

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-20L-xxK-MD-EX-SO-xx-MW

Test Number

SP-00628_8_M-20L

Test Date

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

Summary of Results

Power

Input Watts	19 W
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Lumen Output

Output Lumens	1216
Efficacy	63.98 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

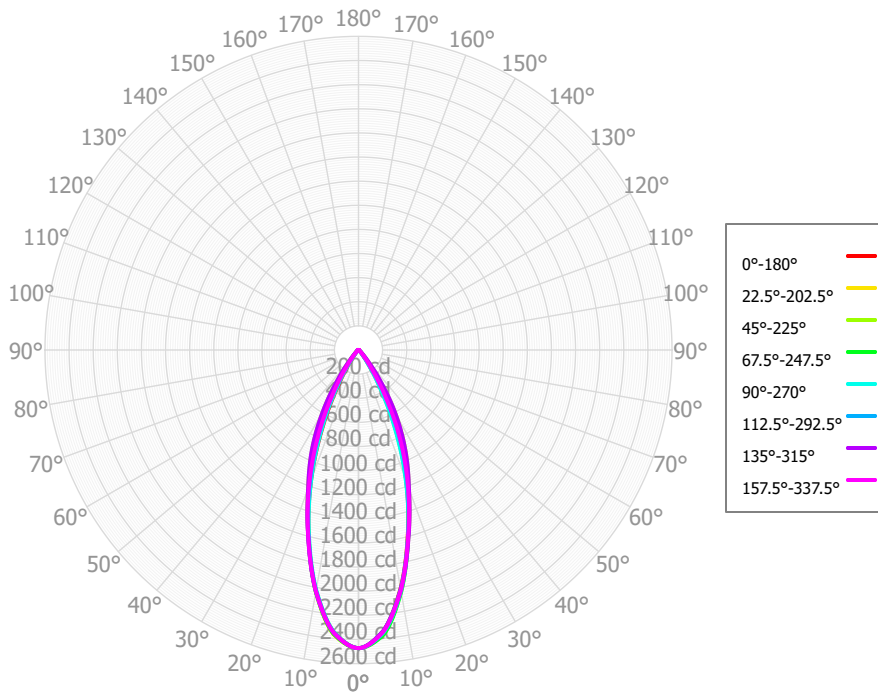
Full Beam Angle

0° - 180°	38°
90° - 270°	38°

IES File Header Contents

Keyword	Value
TEST	SP-00628_8_M-20L
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-20L-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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	223.69	18.40%	90.00° - 100.00°	0.96	0.08%
10.00° - 20.00°	434.43	35.74%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	362.47	29.82%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	140.24	11.54%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	30.64	2.52%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	10.31	0.85%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	5.22	0.43%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	3.90	0.32%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	3.80	0.31%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1214.70	99.92%	0.00° - 180.00°	1215.67	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°	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40	2472.40
5.00°	2340.94	2364.53	2349.55	2370.35	2354.78	2353.81	2354.24	2354.14	2352.72	2367.73	2348.79	2363.60	2347.96	2342.01	2342.15	2347.08	2340.94
10.00°	2009.77	2026.66	2027.07	2036.82	2027.78	2033.07	2032.28	2033.43	2029.04	2037.15	2028.28	2035.33	2021.04	2014.91	2022.00	2020.26	2009.77
15.00°	1581.78	1589.02	1599.32	1591.58	1591.22	1607.95	1606.12	1610.08	1597.82	1606.23	1603.48	1600.16	1587.85	1588.31	1602.65	1591.74	1581.78
20.00°	1158.28	1192.57	1218.10	1186.27	1145.85	1186.63	1219.84	1197.42	1151.57	1187.95	1218.80	1187.79	1147.68	1187.95	1222.33	1198.24	1158.28
25.00°	738.62	830.17	920.58	797.02	711.20	792.60	914.31	799.33	704.01	792.32	906.65	805.13	720.72	814.18	919.67	817.99	738.62
30.00°	365.04	474.38	614.51	435.96	340.94	437.21	594.05	435.30	328.15	431.51	588.04	448.13	356.83	456.56	617.19	446.22	365.04
35.00°	142.98	200.56	305.98	181.56	122.14	188.33	295.75	183.52	122.94	178.13	291.65	191.90	138.05	187.80	322.12	178.90	142.98
40.00°	59.65	73.95	106.53	66.58	53.14	71.78	112.11	71.76	54.48	67.62	107.02	72.13	55.13	67.77	127.11	68.90	59.65
45.00°	31.52	33.41	36.27	30.88	28.35	32.01	42.85	34.44	31.22	32.65	39.34	32.74	27.13	31.70	47.28	33.61	31.52
50.00°	17.02	16.72	17.35	18.14	17.72	17.88	20.68	18.21	18.59	18.05	18.87	18.03	15.89	16.45	23.13	18.53	17.02
55.00°	9.96	10.12	10.79	10.99	8.87	11.38	11.39	12.05	11.92	11.55	10.71	11.50	9.45	9.14	11.26	10.92	9.96
60.00°	6.38	6.99	7.11	6.79	5.92	7.22	7.66	8.73	8.02	7.51	6.98	7.04	6.72	5.77	5.75	7.37	6.38
65.00°	4.56	4.91	4.59	4.48	3.66	6.74	5.72	6.42	5.40	5.26	6.72	5.34	5.82	4.15	3.91	4.72	4.56
70.00°	2.86	3.00	3.17	2.85	3.01	4.08	4.78	5.14	5.59	5.31	4.92	4.42	5.07	2.94	2.20	3.13	2.86
75.00°	2.40	3.00	2.92	2.48	3.02	4.52	5.10	5.09	4.37	4.70	5.14	5.43	4.83	2.63	2.01	2.15	2.40
80.00°	1.87	1.20	1.72	1.71	1.60	4.63	4.09	5.63	5.07	5.52	5.94	4.96	5.16	2.20	1.58	1.60	1.87
85.00°	2.12	1.52	1.51	1.52	1.68	4.99	5.45	5.50	5.69	5.46	5.27	4.96	6.05	1.48	1.48	1.43	2.12
90.00°	0.00	0.00	0.00	0.00	0.00	7.25	7.17	7.02	7.08	7.43	6.77	7.09	6.53	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	1447	1447	1447	1447	1413	1413	1413	1413	1350	1350	1350	1293	1293	1293	1240	1240	1215
	1	1385	1354	1326	1301	1355	1328	1303	1280	1279	1259	1240	1233	1218	1203	1192	1180	1156
	2	1326	1272	1227	1190	1299	1251	1211	1177	1212	1179	1151	1176	1150	1126	1143	1122	1100
	3	1269	1199	1145	1101	1245	1182	1133	1093	1151	1109	1075	1122	1087	1058	1095	1067	1046
	4	1215	1133	1074	1028	1194	1120	1065	1022	1094	1047	1010	1071	1031	998	1049	1015	996
	5	1164	1074	1012	965	1146	1063	1005	961	1042	992	953	1023	979	944	1005	967	950
	6	1116	1021	957	911	1100	1012	952	908	994	941	902	978	931	896	963	922	906
	7	1071	972	908	863	1056	964	904	861	950	896	856	936	888	852	923	880	866
	8	1029	927	864	820	1015	921	860	818	908	854	815	897	847	811	886	841	828
	9	989	886	823	781	977	881	821	780	870	815	777	860	810	774	850	805	793
	10	952	849	787	745	941	844	784	744	834	780	743	826	776	741	817	772	761

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	81.7 fc	3.8 ft
6.5 ft	58.5 fc	4.5 ft
7.5 ft	44.0 fc	5.2 ft
8.0 ft	38.6 fc	5.5 ft
10.0 ft	24.7 fc	6.9 ft
12.0 ft	17.2 fc	8.3 ft
14.0 ft	12.6 fc	9.7 ft
16.0 ft	9.7 fc	11.0 ft
20.0 ft	6.2 fc	13.8 ft
24.0 ft	4.3 fc	16.6 ft
28.0 ft	3.2 fc	19.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	821381	821381	821381
45.00°	14809	17041	13319
55.00°	5772	6252	5138
65.00°	3581	3612	2880
75.00°	3086	3745	3871
85.00°	8086	5770	6410

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	7.9	8.9	8.3	9.2	9.5	8.1	9.1	8.5	9.4	9.7
	3H	8.7	9.5	9.1	9.8	10.2	9.4	10.2	9.7	10.5	10.9
	4H	9.1	9.8	9.5	10.2	10.6	10.3	11.1	10.7	11.4	11.8
	6H	9.4	10.1	9.9	10.5	10.9	11.5	12.2	12.0	12.6	13.0
	8H	9.7	10.4	10.2	10.8	11.2	12.4	13.0	12.8	13.4	13.8
	12H	10.3	10.9	10.7	11.3	11.7	13.5	14.1	13.9	14.5	14.9
4H	2H	8.0	8.8	8.4	9.2	9.5	8.6	9.3	9.0	9.7	10.1
	3H	9.0	9.6	9.4	10.0	10.4	10.1	10.7	10.5	11.2	11.6
	4H	9.5	10.1	10.0	10.5	11.0	11.4	12.0	11.9	12.4	12.9
	6H	10.0	10.5	10.5	11.0	11.4	13.0	13.5	13.5	13.9	14.4
	8H	10.4	10.9	10.9	11.3	11.8	14.0	14.4	14.4	14.9	15.3
	12H	11.1	11.5	11.6	12.0	12.5	15.2	15.6	15.7	16.1	16.6
8H	4H	9.7	10.1	10.1	10.6	11.0	12.1	12.6	12.6	13.0	13.5
	6H	10.3	10.7	10.8	11.2	11.7	14.1	14.4	14.6	14.9	15.4
	8H	10.8	11.1	11.4	11.7	12.2	15.3	15.6	15.8	16.1	16.6
	12H	11.7	12.0	12.3	12.5	13.1	16.8	17.1	17.3	17.6	18.2
12H	4H	9.7	10.0	10.2	10.5	11.0	12.3	12.7	12.8	13.2	13.7
	6H	10.4	10.7	10.9	11.2	11.7	14.5	14.8	15.0	15.2	15.8
	8H	11.0	11.3	11.5	11.8	12.3	15.8	16.1	16.4	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