

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P201320

Luminaire Tested: **4LBLED-LD4-11-SYMF-UNV-L835-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201320  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28138)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4LBLED-LD4-11-SYMF-UNV-L835-CD1-U  
Description: 4 ft. Low Bay Linear, 11000 lm, Frst Sym lens, 3.5K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
2UT217098A8354C  
Ballast/Driver: OSRAM  
(OT85W01920CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11638.6 lumens  
Efficiency: N/A  
Efficacy: 132.0 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')  
CIE Type: Semi-Direct

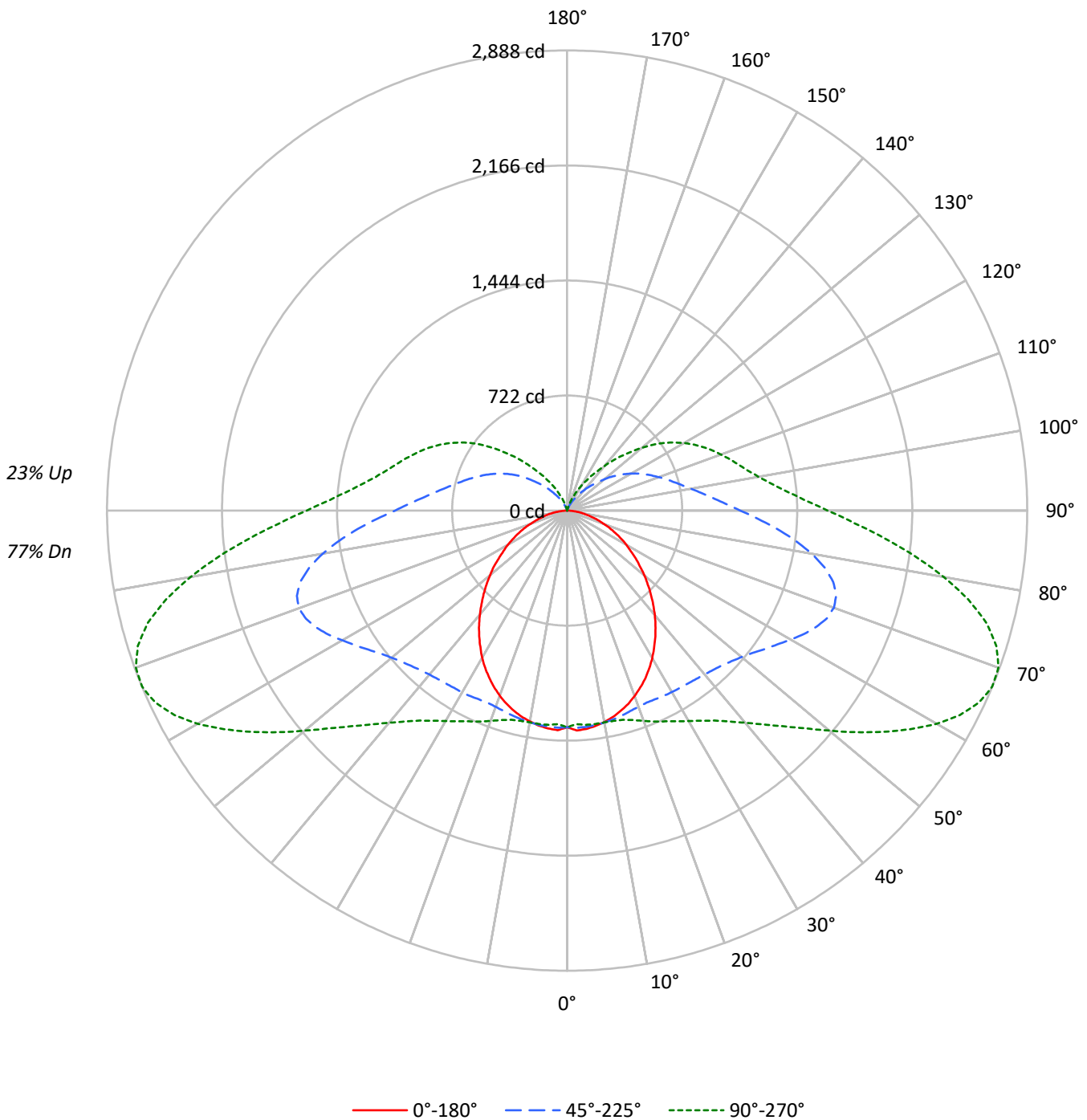
Input Watts (W): 88.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77			77
1	98	91	84	78	92	86	80	75	77	73	68	69	65	62	62	59	56	52			52
2	86	75	66	59	81	71	63	56	64	57	51	57	51	47	50	46	42	38			38
3	77	64	54	46	72	61	51	44	54	46	40	48	42	37	43	37	33	29			29
4	70	55	45	37	65	52	43	36	47	39	32	42	35	30	37	31	27	23			23
5	63	49	38	31	59	46	37	29	41	33	27	37	30	25	32	27	22	19			19
6	58	43	33	26	55	41	32	25	37	29	23	33	26	21	29	23	19	16			16
7	54	39	29	22	50	37	28	21	33	25	20	30	23	18	26	21	16	14			14
8	50	35	26	19	47	33	25	19	30	22	17	27	20	16	24	18	14	12			12
9	46	32	23	17	44	30	22	16	27	20	15	25	18	14	22	17	13	10			10
10	43	29	21	15	41	28	20	15	25	18	14	23	17	12	20	15	11	9			9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	21910	21910	21910
5°	22148	19688	22102
10°	21838	18109	21789
15°	21395	17007	21364
20°	20838	16580	20804
25°	20172	16415	20087
30°	19296	16504	19278
35°	18306	16904	18268
40°	17249	17868	17168
45°	16097	19415	16054
50°	14928	21678	14883
55°	13748	24476	13722
60°	12680	27325	12710
65°	11491	29621	11526
70°	10223	30690	10223
75°	8707	30030	8655
80°	7008	27634	6937
85°	4812	24270	4580



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.1	1.1
10°-20°	375.5	3.2
20°-30°	603.5	5.2
30°-40°	817.2	7.0
40°-50°	1049.8	9.0
50°-60°	1350.7	11.6
60°-70°	1652.4	14.2
70°-80°	1670.6	14.4
80°-90°	1291.9	11.1
90°-100°	897.5	7.7
100°-110°	670.4	5.8
110°-120°	502.4	4.3
120°-130°	338.3	2.9
130°-140°	185.5	1.6
140°-150°	79.1	0.7
150°-160°	22.6	0.2
160°-170°	2.0	0.0
170°-180°	0.0	0.0
0°-30°	1108.1	9.5
0°-40°	1925.3	16.5
0°-60°	4325.8	37.2
0°-90°	8940.7	76.8
90°-120°	2070.4	17.8
90°-150°	2673.3	23.0
90°-180°	2698.0	23.2
0°-180°	11638.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1360	1360	1360	1360	1360	
5°	1376	1363	1350	1361	1373	130
15°	1300	1331	1360	1331	1298	366
25°	1162	1306	1460	1307	1157	534
35°	964	1324	1609	1325	962	603
45°	743	1375	1913	1380	741	573
55°	526	1515	2421	1522	525	471
65°	335	1726	2852	1737	336	333
75°	167	1729	2724	1735	166	178
85°	42	1322	2000	1318	40	46
90°	1	1086	1634	1080	0	3
95°	1	916	1382	912	0	1
105°	1	693	1114	693	0	1
115°	1	539	943	539	0	1
125°	1	386	739	384	0	1
135°	2	233	485	230	0	2
145°	2	119	267	114	0	1
155°	2	38	111	36	0	1
165°	2	2	11	5	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7
2.5°	1381.5	1380.5	1374.6	1365.7	1361.7	1360.7	1359.7	1355.8	1354.8	1356.8	1364.7
5°	1375.5	1374.6	1368.6	1359.7	1356.8	1355.8	1354.8	1351.8	1351.8	1354.8	1362.7
7.5°	1363.7	1362.7	1356.8	1349.8	1346.9	1345.9	1345.9	1343.9	1343.9	1348.9	1357.8
10°	1346.9	1345.9	1341.0	1335.0	1333.0	1333.0	1333.0	1332.1	1334.0	1340.0	1349.8
12.5°	1327.1	1325.1	1321.2	1316.3	1316.3	1316.3	1317.2	1317.2	1320.2	1330.1	1341.9
15°	1300.4	1301.4	1297.5	1293.5	1295.5	1296.5	1298.5	1300.4	1305.4	1317.2	1331.1
17.5°	1272.8	1272.8	1269.8	1267.8	1271.8	1273.8	1276.7	1279.7	1288.6	1303.4	1319.2
20°	1238.2	1239.2	1238.2	1239.2	1244.1	1247.1	1251.0	1257.9	1269.8	1290.6	1309.3
22.5°	1200.6	1202.6	1202.6	1206.6	1214.5	1219.4	1224.4	1234.2	1251.0	1277.7	1304.4
25°	1162.1	1161.1	1166.0	1173.0	1180.9	1187.8	1193.7	1208.5	1233.2	1268.8	1306.4
27.5°	1115.7	1117.6	1124.5	1134.4	1146.3	1155.2	1164.1	1184.8	1220.4	1267.8	1311.3
30°	1068.2	1071.2	1080.1	1093.9	1110.7	1122.6	1132.5	1165.1	1213.5	1267.8	1315.3
32.5°	1016.8	1021.8	1033.6	1051.4	1075.1	1089.0	1104.8	1148.3	1207.6	1265.9	1319.2
35°	964.5	970.4	986.2	1007.9	1035.6	1052.4	1077.1	1135.4	1199.6	1263.9	1324.2
37.5°	911.1	918.0	935.8	963.5	999.0	1024.7	1054.4	1121.6	1193.7	1263.9	1331.1
40°	855.8	863.7	886.4	918.0	963.5	997.1	1032.6	1107.7	1187.8	1264.9	1341.9
42.5°	799.4	808.3	836.0	873.5	932.8	972.4	1011.9	1095.9	1183.8	1269.8	1355.8
45°	743.1	755.0	785.6	831.1	905.2	946.7	992.1	1085.0	1181.9	1278.7	1374.6
47.5°	686.8	700.6	736.2	790.5	876.5	925.9	973.4	1076.1	1183.8	1290.6	1399.3
50°	632.4	648.2	687.8	754.0	849.8	903.2	955.6	1070.2	1187.8	1308.3	1428.9
52.5°	577.1	597.8	641.3	721.4	826.1	882.4	940.7	1066.2	1195.7	1332.1	1467.4
55°	525.7	547.4	597.8	689.7	803.4	864.7	926.9	1065.3	1209.5	1360.7	1514.9
57.5°	473.3	500.0	555.4	659.1	779.7	846.9	916.0	1067.2	1226.3	1391.4	1563.3
60°	428.9	452.6	516.8	629.5	758.9	830.1	906.2	1069.2	1244.1	1426.9	1619.6
62.5°	381.4	407.1	483.2	600.8	738.2	815.2	896.3	1072.2	1262.9	1463.5	1676.9
65°	335.0	361.7	449.6	573.1	717.4	799.4	884.4	1072.2	1277.7	1497.1	1726.3
67.5°	290.5	319.2	416.0	543.5	693.7	779.7	869.6	1067.2	1286.6	1520.8	1764.9
70°	248.0	279.7	383.4	511.9	668.0	756.0	848.8	1056.4	1285.6	1529.7	1781.7
72.5°	205.5	242.1	347.8	480.3	640.3	729.3	824.1	1035.6	1271.8	1518.8	1770.8
75°	167.0	206.5	316.2	448.6	608.7	697.7	793.5	1004.0	1241.1	1485.2	1729.3
77.5°	131.4	174.9	282.6	414.0	573.1	661.1	755.0	963.5	1192.7	1425.9	1656.2
80°	97.8	146.3	251.0	379.5	534.6	620.6	711.5	912.1	1129.5	1345.9	1558.4
82.5°	68.2	119.6	220.4	344.9	495.1	577.1	664.1	850.8	1056.4	1253.0	1445.7
85°	41.5	95.9	189.7	311.3	454.6	531.6	613.7	786.6	976.3	1152.2	1322.2
87.5°	17.8	74.1	163.0	278.7	414.0	487.2	562.3	725.3	891.3	1047.5	1198.7
90°	1.0	55.3	139.3	248.0	375.5	443.7	513.9	660.1	813.3	951.6	1086.0
92.5°	0.0	47.4	125.5	229.3	348.8	412.1	477.3	611.7	750.0	873.5	993.1
95°	1.0	39.5	113.6	208.5	322.1	382.4	442.7	568.2	692.7	806.4	916.0
97.5°	1.0	32.6	100.8	189.7	297.4	352.8	409.1	525.7	638.4	746.1	847.9
100°	1.0	25.7	88.9	171.9	271.7	323.1	376.5	486.2	591.9	692.7	788.6
102.5°	1.0	18.8	79.1	155.1	248.0	296.5	345.9	449.6	549.4	646.3	737.2
105°	1.0	12.8	69.2	139.3	226.3	271.7	318.2	416.0	510.9	603.8	692.7
107.5°	1.0	8.9	60.3	124.5	202.6	248.0	291.5	384.4	475.3	565.2	652.2
110°	1.0	7.9	52.4	111.7	183.8	225.3	266.8	354.8	441.7	527.7	612.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	6.9	44.5	99.8	165.0	202.6	243.1	326.1	411.1	494.1	575.1
115°	1.0	6.9	36.6	88.9	149.2	182.8	220.4	298.4	379.5	459.5	538.6
117.5°	1.0	6.9	29.6	79.1	134.4	165.0	197.6	272.7	347.8	425.9	503.0
120°	1.0	5.9	23.7	69.2	121.5	149.2	179.8	248.0	317.2	390.3	464.4
122.5°	1.0	5.9	19.8	60.3	108.7	134.4	162.1	222.3	288.5	355.7	424.9
125°	1.0	4.9	16.8	50.4	95.9	120.6	145.3	199.6	260.9	323.1	386.4
127.5°	2.0	4.9	13.8	41.5	83.0	104.7	128.5	177.9	231.2	287.6	347.8
130°	2.0	4.9	11.9	31.6	70.2	89.9	110.7	156.1	205.5	254.0	306.3
132.5°	2.0	4.0	10.9	24.7	58.3	76.1	94.9	135.4	178.9	222.3	267.8
135°	2.0	4.0	8.9	19.8	46.4	62.3	80.0	115.6	154.2	194.7	233.2
137.5°	2.0	3.0	7.9	15.8	35.6	50.4	66.2	97.8	131.4	166.0	201.6
140°	2.0	3.0	6.9	12.8	26.7	37.6	52.4	80.0	109.7	140.3	171.0
142.5°	2.0	3.0	5.9	10.9	20.8	28.7	39.5	65.2	90.9	116.6	143.3
145°	2.0	3.0	4.9	8.9	15.8	21.7	28.7	50.4	73.1	95.9	118.6
147.5°	2.0	3.0	4.9	7.9	12.8	16.8	21.7	36.6	57.3	76.1	95.9
150°	2.0	3.0	4.0	6.9	10.9	12.8	15.8	25.7	41.5	58.3	75.1
152.5°	2.0	2.0	4.0	5.9	7.9	9.9	11.9	18.8	28.7	41.5	56.3
155°	2.0	2.0	3.0	4.9	6.9	7.9	8.9	12.8	18.8	26.7	37.6
157.5°	2.0	2.0	3.0	4.0	4.9	5.9	6.9	8.9	12.8	16.8	22.7
160°	2.0	2.0	3.0	4.0	4.0	4.9	4.9	5.9	7.9	9.9	12.8
162.5°	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0	4.9	4.9	5.9
165°	2.0	2.0	2.0	3.0	2.0	3.0	2.0	3.0	3.0	2.0	2.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7
2.5°	1367.6	1360.7	1357.8	1353.8	1350.8	1348.9	1345.9	1343.9	1341.0	1341.0	1341.9
5°	1365.7	1358.7	1356.8	1352.8	1350.8	1349.8	1347.9	1348.9	1348.9	1349.8	1348.9
7.5°	1361.7	1355.8	1353.8	1351.8	1349.8	1348.9	1347.9	1349.8	1349.8	1350.8	1350.8
10°	1354.8	1350.8	1350.8	1348.9	1347.9	1346.9	1344.9	1347.9	1347.9	1349.8	1348.9
12.5°	1346.9	1345.9	1346.9	1347.9	1347.9	1346.9	1345.9	1349.8	1351.8	1351.8	1352.8
15°	1338.0	1340.0	1344.9	1347.9	1349.8	1349.8	1351.8	1355.8	1358.7	1359.7	1359.7
17.5°	1331.1	1336.0	1344.9	1352.8	1356.8	1358.7	1363.7	1371.6	1376.5	1377.5	1377.5
20°	1326.1	1338.0	1353.8	1368.6	1373.6	1377.5	1387.4	1397.3	1404.2	1405.2	1405.2
22.5°	1330.1	1349.8	1371.6	1388.4	1395.3	1400.2	1411.1	1424.0	1431.9	1432.9	1432.9
25°	1340.0	1363.7	1388.4	1409.1	1417.0	1423.0	1434.8	1448.7	1456.6	1459.5	1458.5
27.5°	1348.9	1377.5	1406.2	1429.9	1438.8	1446.7	1461.5	1477.3	1487.2	1490.2	1488.2
30°	1356.8	1390.4	1423.0	1451.6	1463.5	1472.4	1490.2	1508.9	1521.8	1524.8	1521.8
32.5°	1364.7	1405.2	1443.7	1477.3	1489.2	1502.0	1524.8	1546.5	1559.3	1563.3	1561.3
35°	1375.5	1423.0	1468.4	1507.0	1522.8	1537.6	1564.3	1590.0	1605.8	1608.8	1605.8
37.5°	1390.4	1445.7	1496.1	1544.5	1561.3	1582.1	1613.7	1644.3	1663.1	1667.1	1663.1
40°	1409.1	1474.4	1533.6	1590.0	1612.7	1634.4	1673.0	1709.5	1730.3	1737.2	1734.2
42.5°	1433.8	1509.9	1579.1	1646.3	1672.0	1699.7	1745.1	1787.6	1811.3	1819.2	1811.3
45°	1464.5	1554.4	1634.4	1712.5	1742.2	1775.8	1830.1	1878.5	1906.2	1913.1	1906.2
47.5°	1505.0	1606.8	1699.7	1789.6	1825.2	1864.7	1928.9	1984.3	2013.9	2021.8	2014.9
50°	1548.5	1670.0	1776.7	1879.5	1924.0	1965.5	2040.6	2101.9	2133.5	2148.3	2135.4
52.5°	1602.8	1739.2	1864.7	1979.3	2032.7	2082.1	2165.1	2232.3	2270.8	2283.7	2265.9
55°	1668.0	1822.2	1962.5	2094.9	2148.3	2203.6	2295.5	2366.7	2407.2	2421.0	2408.2
57.5°	1740.2	1910.1	2065.3	2204.6	2266.9	2323.2	2426.0	2500.1	2535.7	2553.4	2537.6
60°	1815.3	2001.1	2169.0	2317.3	2385.5	2443.8	2548.5	2621.6	2659.2	2677.0	2662.1
62.5°	1888.4	2089.0	2265.9	2420.0	2485.3	2549.5	2654.2	2724.4	2762.9	2778.8	2764.9
65°	1951.6	2163.1	2344.9	2504.0	2571.2	2634.5	2733.3	2800.5	2841.0	2851.9	2842.0
67.5°	1999.1	2213.5	2397.3	2554.4	2619.7	2682.9	2776.8	2839.0	2878.6	2888.4	2879.5
70°	2020.8	2233.3	2415.1	2568.3	2632.5	2688.8	2777.8	2837.1	2874.6	2880.5	2873.6
72.5°	2007.0	2213.5	2389.4	2535.7	2596.9	2646.3	2728.4	2784.7	2820.3	2825.2	2820.3
75°	1955.6	2153.2	2319.2	2455.6	2512.9	2554.4	2632.5	2684.9	2720.4	2724.4	2718.5
77.5°	1868.6	2052.4	2204.6	2336.0	2383.5	2424.0	2498.1	2544.6	2573.2	2579.1	2572.2
80°	1752.0	1921.0	2057.4	2175.0	2220.4	2255.0	2327.2	2377.6	2393.4	2401.3	2391.4
82.5°	1618.6	1769.8	1891.4	1998.1	2038.6	2081.1	2127.5	2174.0	2196.7	2203.6	2195.7
85°	1475.3	1609.7	1717.5	1813.3	1848.9	1887.4	1927.9	1973.4	1993.2	2000.1	1992.2
87.5°	1332.1	1450.6	1545.5	1630.5	1663.1	1697.7	1746.1	1769.8	1796.5	1804.4	1795.5
90°	1203.6	1310.3	1395.3	1472.4	1503.0	1534.6	1572.2	1601.8	1626.5	1633.5	1625.5
92.5°	1099.8	1195.7	1273.8	1342.9	1369.6	1399.3	1435.8	1464.5	1486.2	1493.1	1485.2
95°	1013.9	1101.8	1174.9	1239.2	1264.9	1292.5	1333.0	1355.8	1375.5	1381.5	1375.5
97.5°	940.7	1023.8	1092.9	1155.2	1179.9	1205.6	1245.1	1267.8	1286.6	1291.5	1286.6
100°	876.5	957.5	1025.7	1085.0	1109.7	1134.4	1173.0	1195.7	1213.5	1219.4	1213.5
102.5°	823.2	901.2	968.4	1028.7	1052.4	1077.1	1113.7	1140.4	1154.2	1161.1	1155.2
105°	776.7	852.8	920.0	979.3	1004.0	1027.7	1065.3	1090.0	1105.8	1113.7	1106.8
107.5°	734.2	809.3	877.5	934.8	959.5	983.2	1021.8	1046.5	1061.3	1070.2	1062.3
110°	693.7	767.8	833.0	892.3	917.0	941.7	980.3	1005.0	1019.8	1027.7	1020.8





TEST NUMBER: P201320

CATALOG NUMBER: 4LBLED-LD4-11-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	654.2	726.3	793.5	850.8	874.5	899.2	938.8	964.5	978.3	987.2	979.3
115°	614.6	685.8	751.0	806.4	830.1	855.8	894.3	921.0	935.8	942.7	934.8
117.5°	576.1	644.3	706.5	760.9	784.6	809.3	846.9	873.5	889.4	896.3	888.4
120°	536.6	601.8	663.1	712.5	737.2	759.9	798.4	824.1	839.9	846.9	839.0
122.5°	494.1	558.3	616.6	665.0	688.8	710.5	748.0	773.7	788.6	795.5	788.6
125°	450.6	510.9	567.2	615.6	635.4	656.1	692.7	717.4	733.2	739.2	733.2
127.5°	407.1	462.5	514.8	557.3	579.1	598.8	633.4	657.1	671.0	677.9	672.9
130°	363.6	416.0	463.5	502.0	520.8	539.5	571.2	592.9	606.7	612.7	607.7
132.5°	317.2	367.6	414.0	447.6	465.4	481.2	509.9	528.7	540.5	547.4	541.5
135°	275.7	317.2	360.7	395.3	413.1	426.9	452.6	468.4	479.3	485.2	479.3
137.5°	238.2	273.7	309.3	339.9	356.7	371.6	396.3	411.1	421.0	426.9	421.0
140°	203.6	234.2	265.8	290.5	305.3	317.2	339.9	352.8	361.7	366.6	360.7
142.5°	170.0	197.6	224.3	247.0	259.9	269.8	291.5	301.4	308.3	311.3	308.3
145°	141.3	164.0	186.8	207.5	217.4	225.3	247.0	257.9	263.8	266.8	263.8
147.5°	114.6	133.4	152.2	169.0	177.9	187.8	202.6	215.4	220.4	222.3	220.4
150°	89.9	106.7	121.5	135.4	142.3	149.2	162.1	174.9	179.8	182.8	179.8
152.5°	68.2	82.0	93.9	104.7	110.7	116.6	127.5	139.3	144.3	146.3	144.3
155°	49.4	59.3	70.2	78.1	83.0	87.0	94.9	102.8	110.7	110.7	110.7
157.5°	30.6	38.5	47.4	54.3	57.3	61.3	67.2	74.1	80.0	83.0	83.0
160°	15.8	20.8	26.7	31.6	34.6	37.6	41.5	47.4	51.4	54.3	52.4
162.5°	6.9	8.9	11.9	13.8	15.8	16.8	19.8	22.7	24.7	29.6	25.7
165°	2.0	2.0	3.0	4.0	4.0	4.0	4.9	5.9	6.9	10.9	7.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201320

CATALOG NUMBER: 4LBLED-LD4-11-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7
2.5°	1343.9	1346.9	1350.8	1352.8	1355.8	1357.8	1362.7	1368.6	1363.7	1356.8	1357.8
5°	1348.9	1347.9	1350.8	1352.8	1354.8	1355.8	1360.7	1366.6	1360.7	1353.8	1353.8
7.5°	1350.8	1349.8	1350.8	1351.8	1352.8	1352.8	1357.8	1362.7	1356.8	1347.9	1345.9
10°	1347.9	1346.9	1347.9	1349.8	1349.8	1349.8	1352.8	1356.8	1349.8	1339.0	1335.0
12.5°	1349.8	1346.9	1346.9	1347.9	1347.9	1345.9	1346.9	1349.8	1341.0	1329.1	1323.2
15°	1356.8	1351.8	1349.8	1349.8	1347.9	1342.9	1341.0	1341.0	1331.1	1315.3	1307.4
17.5°	1373.6	1365.7	1359.7	1356.8	1352.8	1343.9	1337.0	1333.0	1320.2	1302.4	1289.6
20°	1399.3	1388.4	1379.5	1373.6	1368.6	1352.8	1339.0	1328.1	1310.3	1288.6	1271.8
22.5°	1425.0	1413.1	1400.2	1394.3	1387.4	1369.6	1350.8	1332.1	1305.4	1275.7	1253.0
25°	1449.7	1437.8	1423.0	1417.0	1408.2	1387.4	1363.7	1341.9	1307.4	1266.8	1234.2
27.5°	1478.3	1463.5	1447.7	1438.8	1428.9	1405.2	1378.5	1351.8	1313.3	1266.8	1221.4
30°	1510.9	1493.1	1472.4	1462.5	1450.6	1423.0	1390.4	1358.7	1317.2	1266.8	1214.5
32.5°	1548.5	1527.7	1503.0	1489.2	1475.3	1442.7	1404.2	1367.6	1320.2	1265.9	1208.5
35°	1592.0	1568.2	1538.6	1522.8	1506.0	1467.4	1422.0	1377.5	1325.1	1264.9	1200.6
37.5°	1646.3	1618.6	1583.1	1563.3	1543.5	1498.1	1445.7	1392.3	1333.0	1265.9	1194.7
40°	1711.5	1678.9	1637.4	1612.7	1589.0	1536.6	1474.4	1411.1	1343.9	1267.8	1188.8
42.5°	1788.6	1749.1	1702.6	1674.0	1646.3	1581.1	1509.9	1434.8	1358.7	1271.8	1185.8
45°	1880.5	1839.0	1779.7	1744.1	1713.5	1637.4	1555.4	1466.5	1380.5	1281.7	1184.8
47.5°	1986.2	1933.9	1869.6	1828.1	1791.6	1703.6	1608.8	1506.0	1405.2	1294.5	1186.8
50°	2104.8	2045.5	1971.4	1927.9	1882.5	1781.7	1672.0	1552.4	1436.8	1313.3	1191.7
52.5°	2235.3	2170.0	2090.0	2038.6	1988.2	1871.6	1743.1	1611.7	1473.4	1337.0	1200.6
55°	2370.6	2300.5	2211.5	2155.2	2098.9	1970.4	1827.1	1675.9	1521.8	1366.6	1215.5
57.5°	2502.1	2429.9	2332.1	2274.8	2211.5	2075.2	1917.1	1746.1	1574.2	1401.2	1232.3
60°	2623.6	2551.5	2452.7	2394.4	2325.2	2178.9	2009.0	1823.2	1628.5	1437.8	1252.0
62.5°	2726.4	2657.2	2558.4	2499.1	2427.9	2276.8	2096.9	1898.3	1687.8	1476.3	1270.8
65°	2802.5	2737.2	2641.4	2580.1	2511.9	2354.8	2171.0	1964.5	1737.2	1509.9	1287.6
67.5°	2841.0	2779.7	2686.9	2628.5	2561.4	2405.2	2221.4	2009.0	1774.8	1533.6	1298.5
70°	2837.1	2778.8	2691.8	2634.5	2570.2	2420.0	2239.2	2026.7	1791.6	1542.5	1296.5
72.5°	2785.7	2727.4	2649.3	2594.0	2532.7	2392.4	2214.5	2010.9	1778.7	1528.7	1280.7
75°	2683.9	2630.5	2551.5	2506.0	2450.7	2320.2	2150.3	1952.6	1735.2	1492.1	1248.1
77.5°	2537.6	2497.1	2420.0	2377.6	2323.2	2202.6	2042.6	1864.7	1659.1	1430.9	1197.7
80°	2358.8	2325.2	2250.1	2212.5	2159.2	2054.4	1916.1	1744.1	1558.4	1347.9	1132.5
82.5°	2163.1	2124.6	2065.3	2030.7	1980.3	1886.4	1755.0	1614.7	1441.7	1253.0	1056.4
85°	1960.5	1925.0	1870.6	1841.0	1796.5	1712.5	1594.9	1471.4	1318.2	1148.3	974.3
87.5°	1767.8	1733.3	1681.9	1655.2	1614.7	1539.6	1436.8	1328.1	1192.7	1047.5	887.4
90°	1600.8	1568.2	1519.8	1495.1	1458.5	1390.4	1297.5	1199.6	1080.1	946.7	809.3
92.5°	1463.5	1433.8	1388.4	1364.7	1332.1	1269.8	1185.8	1096.9	989.2	873.5	746.1
95°	1354.8	1326.1	1285.6	1262.9	1232.3	1168.0	1093.9	1010.9	912.1	806.4	688.8
97.5°	1266.8	1243.1	1198.7	1176.9	1152.2	1087.0	1019.8	937.8	845.9	747.1	637.4
100°	1195.7	1169.0	1128.5	1107.7	1082.1	1020.8	952.6	875.5	786.6	692.7	590.9
102.5°	1140.4	1112.7	1075.1	1051.4	1026.7	964.5	897.3	822.2	737.2	646.3	548.4
105°	1090.9	1064.3	1026.7	1003.0	978.3	917.0	852.8	776.7	692.7	604.8	509.9
107.5°	1044.5	1020.8	983.2	959.5	934.8	873.5	809.3	734.2	652.2	566.2	474.3
110°	1005.0	979.3	939.8	917.0	890.3	832.0	767.8	694.7	612.7	528.7	440.7



TEST NUMBER: P201320

CATALOG NUMBER: 4LBLELD4-11-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	965.4	937.8	898.3	875.5	848.8	790.5	727.3	655.2	575.1	494.1	409.1
115°	922.0	895.3	853.8	831.1	804.4	747.1	685.8	615.6	538.6	459.5	377.5
117.5°	875.5	848.8	807.3	785.6	759.9	703.6	645.3	577.1	502.0	425.9	345.9
120°	825.1	799.4	759.9	738.2	713.5	659.1	602.8	534.6	463.5	390.3	316.2
122.5°	773.7	749.0	710.5	688.8	665.0	613.7	558.3	492.1	423.9	355.7	287.6
125°	718.4	693.7	657.1	636.4	612.7	563.3	509.9	447.6	384.4	323.1	257.9
127.5°	654.2	634.4	598.8	578.1	556.3	512.9	461.5	405.2	346.8	287.6	229.3
130°	592.9	572.2	538.6	519.8	501.0	461.5	416.0	361.7	304.4	253.0	200.6
132.5°	528.7	509.9	481.2	465.4	448.6	413.1	366.6	313.3	264.8	220.4	173.9
135°	468.4	452.6	426.9	413.1	396.3	358.7	315.2	270.8	230.2	190.7	149.2
137.5°	412.1	396.3	372.5	357.7	339.9	306.3	270.8	234.2	196.6	163.0	126.5
140°	352.8	339.9	318.2	305.3	289.5	260.9	231.2	196.6	167.0	136.4	104.7
142.5°	302.4	291.5	269.8	257.9	244.1	220.4	192.7	166.0	139.3	112.7	86.0
145°	258.9	248.0	224.3	215.4	202.6	181.8	159.1	135.4	113.6	90.9	69.2
147.5°	216.4	203.6	182.8	174.9	165.0	147.2	129.5	110.7	91.9	72.1	53.4
150°	176.9	162.1	145.3	140.3	130.4	116.6	101.8	86.0	71.1	55.3	38.5
152.5°	139.3	126.5	112.7	107.7	99.8	90.9	78.1	65.2	53.4	38.5	26.7
155°	103.8	93.9	83.0	80.0	74.1	67.2	56.3	46.4	35.6	25.7	18.8
157.5°	73.1	65.2	57.3	55.3	51.4	45.5	36.6	28.7	22.7	16.8	12.8
160°	45.5	40.5	34.6	32.6	29.6	25.7	19.8	16.8	13.8	10.9	7.9
162.5°	21.7	18.8	16.8	15.8	13.8	11.9	10.9	8.9	7.9	6.9	5.9
165°	7.9	7.9	7.9	6.9	6.9	6.9	6.9	5.9	4.9	4.9	4.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201320

CATALOG NUMBER: 4LBLED-LD4-11-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7	1359.7
2.5°	1358.7	1360.7	1360.7	1361.7	1364.7	1370.6	1378.5	1379.5
5°	1354.8	1355.8	1355.8	1355.8	1358.7	1363.7	1371.6	1372.6
7.5°	1345.9	1345.9	1345.9	1345.9	1348.9	1352.8	1359.7	1360.7
10°	1334.0	1333.0	1333.0	1332.1	1334.0	1337.0	1344.9	1343.9
12.5°	1319.2	1317.2	1316.3	1316.3	1315.3	1318.2	1323.2	1324.2
15°	1302.4	1298.5	1296.5	1294.5	1293.5	1293.5	1299.5	1298.5
17.5°	1282.7	1276.7	1273.8	1270.8	1266.8	1266.8	1270.8	1269.8
20°	1259.9	1252.0	1247.1	1243.1	1237.2	1235.2	1237.2	1236.2
22.5°	1237.2	1224.4	1219.4	1213.5	1204.6	1200.6	1199.6	1198.7
25°	1210.5	1194.7	1187.8	1181.9	1169.0	1164.1	1159.1	1157.2
27.5°	1186.8	1164.1	1155.2	1145.3	1130.5	1123.6	1115.7	1113.7
30°	1166.0	1132.5	1118.6	1108.7	1090.0	1079.1	1069.2	1067.2
32.5°	1150.2	1103.8	1085.0	1073.2	1047.5	1032.6	1019.8	1013.9
35°	1136.4	1077.1	1052.4	1033.6	1003.0	985.2	967.4	962.5
37.5°	1123.6	1054.4	1021.8	996.1	961.5	935.8	916.0	908.1
40°	1110.7	1033.6	994.1	961.5	916.0	886.4	861.7	851.8
42.5°	1098.9	1012.9	970.4	930.9	871.6	836.0	809.3	795.5
45°	1088.0	994.1	947.7	904.2	828.1	786.6	754.0	741.1
47.5°	1080.1	976.3	924.9	877.5	787.6	736.2	702.6	685.8
50°	1074.1	959.5	903.2	850.8	752.0	687.8	650.2	630.5
52.5°	1071.2	944.7	883.4	827.1	719.4	641.3	596.9	582.0
55°	1072.2	932.8	866.6	805.4	688.8	596.9	547.4	524.7
57.5°	1074.1	922.0	849.8	783.6	658.1	553.4	498.0	474.3
60°	1078.1	913.1	835.0	762.9	629.5	515.8	452.6	429.9
62.5°	1082.1	905.2	820.2	743.1	601.8	481.2	407.1	381.4
65°	1083.0	893.3	804.4	723.3	574.1	446.7	360.7	336.0
67.5°	1079.1	878.5	784.6	700.6	545.5	413.1	317.2	291.5
70°	1067.2	858.7	761.9	674.9	513.9	380.4	275.7	248.0
72.5°	1045.5	833.0	735.2	646.3	483.2	345.9	238.2	204.6
75°	1014.9	801.4	703.6	613.7	450.6	313.3	203.6	166.0
77.5°	973.4	760.9	666.0	577.1	415.0	279.7	173.9	130.4
80°	920.0	718.4	624.5	537.6	380.4	249.0	145.3	96.8
82.5°	856.7	670.0	580.1	497.1	347.8	217.4	118.6	67.2
85°	791.5	617.6	533.6	454.6	313.3	187.8	95.9	39.5
87.5°	727.3	565.2	489.1	416.0	277.7	161.1	74.1	15.8
90°	664.1	514.8	442.7	374.5	247.0	136.4	55.3	0.0
92.5°	611.7	477.3	412.1	346.8	227.3	123.5	47.4	0.0
95°	565.2	441.7	379.5	319.2	206.5	111.7	39.5	0.0
97.5°	522.7	408.1	350.8	293.5	187.8	98.8	32.6	0.0
100°	482.2	374.5	321.2	269.8	170.0	87.9	24.7	0.0
102.5°	446.7	344.9	294.5	244.1	152.2	77.1	17.8	0.0
105°	412.1	316.2	269.8	221.4	136.4	67.2	10.9	0.0
107.5°	381.4	289.5	245.1	200.6	121.5	58.3	6.9	0.0
110°	351.8	264.8	221.4	180.8	108.7	50.4	5.9	0.0



TEST NUMBER: P201320

CATALOG NUMBER: 4LBLED-LD4-11-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	324.1	241.1	200.6	162.1	97.8	42.5	5.9	0.0
115°	295.5	218.4	180.8	146.3	87.0	34.6	4.9	0.0
117.5°	270.8	196.6	163.0	133.4	76.1	27.7	4.9	0.0
120°	246.1	177.9	148.2	119.6	66.2	20.8	4.9	0.0
122.5°	221.4	161.1	132.4	106.7	57.3	16.8	4.0	0.0
125°	198.6	143.3	117.6	92.9	47.4	14.8	4.0	0.0
127.5°	175.9	125.5	101.8	80.0	37.6	12.8	3.0	0.0
130°	153.2	107.7	87.0	67.2	28.7	10.9	3.0	0.0
132.5°	132.4	90.9	73.1	55.3	22.7	8.9	2.0	0.0
135°	111.7	76.1	60.3	43.5	17.8	7.9	2.0	0.0
137.5°	93.9	62.3	47.4	32.6	14.8	5.9	2.0	0.0
140°	77.1	49.4	35.6	24.7	11.9	4.9	1.0	0.0
142.5°	61.3	36.6	26.7	18.8	9.9	4.0	1.0	0.0
145°	47.4	26.7	19.8	14.8	8.9	3.0	1.0	0.0
147.5°	34.6	20.8	15.8	12.8	6.9	3.0	1.0	0.0
150°	24.7	15.8	12.8	9.9	4.9	2.0	1.0	0.0
152.5°	18.8	11.9	9.9	7.9	4.0	2.0	1.0	0.0
155°	13.8	8.9	7.9	5.9	3.0	2.0	1.0	0.0
157.5°	9.9	6.9	5.9	4.0	3.0	2.0	1.0	0.0
160°	5.9	4.9	4.0	3.0	2.0	1.0	1.0	0.0
162.5°	4.9	3.0	3.0	3.0	2.0	1.0	1.0	0.0
165°	3.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)