

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: P201263

Luminaire Tested: **8LBLED-LD4-16-SYMF-UNV-L840-CD2-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201263
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-LD4-16-SYMF-UNV-L840-CD2-U
Description: 8 ft. Low Bay Linear, 16000 lm, Frst Sym lens, 4K
Light Source: (784) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
2x(OTi85W01280CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16876.8 lumens
Efficiency: N/A
Efficacy: 147.5 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

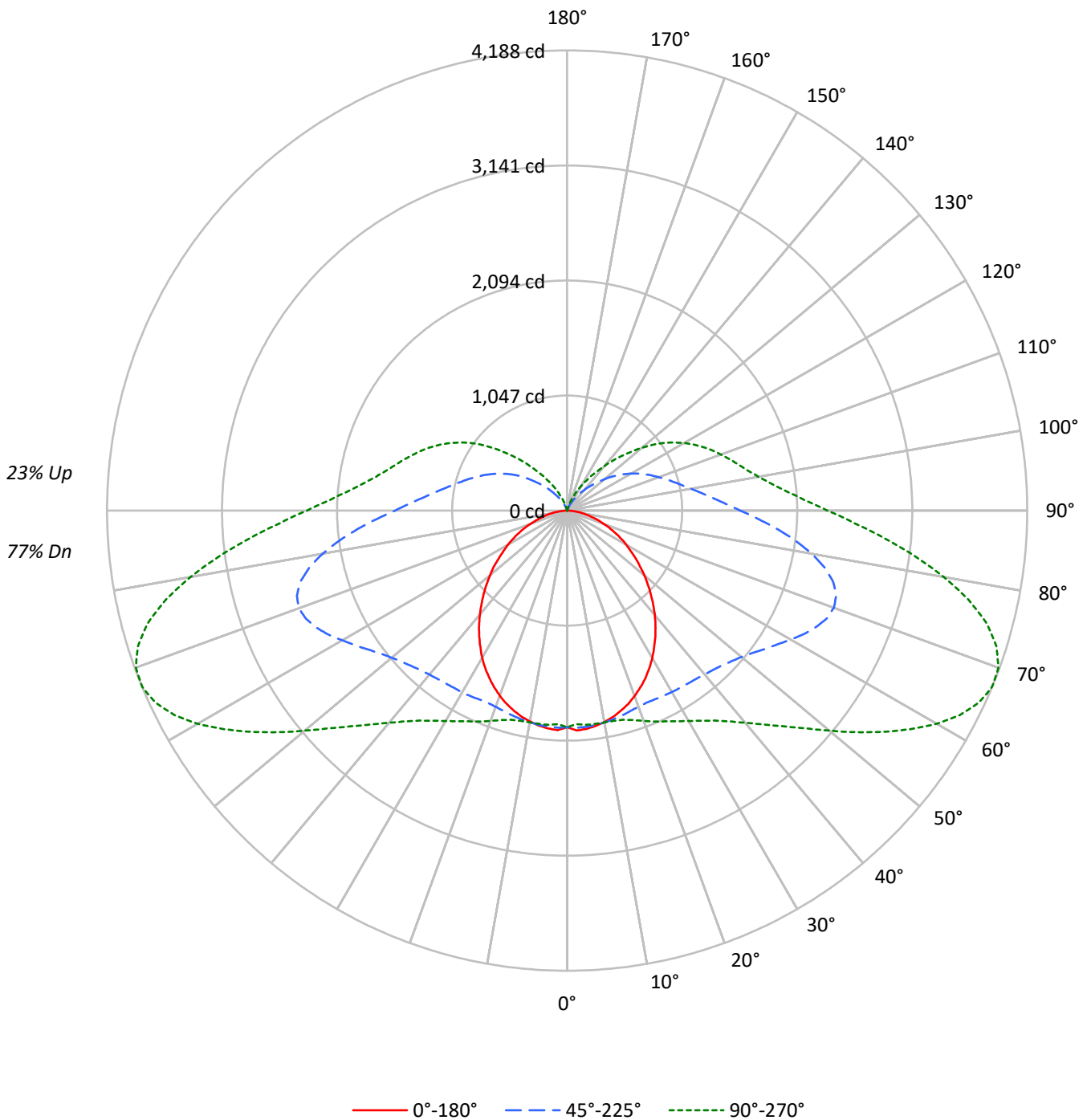
Input Watts (W): 114.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15886	15886	15886
5°	16095	14275	16060
10°	15906	13130	15871
15°	15620	12331	15597
20°	15250	12021	15225
25°	14801	11902	14738
30°	14198	11965	14185
35°	13509	12256	13482
40°	12772	12955	12714
45°	11967	14076	11935
50°	11150	15717	11114
55°	10324	17747	10305
60°	9589	19811	9611
65°	8772	21476	8797
70°	7908	22251	7908
75°	6873	21773	6830
80°	5738	20035	5677
85°	4290	17596	4083



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.2	1.1
10°-20°	544.5	3.2
20°-30°	875.1	5.2
30°-40°	1185.0	7.0
40°-50°	1522.3	9.0
50°-60°	1958.6	11.6
60°-70°	2396.1	14.2
70°-80°	2422.5	14.4
80°-90°	1873.3	11.1
90°-100°	1301.5	7.7
100°-110°	972.1	5.8
110°-120°	728.6	4.3
120°-130°	490.6	2.9
130°-140°	269.1	1.6
140°-150°	114.7	0.7
150°-160°	32.8	0.2
160°-170°	2.8	0.0
170°-180°	0.0	0.0
0°-30°	1606.8	9.5
0°-40°	2791.8	16.5
0°-60°	6272.8	37.2
0°-90°	12964.6	76.8
90°-120°	3002.2	17.8
90°-150°	3876.5	23.0
90°-180°	3912.0	23.2
0°-180°	16876.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1972	1972	1972	1972	1972	
5°	1995	1976	1957	1973	1990	189
15°	1886	1930	1972	1930	1883	531
25°	1685	1894	2116	1896	1678	774
35°	1398	1920	2333	1922	1396	874
45°	1078	1993	2774	2002	1075	831
55°	762	2197	3511	2207	761	683
65°	486	2503	4135	2519	487	482
75°	242	2508	3951	2516	241	259
85°	60	1917	2900	1912	57	66
90°	1	1575	2369	1566	0	4
95°	1	1328	2003	1323	0	1
105°	1	1004	1615	1004	0	1
115°	1	781	1367	781	0	1
125°	1	560	1072	557	0	2
135°	3	338	704	334	0	2
145°	3	172	387	165	0	2
155°	3	54	160	52	0	1
165°	3	3	16	7	0	1
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°	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7
2.5°	2003.2	2001.8	1993.2	1980.3	1974.6	1973.1	1971.7	1966.0	1964.5	1967.4	1978.9
5°	1994.6	1993.2	1984.6	1971.7	1967.4	1966.0	1964.5	1960.2	1960.2	1964.5	1976.0
7.5°	1977.4	1976.0	1967.4	1957.4	1953.1	1951.6	1951.6	1948.8	1948.8	1955.9	1968.8
10°	1953.1	1951.6	1944.5	1935.9	1933.0	1933.0	1933.0	1931.6	1934.4	1943.0	1957.4
12.5°	1924.4	1921.6	1915.8	1908.7	1908.7	1908.7	1910.1	1910.1	1914.4	1928.7	1945.9
15°	1885.7	1887.2	1881.4	1875.7	1878.6	1880.0	1882.9	1885.7	1892.9	1910.1	1930.1
17.5°	1845.6	1845.6	1841.3	1838.4	1844.2	1847.0	1851.3	1855.6	1868.5	1890.0	1913.0
20°	1795.5	1796.9	1795.5	1796.9	1804.1	1808.4	1814.1	1824.1	1841.3	1871.4	1898.6
22.5°	1741.0	1743.9	1743.9	1749.6	1761.1	1768.2	1775.4	1789.7	1814.1	1852.8	1891.5
25°	1685.1	1683.7	1690.9	1700.9	1712.3	1722.4	1731.0	1752.5	1788.3	1839.9	1894.3
27.5°	1617.8	1620.6	1630.7	1645.0	1662.2	1675.1	1688.0	1718.1	1769.7	1838.4	1901.5
30°	1549.0	1553.3	1566.2	1586.2	1610.6	1627.8	1642.1	1689.4	1759.6	1838.4	1907.2
32.5°	1474.5	1481.6	1498.8	1524.6	1559.0	1579.1	1602.0	1665.1	1751.0	1835.6	1913.0
35°	1398.5	1407.1	1430.1	1461.6	1501.7	1526.1	1561.9	1646.4	1739.6	1832.7	1920.1
37.5°	1321.2	1331.2	1357.0	1397.1	1448.7	1485.9	1528.9	1626.4	1731.0	1832.7	1930.1
40°	1240.9	1252.4	1285.3	1331.2	1397.1	1445.8	1497.4	1606.3	1722.4	1834.1	1945.9
42.5°	1159.2	1172.1	1212.3	1266.7	1352.7	1410.0	1467.3	1589.1	1716.6	1841.3	1966.0
45°	1077.6	1094.8	1139.2	1205.1	1312.6	1372.7	1438.7	1573.4	1713.8	1854.2	1993.2
47.5°	995.9	1015.9	1067.5	1146.3	1271.0	1342.6	1411.4	1560.5	1716.6	1871.4	2029.0
50°	917.1	940.0	997.3	1093.3	1232.3	1309.7	1385.6	1551.9	1722.4	1897.2	2072.0
52.5°	836.8	866.9	930.0	1046.0	1197.9	1279.6	1364.1	1546.1	1733.8	1931.6	2127.9
55°	762.3	793.8	866.9	1000.2	1165.0	1253.8	1344.1	1544.7	1753.9	1973.1	2196.7
57.5°	686.4	725.1	805.3	955.8	1130.6	1228.0	1328.3	1547.6	1778.3	2017.6	2266.9
60°	621.9	656.3	749.4	912.8	1100.5	1203.7	1314.0	1550.4	1804.1	2069.1	2348.6
62.5°	553.1	590.4	700.7	871.2	1070.4	1182.2	1299.7	1554.7	1831.3	2122.2	2431.7
65°	485.8	524.5	652.0	831.1	1040.3	1159.2	1282.5	1554.7	1852.8	2170.9	2503.3
67.5°	421.3	462.8	603.3	788.1	1005.9	1130.6	1261.0	1547.6	1865.7	2205.3	2559.2
70°	359.7	405.5	556.0	742.3	968.7	1096.2	1230.9	1531.8	1864.2	2218.2	2583.6
72.5°	298.0	351.1	504.4	696.4	928.5	1057.5	1195.1	1501.7	1844.2	2202.4	2567.8
75°	242.2	299.5	458.5	650.5	882.7	1011.6	1150.6	1455.9	1799.8	2153.7	2507.6
77.5°	190.6	253.6	409.8	600.4	831.1	958.6	1094.8	1397.1	1729.5	2067.7	2401.6
80°	141.9	212.1	364.0	550.2	775.2	899.9	1031.7	1322.6	1637.8	1951.6	2259.7
82.5°	98.9	173.4	319.5	500.1	717.9	836.8	962.9	1233.7	1531.8	1816.9	2096.4
85°	60.2	139.0	275.1	451.4	659.1	770.9	889.8	1140.6	1415.7	1670.8	1917.3
87.5°	25.8	107.5	236.4	404.1	600.4	706.4	815.3	1051.8	1292.5	1518.9	1738.1
90°	1.4	80.2	202.0	359.7	544.5	643.4	745.1	957.2	1179.3	1379.9	1574.8
92.5°	0.0	68.8	182.0	332.4	505.8	597.5	692.1	887.0	1087.6	1266.7	1440.1
95°	1.4	57.3	164.8	302.3	467.1	554.5	642.0	823.9	1004.5	1169.3	1328.3
97.5°	1.4	47.3	146.2	275.1	431.3	511.6	593.2	762.3	925.7	1081.9	1229.4
100°	1.4	37.3	129.0	249.3	394.1	468.6	545.9	705.0	858.3	1004.5	1143.5
102.5°	1.4	27.2	114.6	225.0	359.7	429.9	501.5	652.0	796.7	937.1	1069.0
105°	1.4	18.6	100.3	202.0	328.1	394.1	461.4	603.3	740.8	875.5	1004.5
107.5°	1.4	12.9	87.4	180.5	293.7	359.7	422.7	557.4	689.2	819.6	945.7
110°	1.4	11.5	75.9	161.9	266.5	326.7	386.9	514.4	640.5	765.2	888.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.4	10.0	64.5	144.7	239.3	293.7	352.5	472.9	596.1	716.5	834.0
115°	1.4	10.0	53.0	129.0	216.4	265.1	319.5	432.7	550.2	666.3	780.9
117.5°	1.4	10.0	43.0	114.6	194.9	239.3	286.6	395.5	504.4	617.6	729.4
120°	1.4	8.6	34.4	100.3	176.2	216.4	260.8	359.7	460.0	566.0	673.5
122.5°	1.4	8.6	28.7	87.4	157.6	194.9	235.0	322.4	418.4	515.9	616.2
125°	1.4	7.2	24.4	73.1	139.0	174.8	210.6	289.5	378.3	468.6	560.3
127.5°	2.9	7.2	20.1	60.2	120.4	151.9	186.3	257.9	335.3	417.0	504.4
130°	2.9	7.2	17.2	45.9	101.7	130.4	160.5	226.4	298.0	368.3	444.2
132.5°	2.9	5.7	15.8	35.8	84.5	110.3	137.6	196.3	259.4	322.4	388.3
135°	2.9	5.7	12.9	28.7	67.3	90.3	116.1	167.7	223.5	282.3	338.2
137.5°	2.9	4.3	11.5	22.9	51.6	73.1	96.0	141.9	190.6	240.7	292.3
140°	2.9	4.3	10.0	18.6	38.7	54.5	75.9	116.1	159.1	203.5	247.9
142.5°	2.9	4.3	8.6	15.8	30.1	41.6	57.3	94.6	131.8	169.1	207.8
145°	2.9	4.3	7.2	12.9	22.9	31.5	41.6	73.1	106.0	139.0	172.0
147.5°	2.9	4.3	7.2	11.5	18.6	24.4	31.5	53.0	83.1	110.3	139.0
150°	2.9	4.3	5.7	10.0	15.8	18.6	22.9	37.3	60.2	84.5	108.9
152.5°	2.9	2.9	5.7	8.6	11.5	14.3	17.2	27.2	41.6	60.2	81.7
155°	2.9	2.9	4.3	7.2	10.0	11.5	12.9	18.6	27.2	38.7	54.5
157.5°	2.9	2.9	4.3	5.7	7.2	8.6	10.0	12.9	18.6	24.4	33.0
160°	2.9	2.9	4.3	5.7	5.7	7.2	7.2	8.6	11.5	14.3	18.6
162.5°	2.9	2.9	4.3	4.3	4.3	5.7	5.7	5.7	7.2	7.2	8.6
165°	2.9	2.9	2.9	4.3	2.9	4.3	2.9	4.3	4.3	2.9	2.9
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7
2.5°	1983.2	1973.1	1968.8	1963.1	1958.8	1955.9	1951.6	1948.8	1944.5	1944.5	1945.9
5°	1980.3	1970.3	1967.4	1961.7	1958.8	1957.4	1954.5	1955.9	1955.9	1957.4	1955.9
7.5°	1974.6	1966.0	1963.1	1960.2	1957.4	1955.9	1954.5	1957.4	1957.4	1958.8	1958.8
10°	1964.5	1958.8	1958.8	1955.9	1954.5	1953.1	1950.2	1954.5	1954.5	1957.4	1955.9
12.5°	1953.1	1951.6	1953.1	1954.5	1954.5	1953.1	1951.6	1957.4	1960.2	1960.2	1961.7
15°	1940.2	1943.0	1950.2	1954.5	1957.4	1957.4	1960.2	1966.0	1970.3	1971.7	1971.7
17.5°	1930.1	1937.3	1950.2	1961.7	1967.4	1970.3	1977.4	1988.9	1996.1	1997.5	1997.5
20°	1923.0	1940.2	1963.1	1984.6	1991.8	1997.5	2011.8	2026.2	2036.2	2037.6	2037.6
22.5°	1928.7	1957.4	1988.9	2013.3	2023.3	2030.5	2046.2	2064.8	2076.3	2077.7	2077.7
25°	1943.0	1977.4	2013.3	2043.3	2054.8	2063.4	2080.6	2100.7	2112.1	2116.4	2115.0
27.5°	1955.9	1997.5	2039.1	2073.4	2086.3	2097.8	2119.3	2142.2	2156.6	2160.8	2158.0
30°	1967.4	2016.1	2063.4	2105.0	2122.2	2135.1	2160.8	2188.1	2206.7	2211.0	2206.7
32.5°	1978.9	2037.6	2093.5	2142.2	2159.4	2178.0	2211.0	2242.5	2261.2	2266.9	2264.0
35°	1994.6	2063.4	2129.3	2185.2	2208.1	2229.6	2268.3	2305.6	2328.5	2332.8	2328.5
37.5°	2016.1	2096.4	2169.4	2239.7	2264.0	2294.1	2340.0	2384.4	2411.6	2417.3	2411.6
40°	2043.3	2137.9	2223.9	2305.6	2338.5	2370.1	2425.9	2479.0	2509.1	2519.1	2514.8
42.5°	2079.2	2189.5	2289.8	2387.3	2424.5	2464.6	2530.5	2592.2	2626.6	2638.0	2626.6
45°	2123.6	2254.0	2370.1	2483.3	2526.2	2575.0	2653.8	2724.0	2764.1	2774.1	2764.1
47.5°	2182.3	2329.9	2464.6	2595.0	2646.6	2703.9	2797.1	2877.3	2920.3	2931.8	2921.7
50°	2245.4	2421.6	2576.4	2725.4	2789.9	2850.1	2959.0	3047.8	3093.7	3115.2	3096.5
52.5°	2324.2	2521.9	2703.9	2870.1	2947.5	3019.2	3139.5	3237.0	3292.9	3311.5	3285.7
55°	2418.8	2642.3	2845.8	3037.8	3115.2	3195.4	3328.7	3431.9	3490.6	3510.7	3492.0
57.5°	2523.4	2769.8	2994.8	3196.9	3287.1	3368.8	3517.8	3625.3	3676.9	3702.7	3679.7
60°	2632.3	2901.7	3145.3	3360.2	3459.1	3543.6	3695.5	3801.5	3856.0	3881.8	3860.3
62.5°	2738.3	3029.2	3285.7	3509.2	3603.8	3696.9	3848.8	3950.6	4006.5	4029.4	4009.3
65°	2830.0	3136.7	3400.3	3631.0	3728.5	3820.2	3963.5	4060.9	4119.7	4135.4	4121.1
67.5°	2898.8	3209.8	3476.3	3704.1	3798.7	3890.4	4026.5	4116.8	4174.1	4188.4	4175.5
70°	2930.3	3238.4	3502.1	3724.2	3817.3	3899.0	4027.9	4113.9	4168.4	4177.0	4166.9
72.5°	2910.3	3209.8	3464.8	3676.9	3765.7	3837.4	3956.3	4038.0	4089.6	4096.7	4089.6
75°	2835.8	3122.3	3363.1	3560.8	3643.9	3704.1	3817.3	3893.3	3944.8	3950.6	3942.0
77.5°	2709.7	2976.2	3196.9	3387.4	3456.2	3515.0	3622.4	3689.8	3731.3	3739.9	3729.9
80°	2540.6	2785.6	2983.3	3153.9	3219.8	3269.9	3374.5	3447.6	3470.5	3482.0	3467.7
82.5°	2347.1	2566.4	2742.6	2897.4	2956.1	3017.7	3085.1	3152.4	3185.4	3195.4	3184.0
85°	2139.4	2334.2	2490.4	2629.4	2681.0	2736.9	2795.6	2861.5	2890.2	2900.2	2888.8
87.5°	1931.6	2103.5	2241.1	2364.3	2411.6	2461.8	2532.0	2566.4	2605.1	2616.5	2603.6
90°	1745.3	1900.1	2023.3	2135.1	2179.5	2225.3	2279.8	2322.8	2358.6	2368.6	2357.2
92.5°	1594.8	1733.8	1847.0	1947.3	1986.0	2029.0	2082.0	2123.6	2155.1	2165.1	2153.7
95°	1470.2	1597.7	1703.7	1796.9	1834.1	1874.3	1933.0	1966.0	1994.6	2003.2	1994.6
97.5°	1364.1	1484.5	1584.8	1675.1	1710.9	1748.2	1805.5	1838.4	1865.7	1872.8	1865.7
100°	1271.0	1388.5	1487.4	1573.4	1609.2	1645.0	1700.9	1733.8	1759.6	1768.2	1759.6
102.5°	1193.6	1306.8	1404.3	1491.7	1526.1	1561.9	1614.9	1653.6	1673.7	1683.7	1675.1
105°	1126.3	1236.6	1334.1	1420.0	1455.9	1490.2	1544.7	1580.5	1603.4	1614.9	1604.9
107.5°	1064.7	1173.6	1272.4	1355.5	1391.4	1425.8	1481.6	1517.5	1539.0	1551.9	1540.4
110°	1005.9	1113.4	1208.0	1293.9	1329.8	1365.6	1421.5	1457.3	1478.8	1490.2	1480.2



TEST NUMBER: P201263

CATALOG NUMBER: 8LBLED-LD4-16-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	948.6	1053.2	1150.6	1233.7	1268.1	1304.0	1361.3	1398.5	1418.6	1431.5	1420.0
115°	891.3	994.4	1089.0	1169.3	1203.7	1240.9	1296.8	1335.5	1357.0	1367.0	1355.5
117.5°	835.4	934.3	1024.5	1103.4	1137.7	1173.6	1228.0	1266.7	1289.6	1299.7	1288.2
120°	778.1	872.7	961.5	1033.1	1069.0	1101.9	1157.8	1195.1	1218.0	1228.0	1216.6
122.5°	716.5	809.6	894.1	964.4	998.7	1030.3	1084.7	1122.0	1143.5	1153.5	1143.5
125°	653.4	740.8	822.5	892.7	921.4	951.5	1004.5	1040.3	1063.2	1071.8	1063.2
127.5°	590.4	670.6	746.6	808.2	839.7	868.4	918.5	952.9	973.0	983.0	975.8
130°	527.3	603.3	672.0	727.9	755.2	782.4	828.2	859.8	879.8	888.4	881.2
132.5°	460.0	533.0	600.4	649.1	674.9	697.8	739.4	766.6	783.8	793.8	785.2
135°	399.8	460.0	523.0	573.2	599.0	619.0	656.3	679.2	695.0	703.6	695.0
137.5°	345.3	396.9	448.5	492.9	517.3	538.8	574.6	596.1	610.4	619.0	610.4
140°	295.2	339.6	385.5	421.3	442.8	460.0	492.9	511.6	524.5	531.6	523.0
142.5°	246.5	286.6	325.3	358.2	376.9	391.2	422.7	437.0	447.1	451.4	447.1
145°	204.9	237.9	270.8	300.9	315.2	326.7	358.2	374.0	382.6	386.9	382.6
147.5°	166.2	193.4	220.7	245.0	257.9	272.3	293.7	312.4	319.5	322.4	319.5
150°	130.4	154.8	176.2	196.3	206.3	216.4	235.0	253.6	260.8	265.1	260.8
152.5°	98.9	118.9	136.1	151.9	160.5	169.1	184.8	202.0	209.2	212.1	209.2
155°	71.6	86.0	101.7	113.2	120.4	126.1	137.6	149.0	160.5	160.5	160.5
157.5°	44.4	55.9	68.8	78.8	83.1	88.8	97.4	107.5	116.1	120.4	120.4
160°	22.9	30.1	38.7	45.9	50.2	54.5	60.2	68.8	74.5	78.8	75.9
162.5°	10.0	12.9	17.2	20.1	22.9	24.4	28.7	33.0	35.8	43.0	37.3
165°	2.9	2.9	4.3	5.7	5.7	5.7	7.2	8.6	10.0	15.8	11.5
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



TEST NUMBER: P201263

CATALOG NUMBER: 8LBLELD4-16-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7
2.5°	1948.8	1953.1	1958.8	1961.7	1966.0	1968.8	1976.0	1984.6	1977.4	1967.4	1968.8
5°	1955.9	1954.5	1958.8	1961.7	1964.5	1966.0	1973.1	1981.7	1973.1	1963.1	1963.1
7.5°	1958.8	1957.4	1958.8	1960.2	1961.7	1961.7	1968.8	1976.0	1967.4	1954.5	1951.6
10°	1954.5	1953.1	1954.5	1957.4	1957.4	1957.4	1961.7	1967.4	1957.4	1941.6	1935.9
12.5°	1957.4	1953.1	1953.1	1954.5	1954.5	1951.6	1953.1	1957.4	1944.5	1927.3	1918.7
15°	1967.4	1960.2	1957.4	1957.4	1954.5	1947.3	1944.5	1944.5	1930.1	1907.2	1895.8
17.5°	1991.8	1980.3	1971.7	1967.4	1961.7	1948.8	1938.7	1933.0	1914.4	1888.6	1870.0
20°	2029.0	2013.3	2000.4	1991.8	1984.6	1961.7	1941.6	1925.9	1900.1	1868.5	1844.2
22.5°	2066.3	2049.1	2030.5	2021.9	2011.8	1986.0	1958.8	1931.6	1892.9	1849.9	1816.9
25°	2102.1	2084.9	2063.4	2054.8	2041.9	2011.8	1977.4	1945.9	1895.8	1837.0	1789.7
27.5°	2143.7	2122.2	2099.2	2086.3	2072.0	2037.6	1998.9	1960.2	1904.4	1837.0	1771.1
30°	2190.9	2165.1	2135.1	2120.7	2103.5	2063.4	2016.1	1970.3	1910.1	1837.0	1761.1
32.5°	2245.4	2215.3	2179.5	2159.4	2139.4	2092.1	2036.2	1983.2	1914.4	1835.6	1752.5
35°	2308.4	2274.1	2231.1	2208.1	2183.8	2127.9	2062.0	1997.5	1921.6	1834.1	1741.0
37.5°	2387.3	2347.1	2295.5	2266.9	2238.2	2172.3	2096.4	2019.0	1933.0	1835.6	1732.4
40°	2481.8	2434.5	2374.4	2338.5	2304.1	2228.2	2137.9	2046.2	1948.8	1838.4	1723.8
42.5°	2593.6	2536.3	2468.9	2427.4	2387.3	2292.7	2189.5	2080.6	1970.3	1844.2	1719.5
45°	2726.9	2666.7	2580.7	2529.1	2484.7	2374.4	2255.4	2126.5	2001.8	1858.5	1718.1
47.5°	2880.2	2804.2	2711.1	2650.9	2597.9	2470.4	2332.8	2183.8	2037.6	1877.1	1720.9
50°	3052.1	2966.2	2858.7	2795.6	2729.7	2583.6	2424.5	2251.1	2083.5	1904.4	1728.1
52.5°	3241.3	3146.7	3030.6	2956.1	2883.0	2714.0	2527.7	2337.1	2136.5	1938.7	1741.0
55°	3437.6	3335.8	3206.9	3125.2	3043.5	2857.3	2649.5	2430.2	2206.7	1981.7	1762.5
57.5°	3628.2	3523.6	3381.7	3298.6	3206.9	3009.1	2779.9	2532.0	2282.6	2031.9	1786.9
60°	3804.4	3699.8	3556.5	3472.0	3371.7	3159.6	2913.1	2643.7	2361.5	2084.9	1815.5
62.5°	3953.4	3853.1	3709.8	3623.9	3520.7	3301.5	3040.7	2752.6	2447.4	2140.8	1842.7
65°	4063.8	3969.2	3830.2	3741.4	3642.5	3414.7	3148.1	2848.7	2519.1	2189.5	1867.1
67.5°	4119.7	4030.8	3896.1	3811.6	3714.1	3487.7	3221.2	2913.1	2573.5	2223.9	1882.9
70°	4113.9	4029.4	3903.3	3820.2	3727.0	3509.2	3247.0	2938.9	2597.9	2236.8	1880.0
72.5°	4039.4	3954.9	3841.7	3761.4	3672.6	3469.1	3211.2	2916.0	2579.3	2216.7	1857.1
75°	3891.8	3814.4	3699.8	3633.9	3553.7	3364.5	3118.0	2831.5	2516.2	2163.7	1809.8
77.5°	3679.7	3621.0	3509.2	3447.6	3368.8	3194.0	2961.9	2703.9	2405.9	2074.9	1736.7
80°	3420.4	3371.7	3262.8	3208.3	3130.9	2979.0	2778.4	2529.1	2259.7	1954.5	1642.1
82.5°	3136.7	3080.8	2994.8	2944.7	2871.6	2735.5	2544.9	2341.4	2090.6	1816.9	1531.8
85°	2842.9	2791.3	2712.5	2669.5	2605.1	2483.3	2312.7	2133.6	1911.5	1665.1	1412.9
87.5°	2563.5	2513.3	2438.8	2400.1	2341.4	2232.5	2083.5	1925.9	1729.5	1518.9	1286.8
90°	2321.3	2274.1	2203.8	2168.0	2115.0	2016.1	1881.4	1739.6	1566.2	1372.7	1173.6
92.5°	2122.2	2079.2	2013.3	1978.9	1931.6	1841.3	1719.5	1590.5	1434.4	1266.7	1081.9
95°	1964.5	1923.0	1864.2	1831.3	1786.9	1693.7	1586.2	1465.9	1322.6	1169.3	998.7
97.5°	1837.0	1802.6	1738.1	1706.6	1670.8	1576.2	1478.8	1359.8	1226.6	1083.3	924.2
100°	1733.8	1695.1	1636.4	1606.3	1569.1	1480.2	1381.3	1269.6	1140.6	1004.5	856.9
102.5°	1653.6	1613.5	1559.0	1524.6	1488.8	1398.5	1301.1	1192.2	1069.0	937.1	795.3
105°	1581.9	1543.3	1488.8	1454.4	1418.6	1329.8	1236.6	1126.3	1004.5	876.9	739.4
107.5°	1514.6	1480.2	1425.8	1391.4	1355.5	1266.7	1173.6	1064.7	945.7	821.1	687.8
110°	1457.3	1420.0	1362.7	1329.8	1291.1	1206.5	1113.4	1007.3	888.4	766.6	639.1



TEST NUMBER: P201263

CATALOG NUMBER: 8LBLED-LD4-16-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1400.0	1359.8	1302.5	1269.6	1230.9	1146.3	1054.6	950.0	834.0	716.5	593.2
115°	1336.9	1298.2	1238.0	1205.1	1166.4	1083.3	994.4	892.7	780.9	666.3	547.4
117.5°	1269.6	1230.9	1170.7	1139.2	1101.9	1020.2	935.7	836.8	727.9	617.6	501.5
120°	1196.5	1159.2	1101.9	1070.4	1034.6	955.8	874.1	775.2	672.0	566.0	458.5
122.5°	1122.0	1086.2	1030.3	998.7	964.4	889.8	809.6	713.6	614.7	515.9	417.0
125°	1041.7	1005.9	952.9	922.8	888.4	816.8	739.4	649.1	557.4	468.6	374.0
127.5°	948.6	919.9	868.4	838.3	806.7	743.7	669.2	587.5	503.0	417.0	332.4
130°	859.8	829.7	780.9	753.7	726.5	669.2	603.3	524.5	441.3	366.8	290.9
132.5°	766.6	739.4	697.8	674.9	650.5	599.0	531.6	454.2	384.0	319.5	252.2
135°	679.2	656.3	619.0	599.0	574.6	520.2	457.1	392.6	333.9	276.6	216.4
137.5°	597.5	574.6	540.2	518.7	492.9	444.2	392.6	339.6	285.2	236.4	183.4
140°	511.6	492.9	461.4	442.8	419.8	378.3	335.3	285.2	242.2	197.7	151.9
142.5°	438.5	422.7	391.2	374.0	353.9	319.5	279.4	240.7	202.0	163.4	124.7
145°	375.4	359.7	325.3	312.4	293.7	263.7	230.7	196.3	164.8	131.8	100.3
147.5°	313.8	295.2	265.1	253.6	239.3	213.5	187.7	160.5	133.3	104.6	77.4
150°	256.5	235.0	210.6	203.5	189.1	169.1	147.6	124.7	103.2	80.2	55.9
152.5°	202.0	183.4	163.4	156.2	144.7	131.8	113.2	94.6	77.4	55.9	38.7
155°	150.5	136.1	120.4	116.1	107.5	97.4	81.7	67.3	51.6	37.3	27.2
157.5°	106.0	94.6	83.1	80.2	74.5	65.9	53.0	41.6	33.0	24.4	18.6
160°	65.9	58.7	50.2	47.3	43.0	37.3	28.7	24.4	20.1	15.8	11.5
162.5°	31.5	27.2	24.4	22.9	20.1	17.2	15.8	12.9	11.5	10.0	8.6
165°	11.5	11.5	11.5	10.0	10.0	10.0	10.0	8.6	7.2	7.2	5.7
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: P201263

CATALOG NUMBER: 8LBLED-LD4-16-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7	1971.7
2.5°	1970.3	1973.1	1973.1	1974.6	1978.9	1987.5	1998.9	2000.4
5°	1964.5	1966.0	1966.0	1966.0	1970.3	1977.4	1988.9	1990.3
7.5°	1951.6	1951.6	1951.6	1951.6	1955.9	1961.7	1971.7	1973.1
10°	1934.4	1933.0	1933.0	1931.6	1934.4	1938.7	1950.2	1948.8
12.5°	1913.0	1910.1	1908.7	1908.7	1907.2	1911.5	1918.7	1920.1
15°	1888.6	1882.9	1880.0	1877.1	1875.7	1875.7	1884.3	1882.9
17.5°	1859.9	1851.3	1847.0	1842.7	1837.0	1837.0	1842.7	1841.3
20°	1827.0	1815.5	1808.4	1802.6	1794.0	1791.2	1794.0	1792.6
22.5°	1794.0	1775.4	1768.2	1759.6	1746.7	1741.0	1739.6	1738.1
25°	1755.3	1732.4	1722.4	1713.8	1695.1	1688.0	1680.8	1678.0
27.5°	1720.9	1688.0	1675.1	1660.8	1639.3	1629.2	1617.8	1614.9
30°	1690.9	1642.1	1622.1	1607.7	1580.5	1564.8	1550.4	1547.6
32.5°	1667.9	1600.6	1573.4	1556.2	1518.9	1497.4	1478.8	1470.2
35°	1647.9	1561.9	1526.1	1498.8	1454.4	1428.6	1402.8	1395.7
37.5°	1629.2	1528.9	1481.6	1444.4	1394.2	1357.0	1328.3	1316.9
40°	1610.6	1498.8	1441.5	1394.2	1328.3	1285.3	1249.5	1235.2
42.5°	1593.4	1468.7	1407.1	1349.8	1263.8	1212.3	1173.6	1153.5
45°	1577.6	1441.5	1374.2	1311.1	1200.8	1140.6	1093.3	1074.7
47.5°	1566.2	1415.7	1341.2	1272.4	1142.0	1067.5	1018.8	994.4
50°	1557.6	1391.4	1309.7	1233.7	1090.5	997.3	942.9	914.2
52.5°	1553.3	1369.9	1281.0	1199.4	1043.2	930.0	865.5	844.0
55°	1554.7	1352.7	1256.7	1167.8	998.7	865.5	793.8	760.9
57.5°	1557.6	1336.9	1232.3	1136.3	954.3	802.4	722.2	687.8
60°	1563.3	1324.0	1210.8	1106.2	912.8	748.0	656.3	623.3
62.5°	1569.1	1312.6	1189.3	1077.6	872.7	697.8	590.4	553.1
65°	1570.5	1295.4	1166.4	1048.9	832.5	647.7	523.0	487.2
67.5°	1564.8	1273.9	1137.7	1015.9	791.0	599.0	460.0	422.7
70°	1547.6	1245.2	1104.8	978.7	745.1	551.7	399.8	359.7
72.5°	1516.0	1208.0	1066.1	937.1	700.7	501.5	345.3	296.6
75°	1471.6	1162.1	1020.2	889.8	653.4	454.2	295.2	240.7
77.5°	1411.4	1103.4	965.8	836.8	601.8	405.5	252.2	189.1
80°	1334.1	1041.7	905.6	779.5	551.7	361.1	210.6	140.4
82.5°	1242.3	971.5	841.1	720.8	504.4	315.2	172.0	97.4
85°	1147.8	895.6	773.8	659.1	454.2	272.3	139.0	57.3
87.5°	1054.6	819.6	709.3	603.3	402.7	233.6	107.5	22.9
90°	962.9	746.6	642.0	543.1	358.2	197.7	80.2	0.0
92.5°	887.0	692.1	597.5	503.0	329.6	179.1	68.8	0.0
95°	819.6	640.5	550.2	462.8	299.5	161.9	57.3	0.0
97.5°	758.0	591.8	508.7	425.6	272.3	143.3	47.3	0.0
100°	699.3	543.1	465.7	391.2	246.5	127.5	35.8	0.0
102.5°	647.7	500.1	427.0	353.9	220.7	111.8	25.8	0.0
105°	597.5	458.5	391.2	321.0	197.7	97.4	15.8	0.0
107.5°	553.1	419.8	355.4	290.9	176.2	84.5	10.0	0.0
110°	510.1	384.0	321.0	262.2	157.6	73.1	8.6	0.0



TEST NUMBER: P201263

CATALOG NUMBER: 8LBLED-LD4-16-SYMF-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	470.0	349.6	290.9	235.0	141.9	61.6	8.6	0.0
115°	428.4	316.7	262.2	212.1	126.1	50.2	7.2	0.0
117.5°	392.6	285.2	236.4	193.4	110.3	40.1	7.2	0.0
120°	356.8	257.9	214.9	173.4	96.0	30.1	7.2	0.0
122.5°	321.0	233.6	192.0	154.8	83.1	24.4	5.7	0.0
125°	288.0	207.8	170.5	134.7	68.8	21.5	5.7	0.0
127.5°	255.1	182.0	147.6	116.1	54.5	18.6	4.3	0.0
130°	222.1	156.2	126.1	97.4	41.6	15.8	4.3	0.0
132.5°	192.0	131.8	106.0	80.2	33.0	12.9	2.9	0.0
135°	161.9	110.3	87.4	63.0	25.8	11.5	2.9	0.0
137.5°	136.1	90.3	68.8	47.3	21.5	8.6	2.9	0.0
140°	111.8	71.6	51.6	35.8	17.2	7.2	1.4	0.0
142.5°	88.8	53.0	38.7	27.2	14.3	5.7	1.4	0.0
145°	68.8	38.7	28.7	21.5	12.9	4.3	1.4	0.0
147.5°	50.2	30.1	22.9	18.6	10.0	4.3	1.4	0.0
150°	35.8	22.9	18.6	14.3	7.2	2.9	1.4	0.0
152.5°	27.2	17.2	14.3	11.5	5.7	2.9	1.4	0.0
155°	20.1	12.9	11.5	8.6	4.3	2.9	1.4	0.0
157.5°	14.3	10.0	8.6	5.7	4.3	2.9	1.4	0.0
160°	8.6	7.2	5.7	4.3	2.9	1.4	1.4	0.0
162.5°	7.2	4.3	4.3	4.3	2.9	1.4	1.4	0.0
165°	4.3	2.9	2.9	2.9	1.4	1.4	1.4	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)