

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: P201336

Luminaire Tested: **8LBLED-LD4-14-SYMW-UNV-L835-CD2-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201336
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28136)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8LBLED-LD4-14-SYMW-UNV-L835-CD2-U
Description: 8 ft. Low Bay Linear, 14000 lm, Wht Sym lens, 3.3.5K
Light Source: (784) 3500K CCT, 80 CRI LEDS
2UT217098A8354C
Ballast/Driver: OSRAM
2x(OTi50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13907.4 lumens
Efficiency: N/A
Efficacy: 139.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 2.12 / 1.93
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 8' x H: 0.21')
CIE Type: Semi-Direct

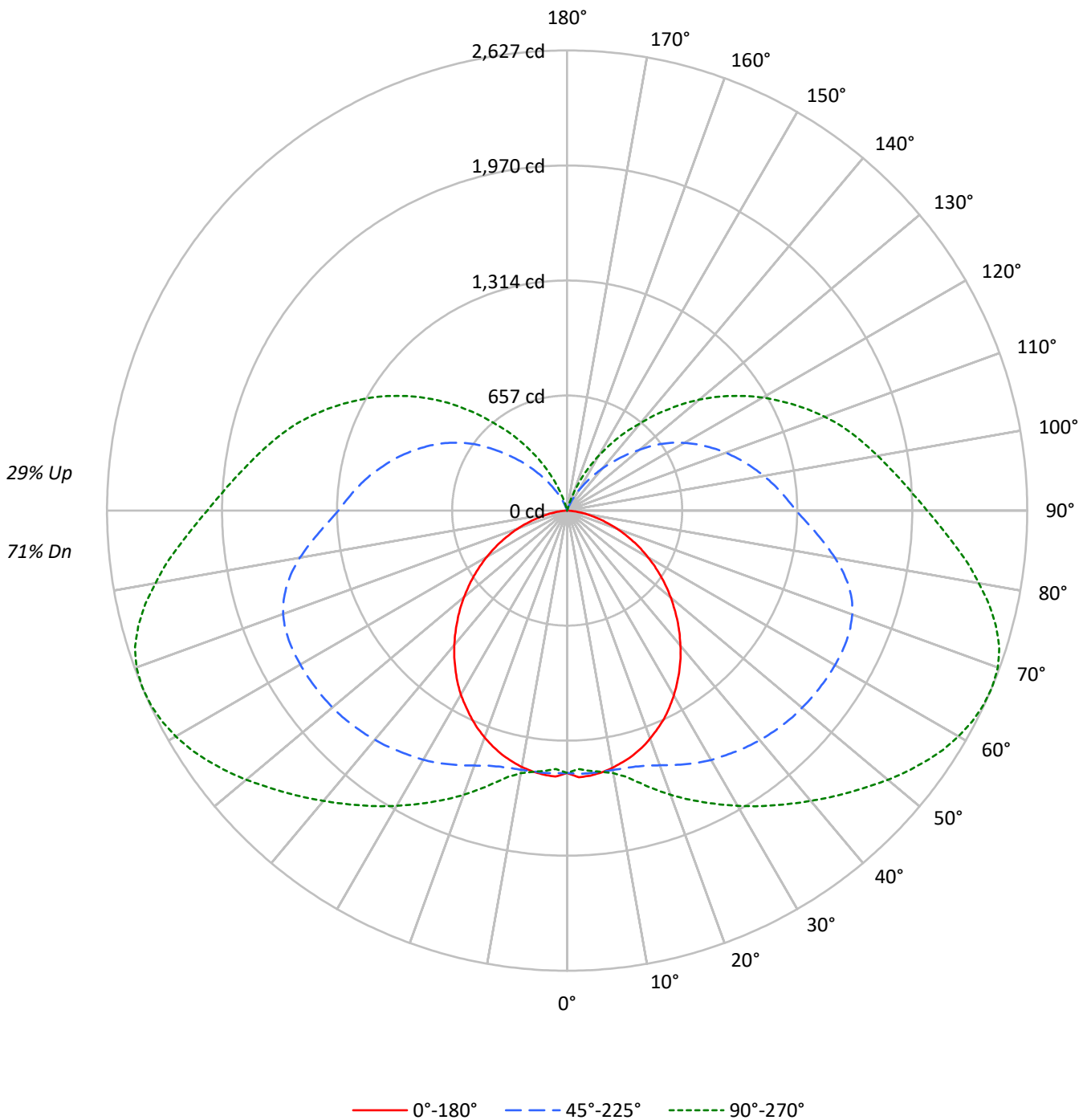
Input Watts (W): 99.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
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	0
RCR																		
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	97	90	84	79	91	85	80	75	75	71	67	66	63	60	58	55	53	49
2	86	76	67	60	81	71	64	57	63	57	51	55	50	46	48	44	40	36
3	77	65	55	48	72	61	52	45	54	47	41	47	41	36	41	36	32	28
4	70	56	46	39	65	53	44	37	47	39	33	41	35	30	35	30	26	23
5	64	50	40	32	60	47	38	31	41	34	28	36	30	25	31	26	22	19
6	59	44	34	27	55	42	33	26	37	29	24	32	26	21	28	23	19	16
7	54	40	30	24	50	37	29	23	33	26	20	29	23	18	25	20	16	14
8	50	36	27	21	47	34	25	20	30	23	18	26	20	16	23	18	14	12
9	47	33	24	18	44	31	23	17	27	21	16	24	18	14	21	16	13	10
10	43	30	22	16	41	28	21	15	25	19	14	22	17	13	20	15	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12067	12067	12067
5°	12256	10877	12216
10°	12146	10214	12105
15°	11992	10069	11940
20°	11765	10184	11702
25°	11509	10326	11421
30°	11163	10532	11128
35°	10787	10795	10739
40°	10349	11126	10311
45°	9890	11548	9835
50°	9384	12062	9339
55°	8831	12622	8780
60°	8225	13164	8166
65°	7510	13622	7443
70°	6646	13940	6563
75°	5530	13968	5318
80°	4242	13735	3938
85°	2402	13460	2138



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.0	1.0
10°-20°	430.8	3.1
20°-30°	729.2	5.2
30°-40°	1019.7	7.3
40°-50°	1284.8	9.2
50°-60°	1508.6	10.8
60°-70°	1649.5	11.9
70°-80°	1629.7	11.7
80°-90°	1431.7	10.3
90°-100°	1218.7	8.8
100°-110°	1016.3	7.3
110°-120°	787.2	5.7
120°-130°	547.9	3.9
130°-140°	319.8	2.3
140°-150°	145.9	1.0
150°-160°	41.6	0.3
160°-170°	3.0	0.0
170°-180°	0.0	0.0
0°-30°	1303.0	9.4
0°-40°	2322.7	16.7
0°-60°	5116.0	36.8
0°-90°	9827.0	70.7
90°-120°	3022.2	21.7
90°-150°	4035.8	29.0
90°-180°	4080.0	29.3
0°-180°	13907.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1498	1498	1498	1498	1498	
5°	1519	1505	1491	1503	1514	144
15°	1448	1513	1610	1513	1441	408
25°	1310	1598	1836	1598	1300	602
35°	1117	1679	2055	1676	1112	698
45°	891	1735	2276	1732	886	687
55°	652	1761	2497	1756	648	584
65°	416	1760	2623	1754	412	412
75°	195	1665	2534	1658	187	209
85°	34	1424	2218	1420	30	43
90°	0	1306	2055	1306	0	2
95°	0	1224	1920	1225	0	0
105°	1	1053	1688	1057	0	1
115°	1	871	1430	873	1	1
125°	2	666	1140	666	1	2
135°	2	422	818	422	1	2
145°	4	216	507	214	2	2
155°	4	61	225	58	2	2
165°	4	6	16	0	2	1
175°	0	0	0	0	0	0
180°	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°	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7
2.5°	1523.9	1522.6	1516.4	1506.4	1502.7	1500.2	1498.9	1495.2	1493.9	1496.4	1503.9
5°	1518.9	1516.4	1511.4	1502.7	1498.9	1497.7	1496.4	1492.7	1491.4	1495.2	1505.1
7.5°	1507.6	1506.4	1501.4	1492.7	1491.4	1488.9	1488.9	1486.4	1486.4	1492.7	1503.9
10°	1491.4	1490.2	1485.2	1478.9	1477.7	1477.7	1477.7	1477.7	1480.2	1490.2	1503.9
12.5°	1470.2	1470.2	1466.4	1461.4	1462.7	1462.7	1463.9	1466.4	1473.9	1488.9	1506.4
15°	1447.7	1446.4	1442.7	1441.4	1445.2	1446.4	1450.2	1456.4	1468.9	1490.2	1512.6
17.5°	1419.0	1419.0	1415.2	1416.5	1424.0	1427.7	1434.0	1445.2	1465.2	1493.9	1526.4
20°	1385.2	1386.5	1385.2	1389.0	1401.5	1409.0	1416.5	1435.2	1463.9	1503.9	1547.6
22.5°	1347.8	1350.3	1350.3	1360.3	1376.5	1387.7	1399.0	1425.2	1466.4	1521.4	1572.6
25°	1310.3	1310.3	1314.0	1327.8	1350.3	1364.0	1381.5	1419.0	1475.2	1540.1	1597.6
27.5°	1265.3	1269.1	1275.3	1294.1	1325.3	1344.0	1365.3	1419.0	1485.2	1558.9	1622.6
30°	1217.9	1221.6	1231.6	1257.8	1297.8	1321.5	1351.5	1419.0	1493.9	1573.8	1643.8
32.5°	1167.9	1174.1	1187.9	1221.6	1270.3	1302.8	1341.5	1417.7	1501.4	1586.3	1661.3
35°	1116.7	1122.9	1144.2	1184.1	1247.8	1285.3	1330.3	1414.0	1505.1	1597.6	1678.8
37.5°	1063.0	1074.2	1097.9	1147.9	1225.4	1270.3	1317.8	1410.2	1508.9	1606.3	1696.3
40°	1005.5	1016.8	1050.5	1110.4	1202.9	1250.3	1302.8	1405.2	1511.4	1615.1	1711.2
42.5°	949.3	964.3	1003.0	1075.5	1180.4	1232.8	1287.8	1397.7	1510.1	1621.3	1723.7
45°	890.6	908.1	955.6	1041.7	1155.4	1211.6	1270.3	1387.7	1507.6	1625.1	1735.0
47.5°	830.6	851.9	908.1	1008.0	1130.4	1189.1	1252.8	1377.7	1503.9	1627.6	1745.0
50°	771.9	796.9	860.6	974.3	1102.9	1165.4	1231.6	1366.5	1497.7	1628.8	1751.2
52.5°	713.2	740.7	815.7	940.6	1074.2	1140.4	1210.4	1352.8	1490.2	1627.6	1757.5
55°	652.0	682.0	770.7	904.3	1044.2	1112.9	1186.6	1335.3	1478.9	1622.6	1761.2
57.5°	593.3	627.0	728.2	869.4	1013.0	1085.5	1164.1	1316.5	1466.4	1618.8	1765.0
60°	533.4	572.1	684.5	829.4	980.5	1055.5	1136.7	1295.3	1451.4	1610.1	1765.0
62.5°	474.7	518.4	642.0	793.2	948.1	1025.5	1109.2	1271.6	1435.2	1601.3	1765.0
65°	415.9	465.9	598.3	753.2	911.8	993.0	1078.0	1246.6	1415.2	1588.8	1760.0
67.5°	358.5	415.9	553.3	712.0	874.4	958.0	1045.5	1217.9	1392.7	1572.6	1750.0
70°	302.3	366.0	508.4	668.3	835.6	918.1	1009.3	1186.6	1366.5	1551.4	1732.5
72.5°	246.1	318.5	460.9	624.5	794.4	879.4	971.8	1150.4	1334.0	1522.6	1705.0
75°	194.9	271.1	415.9	579.6	751.9	838.1	930.6	1110.4	1295.3	1485.2	1665.0
77.5°	148.6	227.3	372.2	535.9	707.0	796.9	888.1	1066.7	1250.3	1437.7	1612.6
80°	104.9	184.9	328.5	490.9	662.0	750.7	840.6	1019.3	1202.9	1381.5	1552.6
82.5°	65.0	146.1	284.8	447.2	618.3	705.7	794.4	971.8	1149.2	1322.8	1487.7
85°	33.7	109.9	243.6	406.0	575.8	662.0	749.5	923.1	1094.2	1262.8	1424.0
87.5°	11.2	79.9	209.8	369.7	537.1	623.3	708.2	876.9	1043.0	1204.1	1361.5
90°	0.0	60.0	184.9	341.0	504.6	588.3	673.3	835.6	998.0	1156.7	1306.5
92.5°	0.0	51.2	168.6	321.0	482.1	564.6	647.0	808.2	964.3	1117.9	1264.1
95°	0.0	41.2	154.9	301.0	458.4	539.6	620.8	778.2	931.8	1081.7	1224.1
97.5°	0.0	32.5	139.9	282.3	434.7	513.4	592.1	748.2	898.1	1045.5	1182.9
100°	1.2	25.0	123.7	258.6	409.7	487.1	563.3	715.7	861.9	1004.3	1140.4
102.5°	1.2	17.5	108.7	238.6	383.5	458.4	533.4	682.0	825.6	966.8	1096.7
105°	1.2	12.5	93.7	217.3	358.5	430.9	504.6	649.5	789.4	925.6	1053.0
107.5°	1.2	8.7	79.9	197.4	333.5	402.2	473.4	614.6	751.9	884.4	1009.3
110°	1.2	6.2	67.5	176.1	306.0	374.7	443.4	579.6	713.2	841.9	964.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.2	5.0	55.0	156.1	278.5	346.0	412.2	544.6	674.5	799.4	918.1
115°	1.2	5.0	43.7	137.4	251.1	316.0	379.7	509.6	633.3	755.7	870.6
117.5°	1.2	3.7	33.7	118.7	226.1	286.0	347.2	470.9	593.3	712.0	823.1
120°	1.2	3.7	25.0	99.9	199.9	256.1	316.0	433.4	550.8	665.8	771.9
122.5°	2.5	3.7	18.7	83.7	176.1	227.3	284.8	396.0	505.9	617.0	722.0
125°	2.5	2.5	15.0	67.5	151.1	198.6	249.8	357.2	457.2	563.3	665.8
127.5°	2.5	2.5	11.2	51.2	126.2	169.9	216.1	316.0	413.4	508.4	605.8
130°	2.5	2.5	10.0	37.5	102.4	141.1	183.6	273.5	364.7	452.2	540.9
132.5°	2.5	2.5	7.5	27.5	81.2	116.2	153.6	233.6	317.3	402.2	482.1
135°	2.5	2.5	6.2	20.0	61.2	92.4	124.9	196.1	272.3	352.2	422.2
137.5°	2.5	2.5	6.2	15.0	45.0	69.9	98.7	163.6	231.1	302.3	366.0
140°	2.5	2.5	5.0	12.5	31.2	51.2	74.9	131.2	188.6	254.8	316.0
142.5°	2.5	2.5	3.7	10.0	22.5	36.2	53.7	101.2	152.4	209.8	263.6
145°	3.7	2.5	3.7	8.7	16.2	25.0	37.5	76.2	117.4	168.6	216.1
147.5°	2.5	2.5	2.5	6.2	12.5	17.5	25.0	52.5	88.7	131.2	171.1
150°	3.7	2.5	2.5	5.0	10.0	12.5	17.5	35.0	61.2	96.2	131.2
152.5°	3.7	2.5	2.5	5.0	7.5	10.0	12.5	22.5	40.0	65.0	93.7
155°	3.7	2.5	2.5	3.7	6.2	7.5	10.0	15.0	23.7	40.0	61.2
157.5°	3.7	3.7	3.7	3.7	5.0	6.2	7.5	11.2	13.7	22.5	35.0
160°	3.7	3.7	2.5	2.5	3.7	3.7	5.0	7.5	10.0	12.5	17.5
162.5°	3.7	3.7	3.7	2.5	2.5	2.5	3.7	5.0	6.2	8.7	11.2
165°	3.7	3.7	2.5	2.5	2.5	2.5	2.5	2.5	3.7	5.0	6.2
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°	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7
2.5°	1506.4	1500.2	1497.7	1492.7	1488.9	1486.4	1482.7	1480.2	1477.7	1476.4	1476.4
5°	1507.6	1501.4	1498.9	1495.2	1493.9	1491.4	1488.9	1491.4	1490.2	1491.4	1490.2
7.5°	1508.9	1503.9	1503.9	1502.7	1501.4	1501.4	1498.9	1501.4	1502.7	1503.9	1502.7
10°	1512.6	1511.4	1513.9	1515.1	1515.1	1515.1	1515.1	1517.6	1522.6	1522.6	1521.4
12.5°	1518.9	1522.6	1530.1	1536.4	1538.9	1538.9	1543.9	1548.9	1555.1	1556.4	1555.1
15°	1531.4	1542.6	1558.9	1572.6	1578.8	1582.6	1592.6	1601.3	1607.6	1610.1	1607.6
17.5°	1553.9	1575.1	1600.1	1620.1	1627.6	1632.6	1646.3	1655.0	1662.5	1668.8	1666.3
20°	1583.8	1612.6	1642.5	1666.3	1676.3	1682.5	1697.5	1713.7	1721.2	1726.2	1725.0
22.5°	1616.3	1650.0	1683.8	1712.5	1723.7	1731.2	1750.0	1765.0	1776.2	1782.4	1781.2
25°	1647.5	1686.3	1727.5	1758.7	1772.5	1781.2	1801.2	1818.7	1831.2	1836.2	1834.9
27.5°	1678.8	1723.7	1768.7	1804.9	1818.7	1829.9	1853.6	1872.4	1887.4	1891.1	1891.1
30°	1703.8	1756.2	1804.9	1846.1	1861.1	1876.1	1902.4	1927.3	1941.1	1946.1	1944.8
32.5°	1727.5	1786.2	1841.2	1887.4	1906.1	1921.1	1952.3	1979.8	1996.0	2001.0	1996.0
35°	1751.2	1816.2	1877.4	1927.3	1947.3	1966.1	2001.0	2032.3	2049.8	2054.7	2052.2
37.5°	1773.7	1846.1	1912.4	1967.3	1991.0	2011.0	2047.3	2084.7	2103.5	2108.5	2103.5
40°	1794.9	1873.6	1946.1	2006.0	2032.3	2056.0	2098.5	2135.9	2157.2	2163.4	2160.9
42.5°	1814.9	1901.1	1979.8	2046.0	2076.0	2101.0	2148.4	2189.6	2212.1	2219.6	2213.4
45°	1832.4	1928.6	2013.5	2084.7	2117.2	2145.9	2199.6	2244.6	2267.1	2275.8	2268.3
47.5°	1849.9	1953.6	2044.8	2123.4	2160.9	2190.9	2250.9	2298.3	2324.5	2332.0	2324.5
50°	1866.1	1978.6	2078.5	2163.4	2203.4	2237.1	2302.1	2353.3	2379.5	2390.8	2380.8
52.5°	1881.1	2002.3	2109.7	2200.9	2244.6	2282.1	2352.0	2407.0	2438.2	2445.7	2435.7
55°	1896.1	2024.8	2137.2	2235.9	2283.3	2323.3	2399.5	2457.0	2488.2	2496.9	2486.9
57.5°	1908.6	2044.8	2163.4	2269.6	2318.3	2364.5	2440.7	2500.7	2533.1	2543.1	2533.1
60°	1917.3	2061.0	2187.1	2297.1	2348.3	2395.7	2476.9	2536.9	2569.4	2579.4	2569.4
62.5°	1923.6	2073.5	2203.4	2318.3	2373.3	2422.0	2504.4	2563.1	2596.9	2606.8	2596.9
65°	1924.8	2078.5	2212.1	2332.0	2388.3	2437.0	2520.7	2579.4	2614.3	2623.1	2613.1
67.5°	1917.3	2073.5	2212.1	2334.5	2390.8	2440.7	2524.4	2583.1	2616.8	2626.8	2616.8
70°	1902.4	2058.5	2199.6	2324.5	2380.8	2430.7	2513.2	2573.1	2606.8	2616.8	2605.6
72.5°	1873.6	2032.3	2173.4	2300.8	2354.5	2403.2	2484.4	2543.1	2575.6	2586.9	2574.4
75°	1832.4	1991.0	2132.2	2254.6	2310.8	2355.8	2437.0	2494.4	2524.4	2534.4	2523.2
77.5°	1778.7	1938.6	2074.7	2195.9	2252.1	2293.3	2372.0	2428.2	2458.2	2466.9	2455.7
80°	1716.2	1874.9	2006.0	2125.9	2178.4	2217.1	2295.8	2349.5	2378.3	2387.0	2380.8
82.5°	1647.5	1802.4	1929.8	2047.3	2097.2	2135.9	2213.4	2265.8	2294.6	2307.1	2297.1
85°	1577.6	1726.2	1851.1	1964.8	2014.8	2056.0	2127.2	2179.7	2208.4	2218.4	2212.1
87.5°	1507.6	1651.3	1772.5	1882.4	1928.6	1971.1	2042.3	2094.7	2123.4	2133.4	2125.9
90°	1448.9	1586.3	1702.5	1811.2	1858.6	1897.4	1966.1	2016.0	2044.8	2054.7	2048.5
92.5°	1401.5	1532.6	1645.0	1745.0	1789.9	1831.2	1897.4	1946.1	1974.8	1983.5	1977.3
95°	1356.5	1483.9	1592.6	1690.0	1733.7	1773.7	1836.2	1883.6	1911.1	1919.8	1914.8
97.5°	1314.0	1436.4	1541.4	1636.3	1681.3	1717.5	1777.4	1822.4	1849.9	1857.4	1849.9
100°	1266.6	1390.2	1492.7	1586.3	1625.1	1661.3	1721.2	1766.2	1789.9	1799.9	1793.7
102.5°	1221.6	1340.3	1441.4	1533.9	1575.1	1611.3	1666.3	1710.0	1737.5	1743.7	1737.5
105°	1175.4	1290.3	1389.0	1480.2	1521.4	1556.4	1611.3	1653.8	1680.0	1687.5	1681.3
107.5°	1127.9	1239.1	1337.8	1424.0	1463.9	1496.4	1552.6	1593.8	1616.3	1630.1	1620.1
110°	1076.7	1186.6	1281.6	1365.3	1404.0	1435.2	1490.2	1531.4	1552.6	1565.1	1556.4



TEST NUMBER: P201336

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	1029.2	1132.9	1224.1	1305.3	1341.5	1372.7	1426.5	1466.4	1486.4	1498.9	1490.2
115°	979.3	1075.5	1165.4	1242.8	1279.1	1307.8	1361.5	1399.0	1419.0	1430.2	1422.7
117.5°	925.6	1019.3	1104.2	1180.4	1214.1	1242.8	1294.1	1331.5	1350.3	1359.0	1351.5
120°	873.1	964.3	1044.2	1116.7	1150.4	1177.9	1227.9	1262.8	1280.3	1290.3	1282.8
122.5°	818.2	906.8	979.3	1051.7	1083.0	1109.2	1154.2	1191.6	1207.9	1216.6	1211.6
125°	759.4	846.9	916.8	983.0	1013.0	1038.0	1081.7	1112.9	1131.7	1140.4	1135.4
127.5°	698.2	781.9	853.1	914.3	943.1	970.5	1006.8	1041.7	1054.2	1064.2	1059.2
130°	629.5	713.2	779.4	841.9	869.4	891.8	931.8	960.5	976.8	985.5	981.8
132.5°	562.1	639.5	709.5	765.7	791.9	815.7	851.9	879.4	901.8	903.1	898.1
135°	497.1	564.6	628.3	688.2	714.5	738.2	770.7	795.7	816.9	818.2	811.9
137.5°	434.7	497.1	552.1	608.3	635.8	660.8	690.7	714.5	734.5	738.2	729.5
140°	374.7	432.2	482.1	532.1	558.3	582.1	614.6	634.5	650.8	652.0	647.0
142.5°	317.3	369.7	413.4	459.7	483.4	504.6	540.9	560.8	575.8	579.6	572.1
145°	263.6	309.8	351.0	391.0	410.9	430.9	467.2	490.9	503.4	507.1	499.6
147.5°	212.3	251.1	287.3	323.5	341.0	359.7	389.7	419.7	430.9	433.4	427.2
150°	164.9	197.4	229.8	259.8	274.8	291.0	317.3	344.7	359.7	362.2	357.2
152.5°	121.2	148.6	174.9	199.9	212.3	224.8	247.3	273.5	292.3	293.5	288.5
155°	82.4	104.9	126.2	144.9	156.1	166.1	183.6	203.6	223.6	224.8	221.1
157.5°	50.0	65.0	82.4	97.4	104.9	113.7	126.2	141.1	158.6	162.4	158.6
160°	25.0	33.7	43.7	53.7	60.0	66.2	72.4	84.9	94.9	103.7	98.7
162.5°	12.5	15.0	17.5	22.5	25.0	28.7	33.7	38.7	43.7	52.5	46.2
165°	7.5	8.7	10.0	10.0	11.2	11.2	11.2	11.2	11.2	16.2	11.2
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: P201336

CATALOG NUMBER: 8LBLELD4-14-SYMW-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7
2.5°	1480.2	1482.7	1487.7	1490.2	1492.7	1495.2	1500.2	1507.6	1501.4	1495.2	1496.4
5°	1490.2	1490.2	1491.4	1495.2	1495.2	1496.4	1501.4	1508.9	1502.7	1493.9	1493.9
7.5°	1502.7	1501.4	1502.7	1503.9	1502.7	1502.7	1505.1	1508.9	1501.4	1491.4	1488.9
10°	1520.1	1516.4	1515.1	1516.4	1515.1	1511.4	1512.6	1512.6	1502.7	1487.7	1481.4
12.5°	1551.4	1545.1	1540.1	1538.9	1535.1	1528.9	1525.1	1520.1	1505.1	1487.7	1475.2
15°	1602.6	1592.6	1582.6	1578.8	1572.6	1557.6	1545.1	1533.9	1512.6	1487.7	1470.2
17.5°	1660.0	1647.5	1633.8	1628.8	1620.1	1598.8	1577.6	1556.4	1526.4	1491.4	1466.4
20°	1715.0	1700.0	1683.8	1675.0	1666.3	1640.1	1615.1	1587.6	1548.9	1502.7	1465.2
22.5°	1770.0	1752.5	1730.0	1722.5	1711.2	1681.3	1651.3	1620.1	1573.8	1518.9	1467.7
25°	1823.7	1803.7	1782.4	1770.0	1757.5	1723.7	1687.5	1650.0	1597.6	1537.6	1476.4
27.5°	1877.4	1854.9	1828.7	1814.9	1802.4	1765.0	1723.7	1681.3	1622.6	1555.1	1487.7
30°	1929.8	1904.9	1873.6	1858.6	1843.7	1801.2	1753.7	1706.3	1642.5	1570.1	1495.2
32.5°	1982.3	1954.8	1919.8	1902.4	1884.9	1836.2	1783.7	1730.0	1660.0	1583.8	1501.4
35°	2033.5	2003.5	1964.8	1943.6	1924.8	1872.4	1813.7	1753.7	1676.3	1595.1	1505.1
37.5°	2086.0	2052.2	2009.8	1986.0	1964.8	1907.4	1842.4	1775.0	1693.8	1603.8	1508.9
40°	2138.4	2102.2	2054.7	2029.8	2003.5	1941.1	1871.1	1796.2	1708.7	1612.6	1510.1
42.5°	2192.1	2152.2	2099.7	2072.2	2044.8	1974.8	1897.4	1814.9	1721.2	1618.8	1508.9
45°	2245.9	2200.9	2144.7	2113.5	2083.5	2007.3	1923.6	1831.2	1732.5	1622.6	1506.4
47.5°	2299.6	2252.1	2190.9	2157.2	2120.9	2039.8	1948.6	1848.6	1742.5	1623.8	1503.9
50°	2354.5	2303.3	2237.1	2199.6	2162.2	2071.0	1973.6	1863.6	1748.7	1625.1	1497.7
52.5°	2408.2	2353.3	2282.1	2242.1	2198.4	2102.2	1997.3	1878.6	1753.7	1623.8	1488.9
55°	2457.0	2399.5	2324.5	2282.1	2233.4	2130.9	2018.5	1891.1	1756.2	1620.1	1477.7
57.5°	2501.9	2443.2	2364.5	2317.1	2269.6	2158.4	2038.5	1904.9	1758.7	1613.8	1465.2
60°	2536.9	2478.2	2395.7	2348.3	2297.1	2180.9	2054.7	1912.4	1758.7	1605.1	1448.9
62.5°	2563.1	2504.4	2422.0	2372.0	2318.3	2199.6	2067.2	1919.8	1758.7	1596.3	1432.7
65°	2579.4	2521.9	2437.0	2387.0	2332.0	2208.4	2073.5	1921.1	1753.7	1583.8	1412.7
67.5°	2581.9	2524.4	2439.5	2390.8	2334.5	2208.4	2069.7	1914.8	1743.7	1567.6	1390.2
70°	2570.6	2513.2	2429.5	2379.5	2324.5	2197.1	2056.0	1899.9	1726.2	1546.4	1364.0
72.5°	2541.9	2483.2	2402.0	2350.8	2297.1	2170.9	2027.3	1872.4	1697.5	1516.4	1332.8
75°	2491.9	2434.5	2354.5	2307.1	2252.1	2128.4	1983.5	1832.4	1657.5	1478.9	1294.1
77.5°	2425.7	2369.5	2290.8	2243.4	2192.1	2071.0	1928.6	1778.7	1608.8	1432.7	1249.1
80°	2347.0	2293.3	2215.9	2169.7	2119.7	2002.3	1862.4	1716.2	1548.9	1377.7	1199.1
82.5°	2263.3	2210.9	2135.9	2088.5	2041.0	1927.3	1793.7	1648.8	1485.2	1319.0	1145.4
85°	2182.2	2125.9	2051.0	2007.3	1959.8	1848.6	1722.5	1578.8	1420.2	1259.1	1093.0
87.5°	2097.2	2042.3	1968.6	1927.3	1882.4	1770.0	1650.0	1510.1	1359.0	1205.4	1041.7
90°	2019.8	1966.1	1894.9	1853.6	1811.2	1702.5	1585.1	1452.7	1306.5	1157.9	999.3
92.5°	1948.6	1898.6	1831.2	1791.2	1750.0	1646.3	1533.9	1405.2	1264.1	1120.4	965.5
95°	1887.4	1838.7	1776.2	1737.5	1695.0	1596.3	1486.4	1360.3	1225.4	1085.5	934.3
97.5°	1826.2	1779.9	1718.7	1681.3	1641.3	1545.1	1438.9	1317.8	1185.4	1046.7	900.6
100°	1770.0	1725.0	1662.5	1628.8	1590.1	1497.7	1392.7	1274.1	1144.2	1008.0	864.4
102.5°	1715.0	1670.0	1610.1	1576.3	1538.9	1446.4	1344.0	1226.6	1100.4	969.3	829.4
105°	1658.8	1615.1	1555.1	1521.4	1483.9	1394.0	1294.1	1180.4	1056.7	929.3	793.2
107.5°	1597.6	1555.1	1497.7	1463.9	1429.0	1339.0	1242.8	1131.7	1013.0	888.1	755.7
110°	1535.1	1492.7	1440.2	1404.0	1370.2	1282.8	1189.1	1083.0	966.8	845.6	717.0



TEST NUMBER: P201336

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1470.2	1429.0	1377.7	1344.0	1309.0	1225.4	1135.4	1033.0	920.6	801.9	677.0
115°	1404.0	1362.8	1311.5	1277.8	1246.6	1166.6	1079.2	981.8	873.1	758.2	637.0
117.5°	1331.5	1295.3	1246.6	1216.6	1184.1	1104.2	1023.0	929.3	825.6	712.0	595.8
120°	1264.1	1229.1	1181.6	1149.2	1120.4	1044.2	966.8	875.6	773.2	667.0	553.3
122.5°	1192.9	1155.4	1111.7	1084.2	1053.0	983.0	908.1	820.6	720.7	615.8	507.1
125°	1117.9	1083.0	1040.5	1014.3	985.5	919.3	848.1	760.7	665.8	564.6	459.7
127.5°	1041.7	1009.3	968.0	944.3	916.8	851.9	783.2	698.2	603.3	508.4	410.9
130°	964.3	931.8	894.3	869.4	843.1	781.9	714.5	630.8	540.9	452.2	363.5
132.5°	883.1	851.9	814.4	791.9	768.2	709.5	640.8	559.6	479.6	399.7	317.3
135°	799.4	770.7	737.0	715.7	692.0	632.0	567.1	493.4	422.2	348.5	272.3
137.5°	718.2	692.0	659.5	638.3	612.1	555.8	498.4	432.2	367.2	298.5	227.3
140°	638.3	614.6	583.3	559.6	537.1	484.6	432.2	372.2	313.5	251.1	187.4
142.5°	563.3	542.1	507.1	484.6	463.4	417.2	371.0	314.8	262.3	206.1	151.1
145°	489.6	470.9	432.2	412.2	394.7	353.5	307.3	261.1	213.6	164.9	117.4
147.5°	418.4	396.0	359.7	342.2	326.0	289.8	251.1	208.6	169.9	127.4	86.2
150°	349.7	322.3	291.0	276.0	262.3	231.1	197.4	162.4	128.7	92.4	60.0
152.5°	278.5	249.8	228.6	213.6	201.1	176.1	148.6	118.7	91.2	62.5	37.5
155°	206.1	186.1	166.1	158.6	147.4	126.2	103.7	79.9	57.5	37.5	21.2
157.5°	142.4	127.4	114.9	107.4	98.7	82.4	63.7	46.2	32.5	20.0	10.0
160°	86.2	76.2	67.5	61.2	55.0	43.7	31.2	21.2	13.7	6.2	3.7
162.5°	38.7	32.5	28.7	25.0	21.2	16.2	10.0	5.0	2.5	1.2	1.2
165°	7.5	5.0	3.7	2.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0
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: P201336

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7	1497.7
2.5°	1497.7	1498.9	1500.2	1500.2	1503.9	1510.1	1518.9	1520.1
5°	1493.9	1495.2	1495.2	1496.4	1500.2	1505.1	1512.6	1513.9
7.5°	1487.7	1487.7	1487.7	1487.7	1490.2	1495.2	1501.4	1502.7
10°	1478.9	1476.4	1475.2	1473.9	1475.2	1480.2	1485.2	1486.4
12.5°	1468.9	1462.7	1460.2	1458.9	1458.9	1460.2	1465.2	1465.2
15°	1457.7	1447.7	1443.9	1441.4	1436.4	1436.4	1441.4	1441.4
17.5°	1446.4	1432.7	1425.2	1420.2	1412.7	1411.5	1414.0	1411.5
20°	1436.4	1415.2	1405.2	1396.5	1385.2	1381.5	1381.5	1377.7
22.5°	1426.5	1397.7	1384.0	1371.5	1354.0	1347.8	1344.0	1341.5
25°	1420.2	1379.0	1361.5	1346.5	1322.8	1309.0	1305.3	1300.3
27.5°	1419.0	1364.0	1340.3	1321.5	1289.1	1272.8	1262.8	1256.6
30°	1419.0	1349.0	1317.8	1291.6	1251.6	1226.6	1216.6	1214.1
32.5°	1417.7	1337.8	1300.3	1266.6	1215.4	1182.9	1167.9	1164.1
35°	1414.0	1326.5	1282.8	1241.6	1179.1	1137.9	1116.7	1111.7
37.5°	1409.0	1312.8	1266.6	1219.1	1141.7	1091.7	1065.5	1058.0
40°	1404.0	1299.0	1246.6	1195.4	1104.2	1044.2	1010.5	1001.8
42.5°	1395.2	1284.1	1229.1	1172.9	1069.2	996.8	958.0	944.3
45°	1386.5	1266.6	1207.9	1147.9	1034.2	948.1	899.3	885.6
47.5°	1375.2	1247.8	1186.6	1120.4	1001.8	900.6	845.6	828.1
50°	1362.8	1229.1	1162.9	1094.2	966.8	854.4	786.9	768.2
52.5°	1349.0	1207.9	1139.2	1066.7	931.8	810.7	732.0	708.2
55°	1331.5	1184.1	1111.7	1035.5	895.6	765.7	675.8	648.3
57.5°	1312.8	1160.4	1085.5	1006.8	859.4	723.2	620.8	589.6
60°	1290.3	1132.9	1053.0	974.3	821.9	679.5	565.8	529.6
62.5°	1266.6	1105.4	1024.3	940.6	784.4	637.0	512.1	470.9
65°	1241.6	1074.2	991.8	905.6	744.5	592.1	459.7	412.2
67.5°	1211.6	1040.5	955.6	868.1	703.2	547.1	408.5	354.7
70°	1181.6	1004.3	915.6	828.1	660.8	502.1	359.7	298.5
72.5°	1145.4	965.5	875.6	786.9	617.0	458.4	312.3	242.3
75°	1105.4	925.6	834.4	744.5	572.1	412.2	264.8	187.4
77.5°	1063.0	881.9	791.9	700.7	529.6	368.5	221.1	141.1
80°	1018.0	835.6	747.0	655.8	484.6	324.8	178.6	97.4
82.5°	968.0	790.7	702.0	610.8	442.2	282.3	139.9	60.0
85°	920.6	745.7	659.5	569.6	401.0	239.8	104.9	30.0
87.5°	874.4	704.5	620.8	532.1	366.0	207.3	76.2	8.7
90°	836.9	670.8	588.3	502.1	338.5	183.6	57.5	0.0
92.5°	806.9	644.5	563.3	479.6	318.5	167.4	48.7	0.0
95°	778.2	617.0	539.6	455.9	298.5	153.6	38.7	0.0
97.5°	747.0	590.8	513.4	432.2	278.5	138.6	31.2	0.0
100°	715.7	562.1	487.1	408.5	256.1	123.7	22.5	0.0
102.5°	682.0	532.1	458.4	382.2	236.1	107.4	15.0	0.0
105°	649.5	502.1	430.9	356.0	214.8	93.7	10.0	0.0
107.5°	614.6	472.2	402.2	331.0	193.6	78.7	6.2	0.0
110°	579.6	442.2	373.5	304.8	173.6	65.0	5.0	0.0



TEST NUMBER: P201336

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	544.6	410.9	344.7	277.3	153.6	52.5	3.7	1.2
115°	507.1	378.5	314.8	249.8	133.7	41.2	3.7	1.2
117.5°	469.7	344.7	286.0	223.6	114.9	31.2	2.5	1.2
120°	430.9	314.8	254.8	198.6	97.4	22.5	2.5	1.2
122.5°	393.5	283.5	226.1	172.4	79.9	17.5	2.5	1.2
125°	354.7	247.3	197.4	148.6	63.7	13.7	2.5	1.2
127.5°	313.5	213.6	167.4	122.4	48.7	10.0	2.5	1.2
130°	271.1	179.9	138.6	99.9	35.0	7.5	2.5	1.2
132.5°	231.1	151.1	112.4	78.7	25.0	6.2	2.5	1.2
135°	194.9	122.4	88.7	58.7	17.5	5.0	1.2	1.2
137.5°	159.9	97.4	67.5	42.5	12.5	3.7	2.5	1.2
140°	128.7	73.7	48.7	30.0	8.7	2.5	2.5	1.2
142.5°	99.9	52.5	33.7	20.0	6.2	2.5	1.2	1.2
145°	73.7	35.0	22.5	12.5	5.0	2.5	2.5	2.5
147.5°	50.0	23.7	13.7	8.7	3.7	2.5	2.5	1.2
150°	32.5	15.0	8.7	6.2	2.5	2.5	2.5	1.2
152.5°	20.0	8.7	5.0	3.7	2.5	2.5	2.5	1.2
155°	10.0	5.0	3.7	2.5	2.5	2.5	2.5	2.5
157.5°	5.0	3.7	2.5	2.5	2.5	2.5	2.5	2.5
160°	2.5	2.5	1.2	1.2	2.5	2.5	2.5	2.5
162.5°	1.2	1.2	1.2	1.2	2.5	2.5	2.5	2.5
165°	0.0	1.2	1.2	1.2	2.5	2.5	2.5	2.5
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)