

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01452

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	503
Efficacy	75.09 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

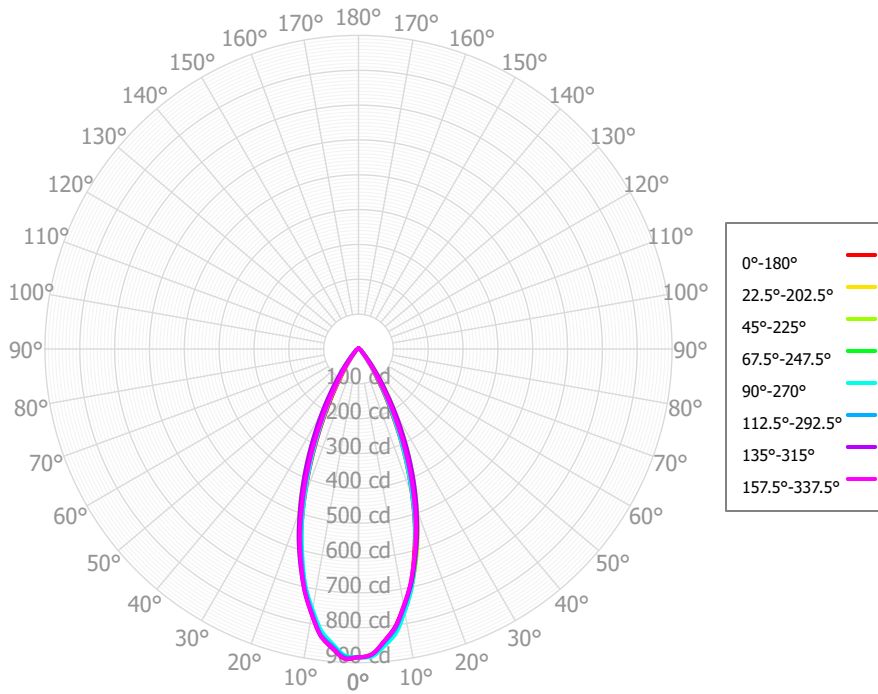
Full Beam Angle

0° - 180°	40°
90° - 270°	40°

IES File Header Contents

Keyword	Value
TEST	SP-01452
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/30/2022
ISSUEDATE	12/1/2022
LUMCAT	CK0407SQPC 10L 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°	79.65	15.83%	90.00° - 100.00°	1.63	0.32%
10.00° - 20.00°	172.17	34.22%	100.00° - 110.00°	1.57	0.31%
20.00° - 30.00°	140.98	28.02%	100.00° - 120.00°	3.08	0.61%
30.00° - 40.00°	58.49	11.63%	120.00° - 130.00°	1.36	0.27%
40.00° - 50.00°	19.14	3.81%	130.00° - 140.00°	1.18	0.23%
50.00° - 60.00°	9.89	1.97%	140.00° - 150.00°	0.97	0.19%
60.00° - 70.00°	6.93	1.38%	150.00° - 160.00°	0.76	0.15%
70.00° - 80.00°	4.26	0.85%	160.00° - 170.00°	0.46	0.09%
80.00° - 90.00°	1.99	0.40%	170.00° - 180.00°	0.16	0.03%
0.00° - 90.00°	493.50	98.09%	0.00° - 180.00°	503.10	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°	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99	884.99
2.50°	880.21	876.46	876.25	881.26	883.61	884.63	889.04	889.98	890.37	884.19	881.19	882.14	881.51	878.27	877.97	876.85	880.21
5.00°	843.79	846.77	849.12	853.11	855.64	856.43	862.42	860.94	862.43	859.07	857.92	853.88	849.72	846.44	842.38	842.48	843.79
7.50°	804.85	807.76	810.38	817.57	823.29	826.83	831.44	830.30	829.03	824.54	822.93	819.92	816.35	811.19	805.50	806.05	804.85
10.00°	748.93	753.52	759.15	763.46	765.13	767.56	773.83	772.17	770.53	770.32	771.49	763.09	758.92	754.76	750.17	748.49	748.93
12.50°	692.11	692.71	700.46	703.24	702.81	707.30	713.82	712.27	707.48	709.94	711.67	702.49	700.42	695.29	694.23	689.35	692.11
15.00°	615.44	623.07	635.06	630.56	623.30	629.96	643.33	637.20	628.62	635.58	643.13	629.66	621.50	622.23	627.21	619.96	615.44
17.50°	538.17	548.80	564.83	554.33	541.70	551.81	570.76	560.33	545.85	557.98	571.06	555.60	541.72	547.19	559.65	548.95	538.17
20.00°	452.22	469.41	491.03	472.31	453.47	466.68	491.43	473.57	452.67	472.03	494.07	472.73	453.47	465.66	487.37	470.76	452.22
22.50°	366.75	388.90	417.27	392.10	367.63	382.70	413.29	387.66	361.84	384.74	415.54	389.50	366.42	384.95	415.09	392.70	366.75
25.00°	285.14	307.34	343.53	314.34	287.72	305.29	338.11	305.18	276.02	302.79	340.96	311.99	286.60	306.33	342.77	315.06	285.14
27.50°	207.31	234.85	275.49	244.97	215.44	231.92	267.28	227.80	199.75	221.41	267.34	235.63	211.89	233.73	272.17	241.32	207.31
30.00°	149.57	169.20	210.24	184.92	158.43	174.85	205.29	165.88	139.96	163.18	207.22	180.31	158.63	173.50	208.57	177.73	149.57
32.50°	97.93	120.09	158.60	135.54	110.71	123.72	150.68	112.40	92.91	106.16	149.39	127.34	110.75	123.06	150.54	122.96	97.93
35.00°	69.61	81.12	112.26	95.91	77.96	90.61	108.17	78.84	63.70	77.27	111.16	95.17	80.21	88.84	109.56	86.37	69.61
37.50°	45.59	56.45	81.30	67.80	52.89	62.19	74.69	51.98	42.69	49.19	74.99	65.34	54.41	61.97	74.25	57.11	45.59
40.00°	34.36	39.02	55.02	48.47	37.89	45.12	53.27	38.03	31.25	36.70	55.19	49.18	40.42	45.00	52.80	40.13	34.36
42.50°	24.80	28.18	38.92	35.36	26.56	31.14	37.24	27.32	23.13	24.99	36.26	34.63	29.14	32.27	35.46	27.34	24.80
45.00°	19.11	19.98	25.15	26.11	19.24	23.11	27.24	21.66	18.18	20.44	27.89	26.72	23.23	24.31	26.10	20.33	19.11
47.50°	14.77	16.14	19.85	19.82	14.89	17.12	20.19	17.04	15.25	16.26	19.79	19.82	18.28	18.48	18.99	15.84	14.77
50.00°	12.92	13.64	15.88	15.01	13.21	14.35	15.85	13.75	13.92	14.21	16.72	16.07	14.89	14.60	15.41	14.19	12.92
52.50°	11.29	12.12	13.54	12.38	11.41	12.03	13.14	11.75	12.15	12.28	13.71	12.96	12.30	12.25	12.78	12.62	11.29
55.00°	9.97	10.83	11.35	10.63	9.51	10.28	11.67	11.11	10.10	10.82	11.34	11.46	10.79	11.06	11.39	11.14	9.97
57.50°	9.08	9.34	9.53	9.37	8.34	8.96	10.59	10.02	8.73	9.55	9.20	9.90	9.80	10.15	10.07	9.88	9.08
60.00°	8.71	7.83	7.73	8.25	7.62	8.08	9.74	8.54	7.70	8.88	8.48	8.21	9.38	9.41	8.83	8.79	8.71
62.50°	7.91	7.38	6.86	7.79	7.07	7.22	8.56	7.63	7.17	8.23	7.76	7.05	8.74	8.46	7.69	8.10	7.91
65.00°	6.66	7.05	6.04	7.48	6.60	6.39	7.20	7.12	6.84	7.65	7.08	6.72	7.89	7.41	6.64	7.67	6.66
67.50°	5.80	6.08	5.95	6.69	5.88	5.79	6.46	6.28	6.02	6.90	6.39	6.21	6.57	6.65	5.96	6.69	5.80
70.00°	5.26	5.07	5.81	5.82	5.07	5.37	5.97	5.26	5.04	5.81	5.66	5.48	4.89	6.00	5.53	5.42	5.26
72.50°	4.43	4.54	5.25	4.76	4.23	4.61	5.49	4.44	4.30	4.83	5.06	4.82	4.04	5.16	5.00	4.65	4.43
75.00°	3.39	3.98	4.64	3.68	3.39	3.63	5.01	3.72	3.62	4.05	4.80	4.24	3.71	4.25	4.39	4.09	3.39
77.50°	2.85	3.07	3.75	3.19	2.71	2.99	4.00	3.09	2.98	3.30	4.24	3.63	3.24	3.52	3.61	3.45	2.85
80.00°	2.59	2.22	2.90	2.74	2.06	2.49	2.87	2.50	2.35	2.59	3.09	2.98	2.69	2.83	2.75	2.79	2.59
82.50°	2.17	1.96	2.20	2.19	1.87	2.03	2.17	2.09	1.90	2.00	2.21	2.36	2.22	2.22	2.11	2.15	2.17
85.00°	1.68	1.72	1.64	1.65	1.75	1.57	1.54	1.74	1.46	1.54	1.78	1.76	1.77	1.62	1.56	1.52	1.68
87.50°	1.50	1.64	1.50	1.52	1.51	1.51	1.56	1.44	1.56	1.35	1.48	1.54	1.62	1.59	1.35	1.43	1.50
90.00°	1.43	1.59	1.45	1.40	1.25	1.57	1.65	1.15	1.69	1.40	1.37	1.56	1.56	1.62	1.24	1.43	1.43
92.50°	1.44	1.67	1.65	1.45	1.32	1.50	1.70	1.08	1.61	1.44	1.35	1.56	1.55	1.57	1.27	1.54	1.44
95.00°	1.47	1.70	1.71	1.49	1.41	1.41	1.74	1.05	1.52	1.47	1.45	1.56	1.55	1.51	1.34	1.66	1.47
97.50°	1.47	1.58	1.48	1.48	1.44	1.42	1.71	1.37	1.34	1.48	1.42	1.66	1.54	1.51	1.39	1.69	1.47
100.00°	1.46	1.53	1.38	1.46	1.47	1.44	1.67	1.73	1.18	1.46	1.29	1.80	1.53	1.51	1.43	1.71	1.46

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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	597	597	597	597	582	582	582	582	554	554	554	528	528	528	505	505	494
	1	569	555	542	531	555	543	532	521	521	512	504	500	493	487	482	476	466
	2	542	518	498	481	530	508	490	475	490	476	463	474	462	452	459	449	440
	3	516	485	461	442	505	477	455	437	463	444	429	449	434	421	437	424	416
	4	492	456	430	409	483	450	425	406	438	417	400	427	409	395	417	402	394
	5	470	430	403	382	462	425	399	380	415	393	376	406	387	372	397	381	374
	6	449	407	379	359	442	403	376	357	395	371	354	387	366	351	379	362	355
	7	430	386	358	338	423	383	356	337	376	352	335	369	348	332	363	344	338
	8	412	367	339	320	406	364	338	319	358	334	317	352	331	315	347	328	322
	9	395	350	323	304	389	347	321	303	342	318	302	337	316	300	332	313	308
	10	379	334	307	289	374	332	306	289	327	304	287	323	301	286	319	299	295

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	29.3 fc	4.0 ft
6.5 ft	20.9 fc	4.8 ft
7.5 ft	15.7 fc	5.5 ft
8.0 ft	13.8 fc	5.9 ft
10.0 ft	8.8 fc	7.4 ft
12.0 ft	6.1 fc	8.8 ft
14.0 ft	4.5 fc	10.3 ft
16.0 ft	3.5 fc	11.8 ft
20.0 ft	2.2 fc	14.7 ft
24.0 ft	1.5 fc	17.7 ft
28.0 ft	1.1 fc	20.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	238150	238150	238150
45.00°	7272	9572	7321
55.00°	4677	5326	4460
65.00°	4240	3844	4203
75.00°	3524	4822	3526
85.00°	5197	5071	5403

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	10.7	11.7	11.2	12.1	12.5	10.6	11.6	11.0	12.0	12.3
	3H	12.4	13.3	12.8	13.7	14.1	12.3	13.2	12.8	13.6	14.0
	4H	13.0	13.8	13.5	14.2	14.7	13.0	13.8	13.4	14.2	14.6
	6H	13.5	14.2	14.0	14.7	15.1	13.5	14.2	13.9	14.6	15.1
	8H	13.8	14.5	14.2	14.9	15.3	13.7	14.4	14.2	14.8	15.3
	12H	14.0	14.7	14.5	15.1	15.6	14.0	14.6	14.4	15.1	15.5
4H	2H	11.1	11.9	11.6	12.3	12.8	11.2	12.0	11.7	12.4	12.9
	3H	13.1	13.8	13.5	14.2	14.7	13.2	13.8	13.6	14.3	14.7
	4H	13.9	14.5	14.4	14.9	15.4	13.9	14.5	14.4	15.0	15.5
	6H	14.5	15.0	15.0	15.5	16.0	14.6	15.1	15.1	15.6	16.1
	8H	14.8	15.3	15.4	15.8	16.3	14.9	15.4	15.4	15.8	16.4
	12H	15.2	15.6	15.7	16.1	16.6	15.2	15.6	15.7	16.1	16.7
8H	4H	14.2	14.7	14.7	15.2	15.7	14.3	14.8	14.8	15.3	15.8
	6H	15.0	15.4	15.6	16.0	16.5	15.2	15.6	15.7	16.1	16.6
	8H	15.5	15.8	16.0	16.3	16.9	15.6	15.9	16.2	16.5	17.0
	12H	15.9	16.2	16.5	16.7	17.4	16.0	16.3	16.6	16.9	17.5
12H	4H	14.3	14.7	14.8	15.2	15.7	14.3	14.8	14.9	15.3	15.8
	6H	15.1	15.5	15.7	16.0	16.6	15.3	15.6	15.8	16.1	16.7
	8H	15.6	15.9	16.2	16.4	17.1	15.7	16.0	16.3	16.6	17.2

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0