

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

4" Nom. Sq. x 12" H LED Cylinder XT Series, Wide Beam
C0412SQXT-7L-xxK-WD-EX-SO-xx-MW

Test Number

SP-00628_14_M-7L

Test Date

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

Summary of Results

Power

Input Watts	5.6 W
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Lumen Output

Output Lumens	460
Efficacy	82.22 lm/W

Luminous Dimensions

0° - 180° Size	0.18
90° - 270° Size	0.18
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.73
Two luminaires, plane 90°	0.73
Four luminaires	0.78

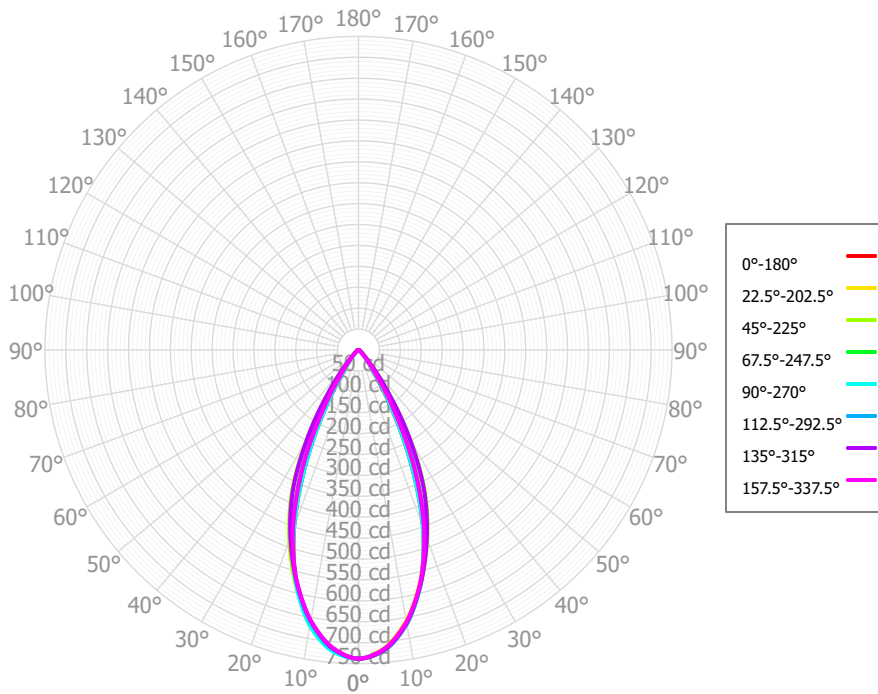
Full Beam Angle

0° - 180°	45°
90° - 270°	45°

IES File Header Contents

Keyword	Value
TEST	SP-00628_14_M-7L
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	11/13/2017
UPDATE	11/2/2021
LUMINAIRE	4" Nom. Sq. x 12" H LED Cylinder XT Series, Wide Beam
LUMCAT	C0412SQXT-7L-xxK-WD-EX-SO-xx-MW
OTHER	Matte White finish, Solite lens
OTHER	2.16" Square Aperture
OTHER	47.3 Degree Beam Angle
LAMP	N/A
LAMPCAT	N/A, Min. 83 CRI
OTHER	Total Luminaire Watts is approximate
OTHER	LEDXT lumen output is the same for all available CCT's
OTHER	This report prepared by Spectrum Lighting, scaled from 20L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	70.27	15.26%	90.00° - 100.00°	0.34	0.07%
10.00° - 20.00°	156.60	34.01%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	146.01	31.71%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	60.54	13.15%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	15.34	3.33%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	5.62	1.22%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	2.57	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.67	0.36%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.46	0.32%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	460.08	99.93%	0.00° - 180.00°	460.42	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°	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40	738.40
5.00°	720.70	715.23	719.18	718.09	720.80	717.30	716.34	714.56	719.14	716.72	719.34	719.05	722.94	718.31	719.75	716.95	720.70
10.00°	665.68	657.84	661.29	663.43	665.68	660.53	657.63	657.71	664.24	662.44	663.73	663.28	669.91	662.98	663.59	660.49	665.68
15.00°	574.94	571.17	575.43	577.87	577.06	574.22	572.24	571.61	575.80	577.40	580.29	576.08	578.26	574.99	576.70	573.75	574.94
20.00°	451.81	462.11	480.65	462.51	450.06	461.50	476.29	459.30	450.54	465.65	483.62	461.80	450.20	459.40	477.83	459.52	451.81
25.00°	293.37	331.04	376.96	322.36	292.80	324.69	372.16	321.55	294.63	330.05	378.10	324.19	292.77	324.05	371.87	320.97	293.37
30.00°	146.21	191.73	247.27	183.71	148.62	184.42	245.30	181.51	149.62	190.51	250.30	183.42	149.16	188.73	245.13	179.92	146.21
35.00°	58.95	86.83	121.15	82.62	61.89	83.38	127.82	81.25	62.45	86.90	129.60	81.68	61.71	86.80	123.24	79.40	58.95
40.00°	27.65	35.87	44.61	33.47	27.71	33.85	52.58	34.37	29.73	36.98	52.96	34.41	26.99	35.25	47.82	33.11	27.65
45.00°	15.23	17.42	18.44	16.19	15.65	16.81	21.29	17.32	16.81	19.09	21.59	17.16	15.37	16.53	19.42	16.53	15.23
50.00°	9.30	9.34	10.08	9.10	8.98	9.37	11.08	10.15	10.15	11.17	11.11	9.93	9.34	8.97	10.05	9.36	9.30
55.00°	5.30	5.73	5.94	5.63	5.78	5.67	6.54	6.40	6.44	6.67	7.20	6.41	5.29	5.14	5.59	5.32	5.30
60.00°	3.35	3.45	3.42	3.80	3.14	4.41	4.13	4.00	4.04	4.44	4.35	3.81	3.41	3.33	3.71	3.11	3.35
65.00°	2.12	1.75	2.17	2.20	1.95	3.17	2.94	2.73	2.84	3.04	2.93	3.01	2.42	2.06	1.93	1.81	2.12
70.00°	1.32	1.50	1.40	1.35	1.36	2.80	2.30	2.12	2.30	2.43	2.33	2.12	1.78	1.39	1.68	1.12	1.32
75.00°	0.95	1.06	0.99	1.12	1.05	2.27	2.12	1.78	2.17	2.56	2.06	2.06	1.87	1.04	1.26	0.92	0.95
80.00°	0.64	0.68	0.68	0.65	0.77	2.24	2.03	1.91	2.05	1.52	2.09	1.95	1.86	0.61	0.86	0.79	0.64
85.00°	0.62	0.50	0.56	0.46	0.69	2.55	2.28	2.14	2.09	2.16	2.34	1.98	2.06	0.68	0.67	0.52	0.62
90.00°	0.00	0.00	0.00	0.00	0.00	2.78	2.39	2.56	2.40	2.39	2.35	2.39	2.57	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	548	548	548	548	535	535	535	535	511	511	511	490	490	490	470	470	460
	1	524	511	500	490	512	501	492	483	483	475	468	466	459	454	450	445	441
	2	500	479	461	446	490	471	455	441	456	443	432	442	432	422	430	421	414
	3	477	450	428	411	468	443	424	408	431	415	401	420	407	395	410	399	389
	4	456	423	400	382	448	418	396	380	409	390	375	400	384	371	391	378	366
	5	435	400	375	357	428	396	373	355	388	367	352	380	363	349	373	358	346
	6	416	379	353	335	410	375	351	334	368	347	332	362	344	329	356	340	327
	7	398	359	334	316	393	356	332	315	350	329	313	345	326	312	340	323	310
	8	382	341	316	299	376	339	315	298	334	312	297	329	310	296	325	308	294
	9	366	325	300	283	361	323	299	283	319	297	282	315	295	281	311	293	280
	10	351	310	286	269	347	308	285	269	305	283	268	301	281	267	298	280	267

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	24.4 fc	4.6 ft
6.5 ft	17.5 fc	5.4 ft
7.5 ft	13.1 fc	6.2 ft
8.0 ft	11.5 fc	6.7 ft
10.0 ft	7.4 fc	8.3 ft
12.0 ft	5.1 fc	10.0 ft
14.0 ft	3.8 fc	11.6 ft
16.0 ft	2.9 fc	13.3 ft
20.0 ft	1.8 fc	16.6 ft
24.0 ft	1.3 fc	20.0 ft
28.0 ft	0.9 fc	23.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	245311	245311	245311
45.00°	7155	8665	7352
55.00°	3069	3440	3350
65.00°	1670	1704	1529
75.00°	1219	1269	1353
85.00°	2347	2125	2630

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	6.5	7.5	6.9	7.8	8.1	7.4	8.3	7.7	8.6	8.9
	3H	7.0	7.9	7.4	8.2	8.6	8.3	9.1	8.7	9.5	9.8
	4H	7.2	8.0	7.7	8.4	8.8	8.8	9.6	9.3	10.0	10.4
	6H	7.5	8.2	7.9	8.6	9.0	9.6	10.3	10.0	10.7	11.1
	8H	7.6	8.3	8.0	8.7	9.1	10.2	10.8	10.6	11.2	11.6
	12H	7.8	8.5	8.3	8.8	9.3	10.9	11.6	11.4	11.9	12.4
4H	2H	6.6	7.3	7.0	7.7	8.1	7.6	8.4	8.0	8.8	9.1
	3H	7.3	7.9	7.7	8.3	8.7	8.9	9.6	9.4	10.0	10.4
	4H	7.6	8.2	8.1	8.6	9.1	9.8	10.4	10.3	10.8	11.3
	6H	8.0	8.5	8.5	8.9	9.4	11.0	11.4	11.4	11.9	12.4
	8H	8.2	8.7	8.7	9.1	9.6	11.7	12.1	12.1	12.6	13.1
	12H	8.5	8.9	9.0	9.4	9.9	12.6	13.0	13.1	13.5	14.0
8H	4H	7.7	8.2	8.2	8.6	9.1	10.3	10.7	10.8	11.2	11.7
	6H	8.3	8.6	8.8	9.1	9.6	11.9	12.2	12.4	12.7	13.2
	8H	8.6	8.9	9.2	9.5	10.0	12.9	13.2	13.5	13.8	14.3
	12H	9.1	9.4	9.6	9.9	10.5	14.2	14.5	14.8	15.0	15.6
12H	4H	7.7	8.1	8.2	8.6	9.1	10.4	10.8	10.9	11.3	11.8
	6H	8.3	8.7	8.9	9.1	9.7	12.2	12.5	12.7	13.0	13.5
	8H	8.8	9.0	9.3	9.5	10.1	13.4	13.7	13.9	14.2	14.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0