

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, Xtra Wide Beam
C0412SQXT-7L-xxK-XW-EX-SO-xx-MW

Test Number

SP-00628_2_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	485
Efficacy	86.69 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.87
Two luminaires, plane 90°	0.91
Four luminaires	0.9

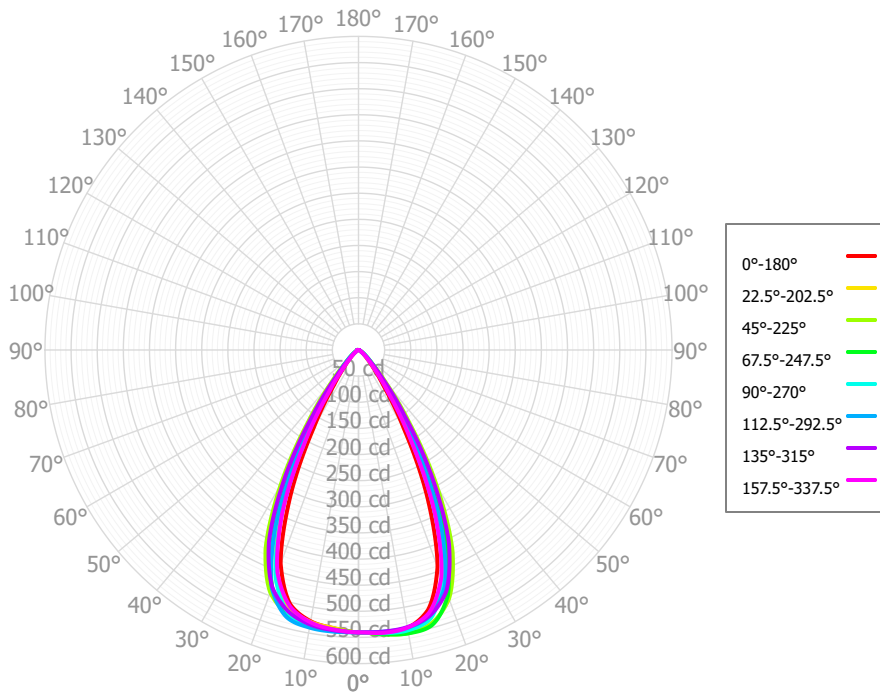
Full Beam Angle

0° - 180°	53°
90° - 270°	55°

IES File Header Contents

Keyword	Value
TEST	SP-00628_2_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, Xtra Wide Beam
LUMCAT	C0412SQXT-7L-xxK-XW-EX-SO-xx-MW
OTHER	Matte White finish, Solite lens
OTHER	2.16" Square Aperture
OTHER	57.1 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°	54.68	11.26%	90.00° - 100.00°	0.39	0.08%
10.00° - 20.00°	144.32	29.73%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	162.10	33.39%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	80.78	16.64%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	26.30	5.42%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	9.53	1.96%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	3.68	0.76%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	2.04	0.42%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	1.62	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	485.05	99.92%	0.00° - 180.00°	485.44	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°	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47	540.47
5.00°	544.14	545.37	546.16	546.22	544.13	541.13	538.54	537.07	534.87	534.39	537.00	537.24	539.32	541.18	541.12	543.49	544.14
10.00°	540.23	545.88	550.21	550.63	544.78	539.46	533.39	529.13	527.09	528.44	532.90	535.63	536.54	539.87	538.46	539.55	540.23
15.00°	514.74	529.22	541.20	544.80	532.21	529.67	518.16	507.67	504.04	510.07	523.09	524.73	520.81	527.03	526.26	520.98	514.74
20.00°	442.18	474.04	506.47	499.90	470.72	485.00	482.80	453.35	435.60	459.06	493.76	483.34	463.87	482.55	491.25	463.36	442.18
25.00°	312.87	359.98	426.03	388.06	346.98	378.44	405.57	346.01	308.96	357.16	420.86	382.56	348.02	376.15	409.65	346.58	312.87
30.00°	173.96	218.81	298.67	241.61	207.53	236.85	281.47	209.10	170.68	225.28	297.47	243.65	211.95	236.52	281.97	203.90	173.96
35.00°	83.72	109.50	168.37	124.42	111.30	119.57	151.84	99.31	81.84	116.92	168.06	126.59	112.04	119.66	154.31	98.25	83.72
40.00°	42.98	52.44	81.00	64.77	61.84	60.25	66.78	44.24	42.57	56.75	80.23	63.12	60.34	58.39	71.59	47.76	42.98
45.00°	23.68	27.56	38.47	36.47	35.16	32.70	29.47	23.33	23.85	30.22	38.11	34.55	34.74	31.78	33.62	25.90	23.68
50.00°	14.18	15.69	19.58	20.49	20.00	18.81	15.52	13.54	14.13	17.20	19.72	19.62	20.41	18.85	18.00	15.02	14.18
55.00°	8.44	9.09	10.61	10.61	11.43	11.01	8.25	8.24	7.75	10.27	11.42	11.66	11.91	10.42	9.66	8.92	8.44
60.00°	4.97	5.44	6.05	5.78	6.06	6.53	5.07	5.03	4.87	6.15	6.33	6.94	7.17	5.48	5.08	4.88	4.97
65.00°	2.39	2.83	3.57	3.79	3.45	4.34	3.54	3.01	3.44	3.82	3.72	4.13	4.51	2.64	2.71	2.49	2.39
70.00°	1.46	1.80	1.97	2.26	2.24	2.95	2.88	2.55	3.06	3.07	3.46	3.01	3.55	1.61	1.71	1.53	1.46
75.00°	1.21	1.26	1.05	1.36	1.16	2.66	2.50	2.33	2.23	2.77	2.53	2.69	2.49	1.17	1.08	1.07	1.21
80.00°	0.82	0.90	0.98	0.86	0.72	2.36	2.05	2.05	2.40	2.63	2.67	2.17	2.39	0.84	0.83	0.84	0.82
85.00°	0.53	0.42	0.60	0.62	0.50	2.53	2.21	2.12	2.18	2.52	2.56	2.45	2.40	0.69	0.68	0.59	0.53
90.00°	0.00	0.00	0.00	0.00	0.00	2.59	2.65	2.81	2.93	2.85	2.42	3.07	3.33	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	578	578	578	578	564	564	564	564	539	539	539	516	516	516	495	495	485
	1	550	537	524	513	538	526	515	505	506	497	489	488	481	475	471	466	457
	2	523	499	480	463	512	491	473	458	475	460	448	461	449	438	447	437	429
	3	497	466	442	422	487	459	437	419	446	428	412	434	419	406	423	410	403
	4	472	436	409	389	464	430	405	386	420	398	382	410	392	377	401	386	378
	5	449	409	381	360	441	404	378	358	395	373	355	387	367	352	380	363	356
	6	427	384	356	335	420	380	353	334	373	349	331	366	345	329	360	341	335
	7	407	362	333	313	400	359	332	312	353	328	310	347	325	309	341	322	317
	8	388	342	313	294	382	339	312	293	334	309	292	329	307	290	324	304	299
	9	370	324	295	276	364	321	294	276	317	292	275	312	290	274	308	288	283
	10	353	307	279	261	348	305	278	260	301	276	259	297	275	259	293	273	269

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.9 fc	5.6 ft
6.5 ft	12.8 fc	6.6 ft
7.5 ft	9.6 fc	7.6 ft
8.0 ft	8.4 fc	8.1 ft
10.0 ft	5.4 fc	10.2 ft
12.0 ft	3.8 fc	12.2 ft
14.0 ft	2.8 fc	14.2 ft
16.0 ft	2.1 fc	16.3 ft
20.0 ft	1.4 fc	20.3 ft
24.0 ft	0.9 fc	24.4 ft
28.0 ft	0.7 fc	28.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	179555	179555	179555
45.00°	11128	18075	16518
55.00°	4891	6143	6622
65.00°	1882	2803	2713
75.00°	1548	1352	1489
85.00°	2034	2276	1899

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	9.5	10.5	9.9	10.8	11.1	11.3	12.3	11.6	12.6	12.9
	3H	9.8	10.6	10.1	11.0	11.3	11.9	12.8	12.3	13.1	13.5
	4H	9.9	10.7	10.3	11.0	11.4	12.2	13.0	12.6	13.4	13.7
	6H	10.0	10.7	10.4	11.1	11.5	12.6	13.3	13.0	13.7	14.1
	8H	10.1	10.8	10.5	11.1	11.6	12.8	13.5	13.3	13.9	14.4
	12H	10.1	10.8	10.5	11.2	11.6	13.3	13.9	13.7	14.3	14.8
4H	2H	9.6	10.4	10.0	10.7	11.1	11.3	12.1	11.7	12.4	12.8
	3H	9.9	10.6	10.3	11.0	11.4	12.1	12.8	12.5	13.2	13.6
	4H	10.1	10.7	10.6	11.1	11.6	12.6	13.2	13.1	13.7	14.1
	6H	10.4	10.9	10.8	11.3	11.8	13.3	13.8	13.8	14.3	14.7
	8H	10.5	10.9	10.9	11.4	11.9	13.7	14.2	14.2	14.7	15.1
	12H	10.6	11.0	11.1	11.5	12.0	14.4	14.8	14.9	15.3	15.7
8H	4H	10.1	10.6	10.6	11.0	11.5	12.9	13.3	13.3	13.8	14.3
	6H	10.5	10.8	11.0	11.3	11.8	13.8	14.2	14.3	14.7	15.2
	8H	10.6	11.0	11.2	11.5	12.0	14.6	14.9	15.1	15.4	15.9
	12H	10.9	11.2	11.4	11.7	12.2	15.5	15.8	16.1	16.3	16.9
12H	4H	10.1	10.5	10.6	11.0	11.5	12.9	13.3	13.4	13.8	14.3
	6H	10.5	10.8	11.0	11.3	11.8	14.0	14.4	14.6	14.8	15.4
	8H	10.7	11.0	11.2	11.5	12.1	14.9	15.2	15.4	15.7	16.3

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0