

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-10L-xxK-WD-EX-SO-xx-MW

Test Number

SP-00628_14_M-10L

Test Date

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

Summary of Results

Power

Input Watts	8.3 W
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Lumen Output

Output Lumens	614
Efficacy	73.96 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

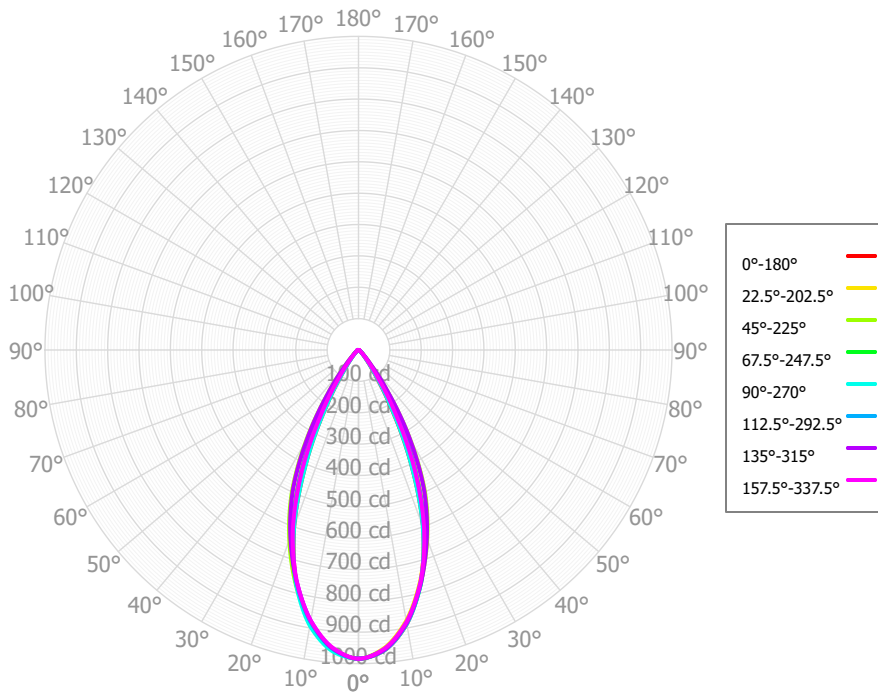
Full Beam Angle

0° - 180°	45°
90° - 270°	45°

IES File Header Contents

Keyword	Value
TEST	SP-00628_14_M-10L
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, Wide Beam
LUMCAT	C0412SQXT-10L-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°	93.69	15.26%	90.00° - 100.00°	0.45	0.07%
10.00° - 20.00°	208.80	34.01%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	194.68	31.71%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	80.72	13.15%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	20.45	3.33%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	7.50	1.22%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	3.43	0.56%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.22	0.36%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.95	0.32%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	613.44	99.93%	0.00° - 180.00°	613.89	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°	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53	984.53
5.00°	960.94	953.64	958.90	957.45	961.06	956.41	955.12	952.74	958.85	955.63	959.12	958.73	963.92	957.75	959.67	955.93	960.94
10.00°	887.57	877.12	881.72	884.58	887.57	880.71	876.84	876.95	885.65	883.25	884.97	884.37	893.21	883.98	884.79	880.65	887.57
15.00°	766.59	761.56	767.24	770.49	769.41	765.62	762.98	762.14	767.73	769.87	773.71	768.10	771.01	766.65	768.93	765.00	766.59
20.00°	602.42	616.15	640.86	616.68	600.08	615.34	635.05	612.40	600.72	620.87	644.83	615.74	600.27	612.54	637.11	612.70	602.42
25.00°	391.16	441.39	502.61	429.81	390.40	432.92	496.21	428.73	392.84	440.07	504.13	432.26	390.37	432.07	495.82	427.96	391.16
30.00°	194.94	255.64	329.69	244.95	198.16	245.89	327.06	242.02	199.50	254.02	333.73	244.57	198.88	251.64	326.84	239.89	194.94
35.00°	78.60	115.77	161.54	110.16	82.52	111.17	170.43	108.33	83.27	115.87	172.80	108.90	82.28	115.73	164.32	105.87	78.60
40.00°	36.86	47.82	59.48	44.63	36.95	45.14	70.11	45.82	39.63	49.31	70.61	45.89	35.99	47.00	63.76	44.14	36.86
45.00°	20.30	23.22	24.59	21.59	20.86	22.41	28.39	23.10	22.41	25.46	28.79	22.88	20.49	22.04	25.89	22.04	20.30
50.00°	12.40	12.46	13.44	12.13	11.98	12.49	14.77	13.54	13.53	14.89	14.82	13.25	12.46	11.96	13.39	12.48	12.40
55.00°	7.07	7.64	7.92	7.51	7.71	7.56	8.72	8.54	8.59	8.89	9.60	8.54	7.05	6.85	7.45	7.09	7.07
60.00°	4.47	4.60	4.55	5.07	4.19	5.88	5.51	5.34	5.39	5.92	5.79	5.08	4.55	4.44	4.95	4.15	4.47
65.00°	2.83	2.33	2.89	2.93	2.59	4.23	3.92	3.64	3.79	4.06	3.91	4.02	3.22	2.74	2.57	2.41	2.83
70.00°	1.76	2.01	1.86	1.80	1.82	3.73	3.07	2.83	3.07	3.24	3.11	2.82	2.38	1.86	2.24	1.49	1.76
75.00°	1.27	1.41	1.32	1.50	1.41	3.03	2.83	2.37	2.90	3.41	2.75	2.74	2.50	1.39	1.67	1.23	1.27
80.00°	0.85	0.90	0.91	0.87	1.02	2.99	2.71	2.55	2.73	2.02	2.78	2.60	2.48	0.81	1.15	1.06	0.85
85.00°	0.82	0.67	0.74	0.62	0.92	3.39	3.05	2.85	2.79	2.88	3.12	2.64	2.74	0.90	0.89	0.70	0.82
90.00°	0.00	0.00	0.00	0.00	0.00	3.71	3.18	3.42	3.21	3.18	3.13	3.19	3.43	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	731	731	731	731	714	714	714	714	682	682	682	653	653	653	626	626	613
	1	698	682	667	654	683	669	655	644	644	633	624	621	613	605	600	593	582
	2	667	638	615	595	653	628	607	589	608	591	576	590	576	563	573	562	551
	3	636	599	571	548	624	591	565	544	575	553	535	560	542	527	547	532	521
	4	608	565	533	509	597	558	529	506	545	520	500	533	511	494	521	503	494
	5	581	533	500	476	571	528	497	474	517	490	469	507	484	465	497	477	469
	6	555	505	471	447	547	500	468	445	491	463	442	483	458	439	475	453	445
	7	531	479	445	421	523	475	443	420	467	439	418	460	435	416	454	431	424
	8	509	455	421	398	502	452	420	397	445	416	396	439	413	394	434	410	393
	9	488	433	400	378	481	431	399	377	425	396	376	420	393	375	415	391	373
	10	468	413	381	359	462	411	380	359	406	377	358	402	375	357	397	373	368

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	32.5 fc	4.6 ft
6.5 ft	23.3 fc	5.4 ft
7.5 ft	17.5 fc	6.2 ft
8.0 ft	15.4 fc	6.7 ft
10.0 ft	9.8 fc	8.3 ft
12.0 ft	6.8 fc	10.0 ft
14.0 ft	5.0 fc	11.6 ft
16.0 ft	3.8 fc	13.3 ft
20.0 ft	2.5 fc	16.6 ft
24.0 ft	1.7 fc	20.0 ft
28.0 ft	1.3 fc	23.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	327081	327081	327081
45.00°	9539	11554	9802
55.00°	4092	4586	4466
65.00°	2227	2272	2039
75.00°	1626	1692	1804
85.00°	3130	2834	3507

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	7.5	8.5	7.9	8.8	9.1	8.4	9.3	8.7	9.6	9.9
	3H	8.0	8.9	8.4	9.2	9.6	9.3	10.1	9.7	10.5	10.8
	4H	8.2	9.0	8.7	9.4	9.8	9.8	10.6	10.3	11.0	11.4
	6H	8.5	9.2	8.9	9.6	10.0	10.6	11.3	11.0	11.7	12.1
	8H	8.6	9.3	9.0	9.7	10.1	11.2	11.8	11.6	12.2	12.6
	12H	8.8	9.5	9.3	9.8	10.3	11.9	12.6	12.4	12.9	13.4
4H	2H	7.6	8.3	8.0	8.7	9.1	8.6	9.4	9.0	9.8	10.1
	3H	8.3	8.9	8.7	9.3	9.7	9.9	10.6	10.4	11.0	11.4
	4H	8.6	9.2	9.1	9.6	10.1	10.8	11.4	11.3	11.8	12.3
	6H	9.0	9.5	9.5	9.9	10.4	12.0	12.4	12.4	12.9	13.4
	8H	9.2	9.7	9.7	10.1	10.6	12.7	13.1	13.1	13.6	14.1
	12H	9.5	9.9	10.0	10.4	10.9	13.6	14.0	14.1	14.5	15.0
8H	4H	8.7	9.2	9.2	9.6	10.1	11.3	11.7	11.8	12.2	12.7
	6H	9.3	9.6	9.8	10.1	10.6	12.9	13.2	13.4	13.7	14.2
	8H	9.6	9.9	10.2	10.5	11.0	13.9	14.2	14.5	14.8	15.3
	12H	10.1	10.4	10.6	10.9	11.5	15.2	15.5	15.8	16.0	16.6
12H	4H	8.7	9.1	9.2	9.6	10.1	11.4	11.8	11.9	12.3	12.8
	6H	9.3	9.7	9.9	10.1	10.7	13.2	13.5	13.7	14.0	14.5
	8H	9.8	10.0	10.3	10.5	11.1	14.4	14.7	14.9	15.2	15.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0