95	97.42%	0.00° - 180.00°	494.73	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°	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69	1307.69
2.50°	1279.84	1297.10	1296.55	1304.89	1305.98	1303.08	1292.15	1294.44	1281.47	1289.16	1293.40	1298.14	1297.48	1298.08	1288.17	1293.88	1279.84
5.00°	1174.00	1181.61	1189.99	1194.36	1198.51	1189.23	1179.50	1175.08	1177.21	1174.34	1184.08	1189.49	1192.90	1183.96	1175.51	1173.68	1174.00
7.50°	1043.83	1054.21	1064.30	1077.25	1081.96	1069.12	1049.94	1045.41	1038.61	1046.71	1058.02	1070.22	1075.76	1060.27	1046.57	1045.82	1043.83
10.00°	889.47	896.23	903.48	919.34	926.63	910.67	891.19	885.04	890.24	888.79	901.55	915.33	925.20	903.94	886.63	887.29	889.47
12.50°	746.20	741.75	753.90	765.27	773.89	756.32	733.00	736.08	739.42	743.19	744.98	766.56	778.65	755.09	738.55	733.72	746.20
15.00°	610.42	616.73	617.76	630.40	639.49	621.03	608.79	607.90	616.23	616.08	622.04	630.10	638.73	621.46	605.15	609.34	610.42
17.50°	496.11	498.15	506.72	506.22	512.35	496.30	491.01	496.12	496.03	504.24	505.02	510.11	514.15	503.11	496.80	493.54	496.11
20.00°	391.02	404.97	415.58	410.99	410.07	399.70	408.26	403.85	399.35	407.94	422.36	411.54	406.27	405.41	408.98	403.81	391.02
22.50°	305.35	318.60	341.38	324.86	316.15	313.09	331.12	322.17	305.03	324.14	344.08	325.93	314.62	319.89	337.27	321.23	305.35
25.00°	224.46	247.78	276.15	254.58	239.86	243.11	270.72	249.07	231.33	248.73	279.51	251.78	235.02	245.28	274.40	252.30	224.46
27.50°	163.73	184.73	221.19	194.05	174.58	183.11	214.23	187.46	162.52	185.81	219.91	191.91	173.02	185.53	217.87	189.80	163.73
30.00°	105.31	132.99	169.54	144.62	124.25	134.30	164.87	131.91	112.84	128.41	169.75	140.30	119.42	134.49	163.46	135.27	105.31
32.50°	74.39	91.83	127.74	105.88	85.51	96.02	122.10	93.18	71.43	90.02	126.36	103.32	84.09	96.90	122.08	93.15	74.39
35.00°	45.39	61.11	87.57	75.19	57.17	65.54	87.19	59.81	49.45	56.49	91.32	71.58	53.93	64.39	83.12	61.23	45.39
37.50°	33.04	40.86	64.21	53.21	40.16	46.31	60.65	42.01	32.99	40.74	64.79	52.66	39.59	46.24	59.38	41.64	33.04
40.00°	22.28	27.41	42.45	35.61	30.00	32.47	40.91	26.89	24.76	26.98	45.42	36.33	27.50	31.05	37.26	28.87	22.28
42.50°	17.86	21.48	33.88	27.02	23.84	24.87	30.47	22.64	19.03	22.56	33.57	29.85	23.20	24.83	29.82	22.37	17.86
45.00°	14.65	18.74	25.99	21.14	19.19	19.11	24.94	19.03	15.84	18.50	25.85	24.14	19.22	19.44	23.00	18.01	14.65
47.50°	14.23	17.29	21.81	18.26	17.26	17.72	20.76	17.86	14.58	17.36	21.64	20.90	16.99	17.30	19.87	16.14	14.23
50.00°	14.53	16.15	18.16	15.82	15.90	16.94	17.03	16.63	14.63	16.32	18.61	17.78	15.04	15.25	17.29	14.70	14.53
52.50°	15.89	14.52	16.03	14.86	14.22	14.65	15.48	15.06	14.88	15.68	16.81	15.48	14.43	13.78	16.39	15.32	15.89
55.00°	15.59	12.84	14.18	13.88	12.53	12.40	14.32	13.50	15.22	14.75	15.24	13.49	13.65	12.41	14.92	15.87	15.59
57.50°	13.62	11.43	12.81	12.09	11.47	11.07	12.56	11.97	13.99	13.16	13.05	12.53	12.39	11.43	12.37	12.85	13.62
60.00°	11.72	10.11	11.37	10.38	10.50	9.82	10.79	10.55	12.35	11.81	10.90	11.34	11.14	10.51	10.34	10.19	11.72
62.50°	9.87	9.56	9.85	9.13	10.12	8.97	9.32	9.34	11.18	10.85	10.17	9.71	9.88	9.72	8.95	9.67	9.87
65.00°	8.40	8.83	8.46	7.92	9.43	8.08	8.08	8.30	10.05	9.59	9.32	8.45	8.89	8.64	7.69	8.97	8.40
67.50°	7.10	7.44	7.16	6.85	7.69	7.06	8.16	7.46	8.18	8.02	7.82	7.68	8.22	7.18	6.52	7.76	7.10
70.00°	6.12	6.20	6.33	5.99	6.13	6.19	7.89	6.80	6.43	6.82	6.51	6.84	7.17	6.19	5.72	6.65	6.12
72.50°	5.23	5.32	5.74	5.48	4.95	5.54	6.58	6.27	5.84	5.86	5.77	5.96	5.85	5.62	5.12	5.72	5.23
75.00°	4.56	4.58	5.21	4.90	4.04	4.80	5.39	5.21	5.16	4.97	5.11	5.04	4.80	4.91	4.51	4.75	4.56
77.50°	3.92	4.07	4.71	4.23	3.49	3.97	4.39	3.89	4.08	4.12	4.62	4.10	3.87	4.10	3.88	3.75	3.92
80.00°	3.06	3.42	3.83	3.63	2.97	3.07	3.49	3.18	3.18	3.15	3.96	3.28	3.27	3.22	3.23	3.18	3.06
82.50°	2.28	2.62	2.88	3.08	2.46	2.13	2.71	2.68	2.66	2.16	3.07	2.51	2.76	2.31	2.57	2.95	2.28
85.00°	2.16	2.22	2.53	2.58	2.25	1.86	2.31	2.19	2.35	2.14	2.52	2.41	2.34	1.99	2.05	2.50	2.16
87.50°	2.05	2.08	2.22	2.09	2.22	1.92	2.22	1.71	2.35	2.22	2.24	2.44	1.94	1.80	1.58	1.92	2.05
90.00°	2.04	1.88	1.98	2.00	2.06	1.86	2.24	2.05	2.28	2.41	2.21	2.17	2.15	1.72	1.70	1.94	2.04
92.50°	2.02	1.66	1.80	2.03	1.84	1.78	2.32	2.39	2.12	2.56	2.34	1.89	2.35	1.64	1.81	2.16	2.02
95.00°	1.98	1.86	1.86	2.03	1.73	1.69	2.35	2.16	2.16	2.46	2.16	1.98	2.11	1.74	1.79	2.18	1.98
97.50°	1.94	2.16	1.90	2.03	1.64	1.61	2.36	1.96	2.33	2.38	1.88	2.10	1.91	1.85	1.76	2.15	1.94
100.00°	1.89	2.08	1.87	1.94	1.57	1.68	2.32	1.88	2.12	2.40	1.83	2.36	1.88	2.08	1.74	2.25	1.89

CK0407SQPC 10L 35K ND 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	586	586	586	586	571	571	571	571	543	543	543	517	517	517	493	493	482
	1	559	545	533	522	545	533	522	512	511	502	494	490	483	477	471	466	456
	2	533	509	490	474	521	500	483	468	482	468	456	465	454	444	450	441	431
	3	509	479	455	437	498	471	450	433	456	439	424	443	428	416	430	418	409
	4	486	452	426	407	477	445	422	404	433	413	398	422	405	392	412	398	390
	5	466	428	402	382	457	423	398	380	413	391	375	403	385	371	395	379	372
	6	447	407	380	361	439	402	377	359	394	372	356	386	367	352	379	362	355
	7	429	388	361	342	422	384	359	341	377	354	338	370	350	336	364	346	340
	8	413	370	344	326	406	367	342	325	361	339	323	355	335	321	350	332	327
	9	397	355	329	311	391	352	327	311	347	324	309	342	322	307	337	319	314
	10	383	341	315	298	378	338	314	298	333	311	296	329	309	295	325	307	302

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	43.2 fc	2.8 ft
6.5 ft	31.0 fc	3.3 ft
7.5 ft	23.2 fc	3.8 ft
8.0 ft	20.4 fc	4.1 ft
10.0 ft	13.1 fc	5.1 ft
12.0 ft	9.1 fc	6.1 ft
14.0 ft	6.7 fc	7.1 ft
16.0 ft	5.1 fc	8.1 ft
20.0 ft	3.3 fc	10.1 ft
24.0 ft	2.3 fc	12.2 ft
28.0 ft	1.7 fc	14.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	351895	351895	351895
45.00°	5576	9889	7302
55.00°	7313	6653	5880
65.00°	5350	5385	6004
75.00°	4743	5420	4201
85.00°	6658	7816	6954

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	12.6	13.6	13.0	13.9	14.3	12.3	13.3	12.7	13.6	14.0
	3H	14.0	14.9	14.5	15.3	15.7	14.0	14.8	14.4	15.2	15.7
	4H	14.6	15.4	15.1	15.8	16.3	14.6	15.4	15.0	15.8	16.3
	6H	15.1	15.9	15.6	16.3	16.8	15.1	15.8	15.5	16.3	16.7
	8H	15.3	16.0	15.8	16.5	16.9	15.3	16.0	15.8	16.5	16.9
	12H	15.6	16.2	16.0	16.7	17.2	15.6	16.2	16.1	16.7	17.2
4H	2H	12.9	13.8	13.4	14.2	14.6	12.8	13.6	13.3	14.0	14.5
	3H	14.6	15.3	15.1	15.8	16.2	14.7	15.4	15.2	15.8	16.3
	4H	15.4	16.0	15.9	16.4	17.0	15.5	16.1	16.0	16.6	17.1
	6H	16.1	16.6	16.6	17.1	17.6	16.1	16.6	16.6	17.1	17.7
	8H	16.3	16.8	16.8	17.3	17.8	16.4	16.9	16.9	17.4	17.9
	12H	16.7	17.1	17.2	17.6	18.1	16.7	17.2	17.3	17.7	18.2
8H	4H	15.6	16.1	16.2	16.6	17.2	15.8	16.3	16.3	16.8	17.3
	6H	16.5	16.9	17.1	17.5	18.0	16.6	17.0	17.2	17.6	18.1
	8H	16.9	17.3	17.5	17.8	18.4	17.0	17.3	17.6	17.9	18.5
	12H	17.5	17.7	18.0	18.3	18.9	17.5	17.8	18.1	18.3	19.0
12H	4H	15.7	16.1	16.2	16.6	17.2	15.8	16.2	16.4	16.8	17.3
	6H	16.6	17.0	17.2	17.5	18.1	16.7	17.1	17.3	17.6	18.2
	8H	17.1	17.4	17.7	18.0	18.6	17.2	17.5	17.7	18.0	18.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0