

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

Test Number

SP-00628_2_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	1348
Efficacy	70.97 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

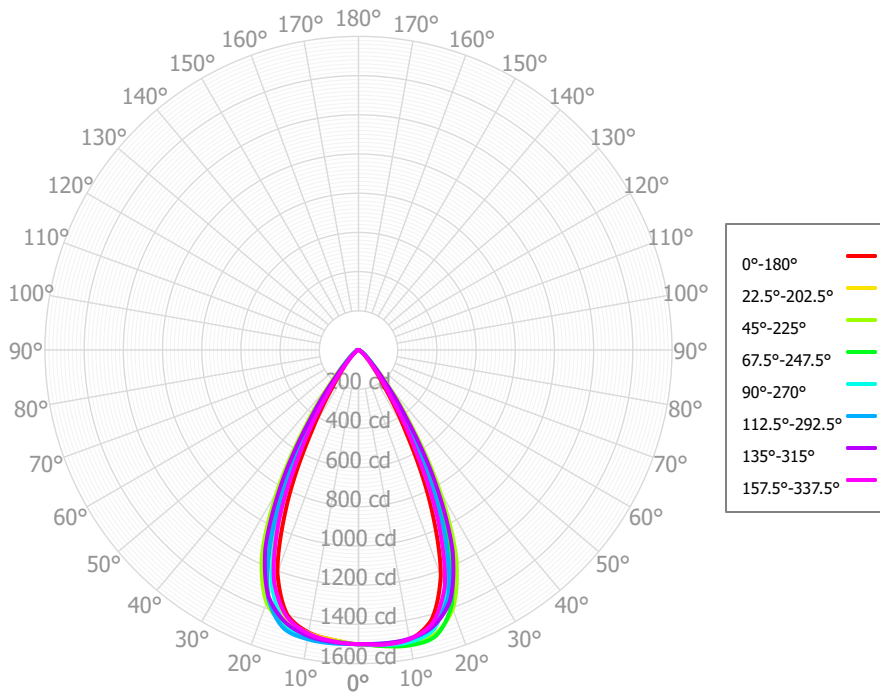
Full Beam Angle

0° - 180°	53°
90° - 270°	55°

IES File Header Contents

Keyword	Value
TEST	SP-00628_2_M-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, Xtra Wide Beam
LUMCAT	C0412SQXT-20L-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

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	151.89	11.26%	90.00° - 100.00°	1.08	0.08%
10.00° - 20.00°	400.90	29.73%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	450.28	33.39%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	224.38	16.64%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	73.06	5.42%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	26.47	1.96%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	10.22	0.76%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	5.66	0.42%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	4.51	0.33%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1347.36	99.92%	0.00° - 180.00°	1348.44	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°	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31	1501.31
5.00°	1511.49	1514.92	1517.12	1517.27	1511.47	1503.14	1495.94	1491.86	1485.75	1484.42	1491.67	1492.35	1498.10	1503.26	1503.11	1509.71	1511.49
10.00°	1500.65	1516.33	1528.36	1529.52	1513.28	1498.49	1481.65	1469.81	1464.14	1467.88	1480.27	1487.87	1490.40	1499.64	1495.71	1498.75	1500.65
15.00°	1429.84	1470.06	1503.32	1513.34	1478.35	1471.31	1439.34	1410.20	1400.11	1416.87	1453.03	1457.58	1446.68	1463.97	1461.83	1447.16	1429.84
20.00°	1228.27	1316.77	1406.86	1388.60	1307.55	1347.21	1341.12	1259.31	1210.01	1275.18	1371.55	1342.62	1288.54	1340.42	1364.59	1287.12	1228.27
25.00°	869.08	999.94	1183.41	1077.94	963.84	1051.23	1126.60	961.13	858.22	992.10	1169.06	1062.66	966.72	1044.87	1137.91	962.73	869.08
30.00°	483.23	607.81	829.63	671.15	576.47	657.91	781.87	580.84	474.11	625.78	826.30	676.81	588.74	657.00	783.25	566.39	483.23
35.00°	232.56	304.16	467.70	345.61	309.16	332.14	421.78	275.86	227.34	324.78	466.85	351.63	311.21	332.39	428.65	272.91	232.56
40.00°	119.39	145.66	225.01	179.90	171.78	167.36	185.49	122.88	118.24	157.64	222.86	175.32	167.61	162.20	198.87	132.66	119.39
45.00°	65.79	76.55	106.87	101.30	97.66	90.82	81.87	64.81	66.25	83.96	105.87	95.97	96.51	88.28	93.38	71.93	65.79
50.00°	39.40	43.59	54.39	56.93	55.57	52.24	43.12	37.61	39.26	47.78	54.77	54.50	56.70	52.35	49.99	41.73	39.40
55.00°	23.46	25.24	29.46	29.47	31.76	30.58	22.91	22.88	21.52	28.53	31.71	32.39	33.08	28.95	26.84	24.77	23.46
60.00°	13.80	15.11	16.81	16.06	16.83	18.14	14.09	13.97	13.53	17.09	17.60	19.28	19.91	15.22	14.10	13.57	13.80
65.00°	6.65	7.87	9.91	10.52	9.59	12.05	9.84	8.37	9.56	10.62	10.34	11.46	12.52	7.34	7.52	6.92	6.65
70.00°	4.05	5.00	5.47	6.29	6.21	8.19	7.99	7.09	8.49	8.51	9.61	8.37	9.86	4.47	4.74	4.24	4.05
75.00°	3.35	3.51	2.93	3.78	3.22	7.38	6.96	6.47	6.20	7.70	7.03	7.47	6.90	3.26	3.00	2.96	3.35
80.00°	2.27	2.49	2.72	2.38	1.99	6.55	5.68	5.69	6.67	7.31	7.42	6.03	6.63	2.33	2.29	2.34	2.27
85.00°	1.48	1.16	1.66	1.72	1.38	7.03	6.14	5.90	6.05	6.99	7.11	6.81	6.66	1.93	1.88	1.64	1.48
90.00°	0.00	0.00	0.00	0.00	0.00	7.18	7.36	7.80	8.14	7.91	6.73	8.52	9.25	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	1605	1605	1605	1605	1568	1568	1568	1568	1498	1498	1498	1434	1434	1434	1375	1375	1347
	1	1529	1490	1456	1426	1495	1461	1431	1403	1406	1382	1359	1356	1337	1319	1310	1294	1269
	2	1453	1387	1332	1286	1423	1363	1314	1272	1320	1279	1243	1279	1246	1217	1242	1215	1191
	3	1381	1294	1227	1173	1354	1275	1213	1164	1240	1188	1145	1207	1163	1127	1176	1140	1118
	4	1312	1211	1136	1080	1288	1195	1126	1073	1166	1107	1060	1139	1088	1048	1114	1071	1051
	5	1247	1135	1057	1000	1225	1123	1050	995	1098	1035	986	1076	1021	977	1055	1007	989
	6	1186	1068	988	930	1167	1057	982	927	1037	970	921	1018	959	914	1000	948	932
	7	1130	1006	926	869	1112	997	921	867	980	912	862	964	903	858	948	894	879
	8	1077	950	870	815	1060	942	866	814	927	859	810	914	852	807	901	845	831
	9	1027	899	820	767	1012	892	817	766	880	811	763	868	805	761	856	800	787
	10	981	852	775	724	968	846	773	723	835	768	721	825	763	719	815	758	747

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	49.6 fc	5.6 ft
6.5 ft	35.5 fc	6.6 ft
7.5 ft	26.7 fc	7.6 ft
8.0 ft	23.5 fc	8.1 ft
10.0 ft	15.0 fc	10.2 ft
12.0 ft	10.4 fc	12.2 ft
14.0 ft	7.7 fc	14.2 ft
16.0 ft	5.9 fc	16.3 ft
20.0 ft	3.8 fc	20.3 ft
24.0 ft	2.6 fc	24.4 ft
28.0 ft	1.9 fc	28.5 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	498764	498764	498764
45.00°	30910	50209	45882
55.00°	13586	17063	18396
65.00°	5228	7787	7536
75.00°	4300	3756	4137
85.00°	5649	6321	5275

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	13.1	14.1	13.4	14.4	14.7	14.8	15.8	15.2	16.1	16.5
	3H	13.3	14.2	13.7	14.5	14.9	15.4	16.3	15.8	16.7	17.0
	4H	13.4	14.2	13.8	14.6	15.0	15.7	16.6	16.1	16.9	17.3
	6H	13.5	14.3	14.0	14.7	15.1	16.1	16.9	16.5	17.2	17.6
	8H	13.6	14.3	14.0	14.7	15.1	16.4	17.1	16.8	17.5	17.9
	12H	13.7	14.3	14.1	14.7	15.2	16.8	17.5	17.3	17.9	18.3
4H	2H	13.1	13.9	13.5	14.3	14.7	14.8	15.6	15.2	16.0	16.4
	3H	13.5	14.1	13.9	14.6	15.0	15.7	16.3	16.1	16.8	17.2
	4H	13.7	14.3	14.1	14.7	15.1	16.2	16.8	16.6	17.2	17.7
	6H	13.9	14.4	14.4	14.9	15.3	16.8	17.4	17.3	17.8	18.3
	8H	14.0	14.5	14.5	14.9	15.4	17.3	17.8	17.8	18.2	18.7
	12H	14.1	14.5	14.6	15.0	15.5	17.9	18.3	18.4	18.8	19.3
8H	4H	13.7	14.1	14.1	14.6	15.1	16.4	16.9	16.9	17.3	17.8
	6H	14.0	14.4	14.5	14.9	15.4	17.4	17.8	17.9	18.3	18.8
	8H	14.2	14.5	14.7	15.1	15.6	18.1	18.4	18.6	19.0	19.5
	12H	14.4	14.7	14.9	15.2	15.8	19.1	19.4	19.6	19.9	20.5
12H	4H	13.6	14.0	14.1	14.5	15.0	16.5	16.9	17.0	17.4	17.9
	6H	14.0	14.4	14.6	14.8	15.4	17.6	17.9	18.1	18.4	18.9
	8H	14.3	14.6	14.8	15.1	15.6	18.5	18.7	19.0	19.2	19.8

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0