

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: P201310

Luminaire Tested: **8LBLED-LD4-14-SYMW-UNV-L850-CD2-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201310
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: 8LBLELD4-14-SYMW-UNV-L850-CD2-U
Description: 8 ft. Low Bay Linear, 14000 lm, Wht Sym lens, 5K
Light Source: (784) 5000K CCT, 80 CRI LEDS
2UT217098A8504C
Ballast/Driver: OSRAM
2x(OTi50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14680.3 lumens
Efficiency: N/A
Efficacy: 147.4 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

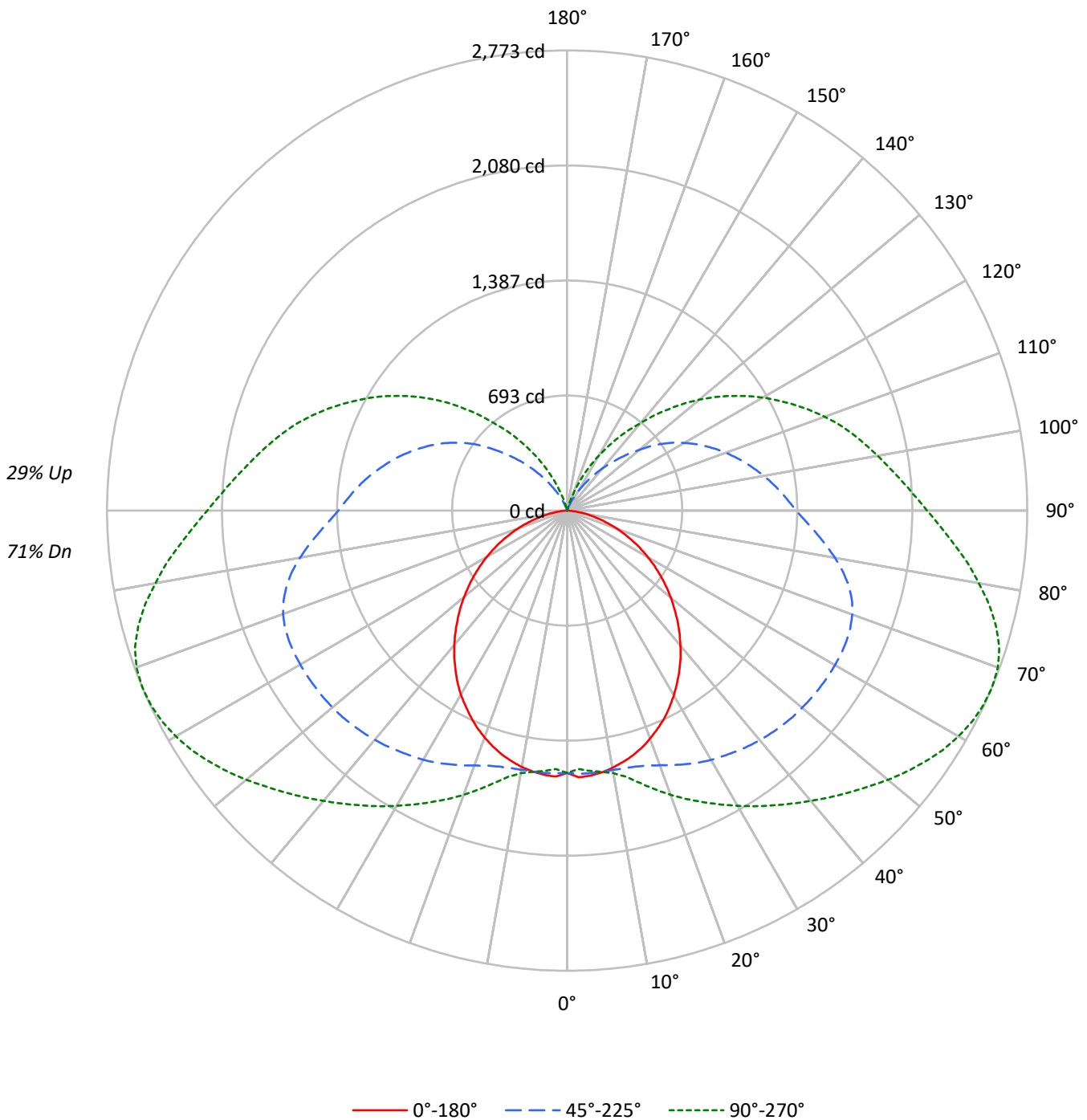
Input Watts (W): 99.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12737	12737	12737
5°	12937	11481	12895
10°	12821	10782	12778
15°	12658	10629	12603
20°	12419	10750	12352
25°	12148	10900	12056
30°	11782	11117	11747
35°	11386	11395	11336
40°	10925	11744	10884
45°	10440	12190	10381
50°	9906	12732	9859
55°	9322	13323	9268
60°	8681	13896	8619
65°	7929	14379	7857
70°	7016	14715	6928
75°	5837	14744	5613
80°	4480	14498	4157
85°	2537	14208	2252



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.0	1.0
10°-20°	454.7	3.1
20°-30°	769.7	5.2
30°-40°	1076.4	7.3
40°-50°	1356.2	9.2
50°-60°	1592.4	10.8
60°-70°	1741.2	11.9
70°-80°	1720.3	11.7
80°-90°	1511.3	10.3
90°-100°	1286.4	8.8
100°-110°	1072.8	7.3
110°-120°	830.9	5.7
120°-130°	578.4	3.9
130°-140°	337.6	2.3
140°-150°	154.0	1.0
150°-160°	44.0	0.3
160°-170°	3.1	0.0
170°-180°	0.0	0.0
0°-30°	1375.4	9.4
0°-40°	2451.8	16.7
0°-60°	5400.3	36.8
0°-90°	10373.1	70.7
90°-120°	3190.1	21.7
90°-150°	4260.1	29.0
90°-180°	4307.0	29.3
0°-180°	14680.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1581	1581	1581	1581	1581	
5°	1603	1589	1574	1586	1598	152
15°	1528	1597	1700	1597	1522	430
25°	1383	1686	1938	1686	1373	636
35°	1179	1772	2169	1769	1174	736
45°	940	1831	2402	1829	935	725
55°	688	1859	2636	1854	684	616
65°	439	1858	2769	1851	435	435
75°	206	1758	2675	1750	198	221
85°	36	1503	2342	1499	32	45
90°	0	1379	2169	1379	0	2
95°	0	1292	2026	1293	0	1
105°	1	1112	1781	1116	0	1
115°	1	919	1510	922	1	1
125°	3	703	1204	703	1	2
135°	3	446	864	446	1	2
145°	4	228	535	226	3	2
155°	4	65	237	61	3	2
165°	4	7	17	0	3	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°	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9
2.5°	1608.6	1607.3	1600.7	1590.1	1586.2	1583.5	1582.2	1578.2	1576.9	1579.6	1587.5
5°	1603.3	1600.7	1595.4	1586.2	1582.2	1580.9	1579.6	1575.6	1574.3	1578.2	1588.8
7.5°	1591.4	1590.1	1584.8	1575.6	1574.3	1571.7	1571.7	1569.0	1569.0	1575.6	1587.5
10°	1574.3	1573.0	1567.7	1561.1	1559.8	1559.8	1559.8	1559.8	1562.4	1573.0	1587.5
12.5°	1551.9	1551.9	1547.9	1542.6	1544.0	1544.0	1545.3	1547.9	1555.8	1571.7	1590.1
15°	1528.1	1526.8	1522.9	1521.5	1525.5	1526.8	1530.8	1537.4	1550.6	1573.0	1596.7
17.5°	1497.8	1497.8	1493.9	1495.2	1503.1	1507.0	1513.6	1525.5	1546.6	1576.9	1611.2
20°	1462.2	1463.5	1462.2	1466.2	1479.4	1487.3	1495.2	1515.0	1545.3	1587.5	1633.6
22.5°	1422.7	1425.3	1425.3	1435.8	1453.0	1464.9	1476.7	1504.4	1547.9	1605.9	1660.0
25°	1383.1	1383.1	1387.1	1401.6	1425.3	1439.8	1458.3	1497.8	1557.1	1625.7	1686.4
27.5°	1335.6	1339.6	1346.2	1366.0	1398.9	1418.7	1441.1	1497.8	1567.7	1645.5	1712.7
30°	1285.5	1289.5	1300.0	1327.7	1369.9	1395.0	1426.6	1497.8	1576.9	1661.3	1735.1
32.5°	1232.8	1239.4	1253.9	1289.5	1340.9	1375.2	1416.1	1496.5	1584.8	1674.5	1753.6
35°	1178.7	1185.3	1207.7	1249.9	1317.2	1356.7	1404.2	1492.5	1588.8	1686.4	1772.1
37.5°	1122.0	1133.9	1159.0	1211.7	1293.4	1340.9	1391.0	1488.6	1592.7	1695.6	1790.5
40°	1061.4	1073.3	1108.9	1172.1	1269.7	1319.8	1375.2	1483.3	1595.4	1704.8	1806.3
42.5°	1002.1	1017.9	1058.8	1135.2	1246.0	1301.4	1359.4	1475.4	1594.1	1711.4	1819.5
45°	940.1	958.5	1008.7	1099.6	1219.6	1278.9	1340.9	1464.9	1591.4	1715.4	1831.4
47.5°	876.8	899.2	958.5	1064.0	1193.2	1255.2	1322.5	1454.3	1587.5	1718.0	1841.9
50°	814.8	841.2	908.4	1028.4	1164.2	1230.2	1300.0	1442.4	1580.9	1719.3	1848.5
52.5°	752.9	781.9	861.0	992.8	1133.9	1203.8	1277.6	1427.9	1573.0	1718.0	1855.1
55°	688.3	719.9	813.5	954.6	1102.3	1174.8	1252.6	1409.5	1561.1	1712.7	1859.1
57.5°	626.3	661.9	768.7	917.7	1069.3	1145.8	1228.8	1389.7	1547.9	1708.8	1863.0
60°	563.0	603.9	722.5	875.5	1035.0	1114.1	1199.8	1367.3	1532.1	1699.5	1863.0
62.5°	501.0	547.2	677.7	837.2	1000.7	1082.5	1170.8	1342.2	1515.0	1690.3	1863.0
65°	439.1	491.8	631.6	795.1	962.5	1048.2	1137.9	1315.9	1493.9	1677.1	1857.8
67.5°	378.4	439.1	584.1	751.5	922.9	1011.3	1103.6	1285.5	1470.1	1660.0	1847.2
70°	319.1	386.3	536.6	705.4	882.1	969.1	1065.3	1252.6	1442.4	1637.6	1828.8
72.5°	259.7	336.2	486.5	659.2	838.6	928.2	1025.8	1214.3	1408.2	1607.3	1799.8
75°	205.7	286.1	439.1	611.8	793.7	884.7	982.3	1172.1	1367.3	1567.7	1757.6
77.5°	156.9	240.0	392.9	565.6	746.3	841.2	937.5	1126.0	1319.8	1517.6	1702.2
80°	110.8	195.1	346.8	518.2	698.8	792.4	887.4	1075.9	1269.7	1458.3	1638.9
82.5°	68.6	154.3	300.6	472.0	652.7	745.0	838.6	1025.8	1213.0	1396.3	1570.3
85°	35.6	116.0	257.1	428.5	607.8	698.8	791.1	974.4	1155.0	1333.0	1503.1
87.5°	11.9	84.4	221.5	390.3	567.0	657.9	747.6	925.6	1100.9	1271.0	1437.2
90°	0.0	63.3	195.1	360.0	532.7	621.0	710.7	882.1	1053.5	1220.9	1379.2
92.5°	0.0	54.1	178.0	338.9	508.9	596.0	683.0	853.1	1017.9	1180.1	1334.3
95°	0.0	43.5	163.5	317.8	483.9	569.6	655.3	821.4	983.6	1141.8	1292.1
97.5°	0.0	34.3	147.7	298.0	458.8	541.9	625.0	789.8	948.0	1103.6	1248.6
100°	1.3	26.4	130.5	272.9	432.5	514.2	594.6	755.5	909.8	1060.1	1203.8
102.5°	1.3	18.5	114.7	251.8	404.8	483.9	563.0	719.9	871.5	1020.5	1157.6
105°	1.3	13.2	98.9	229.4	378.4	454.9	532.7	685.6	833.3	977.0	1111.5
107.5°	1.3	9.2	84.4	208.3	352.0	424.6	499.7	648.7	793.7	933.5	1065.3
110°	1.3	6.6	71.2	185.9	323.0	395.5	468.1	611.8	752.9	888.7	1017.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.3	5.3	58.0	164.8	294.0	365.2	435.1	574.9	712.0	843.8	969.1
115°	1.3	5.3	46.1	145.0	265.0	333.6	400.8	537.9	668.5	797.7	919.0
117.5°	1.3	4.0	35.6	125.3	238.6	301.9	366.5	497.1	626.3	751.5	868.9
120°	1.3	4.0	26.4	105.5	211.0	270.3	333.6	457.5	581.5	702.8	814.8
122.5°	2.6	4.0	19.8	88.3	185.9	240.0	300.6	418.0	534.0	651.3	762.1
125°	2.6	2.6	15.8	71.2	159.5	209.6	263.7	377.1	482.6	594.6	702.8
127.5°	2.6	2.6	11.9	54.1	133.2	179.3	228.1	333.6	436.4	536.6	639.5
130°	2.6	2.6	10.5	39.6	108.1	149.0	193.8	288.8	385.0	477.3	570.9
132.5°	2.6	2.6	7.9	29.0	85.7	122.6	162.2	246.6	334.9	424.6	508.9
135°	2.6	2.6	6.6	21.1	64.6	97.6	131.8	207.0	287.4	371.8	445.7
137.5°	2.6	2.6	6.6	15.8	47.5	73.8	104.2	172.7	243.9	319.1	386.3
140°	2.6	2.6	5.3	13.2	33.0	54.1	79.1	138.4	199.1	269.0	333.6
142.5°	2.6	2.6	4.0	10.5	23.7	38.2	56.7	106.8	160.9	221.5	278.2
145°	4.0	2.6	4.0	9.2	17.1	26.4	39.6	80.4	123.9	178.0	228.1
147.5°	2.6	2.6	2.6	6.6	13.2	18.5	26.4	55.4	93.6	138.4	180.6
150°	4.0	2.6	2.6	5.3	10.5	13.2	18.5	36.9	64.6	101.5	138.4
152.5°	4.0	2.6	2.6	5.3	7.9	10.5	13.2	23.7	42.2	68.6	98.9
155°	4.0	2.6	2.6	4.0	6.6	7.9	10.5	15.8	25.1	42.2	64.6
157.5°	4.0	4.0	4.0	4.0	5.3	6.6	7.9	11.9	14.5	23.7	36.9
160°	4.0	4.0	2.6	2.6	4.0	4.0	5.3	7.9	10.5	13.2	18.5
162.5°	4.0	4.0	4.0	2.6	2.6	2.6	4.0	5.3	6.6	9.2	11.9
165°	4.0	4.0	2.6	2.6	2.6	2.6	2.6	2.6	4.0	5.3	6.6
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°	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9
2.5°	1590.1	1583.5	1580.9	1575.6	1571.7	1569.0	1565.1	1562.4	1559.8	1558.5	1558.5
5°	1591.4	1584.8	1582.2	1578.2	1576.9	1574.3	1571.7	1574.3	1573.0	1574.3	1573.0
7.5°	1592.7	1587.5	1587.5	1586.2	1584.8	1584.8	1582.2	1584.8	1586.2	1587.5	1586.2
10°	1596.7	1595.4	1598.0	1599.3	1599.3	1599.3	1599.3	1602.0	1607.3	1607.3	1605.9
12.5°	1603.3	1607.3	1615.2	1621.8	1624.4	1624.4	1629.7	1634.9	1641.5	1642.9	1641.5
15°	1616.5	1628.3	1645.5	1660.0	1666.6	1670.5	1681.1	1690.3	1696.9	1699.5	1696.9
17.5°	1640.2	1662.6	1689.0	1710.1	1718.0	1723.3	1737.8	1747.0	1754.9	1761.5	1758.9
20°	1671.9	1702.2	1733.8	1758.9	1769.4	1776.0	1791.8	1809.0	1816.9	1822.2	1820.8
22.5°	1706.1	1741.7	1777.3	1807.7	1819.5	1827.4	1847.2	1863.0	1874.9	1881.5	1880.2
25°	1739.1	1780.0	1823.5	1856.4	1871.0	1880.2	1901.3	1919.7	1932.9	1938.2	1936.9
27.5°	1772.1	1819.5	1867.0	1905.2	1919.7	1931.6	1956.7	1976.4	1992.3	1996.2	1996.2
30°	1798.4	1853.8	1905.2	1948.7	1964.6	1980.4	2008.1	2034.4	2048.9	2054.2	2052.9
32.5°	1823.5	1885.5	1943.5	1992.3	2012.0	2027.9	2060.8	2089.8	2107.0	2112.2	2107.0
35°	1848.5	1917.1	1981.7	2034.4	2055.5	2075.3	2112.2	2145.2	2163.7	2168.9	2166.3
37.5°	1872.3	1948.7	2018.6	2076.6	2101.7	2122.8	2161.0	2200.6	2220.4	2225.6	2220.4
40°	1894.7	1977.7	2054.2	2117.5	2145.2	2170.3	2215.1	2254.6	2277.0	2283.6	2281.0
42.5°	1915.8	2006.8	2089.8	2159.7	2191.3	2217.7	2267.8	2311.3	2335.1	2343.0	2336.4
45°	1934.2	2035.8	2125.4	2200.6	2234.9	2265.2	2321.9	2369.3	2393.1	2402.3	2394.4
47.5°	1952.7	2062.1	2158.4	2241.4	2281.0	2312.6	2375.9	2426.0	2453.7	2461.6	2453.7
50°	1969.8	2088.5	2194.0	2283.6	2325.8	2361.4	2430.0	2484.1	2511.7	2523.6	2513.1
52.5°	1985.7	2113.6	2226.9	2323.2	2369.3	2408.9	2482.7	2540.7	2573.7	2581.6	2571.1
55°	2001.5	2137.3	2256.0	2360.1	2410.2	2452.4	2532.8	2593.5	2626.5	2635.7	2625.1
57.5°	2014.7	2158.4	2283.6	2395.7	2447.1	2495.9	2576.3	2639.6	2673.9	2684.5	2673.9
60°	2023.9	2175.5	2308.7	2424.7	2478.8	2528.9	2614.6	2677.9	2712.2	2722.7	2712.2
62.5°	2030.5	2188.7	2325.8	2447.1	2505.1	2556.6	2643.6	2705.6	2741.2	2751.7	2741.2
65°	2031.8	2194.0	2335.1	2461.6	2521.0	2572.4	2660.7	2722.7	2759.6	2768.8	2758.3
67.5°	2023.9	2188.7	2335.1	2464.3	2523.6	2576.3	2664.7	2726.7	2762.3	2772.8	2762.3
70°	2008.1	2172.9	2321.9	2453.7	2513.1	2565.8	2652.8	2716.1	2751.7	2762.3	2750.4
72.5°	1977.7	2145.2	2294.2	2428.7	2485.4	2536.8	2622.5	2684.5	2718.7	2730.6	2717.4
75°	1934.2	2101.7	2250.7	2379.9	2439.2	2486.7	2572.4	2633.0	2664.7	2675.2	2663.4
77.5°	1877.5	2046.3	2190.0	2317.9	2377.3	2420.8	2503.8	2563.2	2594.8	2604.0	2592.2
80°	1811.6	1979.1	2117.5	2244.1	2299.5	2340.3	2423.4	2480.1	2510.4	2519.7	2513.1
82.5°	1739.1	1902.6	2037.1	2161.0	2213.8	2254.6	2336.4	2391.8	2422.1	2435.3	2424.7
85°	1665.3	1822.2	1954.0	2074.0	2126.7	2170.3	2245.4	2300.8	2331.1	2341.7	2335.1
87.5°	1591.4	1743.1	1871.0	1987.0	2035.8	2080.6	2155.7	2211.1	2241.4	2252.0	2244.1
90°	1529.5	1674.5	1797.1	1911.8	1961.9	2002.8	2075.3	2128.1	2158.4	2168.9	2162.3
92.5°	1479.4	1617.8	1736.5	1841.9	1889.4	1932.9	2002.8	2054.2	2084.5	2093.8	2087.2
95°	1431.9	1566.4	1681.1	1783.9	1830.1	1872.3	1938.2	1988.3	2017.3	2026.5	2021.3
97.5°	1387.1	1516.3	1627.0	1727.2	1774.7	1812.9	1876.2	1923.7	1952.7	1960.6	1952.7
100°	1337.0	1467.5	1575.6	1674.5	1715.4	1753.6	1816.9	1864.4	1889.4	1900.0	1893.4
102.5°	1289.5	1414.8	1521.5	1619.1	1662.6	1700.9	1758.9	1805.0	1834.0	1840.6	1834.0
105°	1240.7	1362.0	1466.2	1562.4	1605.9	1642.9	1700.9	1745.7	1773.4	1781.3	1774.7
107.5°	1190.6	1308.0	1412.1	1503.1	1545.3	1579.6	1638.9	1682.4	1706.1	1720.6	1710.1
110°	1136.5	1252.6	1352.8	1441.1	1482.0	1515.0	1573.0	1616.5	1638.9	1652.1	1642.9



TEST NUMBER: P201310

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	1086.4	1195.9	1292.1	1377.8	1416.1	1449.0	1505.7	1547.9	1569.0	1582.2	1573.0
115°	1033.7	1135.2	1230.2	1311.9	1350.1	1380.5	1437.2	1476.7	1497.8	1509.7	1501.8
117.5°	977.0	1075.9	1165.6	1246.0	1281.6	1311.9	1366.0	1405.5	1425.3	1434.5	1426.6
120°	921.6	1017.9	1102.3	1178.7	1214.3	1243.3	1296.1	1333.0	1351.5	1362.0	1354.1
122.5°	863.6	957.2	1033.7	1110.2	1143.1	1170.8	1218.3	1257.8	1275.0	1284.2	1278.9
125°	801.6	893.9	967.8	1037.7	1069.3	1095.7	1141.8	1174.8	1194.6	1203.8	1198.5
127.5°	737.0	825.4	900.5	965.1	995.5	1024.5	1062.7	1099.6	1112.8	1123.4	1118.1
130°	664.5	752.9	822.7	888.7	917.7	941.4	983.6	1013.9	1031.1	1040.3	1036.3
132.5°	593.3	675.1	748.9	808.2	835.9	861.0	899.2	928.2	952.0	953.3	948.0
135°	524.8	596.0	663.2	726.5	754.2	779.2	813.5	839.9	862.3	863.6	857.0
137.5°	458.8	524.8	582.8	642.1	671.1	697.5	729.1	754.2	775.3	779.2	770.0
140°	395.5	456.2	508.9	561.7	589.4	614.4	648.7	669.8	686.9	688.3	683.0
142.5°	334.9	390.3	436.4	485.2	510.3	532.7	570.9	592.0	607.8	611.8	603.9
145°	278.2	327.0	370.5	412.7	433.8	454.9	493.1	518.2	531.4	535.3	527.4
147.5°	224.1	265.0	303.3	341.5	360.0	379.7	411.4	443.0	454.9	457.5	450.9
150°	174.0	208.3	242.6	274.2	290.1	307.2	334.9	363.9	379.7	382.4	377.1
152.5°	127.9	156.9	184.6	211.0	224.1	237.3	261.1	288.8	308.5	309.8	304.6
155°	87.0	110.8	133.2	152.9	164.8	175.4	193.8	214.9	236.0	237.3	233.4
157.5°	52.7	68.6	87.0	102.8	110.8	120.0	133.2	149.0	167.4	171.4	167.4
160°	26.4	35.6	46.1	56.7	63.3	69.9	76.5	89.7	100.2	109.4	104.2
162.5°	13.2	15.8	18.5	23.7	26.4	30.3	35.6	40.9	46.1	55.4	48.8
165°	7.9	9.2	10.5	10.5	11.9	11.9	11.9	11.9	11.9	17.1	11.9
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: P201310

CATALOG NUMBER: 8LBLELD4-14-SYMW-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9
2.5°	1562.4	1565.1	1570.3	1573.0	1575.6	1578.2	1583.5	1591.4	1584.8	1578.2	1579.6
5°	1573.0	1573.0	1574.3	1578.2	1578.2	1579.6	1584.8	1592.7	1586.2	1576.9	1576.9
7.5°	1586.2	1584.8	1586.2	1587.5	1586.2	1586.2	1588.8	1592.7	1584.8	1574.3	1571.7
10°	1604.6	1600.7	1599.3	1600.7	1599.3	1595.4	1596.7	1596.7	1586.2	1570.3	1563.7
12.5°	1637.6	1631.0	1625.7	1624.4	1620.4	1613.8	1609.9	1604.6	1588.8	1570.3	1557.1
15°	1691.6	1681.1	1670.5	1666.6	1660.0	1644.2	1631.0	1619.1	1596.7	1570.3	1551.9
17.5°	1752.3	1739.1	1724.6	1719.3	1710.1	1687.7	1665.3	1642.9	1611.2	1574.3	1547.9
20°	1810.3	1794.5	1777.3	1768.1	1758.9	1731.2	1704.8	1675.8	1634.9	1586.2	1546.6
22.5°	1868.3	1849.9	1826.1	1818.2	1806.3	1774.7	1743.1	1710.1	1661.3	1603.3	1549.2
25°	1925.0	1903.9	1881.5	1868.3	1855.1	1819.5	1781.3	1741.7	1686.4	1623.1	1558.5
27.5°	1981.7	1958.0	1930.3	1915.8	1902.6	1863.0	1819.5	1774.7	1712.7	1641.5	1570.3
30°	2037.1	2010.7	1977.7	1961.9	1946.1	1901.3	1851.2	1801.1	1733.8	1657.4	1578.2
32.5°	2092.5	2063.5	2026.5	2008.1	1989.6	1938.2	1882.8	1826.1	1752.3	1671.9	1584.8
35°	2146.5	2114.9	2074.0	2051.6	2031.8	1976.4	1914.5	1851.2	1769.4	1683.7	1588.8
37.5°	2201.9	2166.3	2121.5	2096.4	2074.0	2013.3	1944.8	1873.6	1787.9	1693.0	1592.7
40°	2257.3	2219.0	2168.9	2142.6	2114.9	2048.9	1975.1	1896.0	1803.7	1702.2	1594.1
42.5°	2314.0	2271.8	2216.4	2187.4	2158.4	2084.5	2002.8	1915.8	1816.9	1708.8	1592.7
45°	2370.7	2323.2	2263.9	2230.9	2199.3	2118.8	2030.5	1932.9	1828.8	1712.7	1590.1
47.5°	2427.4	2377.3	2312.6	2277.0	2238.8	2153.1	2056.9	1951.4	1839.3	1714.0	1587.5
50°	2485.4	2431.3	2361.4	2321.9	2282.3	2186.1	2083.2	1967.2	1845.9	1715.4	1580.9
52.5°	2542.1	2484.1	2408.9	2366.7	2320.6	2219.0	2108.3	1983.0	1851.2	1714.0	1571.7
55°	2593.5	2532.8	2453.7	2408.9	2357.5	2249.4	2130.7	1996.2	1853.8	1710.1	1559.8
57.5°	2641.0	2579.0	2495.9	2445.8	2395.7	2278.4	2151.8	2010.7	1856.4	1703.5	1546.6
60°	2677.9	2615.9	2528.9	2478.8	2424.7	2302.1	2168.9	2018.6	1856.4	1694.3	1529.5
62.5°	2705.6	2643.6	2556.6	2503.8	2447.1	2321.9	2182.1	2026.5	1856.4	1685.0	1512.3
65°	2722.7	2662.1	2572.4	2519.7	2461.6	2331.1	2188.7	2027.9	1851.2	1671.9	1491.2
67.5°	2725.3	2664.7	2575.0	2523.6	2464.3	2331.1	2184.8	2021.3	1840.6	1654.7	1467.5
70°	2713.5	2652.8	2564.5	2511.7	2453.7	2319.2	2170.3	2005.4	1822.2	1632.3	1439.8
72.5°	2683.1	2621.2	2535.5	2481.4	2424.7	2291.6	2139.9	1976.4	1791.8	1600.7	1406.8
75°	2630.4	2569.8	2485.4	2435.3	2377.3	2246.7	2093.8	1934.2	1749.6	1561.1	1366.0
77.5°	2560.5	2501.2	2418.1	2368.0	2314.0	2186.1	2035.8	1877.5	1698.2	1512.3	1318.5
80°	2477.5	2420.8	2339.0	2290.2	2237.5	2113.6	1965.9	1811.6	1634.9	1454.3	1265.8
82.5°	2389.1	2333.7	2254.6	2204.5	2154.4	2034.4	1893.4	1740.4	1567.7	1392.3	1209.1
85°	2303.4	2244.1	2165.0	2118.8	2068.7	1951.4	1818.2	1666.6	1499.1	1329.0	1153.7
87.5°	2213.8	2155.7	2078.0	2034.4	1987.0	1868.3	1741.7	1594.1	1434.5	1272.4	1099.6
90°	2132.0	2075.3	2000.2	1956.7	1911.8	1797.1	1673.2	1533.4	1379.2	1222.2	1054.8
92.5°	2056.9	2004.1	1932.9	1890.7	1847.2	1737.8	1619.1	1483.3	1334.3	1182.7	1019.2
95°	1992.3	1940.8	1874.9	1834.0	1789.2	1685.0	1569.0	1435.8	1293.4	1145.8	986.2
97.5°	1927.6	1878.9	1814.3	1774.7	1732.5	1631.0	1518.9	1391.0	1251.3	1104.9	950.6
100°	1868.3	1820.8	1754.9	1719.3	1678.4	1580.9	1470.1	1344.9	1207.7	1064.0	912.4
102.5°	1810.3	1762.8	1699.5	1663.9	1624.4	1526.8	1418.7	1294.8	1161.6	1023.2	875.5
105°	1751.0	1704.8	1641.5	1605.9	1566.4	1471.4	1366.0	1246.0	1115.5	981.0	837.2
107.5°	1686.4	1641.5	1580.9	1545.3	1508.4	1413.4	1311.9	1194.6	1069.3	937.5	797.7
110°	1620.4	1575.6	1520.2	1482.0	1446.4	1354.1	1255.2	1143.1	1020.5	892.6	756.8



TEST NUMBER: P201310

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1551.9	1508.4	1454.3	1418.7	1381.8	1293.4	1198.5	1090.4	971.7	846.5	714.6
115°	1482.0	1438.5	1384.4	1348.8	1315.9	1231.5	1139.2	1036.3	921.6	800.3	672.4
117.5°	1405.5	1367.3	1315.9	1284.2	1249.9	1165.6	1079.9	981.0	871.5	751.5	628.9
120°	1334.3	1297.4	1247.3	1213.0	1182.7	1102.3	1020.5	924.3	816.2	704.1	584.1
122.5°	1259.2	1219.6	1173.5	1144.5	1111.5	1037.7	958.5	866.3	760.8	650.0	535.3
125°	1180.1	1143.1	1098.3	1070.6	1040.3	970.4	895.3	803.0	702.8	596.0	485.2
127.5°	1099.6	1065.3	1021.8	996.8	967.8	899.2	826.7	737.0	636.8	536.6	433.8
130°	1017.9	983.6	944.0	917.7	890.0	825.4	754.2	665.8	570.9	477.3	383.7
132.5°	932.2	899.2	859.7	835.9	810.9	748.9	676.4	590.7	506.3	421.9	334.9
135°	843.8	813.5	777.9	755.5	730.4	667.2	598.6	520.8	445.7	367.9	287.4
137.5°	758.1	730.4	696.2	673.8	646.1	586.7	526.1	456.2	387.6	315.1	240.0
140°	673.8	648.7	615.7	590.7	567.0	511.6	456.2	392.9	330.9	265.0	197.8
142.5°	594.6	572.2	535.3	511.6	489.2	440.4	391.6	332.3	276.9	217.6	159.5
145°	516.9	497.1	456.2	435.1	416.6	373.1	324.4	275.6	225.5	174.0	123.9
147.5°	441.7	418.0	379.7	361.3	344.1	305.9	265.0	220.2	179.3	134.5	91.0
150°	369.2	340.2	307.2	291.4	276.9	243.9	208.3	171.4	135.8	97.6	63.3
152.5°	294.0	263.7	241.3	225.5	212.3	185.9	156.9	125.3	96.3	65.9	39.6
155°	217.6	196.5	175.4	167.4	155.6	133.2	109.4	84.4	60.7	39.6	22.4
157.5°	150.3	134.5	121.3	113.4	104.2	87.0	67.2	48.8	34.3	21.1	10.5
160°	91.0	80.4	71.2	64.6	58.0	46.1	33.0	22.4	14.5	6.6	4.0
162.5°	40.9	34.3	30.3	26.4	22.4	17.1	10.5	5.3	2.6	1.3	1.3
165°	7.9	5.3	4.0	2.6	1.3	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: P201310

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9	1580.9
2.5°	1580.9	1582.2	1583.5	1583.5	1587.5	1594.1	1603.3	1604.6
5°	1576.9	1578.2	1578.2	1579.6	1583.5	1588.8	1596.7	1598.0
7.5°	1570.3	1570.3	1570.3	1570.3	1573.0	1578.2	1584.8	1586.2
10°	1561.1	1558.5	1557.1	1555.8	1557.1	1562.4	1567.7	1569.0
12.5°	1550.6	1544.0	1541.3	1540.0	1540.0	1541.3	1546.6	1546.6
15°	1538.7	1528.1	1524.2	1521.5	1516.3	1516.3	1521.5	1521.5
17.5°	1526.8	1512.3	1504.4	1499.1	1491.2	1489.9	1492.5	1489.9
20°	1516.3	1493.9	1483.3	1474.1	1462.2	1458.3	1458.3	1454.3
22.5°	1505.7	1475.4	1460.9	1447.7	1429.3	1422.7	1418.7	1416.1
25°	1499.1	1455.6	1437.2	1421.3	1396.3	1381.8	1377.8	1372.6
27.5°	1497.8	1439.8	1414.8	1395.0	1360.7	1343.6	1333.0	1326.4
30°	1497.8	1424.0	1391.0	1363.3	1321.1	1294.8	1284.2	1281.6
32.5°	1496.5	1412.1	1372.6	1337.0	1282.9	1248.6	1232.8	1228.8
35°	1492.5	1400.2	1354.1	1310.6	1244.7	1201.2	1178.7	1173.5
37.5°	1487.3	1385.7	1337.0	1286.9	1205.1	1152.4	1124.7	1116.8
40°	1482.0	1371.2	1315.9	1261.8	1165.6	1102.3	1066.7	1057.4
42.5°	1472.8	1355.4	1297.4	1238.1	1128.6	1052.2	1011.3	996.8
45°	1463.5	1337.0	1275.0	1211.7	1091.7	1000.7	949.3	934.8
47.5°	1451.7	1317.2	1252.6	1182.7	1057.4	950.6	892.6	874.2
50°	1438.5	1297.4	1227.5	1155.0	1020.5	901.9	830.7	810.9
52.5°	1424.0	1275.0	1202.5	1126.0	983.6	855.7	772.6	747.6
55°	1405.5	1249.9	1173.5	1093.0	945.4	808.2	713.3	684.3
57.5°	1385.7	1224.9	1145.8	1062.7	907.1	763.4	655.3	622.3
60°	1362.0	1195.9	1111.5	1028.4	867.6	717.3	597.3	559.0
62.5°	1337.0	1166.9	1081.2	992.8	828.0	672.4	540.6	497.1
65°	1310.6	1133.9	1046.9	955.9	785.8	625.0	485.2	435.1
67.5°	1278.9	1098.3	1008.7	916.4	742.3	577.5	431.1	374.5
70°	1247.3	1060.1	966.5	874.2	697.5	530.0	379.7	315.1
72.5°	1209.1	1019.2	924.3	830.7	651.3	483.9	329.6	255.8
75°	1166.9	977.0	880.8	785.8	603.9	435.1	279.5	197.8
77.5°	1122.0	930.9	835.9	739.7	559.0	389.0	233.4	149.0
80°	1074.6	882.1	788.5	692.2	511.6	342.8	188.5	102.8
82.5°	1021.8	834.6	741.0	644.7	466.7	298.0	147.7	63.3
85°	971.7	787.1	696.2	601.2	423.2	253.2	110.8	31.6
87.5°	922.9	743.6	655.3	561.7	386.3	218.9	80.4	9.2
90°	883.4	708.0	621.0	530.0	357.3	193.8	60.7	0.0
92.5°	851.8	680.3	594.6	506.3	336.2	176.7	51.4	0.0
95°	821.4	651.3	569.6	481.3	315.1	162.2	40.9	0.0
97.5°	788.5	623.7	541.9	456.2	294.0	146.4	33.0	0.0
100°	755.5	593.3	514.2	431.1	270.3	130.5	23.7	0.0
102.5°	719.9	561.7	483.9	403.5	249.2	113.4	15.8	0.0
105°	685.6	530.0	454.9	375.8	226.8	98.9	10.5	0.0
107.5°	648.7	498.4	424.6	349.4	204.4	83.1	6.6	0.0
110°	611.8	466.7	394.2	321.7	183.3	68.6	5.3	0.0



TEST NUMBER: P201310

CATALOG NUMBER: 8LBLED-LD4-14-SYMW-UNV-L850-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	574.9	433.8	363.9	292.7	162.2	55.4	4.0	1.3
115°	535.3	399.5	332.3	263.7	141.1	43.5	4.0	1.3
117.5°	495.8	363.9	301.9	236.0	121.3	33.0	2.6	1.3
120°	454.9	332.3	269.0	209.6	102.8	23.7	2.6	1.3
122.5°	415.3	299.3	238.6	182.0	84.4	18.5	2.6	1.3
125°	374.5	261.1	208.3	156.9	67.2	14.5	2.6	1.3
127.5°	330.9	225.5	176.7	129.2	51.4	10.5	2.6	1.3
130°	286.1	189.9	146.4	105.5	36.9	7.9	2.6	1.3
132.5°	243.9	159.5	118.7	83.1	26.4	6.6	2.6	1.3
135°	205.7	129.2	93.6	62.0	18.5	5.3	1.3	1.3
137.5°	168.8	102.8	71.2	44.8	13.2	4.0	2.6	1.3
140°	135.8	77.8	51.4	31.6	9.2	2.6	2.6	1.3
142.5°	105.5	55.4	35.6	21.1	6.6	2.6	1.3	1.3
145°	77.8	36.9	23.7	13.2	5.3	2.6	2.6	2.6
147.5°	52.7	25.1	14.5	9.2	4.0	2.6	2.6	1.3
150°	34.3	15.8	9.2	6.6	2.6	2.6	2.6	1.3
152.5°	21.1	9.2	5.3	4.0	2.6	2.6	2.6	1.3
155°	10.5	5.3	4.0	2.6	2.6	2.6	2.6	2.6
157.5°	5.3	4.0	2.6	2.6	2.6	2.6	2.6	2.6
160°	2.6	2.6	1.3	1.3	2.6	2.6	2.6	2.6
162.5°	1.3	1.3	1.3	1.3	2.6	2.6	2.6	2.6
165°	0.0	1.3	1.3	1.3	2.6	2.6	2.6	2.6
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)