

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: P201261

Luminaire Tested: **8LBLED-LD4-14-SYMF-UNV-L840-CD2-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201261
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: 8LBLED-LD4-14-SYMF-UNV-L840-CD2-U
Description: 8 ft. Low Bay Linear, 14000 lm, Frst Sym lens, 4K
Light Source: (784) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
2x(OTi50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14888.1 lumens
Efficiency: N/A
Efficacy: 149.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 8' x H: 0.21')
CIE Type: Semi-Direct

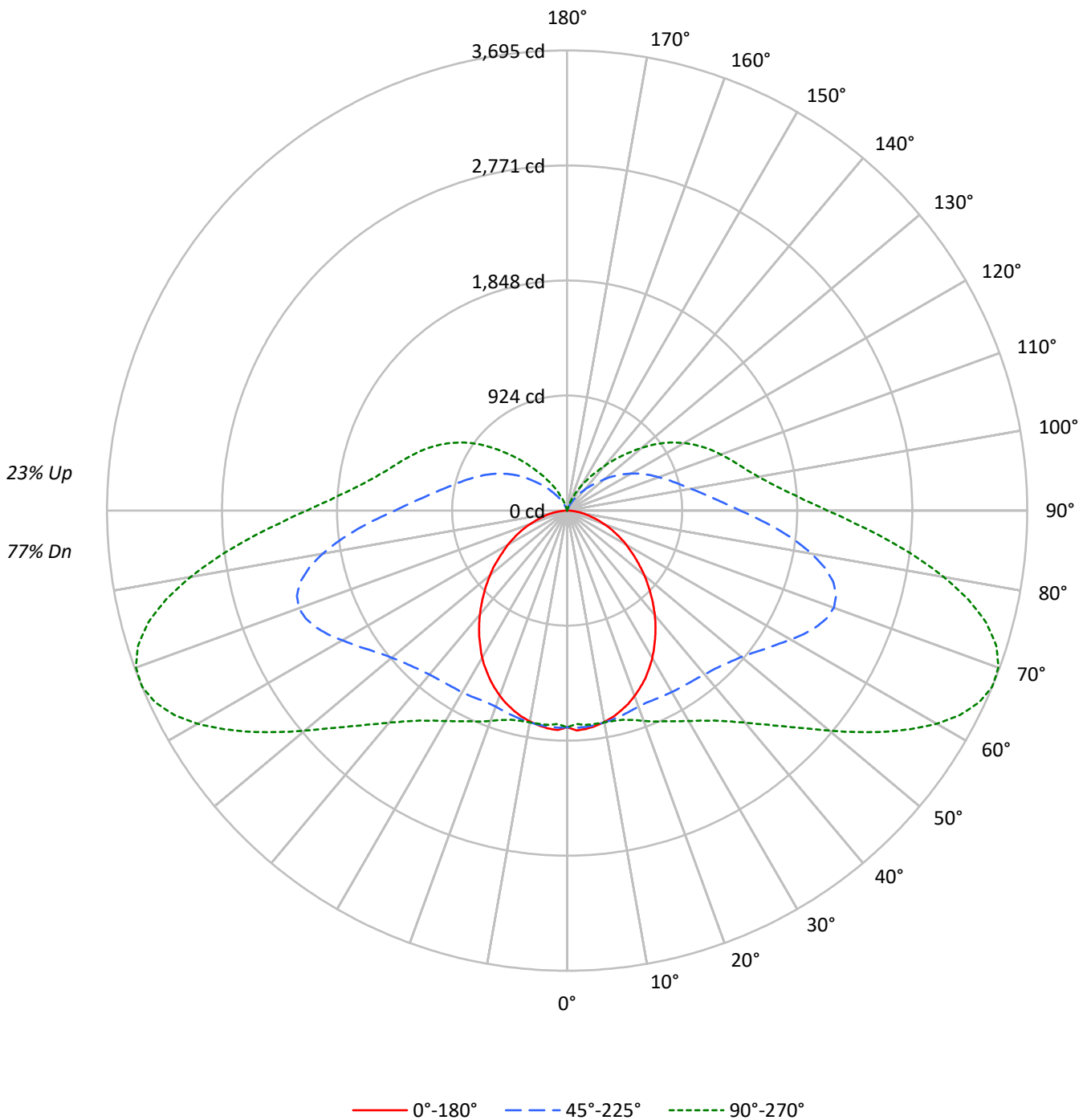
Input Watts (W): 99.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14014	14014	14014
5°	14199	12593	14168
10°	14031	11583	14000
15°	13779	10878	13759
20°	13453	10604	13432
25°	13057	10499	13001
30°	12525	10556	12513
35°	11917	10812	11893
40°	11268	11428	11215
45°	10557	12417	10529
50°	9835	13865	9805
55°	9108	15655	9091
60°	8459	17477	8479
65°	7738	18945	7761
70°	6976	19629	6976
75°	6061	19207	6027
80°	5058	17674	5010
85°	3784	15523	3606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.1	1.1
10°-20°	480.3	3.2
20°-30°	772.0	5.2
30°-40°	1045.4	7.0
40°-50°	1342.9	9.0
50°-60°	1727.8	11.6
60°-70°	2113.8	14.2
70°-80°	2137.0	14.4
80°-90°	1652.6	11.1
90°-100°	1148.1	7.7
100°-110°	857.5	5.8
110°-120°	642.7	4.3
120°-130°	432.8	2.9
130°-140°	237.4	1.6
140°-150°	101.2	0.7
150°-160°	28.9	0.2
160°-170°	2.5	0.0
170°-180°	0.0	0.0
0°-30°	1417.5	9.5
0°-40°	2462.9	16.5
0°-60°	5533.6	37.2
0°-90°	11436.9	76.8
90°-120°	2648.4	17.8
90°-150°	3419.7	23.0
90°-180°	3451.0	23.2
0°-180°	14888.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1739	1739	1739	1739	1739	
5°	1760	1743	1727	1741	1756	167
15°	1664	1703	1739	1703	1661	469
25°	1487	1671	1867	1672	1480	683
35°	1234	1694	2058	1695	1231	771
45°	951	1758	2447	1766	948	733
55°	672	1938	3097	1947	671	602
65°	428	2208	3648	2222	430	426
75°	214	2212	3485	2220	212	228
85°	53	1691	2558	1686	51	58
90°	1	1389	2090	1382	0	3
95°	1	1172	1767	1167	0	1
105°	1	886	1425	886	0	1
115°	1	689	1206	689	0	1
125°	1	494	946	492	0	2
135°	2	298	621	294	0	2
145°	2	152	341	145	0	2
155°	2	48	142	46	0	1
165°	2	2	14	6	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°	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4
2.5°	1767.2	1765.9	1758.3	1746.9	1741.9	1740.6	1739.4	1734.3	1733.0	1735.6	1745.7
5°	1759.6	1758.3	1750.7	1739.4	1735.6	1734.3	1733.0	1729.3	1729.3	1733.0	1743.2
7.5°	1744.4	1743.2	1735.6	1726.7	1722.9	1721.7	1721.7	1719.1	1719.1	1725.5	1736.8
10°	1722.9	1721.7	1715.3	1707.8	1705.2	1705.2	1705.2	1704.0	1706.5	1714.1	1726.7
12.5°	1697.7	1695.1	1690.1	1683.7	1683.7	1683.7	1685.0	1685.0	1688.8	1701.4	1716.6
15°	1663.5	1664.8	1659.7	1654.7	1657.2	1658.5	1661.0	1663.5	1669.8	1685.0	1702.7
17.5°	1628.1	1628.1	1624.3	1621.8	1626.9	1629.4	1633.2	1637.0	1648.4	1667.3	1687.5
20°	1583.9	1585.1	1583.9	1585.1	1591.5	1595.3	1600.3	1609.2	1624.3	1650.9	1674.9
22.5°	1535.8	1538.4	1538.4	1543.4	1553.5	1559.9	1566.2	1578.8	1600.3	1634.4	1668.6
25°	1486.6	1485.3	1491.6	1500.5	1510.6	1519.4	1527.0	1546.0	1577.6	1623.1	1671.1
27.5°	1427.1	1429.7	1438.5	1451.2	1466.3	1477.7	1489.1	1515.6	1561.1	1621.8	1677.4
30°	1366.5	1370.3	1381.6	1399.3	1420.8	1436.0	1448.6	1490.3	1552.3	1621.8	1682.5
32.5°	1300.7	1307.1	1322.2	1345.0	1375.3	1393.0	1413.2	1468.9	1544.7	1619.3	1687.5
35°	1233.7	1241.3	1261.5	1289.4	1324.7	1346.2	1377.8	1452.4	1534.6	1616.8	1693.9
37.5°	1165.5	1174.3	1197.1	1232.5	1278.0	1310.8	1348.8	1434.7	1527.0	1616.8	1702.7
40°	1094.7	1104.8	1133.9	1174.3	1232.5	1275.5	1321.0	1417.0	1519.4	1618.0	1716.6
42.5°	1022.6	1034.0	1069.4	1117.4	1193.3	1243.8	1294.4	1401.9	1514.4	1624.3	1734.3
45°	950.6	965.8	1004.9	1063.1	1157.9	1211.0	1269.1	1388.0	1511.8	1635.7	1758.3
47.5°	878.5	896.2	941.7	1011.3	1121.2	1184.4	1245.1	1376.6	1514.4	1650.9	1789.9
50°	809.0	829.2	879.8	964.5	1087.1	1155.4	1222.4	1369.0	1519.4	1673.6	1827.9
52.5°	738.2	764.8	820.4	922.8	1056.8	1128.8	1203.4	1363.9	1529.5	1704.0	1877.1
55°	672.5	700.3	764.8	882.3	1027.7	1106.1	1185.7	1362.7	1547.2	1740.6	1937.8
57.5°	605.5	639.6	710.4	843.1	997.4	1083.3	1171.8	1365.2	1568.7	1779.8	1999.8
60°	548.6	578.9	661.1	805.2	970.8	1061.8	1159.2	1367.7	1591.5	1825.3	2071.8
62.5°	487.9	520.8	618.1	768.6	944.3	1042.9	1146.5	1371.5	1615.5	1872.1	2145.1
65°	428.5	462.7	575.2	733.2	917.7	1022.6	1131.3	1371.5	1634.4	1915.1	2208.3
67.5°	371.6	408.3	532.2	695.2	887.4	997.4	1112.4	1365.2	1645.8	1945.4	2257.6
70°	317.3	357.7	490.5	654.8	854.5	967.0	1085.8	1351.3	1644.6	1956.8	2279.1
72.5°	262.9	309.7	445.0	614.3	819.1	932.9	1054.2	1324.7	1626.9	1942.9	2265.2
75°	213.6	264.2	404.5	573.9	778.7	892.4	1015.1	1284.3	1587.7	1899.9	2212.1
77.5°	168.1	223.7	361.5	529.6	733.2	845.7	965.8	1232.5	1525.7	1824.1	2118.6
80°	125.1	187.1	321.1	485.4	683.9	793.8	910.1	1166.7	1444.8	1721.7	1993.4
82.5°	87.2	153.0	281.9	441.2	633.3	738.2	849.5	1088.4	1351.3	1602.8	1849.3
85°	53.1	122.6	242.7	398.2	581.5	680.1	785.0	1006.2	1248.9	1473.9	1691.3
87.5°	22.8	94.8	208.6	356.5	529.6	623.2	719.3	927.8	1140.2	1339.9	1533.3
90°	1.3	70.8	178.2	317.3	480.3	567.6	657.3	844.4	1040.3	1217.3	1389.2
92.5°	0.0	60.7	160.5	293.3	446.2	527.1	610.5	782.5	959.4	1117.4	1270.4
95°	1.3	50.6	145.4	266.7	412.1	489.2	566.3	726.8	886.1	1031.5	1171.8
97.5°	1.3	41.7	128.9	242.7	380.5	451.3	523.3	672.5	816.6	954.4	1084.6
100°	1.3	32.9	113.8	219.9	347.6	413.4	481.6	621.9	757.2	886.1	1008.7
102.5°	1.3	24.0	101.1	198.5	317.3	379.2	442.4	575.2	702.8	826.7	943.0
105°	1.3	16.4	88.5	178.2	289.5	347.6	407.0	532.2	653.5	772.3	886.1
107.5°	1.3	11.4	77.1	159.3	259.1	317.3	372.9	491.7	608.0	723.1	834.3
110°	1.3	10.1	67.0	142.8	235.1	288.2	341.3	453.8	565.0	675.0	783.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.3	8.8	56.9	127.7	211.1	259.1	311.0	417.1	525.9	632.0	735.7
115°	1.3	8.8	46.8	113.8	190.9	233.9	281.9	381.8	485.4	587.8	688.9
117.5°	1.3	8.8	37.9	101.1	171.9	211.1	252.8	348.9	445.0	544.8	643.4
120°	1.3	7.6	30.3	88.5	155.5	190.9	230.1	317.3	405.8	499.3	594.1
122.5°	1.3	7.6	25.3	77.1	139.0	171.9	207.3	284.4	369.1	455.1	543.6
125°	1.3	6.3	21.5	64.5	122.6	154.2	185.8	255.3	333.7	413.4	494.3
127.5°	2.5	6.3	17.7	53.1	106.2	134.0	164.3	227.5	295.8	367.8	445.0
130°	2.5	6.3	15.2	40.5	89.7	115.0	141.6	199.7	262.9	324.9	391.9
132.5°	2.5	5.1	13.9	31.6	74.6	97.3	121.4	173.2	228.8	284.4	342.6
135°	2.5	5.1	11.4	25.3	59.4	79.6	102.4	147.9	197.2	249.0	298.3
137.5°	2.5	3.8	10.1	20.2	45.5	64.5	84.7	125.1	168.1	212.4	257.9
140°	2.5	3.8	8.8	16.4	34.1	48.0	67.0	102.4	140.3	179.5	218.7
142.5°	2.5	3.8	7.6	13.9	26.5	36.7	50.6	83.4	116.3	149.2	183.3
145°	2.5	3.8	6.3	11.4	20.2	27.8	36.7	64.5	93.5	122.6	151.7
147.5°	2.5	3.8	6.3	10.1	16.4	21.5	27.8	46.8	73.3	97.3	122.6
150°	2.5	3.8	5.1	8.8	13.9	16.4	20.2	32.9	53.1	74.6	96.1
152.5°	2.5	2.5	5.1	7.6	10.1	12.6	15.2	24.0	36.7	53.1	72.1
155°	2.5	2.5	3.8	6.3	8.8	10.1	11.4	16.4	24.0	34.1	48.0
157.5°	2.5	2.5	3.8	5.1	6.3	7.6	8.8	11.4	16.4	21.5	29.1
160°	2.5	2.5	3.8	5.1	5.1	6.3	6.3	7.6	10.1	12.6	16.4
162.5°	2.5	2.5	3.8	3.8	3.8	5.1	5.1	5.1	6.3	6.3	7.6
165°	2.5	2.5	2.5	3.8	2.5	3.8	2.5	3.8	3.8	2.5	2.5
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°	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4
2.5°	1749.5	1740.6	1736.8	1731.8	1728.0	1725.5	1721.7	1719.1	1715.3	1715.3	1716.6
5°	1746.9	1738.1	1735.6	1730.5	1728.0	1726.7	1724.2	1725.5	1725.5	1726.7	1725.5
7.5°	1741.9	1734.3	1731.8	1729.3	1726.7	1725.5	1724.2	1726.7	1726.7	1728.0	1728.0
10°	1733.0	1728.0	1728.0	1725.5	1724.2	1722.9	1720.4	1724.2	1724.2	1726.7	1725.5
12.5°	1722.9	1721.7	1722.9	1724.2	1724.2	1722.9	1721.7	1726.7	1729.3	1729.3	1730.5
15°	1711.6	1714.1	1720.4	1724.2	1726.7	1726.7	1729.3	1734.3	1738.1	1739.4	1739.4
17.5°	1702.7	1709.0	1720.4	1730.5	1735.6	1738.1	1744.4	1754.5	1760.9	1762.1	1762.1
20°	1696.4	1711.6	1731.8	1750.7	1757.1	1762.1	1774.8	1787.4	1796.2	1797.5	1797.5
22.5°	1701.4	1726.7	1754.5	1776.0	1784.9	1791.2	1805.1	1821.5	1831.6	1832.9	1832.9
25°	1714.1	1744.4	1776.0	1802.6	1812.7	1820.3	1835.4	1853.1	1863.2	1867.0	1865.8
27.5°	1725.5	1762.1	1798.8	1829.1	1840.5	1850.6	1869.6	1889.8	1902.4	1906.2	1903.7
30°	1735.6	1778.6	1820.3	1856.9	1872.1	1883.5	1906.2	1930.2	1946.7	1950.5	1946.7
32.5°	1745.7	1797.5	1846.8	1889.8	1905.0	1921.4	1950.5	1978.3	1994.7	1999.8	1997.2
35°	1759.6	1820.3	1878.4	1927.7	1947.9	1966.9	2001.0	2033.9	2054.1	2057.9	2054.1
37.5°	1778.6	1849.3	1913.8	1975.7	1997.2	2023.8	2064.2	2103.4	2127.4	2132.5	2127.4
40°	1802.6	1886.0	1961.8	2033.9	2063.0	2090.8	2140.1	2186.8	2213.4	2222.2	2218.4
42.5°	1834.2	1931.5	2020.0	2105.9	2138.8	2174.2	2232.4	2286.7	2317.0	2327.2	2317.0
45°	1873.4	1988.4	2090.8	2190.6	2228.6	2271.5	2341.1	2403.0	2438.4	2447.2	2438.4
47.5°	1925.2	2055.4	2174.2	2289.2	2334.7	2385.3	2467.5	2538.3	2576.2	2586.3	2577.4
50°	1980.8	2136.3	2272.8	2404.3	2461.2	2514.2	2610.3	2688.7	2729.1	2748.1	2731.7
52.5°	2050.3	2224.8	2385.3	2531.9	2600.2	2663.4	2769.6	2855.5	2904.8	2921.3	2898.5
55°	2133.8	2331.0	2510.5	2679.8	2748.1	2818.9	2936.4	3027.5	3079.3	3097.0	3080.5
57.5°	2226.0	2443.5	2641.9	2820.1	2899.8	2971.8	3103.3	3198.1	3243.6	3266.4	3246.1
60°	2322.1	2559.7	2774.6	2964.3	3051.5	3126.1	3260.0	3353.6	3401.6	3424.4	3405.4
62.5°	2415.6	2672.3	2898.5	3095.7	3179.1	3261.3	3395.3	3485.1	3534.4	3554.6	3536.9
65°	2496.5	2767.1	2999.6	3203.2	3289.1	3370.0	3496.4	3582.4	3634.2	3648.1	3635.5
67.5°	2557.2	2831.5	3066.6	3267.6	3351.1	3432.0	3552.0	3631.7	3682.2	3694.9	3683.5
70°	2585.0	2856.8	3089.4	3285.3	3367.5	3439.5	3553.3	3629.2	3677.2	3684.8	3675.9
72.5°	2567.3	2831.5	3056.5	3243.6	3322.0	3385.2	3490.1	3562.2	3607.7	3614.0	3607.7
75°	2501.6	2754.4	2966.8	3141.2	3214.5	3267.6	3367.5	3434.5	3480.0	3485.1	3477.5
77.5°	2390.4	2625.5	2820.1	2988.3	3048.9	3100.8	3195.6	3255.0	3291.6	3299.2	3290.4
80°	2241.2	2457.4	2631.8	2782.2	2840.4	2884.6	2976.9	3041.4	3061.6	3071.7	3059.1
82.5°	2070.6	2264.0	2419.4	2556.0	2607.8	2662.1	2721.6	2781.0	2810.0	2818.9	2808.8
85°	1887.3	2059.2	2197.0	2319.6	2365.1	2414.4	2466.2	2524.4	2549.6	2558.5	2548.4
87.5°	1704.0	1855.7	1977.0	2085.7	2127.4	2171.7	2233.6	2264.0	2298.1	2308.2	2296.8
90°	1539.6	1676.2	1784.9	1883.5	1922.7	1963.1	2011.1	2049.1	2080.7	2089.5	2079.4
92.5°	1406.9	1529.5	1629.4	1717.9	1752.0	1789.9	1836.7	1873.4	1901.2	1910.0	1899.9
95°	1296.9	1409.4	1503.0	1585.1	1618.0	1653.4	1705.2	1734.3	1759.6	1767.2	1759.6
97.5°	1203.4	1309.6	1398.1	1477.7	1509.3	1542.2	1592.7	1621.8	1645.8	1652.1	1645.8
100°	1121.2	1224.9	1312.1	1388.0	1419.6	1451.2	1500.5	1529.5	1552.3	1559.9	1552.3
102.5°	1053.0	1152.8	1238.8	1315.9	1346.2	1377.8	1424.6	1458.7	1476.4	1485.3	1477.7
105°	993.6	1090.9	1176.9	1252.7	1284.3	1314.6	1362.7	1394.3	1414.5	1424.6	1415.8
107.5°	939.2	1035.3	1122.5	1195.8	1227.4	1257.8	1307.1	1338.7	1357.6	1369.0	1358.9
110°	887.4	982.2	1065.6	1141.5	1173.1	1204.7	1254.0	1285.6	1304.5	1314.6	1305.8



TEST NUMBER: P201261

CATALOG NUMBER: 8LBLED-LD4-14-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	836.8	929.1	1015.1	1088.4	1118.7	1150.3	1200.9	1233.7	1251.4	1262.8	1252.7
115°	786.3	877.3	960.7	1031.5	1061.8	1094.7	1144.0	1178.1	1197.1	1205.9	1195.8
117.5°	737.0	824.2	903.8	973.3	1003.7	1035.3	1083.3	1117.4	1137.7	1146.5	1136.4
120°	686.4	769.8	848.2	911.4	943.0	972.1	1021.4	1054.2	1074.5	1083.3	1073.2
122.5°	632.0	714.2	788.8	850.7	881.1	908.9	956.9	989.8	1008.7	1017.6	1008.7
125°	576.4	653.5	725.6	787.5	812.8	839.3	886.1	917.7	937.9	945.5	937.9
127.5°	520.8	591.6	658.6	712.9	740.7	766.0	810.3	840.6	858.3	867.2	860.8
130°	465.2	532.2	592.9	642.1	666.2	690.2	730.6	758.4	776.1	783.7	777.4
132.5°	405.8	470.2	529.6	572.6	595.4	615.6	652.3	676.3	691.4	700.3	692.7
135°	352.7	405.8	461.4	505.6	528.4	546.1	578.9	599.2	613.1	620.7	613.1
137.5°	304.6	350.1	395.7	434.8	456.3	475.3	506.9	525.9	538.5	546.1	538.5
140°	260.4	299.6	340.0	371.6	390.6	405.8	434.8	451.3	462.7	469.0	461.4
142.5°	217.4	252.8	286.9	316.0	332.5	345.1	372.9	385.5	394.4	398.2	394.4
145°	180.8	209.8	238.9	265.5	278.1	288.2	316.0	329.9	337.5	341.3	337.5
147.5°	146.6	170.6	194.7	216.2	227.5	240.2	259.1	275.6	281.9	284.4	281.9
150°	115.0	136.5	155.5	173.2	182.0	190.9	207.3	223.7	230.1	233.9	230.1
152.5°	87.2	104.9	120.1	134.0	141.6	149.2	163.1	178.2	184.6	187.1	184.6
155°	63.2	75.8	89.7	99.9	106.2	111.2	121.4	131.5	141.6	141.6	141.6
157.5°	39.2	49.3	60.7	69.5	73.3	78.4	86.0	94.8	102.4	106.2	106.2
160°	20.2	26.5	34.1	40.5	44.2	48.0	53.1	60.7	65.7	69.5	67.0
162.5°	8.8	11.4	15.2	17.7	20.2	21.5	25.3	29.1	31.6	37.9	32.9
165°	2.5	2.5	3.8	5.1	5.1	5.1	6.3	7.6	8.8	13.9	10.1
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: P201261

CATALOG NUMBER: 8LBLELD4-14-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4
2.5°	1719.1	1722.9	1728.0	1730.5	1734.3	1736.8	1743.2	1750.7	1744.4	1735.6	1736.8
5°	1725.5	1724.2	1728.0	1730.5	1733.0	1734.3	1740.6	1748.2	1740.6	1731.8	1731.8
7.5°	1728.0	1726.7	1728.0	1729.3	1730.5	1730.5	1736.8	1743.2	1735.6	1724.2	1721.7
10°	1724.2	1722.9	1724.2	1726.7	1726.7	1726.7	1730.5	1735.6	1726.7	1712.8	1707.8
12.5°	1726.7	1722.9	1722.9	1724.2	1724.2	1721.7	1722.9	1726.7	1715.3	1700.2	1692.6
15°	1735.6	1729.3	1726.7	1726.7	1724.2	1717.9	1715.3	1715.3	1702.7	1682.5	1672.4
17.5°	1757.1	1746.9	1739.4	1735.6	1730.5	1719.1	1710.3	1705.2	1688.8	1666.0	1649.6
20°	1789.9	1776.0	1764.6	1757.1	1750.7	1730.5	1712.8	1698.9	1676.2	1648.4	1626.9
22.5°	1822.8	1807.6	1791.2	1783.6	1774.8	1752.0	1728.0	1704.0	1669.8	1631.9	1602.8
25°	1854.4	1839.2	1820.3	1812.7	1801.3	1774.8	1744.4	1716.6	1672.4	1620.5	1578.8
27.5°	1891.1	1872.1	1851.9	1840.5	1827.9	1797.5	1763.4	1729.3	1680.0	1620.5	1562.4
30°	1932.8	1910.0	1883.5	1870.8	1855.7	1820.3	1778.6	1738.1	1685.0	1620.5	1553.5
32.5°	1980.8	1954.3	1922.7	1905.0	1887.3	1845.5	1796.2	1749.5	1688.8	1619.3	1546.0
35°	2036.4	2006.1	1968.2	1947.9	1926.4	1877.1	1819.0	1762.1	1695.1	1618.0	1535.8
37.5°	2105.9	2070.6	2025.0	1999.8	1974.5	1916.3	1849.3	1781.1	1705.2	1619.3	1528.3
40°	2189.4	2147.7	2094.6	2063.0	2032.6	1965.6	1886.0	1805.1	1719.1	1621.8	1520.7
42.5°	2288.0	2237.4	2178.0	2141.3	2105.9	2022.5	1931.5	1835.4	1738.1	1626.9	1516.9
45°	2405.5	2352.4	2276.6	2231.1	2191.9	2094.6	1989.7	1875.9	1765.9	1639.5	1515.6
47.5°	2540.8	2473.8	2391.6	2338.5	2291.8	2179.3	2057.9	1926.4	1797.5	1655.9	1518.2
50°	2692.5	2616.6	2521.8	2466.2	2408.1	2279.1	2138.8	1985.9	1838.0	1680.0	1524.5
52.5°	2859.3	2775.9	2673.5	2607.8	2543.3	2394.2	2229.8	2061.7	1884.7	1710.3	1535.8
55°	3032.5	2942.8	2829.0	2756.9	2684.9	2520.6	2337.3	2143.9	1946.7	1748.2	1554.8
57.5°	3200.6	3108.4	2983.2	2909.9	2829.0	2654.6	2452.3	2233.6	2013.7	1792.5	1576.3
60°	3356.1	3263.8	3137.4	3062.9	2974.4	2787.3	2569.9	2332.2	2083.2	1839.2	1601.6
62.5°	3487.6	3399.1	3272.7	3196.8	3105.8	2912.4	2682.4	2428.3	2159.0	1888.5	1625.6
65°	3584.9	3501.5	3378.9	3300.5	3213.3	3012.3	2777.2	2513.0	2222.2	1931.5	1647.1
67.5°	3634.2	3555.8	3437.0	3362.4	3276.5	3076.8	2841.6	2569.9	2270.3	1961.8	1661.0
70°	3629.2	3554.6	3443.3	3370.0	3287.9	3095.7	2864.4	2592.6	2291.8	1973.2	1658.5
72.5°	3563.4	3488.8	3389.0	3318.2	3239.8	3060.3	2832.8	2572.4	2275.3	1955.5	1638.2
75°	3433.2	3365.0	3263.8	3205.7	3134.9	2968.0	2750.6	2497.8	2219.7	1908.8	1596.5
77.5°	3246.1	3194.3	3095.7	3041.4	2971.8	2817.6	2612.8	2385.3	2122.4	1830.4	1532.1
80°	3017.3	2974.4	2878.3	2830.3	2762.0	2628.0	2451.0	2231.1	1993.4	1724.2	1448.6
82.5°	2767.1	2717.8	2641.9	2597.7	2533.2	2413.1	2245.0	2065.5	1844.3	1602.8	1351.3
85°	2507.9	2462.4	2392.9	2355.0	2298.1	2190.6	2040.2	1882.2	1686.3	1468.9	1246.4
87.5°	2261.4	2217.2	2151.5	2117.3	2065.5	1969.4	1838.0	1698.9	1525.7	1339.9	1135.1
90°	2047.8	2006.1	1944.1	1912.5	1865.8	1778.6	1659.7	1534.6	1381.6	1211.0	1035.3
92.5°	1872.1	1834.2	1776.0	1745.7	1704.0	1624.3	1516.9	1403.1	1265.3	1117.4	954.4
95°	1733.0	1696.4	1644.6	1615.5	1576.3	1494.1	1399.3	1293.1	1166.7	1031.5	881.1
97.5°	1620.5	1590.2	1533.3	1505.5	1473.9	1390.5	1304.5	1199.6	1082.0	955.6	815.3
100°	1529.5	1495.4	1443.6	1417.0	1384.2	1305.8	1218.6	1120.0	1006.2	886.1	755.9
102.5°	1458.7	1423.3	1375.3	1345.0	1313.4	1233.7	1147.8	1051.7	943.0	826.7	701.6
105°	1395.5	1361.4	1313.4	1283.0	1251.4	1173.1	1090.9	993.6	886.1	773.6	652.3
107.5°	1336.1	1305.8	1257.8	1227.4	1195.8	1117.4	1035.3	939.2	834.3	724.3	606.8
110°	1285.6	1252.7	1202.1	1173.1	1138.9	1064.4	982.2	888.6	783.7	676.3	563.8



TEST NUMBER: P201261

CATALOG NUMBER: 8LBLED-LD4-14-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1235.0	1199.6	1149.0	1120.0	1085.8	1011.3	930.4	838.1	735.7	632.0	523.3
115°	1179.4	1145.3	1092.2	1063.1	1029.0	955.6	877.3	787.5	688.9	587.8	482.9
117.5°	1120.0	1085.8	1032.7	1004.9	972.1	900.0	825.4	738.2	642.1	544.8	442.4
120°	1055.5	1022.6	972.1	944.3	912.7	843.1	771.1	683.9	592.9	499.3	404.5
122.5°	989.8	958.2	908.9	881.1	850.7	785.0	714.2	629.5	542.3	455.1	367.8
125°	919.0	887.4	840.6	814.1	783.7	720.5	652.3	572.6	491.7	413.4	329.9
127.5°	836.8	811.5	766.0	739.5	711.7	656.1	590.3	518.3	443.7	367.8	293.3
130°	758.4	731.9	688.9	664.9	640.9	590.3	532.2	462.7	389.3	323.6	256.6
132.5°	676.3	652.3	615.6	595.4	573.9	528.4	469.0	400.7	338.8	281.9	222.5
135°	599.2	578.9	546.1	528.4	506.9	458.9	403.2	346.4	294.5	244.0	190.9
137.5°	527.1	506.9	476.6	457.6	434.8	391.9	346.4	299.6	251.6	208.6	161.8
140°	451.3	434.8	407.0	390.6	370.4	333.7	295.8	251.6	213.6	174.4	134.0
142.5°	386.8	372.9	345.1	329.9	312.2	281.9	246.5	212.4	178.2	144.1	110.0
145°	331.2	317.3	286.9	275.6	259.1	232.6	203.5	173.2	145.4	116.3	88.5
147.5°	276.8	260.4	233.9	223.7	211.1	188.3	165.6	141.6	117.6	92.3	68.3
150°	226.3	207.3	185.8	179.5	166.9	149.2	130.2	110.0	91.0	70.8	49.3
152.5°	178.2	161.8	144.1	137.8	127.7	116.3	99.9	83.4	68.3	49.3	34.1
155°	132.7	120.1	106.2	102.4	94.8	86.0	72.1	59.4	45.5	32.9	24.0
157.5°	93.5	83.4	73.3	70.8	65.7	58.1	46.8	36.7	29.1	21.5	16.4
160°	58.1	51.8	44.2	41.7	37.9	32.9	25.3	21.5	17.7	13.9	10.1
162.5°	27.8	24.0	21.5	20.2	17.7	15.2	13.9	11.4	10.1	8.8	7.6
165°	10.1	10.1	10.1	8.8	8.8	8.8	8.8	7.6	6.3	6.3	5.1
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: P201261

CATALOG NUMBER: 8LBLELD4-14-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4	1739.4
2.5°	1738.1	1740.6	1740.6	1741.9	1745.7	1753.3	1763.4	1764.6
5°	1733.0	1734.3	1734.3	1734.3	1738.1	1744.4	1754.5	1755.8
7.5°	1721.7	1721.7	1721.7	1721.7	1725.5	1730.5	1739.4	1740.6
10°	1706.5	1705.2	1705.2	1704.0	1706.5	1710.3	1720.4	1719.1
12.5°	1687.5	1685.0	1683.7	1683.7	1682.5	1686.3	1692.6	1693.9
15°	1666.0	1661.0	1658.5	1655.9	1654.7	1654.7	1662.3	1661.0
17.5°	1640.8	1633.2	1629.4	1625.6	1620.5	1620.5	1625.6	1624.3
20°	1611.7	1601.6	1595.3	1590.2	1582.6	1580.1	1582.6	1581.4
22.5°	1582.6	1566.2	1559.9	1552.3	1540.9	1535.8	1534.6	1533.3
25°	1548.5	1528.3	1519.4	1511.8	1495.4	1489.1	1482.8	1480.2
27.5°	1518.2	1489.1	1477.7	1465.1	1446.1	1437.3	1427.1	1424.6
30°	1491.6	1448.6	1430.9	1418.3	1394.3	1380.4	1367.7	1365.2
32.5°	1471.4	1412.0	1388.0	1372.8	1339.9	1321.0	1304.5	1296.9
35°	1453.7	1377.8	1346.2	1322.2	1283.0	1260.3	1237.5	1231.2
37.5°	1437.3	1348.8	1307.1	1274.2	1229.9	1197.1	1171.8	1161.7
40°	1420.8	1322.2	1271.7	1229.9	1171.8	1133.9	1102.3	1089.6
42.5°	1405.6	1295.7	1241.3	1190.8	1114.9	1069.4	1035.3	1017.6
45°	1391.7	1271.7	1212.2	1156.6	1059.3	1006.2	964.5	948.1
47.5°	1381.6	1248.9	1183.2	1122.5	1007.5	941.7	898.8	877.3
50°	1374.0	1227.4	1155.4	1088.4	962.0	879.8	831.8	806.5
52.5°	1370.3	1208.5	1130.1	1058.0	920.2	820.4	763.5	744.5
55°	1371.5	1193.3	1108.6	1030.2	881.1	763.5	700.3	671.2
57.5°	1374.0	1179.4	1087.1	1002.4	841.9	707.9	637.1	606.8
60°	1379.1	1168.0	1068.1	975.9	805.2	659.8	578.9	549.9
62.5°	1384.2	1157.9	1049.2	950.6	769.8	615.6	520.8	487.9
65°	1385.4	1142.7	1029.0	925.3	734.4	571.4	461.4	429.8
67.5°	1380.4	1123.8	1003.7	896.2	697.8	528.4	405.8	372.9
70°	1365.2	1098.5	974.6	863.4	657.3	486.7	352.7	317.3
72.5°	1337.4	1065.6	940.5	826.7	618.1	442.4	304.6	261.7
75°	1298.2	1025.2	900.0	785.0	576.4	400.7	260.4	212.4
77.5°	1245.1	973.3	852.0	738.2	530.9	357.7	222.5	166.9
80°	1176.9	919.0	798.9	687.7	486.7	318.5	185.8	123.9
82.5°	1096.0	857.0	742.0	635.8	445.0	278.1	151.7	86.0
85°	1012.5	790.0	682.6	581.5	400.7	240.2	122.6	50.6
87.5°	930.4	723.1	625.7	532.2	355.2	206.0	94.8	20.2
90°	849.5	658.6	566.3	479.1	316.0	174.4	70.8	0.0
92.5°	782.5	610.5	527.1	443.7	290.7	158.0	60.7	0.0
95°	723.1	565.0	485.4	408.3	264.2	142.8	50.6	0.0
97.5°	668.7	522.1	448.7	375.4	240.2	126.4	41.7	0.0
100°	616.9	479.1	410.8	345.1	217.4	112.5	31.6	0.0
102.5°	571.4	441.2	376.7	312.2	194.7	98.6	22.8	0.0
105°	527.1	404.5	345.1	283.2	174.4	86.0	13.9	0.0
107.5°	487.9	370.4	313.5	256.6	155.5	74.6	8.8	0.0
110°	450.0	338.8	283.2	231.3	139.0	64.5	7.6	0.0



TEST NUMBER: P201261

CATALOG NUMBER: 8LBLED-LD4-14-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	414.6	308.4	256.6	207.3	125.1	54.4	7.6	0.0
115°	378.0	279.4	231.3	187.1	111.2	44.2	6.3	0.0
117.5°	346.4	251.6	208.6	170.6	97.3	35.4	6.3	0.0
120°	314.8	227.5	189.6	153.0	84.7	26.5	6.3	0.0
122.5°	283.2	206.0	169.4	136.5	73.3	21.5	5.1	0.0
125°	254.1	183.3	150.4	118.8	60.7	19.0	5.1	0.0
127.5°	225.0	160.5	130.2	102.4	48.0	16.4	3.8	0.0
130°	195.9	137.8	111.2	86.0	36.7	13.9	3.8	0.0
132.5°	169.4	116.3	93.5	70.8	29.1	11.4	2.5	0.0
135°	142.8	97.3	77.1	55.6	22.8	10.1	2.5	0.0
137.5°	120.1	79.6	60.7	41.7	19.0	7.6	2.5	0.0
140°	98.6	63.2	45.5	31.6	15.2	6.3	1.3	0.0
142.5°	78.4	46.8	34.1	24.0	12.6	5.1	1.3	0.0
145°	60.7	34.1	25.3	19.0	11.4	3.8	1.3	0.0
147.5°	44.2	26.5	20.2	16.4	8.8	3.8	1.3	0.0
150°	31.6	20.2	16.4	12.6	6.3	2.5	1.3	0.0
152.5°	24.0	15.2	12.6	10.1	5.1	2.5	1.3	0.0
155°	17.7	11.4	10.1	7.6	3.8	2.5	1.3	0.0
157.5°	12.6	8.8	7.6	5.1	3.8	2.5	1.3	0.0
160°	7.6	6.3	5.1	3.8	2.5	1.3	1.3	0.0
162.5°	6.3	3.8	3.8	3.8	2.5	1.3	1.3	0.0
165°	3.8	2.5	2.5	2.5	1.3	1.3	1.3	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)