

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, Medium Beam
C0412SQXT-7L-xxK-MD-EX-SO-xx-MW

Test Number

SP-00628_8_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	438
Efficacy	78.15 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.6
Two luminaires, plane 90°	0.6
Four luminaires	0.69

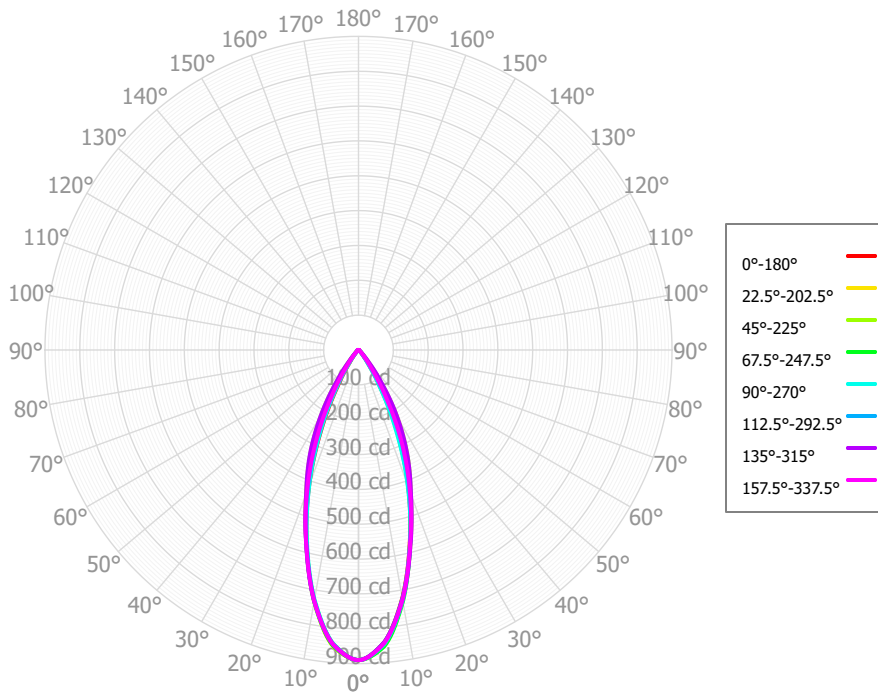
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-00628_8_M-7L
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	11/13/2017
UPDATE	11/1/2021
LUMINAIRE	4" Nom. Sq. x 12" H LED Cylinder XT Series, Medium Beam
LUMCAT	C0412SQXT-7L-xxK-MD-EX-SO-xx-MW
OTHER	Matte White finish, Solite lens
OTHER	2.16" Square Aperture
OTHER	38.7 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°	80.53	18.40%	90.00° - 100.00°	0.35	0.08%
10.00° - 20.00°	156.39	35.74%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	130.49	29.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	50.49	11.54%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	11.03	2.52%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	3.71	0.85%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	1.88	0.43%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	1.40	0.32%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.37	0.31%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	437.29	99.92%	0.00° - 180.00°	437.64	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°	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07	890.07
5.00°	842.74	851.23	845.84	853.33	847.72	847.37	847.53	847.49	846.98	852.38	845.57	850.89	845.27	843.12	843.17	844.95	842.74
10.00°	723.52	729.60	729.75	733.25	730.00	731.90	731.62	732.04	730.45	733.37	730.18	732.72	727.57	725.37	727.92	727.29	723.52
15.00°	569.44	572.05	575.76	572.97	572.84	578.86	578.20	579.63	575.22	578.24	577.25	576.06	571.63	571.79	576.95	573.03	569.44
20.00°	416.98	429.33	438.52	427.06	412.51	427.19	439.14	431.07	414.56	427.66	438.77	427.60	413.16	427.66	440.04	431.37	416.98
25.00°	265.90	298.86	331.41	286.93	256.03	285.34	329.15	287.76	253.44	285.23	326.39	289.85	259.46	293.11	331.08	294.48	265.90
30.00°	131.41	170.78	221.22	156.95	122.74	157.40	213.86	156.71	118.13	155.34	211.69	161.33	128.46	164.36	222.19	160.64	131.41
35.00°	51.47	72.20	110.15	65.36	43.97	67.80	106.47	66.07	44.26	64.13	104.99	69.08	49.70	67.61	115.96	64.40	51.47
40.00°	21.48	26.62	38.35	23.97	19.13	25.84	40.36	25.83	19.61	24.34	38.53	25.97	19.85	24.40	45.76	24.80	21.48
45.00°	11.35	12.03	13.06	11.12	10.21	11.52	15.43	12.40	11.24	11.75	14.16	11.79	9.77	11.41	17.02	12.10	11.35
50.00°	6.13	6.02	6.25	6.53	6.38	6.44	7.45	6.55	6.69	6.50	6.79	6.49	5.72	5.92	8.33	6.67	6.13
55.00°	3.59	3.64	3.89	3.96	3.19	4.10	4.10	4.34	4.29	4.16	3.85	4.14	3.40	3.29	4.05	3.93	3.59
60.00°	2.30	2.52	2.56	2.44	2.13	2.60	2.76	3.14	2.89	2.70	2.51	2.53	2.42	2.08	2.07	2.65	2.30
65.00°	1.64	1.77	1.65	1.61	1.32	2.43	2.06	2.31	1.94	1.89	2.42	1.92	2.09	1.49	1.41	1.70	1.64
70.00°	1.03	1.08	1.14	1.03	1.08	1.47	1.72	1.85	2.01	1.91	1.77	1.59	1.83	1.06	0.79	1.13	1.03
75.00°	0.87	1.08	1.05	0.89	1.09	1.63	1.83	1.83	1.57	1.69	1.85	1.95	1.74	0.95	0.72	0.78	0.87
80.00°	0.67	0.43	0.62	0.62	0.57	1.67	1.47	2.03	1.82	1.99	2.14	1.79	1.86	0.79	0.57	0.58	0.67
85.00°	0.76	0.55	0.54	0.55	0.61	1.80	1.96	1.98	2.05	1.97	1.90	1.78	2.18	0.53	0.53	0.52	0.76
90.00°	0.00	0.00	0.00	0.00	0.00	2.61	2.58	2.53	2.55	2.67	2.44	2.55	2.35	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	521	521	521	521	509	509	509	509	486	486	486	465	465	465	446	446	437
	1	499	487	477	468	488	478	469	461	460	453	447	444	438	433	429	425	416
	2	477	458	442	428	468	450	436	424	436	424	414	423	414	405	411	404	397
	3	457	432	412	397	448	426	408	393	414	399	387	404	391	381	394	384	375
	4	437	408	387	370	430	403	383	368	394	377	364	386	371	359	378	365	359
	5	419	387	364	348	412	383	362	346	375	357	343	368	352	340	362	348	342
	6	402	368	344	328	396	364	343	327	358	339	325	352	335	323	347	332	326
	7	386	350	327	311	380	347	325	310	342	322	308	337	320	307	332	317	312
	8	370	334	311	295	366	332	310	294	327	307	293	323	305	292	319	303	298
	9	356	319	296	281	352	317	295	281	313	294	280	310	292	279	306	290	286
	10	343	305	283	268	339	304	282	268	300	281	267	297	279	267	294	278	274

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	29.4 fc	3.8 ft
6.5 ft	21.1 fc	4.5 ft
7.5 ft	15.8 fc	5.2 ft
8.0 ft	13.9 fc	5.5 ft
10.0 ft	8.9 fc	6.9 ft
12.0 ft	6.2 fc	8.3 ft
14.0 ft	4.5 fc	9.7 ft
16.0 ft	3.5 fc	11.0 ft
20.0 ft	2.2 fc	13.8 ft
24.0 ft	1.5 fc	16.6 ft
28.0 ft	1.1 fc	19.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	295697	295697	295697
45.00°	5331	6135	4795
55.00°	2078	2251	1850
65.00°	1289	1300	1037
75.00°	1111	1348	1394
85.00°	2911	2077	2308

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	4.4	5.3	4.8	5.7	6.0	4.6	5.5	5.0	5.9	6.2
	3H	5.1	6.0	5.5	6.3	6.7	5.8	6.6	6.2	7.0	7.3
	4H	5.5	6.3	5.9	6.6	7.0	6.8	7.5	7.2	7.9	8.3
	6H	5.9	6.6	6.3	7.0	7.4	8.0	8.7	8.4	9.1	9.5
	8H	6.2	6.8	6.6	7.2	7.7	8.8	9.5	9.2	9.9	10.3
	12H	6.7	7.3	7.2	7.7	8.2	9.9	10.6	10.4	11.0	11.4
4H	2H	4.5	5.2	4.9	5.6	6.0	5.0	5.8	5.4	6.1	6.5
	3H	5.4	6.0	5.8	6.4	6.9	6.6	7.2	7.0	7.6	8.0
	4H	6.0	6.5	6.4	7.0	7.4	7.9	8.5	8.3	8.9	9.3
	6H	6.5	7.0	7.0	7.4	7.9	9.4	9.9	9.9	10.4	10.9
	8H	6.9	7.3	7.4	7.8	8.3	10.4	10.9	10.9	11.3	11.8
	12H	7.6	8.0	8.1	8.5	8.9	11.7	12.1	12.2	12.5	13.0
8H	4H	6.1	6.6	6.6	7.0	7.5	8.6	9.0	9.0	9.5	9.9
	6H	6.8	7.1	7.3	7.6	8.1	10.5	10.9	11.0	11.4	11.9
	8H	7.3	7.6	7.8	8.1	8.6	11.7	12.0	12.3	12.6	13.1
	12H	8.2	8.5	8.7	9.0	9.5	13.3	13.5	13.8	14.0	14.6
12H	4H	6.1	6.5	6.6	7.0	7.5	8.8	9.2	9.3	9.7	10.1
	6H	6.8	7.1	7.4	7.6	8.2	10.9	11.2	11.4	11.7	12.2
	8H	7.4	7.7	8.0	8.2	8.8	12.3	12.5	12.8	13.0	13.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0