

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: P201308

Luminaire Tested: **8LBLED-LD4-12-SYMW-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201308
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: 8LBLEDD4-12-SYMW-UNV-L850-CD1-U
Description: 8 ft. Low Bay Linear, 12000 lm, Wht Sym lens, 5K
Light Source: (784) 5000K CCT, 80 CRI LEDS
2UT217098A8504C
Ballast/Driver: OSRAM
(OTI85W01920CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12717.2 lumens
Efficiency: N/A
Efficacy: 148.6 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

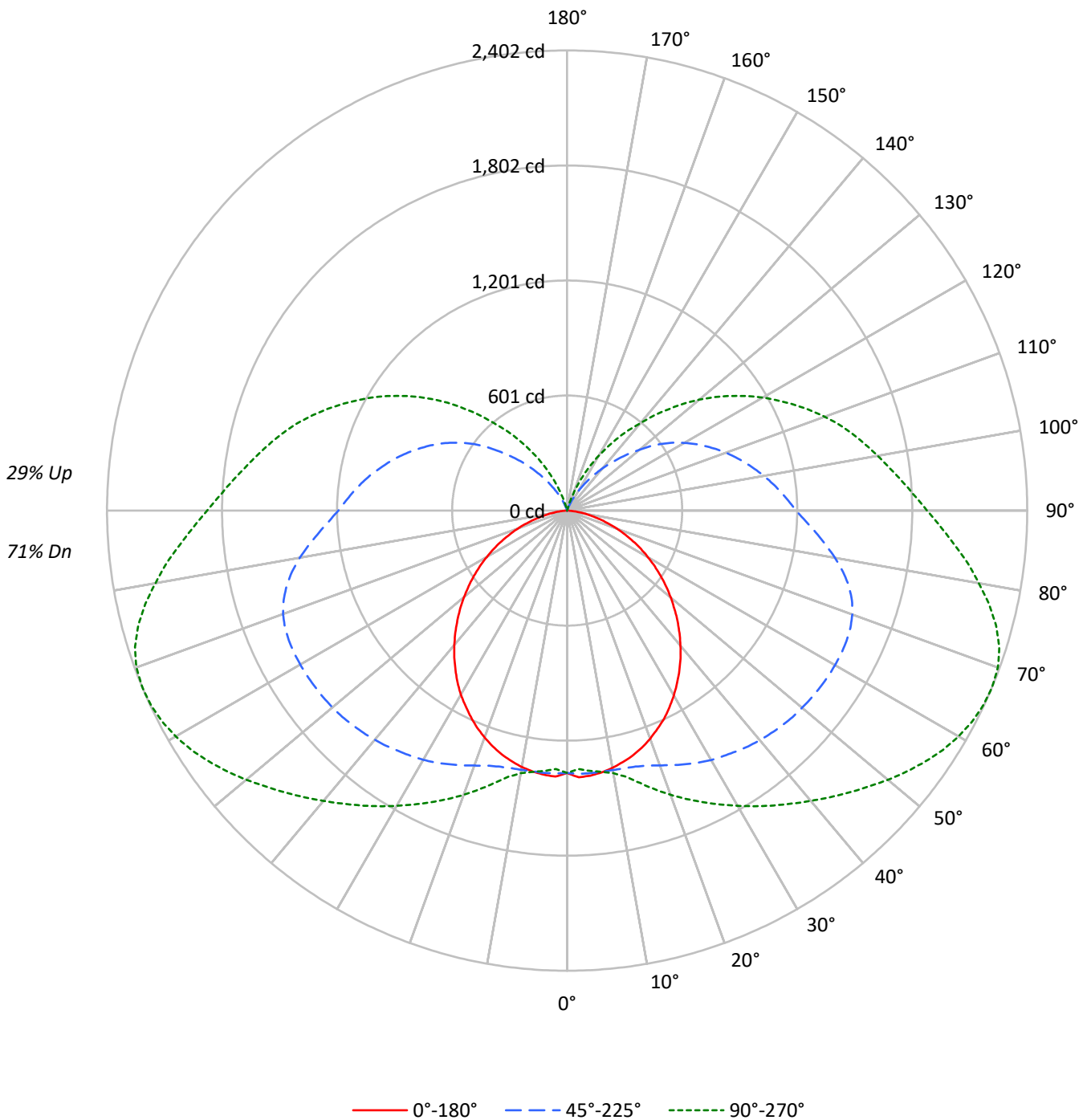
Input Watts (W): 85.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

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°	11034	11034	11034
5°	11207	9946	11170
10°	11106	9339	11069
15°	10965	9208	10918
20°	10759	9312	10700
25°	10524	9442	10443
30°	10207	9630	10176
35°	9864	9871	9819
40°	9464	10174	9428
45°	9044	10560	8993
50°	8582	11029	8539
55°	8075	11542	8029
60°	7520	12037	7468
65°	6867	12456	6806
70°	6077	12747	6002
75°	5057	12772	4861
80°	3878	12559	3603
85°	2195	12307	1953



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.8	1.0
10°-20°	393.9	3.1
20°-30°	666.8	5.2
30°-40°	932.4	7.3
40°-50°	1174.8	9.2
50°-60°	1379.5	10.8
60°-70°	1508.4	11.9
70°-80°	1490.2	11.7
80°-90°	1309.2	10.3
90°-100°	1114.4	8.8
100°-110°	929.4	7.3
110°-120°	719.8	5.7
120°-130°	501.0	3.9
130°-140°	292.4	2.3
140°-150°	133.4	1.0
150°-160°	38.1	0.3
160°-170°	2.7	0.0
170°-180°	0.0	0.0
0°-30°	1191.5	9.4
0°-40°	2123.9	16.7
0°-60°	4678.2	36.8
0°-90°	8986.0	70.7
90°-120°	2763.5	21.7
90°-150°	3690.4	29.0
90°-180°	3731.0	29.3
0°-180°	12717.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1370	1370	1370	1370	1370	
5°	1389	1376	1364	1374	1384	132
15°	1324	1383	1472	1383	1318	373
25°	1198	1461	1679	1461	1189	551
35°	1021	1535	1879	1533	1016	638
45°	814	1586	2081	1584	810	628
55°	596	1610	2283	1606	593	534
65°	380	1609	2399	1604	377	377
75°	178	1522	2318	1516	171	191
85°	31	1302	2028	1299	27	39
90°	0	1195	1879	1195	0	1
95°	0	1119	1756	1120	0	0
105°	1	963	1543	966	0	1
115°	1	796	1308	798	1	1
125°	2	609	1043	609	1	2
135°	2	386	748	386	1	2
145°	3	198	464	195	2	2
155°	3	56	206	52	2	2
165°	3	6	15	0	2	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5
2.5°	1393.5	1392.3	1386.6	1377.5	1374.0	1371.8	1370.6	1367.2	1366.1	1368.3	1375.2
5°	1388.9	1386.6	1382.0	1374.0	1370.6	1369.5	1368.3	1364.9	1363.8	1367.2	1376.3
7.5°	1378.6	1377.5	1372.9	1364.9	1363.8	1361.5	1361.5	1359.2	1359.2	1364.9	1375.2
10°	1363.8	1362.6	1358.1	1352.3	1351.2	1351.2	1351.2	1351.2	1353.5	1362.6	1375.2
12.5°	1344.4	1344.4	1340.9	1336.4	1337.5	1337.5	1338.6	1340.9	1347.8	1361.5	1377.5
15°	1323.8	1322.7	1319.2	1318.1	1321.5	1322.7	1326.1	1331.8	1343.2	1362.6	1383.2
17.5°	1297.5	1297.5	1294.1	1295.2	1302.1	1305.5	1311.2	1321.5	1339.8	1366.1	1395.8
20°	1266.7	1267.8	1266.7	1270.1	1281.5	1288.4	1295.2	1312.4	1338.6	1375.2	1415.2
22.5°	1232.4	1234.7	1234.7	1243.8	1258.7	1269.0	1279.2	1303.2	1340.9	1391.2	1438.0
25°	1198.2	1198.2	1201.6	1214.1	1234.7	1247.3	1263.3	1297.5	1348.9	1408.3	1460.9
27.5°	1157.0	1160.5	1166.2	1183.3	1211.9	1229.0	1248.4	1297.5	1358.1	1425.4	1483.7
30°	1113.6	1117.1	1126.2	1150.2	1186.7	1208.4	1235.8	1297.5	1366.1	1439.2	1503.1
32.5°	1067.9	1073.7	1086.2	1117.1	1161.6	1191.3	1226.7	1296.4	1372.9	1450.6	1519.1
35°	1021.1	1026.8	1046.2	1082.8	1141.0	1175.3	1216.4	1293.0	1376.3	1460.9	1535.1
37.5°	972.0	982.3	1004.0	1049.7	1120.5	1161.6	1205.0	1289.5	1379.8	1468.9	1551.1
40°	919.5	929.7	960.6	1015.4	1099.9	1143.3	1191.3	1285.0	1382.0	1476.8	1564.8
42.5°	868.1	881.8	917.2	983.4	1079.4	1127.3	1177.6	1278.1	1380.9	1482.6	1576.2
45°	814.4	830.4	873.8	952.6	1056.5	1107.9	1161.6	1269.0	1378.6	1486.0	1586.5
47.5°	759.6	779.0	830.4	921.7	1033.7	1087.4	1145.6	1259.8	1375.2	1488.3	1595.6
50°	705.9	728.7	787.0	890.9	1008.5	1065.7	1126.2	1249.6	1369.5	1489.4	1601.3
52.5°	652.2	677.3	745.8	860.1	982.3	1042.8	1106.8	1237.0	1362.6	1488.3	1607.1
55°	596.2	623.6	704.7	826.9	954.9	1017.7	1085.1	1221.0	1352.3	1483.7	1610.5
57.5°	542.5	573.4	665.9	795.0	926.3	992.6	1064.5	1203.9	1340.9	1480.3	1613.9
60°	487.7	523.1	625.9	758.4	896.6	965.1	1039.4	1184.4	1327.2	1472.3	1613.9
62.5°	434.0	474.0	587.1	725.3	866.9	937.7	1014.3	1162.7	1312.4	1464.3	1613.9
65°	380.3	426.0	547.1	688.7	833.8	908.0	985.7	1139.9	1294.1	1452.9	1609.3
67.5°	327.8	380.3	506.0	651.0	799.5	876.1	956.0	1113.6	1273.5	1438.0	1600.2
70°	276.4	334.7	464.9	611.1	764.1	839.5	922.9	1085.1	1249.6	1418.6	1584.2
72.5°	225.0	291.3	421.5	571.1	726.4	804.1	888.6	1052.0	1219.9	1392.3	1559.1
75°	178.2	247.9	380.3	530.0	687.6	766.4	850.9	1015.4	1184.4	1358.1	1522.5
77.5°	135.9	207.9	340.4	490.0	646.5	728.7	812.1	975.4	1143.3	1314.7	1474.6
80°	95.9	169.0	300.4	448.9	605.4	686.5	768.7	932.0	1099.9	1263.3	1419.7
82.5°	59.4	133.6	260.4	408.9	565.4	645.3	726.4	888.6	1050.8	1209.6	1360.3
85°	30.8	100.5	222.7	371.2	526.5	605.4	685.3	844.1	1000.6	1154.7	1302.1
87.5°	10.3	73.1	191.9	338.1	491.1	570.0	647.6	801.8	953.7	1101.1	1245.0
90°	0.0	54.8	169.0	311.8	461.4	538.0	615.6	764.1	912.6	1057.7	1194.7
92.5°	0.0	46.8	154.2	293.5	440.9	516.3	591.7	739.0	881.8	1022.3	1155.9
95°	0.0	37.7	141.6	275.3	419.2	493.4	567.7	711.6	852.1	989.1	1119.3
97.5°	0.0	29.7	127.9	258.1	397.5	469.4	541.4	684.2	821.2	956.0	1081.6
100°	1.1	22.8	113.1	236.4	374.6	445.5	515.1	654.5	788.1	918.3	1042.8
102.5°	1.1	16.0	99.4	218.2	350.7	419.2	487.7	623.6	755.0	884.1	1002.8
105°	1.1	11.4	85.7	198.7	327.8	394.1	461.4	593.9	721.9	846.4	962.9
107.5°	1.1	8.0	73.1	180.5	305.0	367.8	432.9	562.0	687.6	808.7	922.9
110°	1.1	5.7	61.7	161.0	279.8	342.7	405.5	530.0	652.2	769.8	881.8



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.1	4.6	50.3	142.8	254.7	316.4	376.9	498.0	616.8	731.0	839.5
115°	1.1	4.6	40.0	125.6	229.6	289.0	347.2	466.0	579.1	691.0	796.1
117.5°	1.1	3.4	30.8	108.5	206.7	261.6	317.5	430.6	542.5	651.0	752.7
120°	1.1	3.4	22.8	91.4	182.7	234.1	289.0	396.3	503.7	608.8	705.9
122.5°	2.3	3.4	17.1	76.5	161.0	207.9	260.4	362.1	462.6	564.2	660.2
125°	2.3	2.3	13.7	61.7	138.2	181.6	228.4	326.7	418.0	515.1	608.8
127.5°	2.3	2.3	10.3	46.8	115.4	155.3	197.6	289.0	378.1	464.9	554.0
130°	2.3	2.3	9.1	34.3	93.7	129.1	167.9	250.1	333.5	413.5	494.6
132.5°	2.3	2.3	6.9	25.1	74.2	106.2	140.5	213.6	290.1	367.8	440.9
135°	2.3	2.3	5.7	18.3	56.0	84.5	114.2	179.3	249.0	322.1	386.1
137.5°	2.3	2.3	5.7	13.7	41.1	64.0	90.2	149.6	211.3	276.4	334.7
140°	2.3	2.3	4.6	11.4	28.6	46.8	68.5	119.9	172.5	233.0	289.0
142.5°	2.3	2.3	3.4	9.1	20.6	33.1	49.1	92.5	139.3	191.9	241.0
145°	3.4	2.3	3.4	8.0	14.8	22.8	34.3	69.7	107.4	154.2	197.6
147.5°	2.3	2.3	2.3	5.7	11.4	16.0	22.8	48.0	81.1	119.9	156.5
150°	3.4	2.3	2.3	4.6	9.1	11.4	16.0	32.0	56.0	87.9	119.9
152.5°	3.4	2.3	2.3	4.6	6.9	9.1	11.4	20.6	36.5	59.4	85.7
155°	3.4	2.3	2.3	3.4	5.7	6.9	9.1	13.7	21.7	36.5	56.0
157.5°	3.4	3.4	3.4	3.4	4.6	5.7	6.9	10.3	12.6	20.6	32.0
160°	3.4	3.4	2.3	2.3	3.4	3.4	4.6	6.9	9.1	11.4	16.0
162.5°	3.4	3.4	3.4	2.3	2.3	2.3	3.4	4.6	5.7	8.0	10.3
165°	3.4	3.4	2.3	2.3	2.3	2.3	2.3	2.3	3.4	4.6	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: P201308

CATALOG NUMBER: 8LBLEDD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5
2.5°	1377.5	1371.8	1369.5	1364.9	1361.5	1359.2	1355.8	1353.5	1351.2	1350.1	1350.1
5°	1378.6	1372.9	1370.6	1367.2	1366.1	1363.8	1361.5	1363.8	1362.6	1363.8	1362.6
7.5°	1379.8	1375.2	1375.2	1374.0	1372.9	1372.9	1370.6	1372.9	1374.0	1375.2	1374.0
10°	1383.2	1382.0	1384.3	1385.5	1385.5	1385.5	1385.5	1387.8	1392.3	1392.3	1391.2
12.5°	1388.9	1392.3	1399.2	1404.9	1407.2	1407.2	1411.7	1416.3	1422.0	1423.2	1422.0
15°	1400.3	1410.6	1425.4	1438.0	1443.7	1447.1	1456.3	1464.3	1470.0	1472.3	1470.0
17.5°	1420.9	1440.3	1463.1	1481.4	1488.3	1492.8	1505.4	1513.4	1520.2	1526.0	1523.7
20°	1448.3	1474.6	1502.0	1523.7	1532.8	1538.5	1552.2	1567.1	1573.9	1578.5	1577.4
22.5°	1478.0	1508.8	1539.7	1565.9	1576.2	1583.1	1600.2	1613.9	1624.2	1629.9	1628.8
25°	1506.5	1542.0	1579.6	1608.2	1620.8	1628.8	1647.0	1663.0	1674.4	1679.0	1677.9
27.5°	1535.1	1576.2	1617.3	1650.5	1663.0	1673.3	1695.0	1712.1	1725.8	1729.3	1729.3
30°	1557.9	1605.9	1650.5	1688.1	1701.9	1715.6	1739.5	1762.4	1775.0	1779.5	1778.4
32.5°	1579.6	1633.3	1683.6	1725.8	1743.0	1756.7	1785.2	1810.4	1825.2	1829.8	1825.2
35°	1601.3	1660.7	1716.7	1762.4	1780.7	1797.8	1829.8	1858.3	1874.3	1878.9	1876.6
37.5°	1621.9	1688.1	1748.7	1798.9	1820.6	1838.9	1872.0	1906.3	1923.4	1928.0	1923.4
40°	1641.3	1713.3	1779.5	1834.3	1858.3	1880.0	1918.9	1953.1	1972.6	1978.3	1976.0
42.5°	1659.6	1738.4	1810.4	1870.9	1898.3	1921.2	1964.6	2002.3	2022.8	2029.7	2024.0
45°	1675.6	1763.5	1841.2	1906.3	1936.0	1962.3	2011.4	2052.5	2073.1	2081.1	2074.2
47.5°	1691.6	1786.4	1869.8	1941.7	1976.0	2003.4	2058.2	2101.6	2125.6	2132.5	2125.6
50°	1706.4	1809.2	1900.6	1978.3	2014.8	2045.7	2105.0	2151.9	2175.9	2186.1	2177.0
52.5°	1720.1	1830.9	1929.2	2012.5	2052.5	2086.8	2150.7	2201.0	2229.5	2236.4	2227.3
55°	1733.8	1851.5	1954.3	2044.5	2087.9	2124.5	2194.1	2246.7	2275.2	2283.2	2274.1
57.5°	1745.3	1869.8	1978.3	2075.4	2119.9	2162.2	2231.8	2286.7	2316.4	2325.5	2316.4
60°	1753.3	1884.6	2000.0	2100.5	2147.3	2190.7	2265.0	2319.8	2349.5	2358.6	2349.5
62.5°	1759.0	1896.0	2014.8	2119.9	2170.2	2214.7	2290.1	2343.8	2374.6	2383.7	2374.6
65°	1760.1	1900.6	2022.8	2132.5	2183.9	2228.4	2304.9	2358.6	2390.6	2398.6	2389.5
67.5°	1753.3	1896.0	2022.8	2134.7	2186.1	2231.8	2308.4	2362.0	2392.9	2402.0	2392.9
70°	1739.5	1882.3	2011.4	2125.6	2177.0	2222.7	2298.1	2352.9	2383.7	2392.9	2382.6
72.5°	1713.3	1858.3	1987.4	2103.9	2153.0	2197.6	2271.8	2325.5	2355.2	2365.5	2354.0
75°	1675.6	1820.6	1949.7	2061.6	2113.0	2154.2	2228.4	2280.9	2308.4	2317.5	2307.2
77.5°	1626.5	1772.7	1897.2	2008.0	2059.4	2097.1	2169.0	2220.4	2247.8	2255.8	2245.5
80°	1569.4	1714.4	1834.3	1944.0	1992.0	2027.4	2099.3	2148.5	2174.7	2182.7	2177.0
82.5°	1506.5	1648.2	1764.7	1872.0	1917.7	1953.1	2024.0	2071.9	2098.2	2109.6	2100.5
85°	1442.6	1578.5	1692.7	1796.7	1842.3	1880.0	1945.1	1993.1	2019.4	2028.5	2022.8
87.5°	1378.6	1510.0	1620.8	1721.3	1763.5	1802.4	1867.5	1915.4	1941.7	1950.9	1944.0
90°	1324.9	1450.6	1556.8	1656.2	1699.6	1735.0	1797.8	1843.5	1869.8	1878.9	1873.2
92.5°	1281.5	1401.5	1504.3	1595.6	1636.8	1674.4	1735.0	1779.5	1805.8	1813.8	1808.1
95°	1240.4	1356.9	1456.3	1545.4	1585.4	1621.9	1679.0	1722.4	1747.5	1755.5	1751.0
97.5°	1201.6	1313.5	1409.5	1496.3	1537.4	1570.5	1625.3	1666.4	1691.6	1698.4	1691.6
100°	1158.2	1271.3	1364.9	1450.6	1486.0	1519.1	1573.9	1615.1	1636.8	1645.9	1640.2
102.5°	1117.1	1225.6	1318.1	1402.6	1440.3	1473.4	1523.7	1563.7	1588.8	1594.5	1588.8
105°	1074.8	1179.9	1270.1	1353.5	1391.2	1423.2	1473.4	1512.3	1536.2	1543.1	1537.4
107.5°	1031.4	1133.0	1223.3	1302.1	1338.6	1368.3	1419.7	1457.4	1478.0	1490.6	1481.4
110°	984.6	1085.1	1171.9	1248.4	1283.8	1312.4	1362.6	1400.3	1419.7	1431.2	1423.2



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	941.2	1036.0	1119.3	1193.6	1226.7	1255.3	1304.4	1340.9	1359.2	1370.6	1362.6
115°	895.5	983.4	1065.7	1136.5	1169.6	1195.9	1245.0	1279.2	1297.5	1307.8	1300.9
117.5°	846.4	932.0	1009.7	1079.4	1110.2	1136.5	1183.3	1217.6	1234.7	1242.7	1235.8
120°	798.4	881.8	954.9	1021.1	1052.0	1077.1	1122.8	1154.7	1170.7	1179.9	1173.0
122.5°	748.1	829.2	895.5	961.7	990.3	1014.3	1055.4	1089.6	1104.5	1112.5	1107.9
125°	694.4	774.4	838.4	898.9	926.3	949.2	989.1	1017.7	1034.8	1042.8	1038.2
127.5°	638.5	715.0	780.1	836.1	862.3	887.5	920.6	952.6	964.0	973.1	968.6
130°	575.7	652.2	712.7	769.8	795.0	815.5	852.1	878.3	893.2	901.2	897.8
132.5°	514.0	584.8	648.8	700.2	724.1	745.8	779.0	804.1	824.7	825.8	821.2
135°	454.6	516.3	574.5	629.3	653.3	675.0	704.7	727.6	747.0	748.1	742.4
137.5°	397.5	454.6	504.8	556.2	581.4	604.2	631.6	653.3	671.6	675.0	667.0
140°	342.7	395.2	440.9	486.6	510.6	532.3	562.0	580.2	595.1	596.2	591.7
142.5°	290.1	338.1	378.1	420.3	442.0	461.4	494.6	512.8	526.5	530.0	523.1
145°	241.0	283.3	321.0	357.5	375.8	394.1	427.2	448.9	460.3	463.7	456.9
147.5°	194.2	229.6	262.7	295.8	311.8	328.9	356.4	383.8	394.1	396.3	390.6
150°	150.8	180.5	210.2	237.6	251.3	266.1	290.1	315.2	328.9	331.2	326.7
152.5°	110.8	135.9	159.9	182.7	194.2	205.6	226.2	250.1	267.3	268.4	263.8
155°	75.4	95.9	115.4	132.5	142.8	151.9	167.9	186.2	204.5	205.6	202.2
157.5°	45.7	59.4	75.4	89.1	95.9	103.9	115.4	129.1	145.1	148.5	145.1
160°	22.8	30.8	40.0	49.1	54.8	60.5	66.2	77.7	86.8	94.8	90.2
162.5°	11.4	13.7	16.0	20.6	22.8	26.3	30.8	35.4	40.0	48.0	42.3
165°	6.9	8.0	9.1	9.1	10.3	10.3	10.3	10.3	10.3	14.8	10.3
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: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5
2.5°	1353.5	1355.8	1360.3	1362.6	1364.9	1367.2	1371.8	1378.6	1372.9	1367.2	1368.3
5°	1362.6	1362.6	1363.8	1367.2	1367.2	1368.3	1372.9	1379.8	1374.0	1366.1	1366.1
7.5°	1374.0	1372.9	1374.0	1375.2	1374.0	1374.0	1376.3	1379.8	1372.9	1363.8	1361.5
10°	1390.0	1386.6	1385.5	1386.6	1385.5	1382.0	1383.2	1383.2	1374.0	1360.3	1354.6
12.5°	1418.6	1412.9	1408.3	1407.2	1403.7	1398.0	1394.6	1390.0	1376.3	1360.3	1348.9
15°	1465.4	1456.3	1447.1	1443.7	1438.0	1424.3	1412.9	1402.6	1383.2	1360.3	1344.4
17.5°	1518.0	1506.5	1494.0	1489.4	1481.4	1462.0	1442.6	1423.2	1395.8	1363.8	1340.9
20°	1568.2	1554.5	1539.7	1531.7	1523.7	1499.7	1476.8	1451.7	1416.3	1374.0	1339.8
22.5°	1618.5	1602.5	1581.9	1575.1	1564.8	1537.4	1510.0	1481.4	1439.2	1388.9	1342.1
25°	1667.6	1649.3	1629.9	1618.5	1607.1	1576.2	1543.1	1508.8	1460.9	1406.0	1350.1
27.5°	1716.7	1696.1	1672.2	1659.6	1648.2	1613.9	1576.2	1537.4	1483.7	1422.0	1360.3
30°	1764.7	1741.8	1713.3	1699.6	1685.9	1647.0	1603.6	1560.2	1502.0	1435.7	1367.2
32.5°	1812.6	1787.5	1755.5	1739.5	1723.6	1679.0	1631.0	1581.9	1518.0	1448.3	1372.9
35°	1859.5	1832.1	1796.7	1777.2	1760.1	1712.1	1658.5	1603.6	1532.8	1458.6	1376.3
37.5°	1907.4	1876.6	1837.8	1816.1	1796.7	1744.1	1684.7	1623.0	1548.8	1466.6	1379.8
40°	1955.4	1922.3	1878.9	1856.1	1832.1	1775.0	1711.0	1642.5	1562.5	1474.6	1380.9
42.5°	2004.5	1968.0	1920.0	1894.9	1869.8	1805.8	1735.0	1659.6	1573.9	1480.3	1379.8
45°	2053.6	2012.5	1961.1	1932.6	1905.2	1835.5	1759.0	1674.4	1584.2	1483.7	1377.5
47.5°	2102.8	2059.4	2003.4	1972.6	1939.4	1865.2	1781.8	1690.4	1593.3	1484.8	1375.2
50°	2153.0	2106.2	2045.7	2011.4	1977.1	1893.7	1804.7	1704.1	1599.1	1486.0	1369.5
52.5°	2202.1	2151.9	2086.8	2050.2	2010.2	1922.3	1826.4	1717.8	1603.6	1484.8	1361.5
55°	2246.7	2194.1	2125.6	2086.8	2042.2	1948.6	1845.8	1729.3	1605.9	1481.4	1351.2
57.5°	2287.8	2234.1	2162.2	2118.8	2075.4	1973.7	1864.0	1741.8	1608.2	1475.7	1339.8
60°	2319.8	2266.1	2190.7	2147.3	2100.5	1994.3	1878.9	1748.7	1608.2	1467.7	1324.9
62.5°	2343.8	2290.1	2214.7	2169.0	2119.9	2011.4	1890.3	1755.5	1608.2	1459.7	1310.1
65°	2358.6	2306.1	2228.4	2182.7	2132.5	2019.4	1896.0	1756.7	1603.6	1448.3	1291.8
67.5°	2360.9	2308.4	2230.7	2186.1	2134.7	2019.4	1892.6	1751.0	1594.5	1433.4	1271.3
70°	2350.6	2298.1	2221.6	2175.9	2125.6	2009.1	1880.0	1737.3	1578.5	1414.0	1247.3
72.5°	2324.3	2270.7	2196.4	2149.6	2100.5	1985.1	1853.8	1712.1	1552.2	1386.6	1218.7
75°	2278.7	2226.1	2153.0	2109.6	2059.4	1946.3	1813.8	1675.6	1515.7	1352.3	1183.3
77.5°	2218.1	2166.7	2094.8	2051.4	2004.5	1893.7	1763.5	1626.5	1471.1	1310.1	1142.2
80°	2146.2	2097.1	2026.2	1984.0	1938.3	1830.9	1703.0	1569.4	1416.3	1259.8	1096.5
82.5°	2069.6	2021.7	1953.1	1909.7	1866.3	1762.4	1640.2	1507.7	1358.1	1206.1	1047.4
85°	1995.4	1944.0	1875.5	1835.5	1792.1	1690.4	1575.1	1443.7	1298.7	1151.3	999.4
87.5°	1917.7	1867.5	1800.1	1762.4	1721.3	1618.5	1508.8	1380.9	1242.7	1102.2	952.6
90°	1846.9	1797.8	1732.7	1695.0	1656.2	1556.8	1449.4	1328.4	1194.7	1058.8	913.7
92.5°	1781.8	1736.1	1674.4	1637.9	1600.2	1505.4	1402.6	1285.0	1155.9	1024.5	882.9
95°	1725.8	1681.3	1624.2	1588.8	1549.9	1459.7	1359.2	1243.8	1120.5	992.6	854.4
97.5°	1669.9	1627.6	1571.6	1537.4	1500.8	1412.9	1315.8	1205.0	1083.9	957.2	823.5
100°	1618.5	1577.4	1520.2	1489.4	1454.0	1369.5	1273.5	1165.0	1046.2	921.7	790.4
102.5°	1568.2	1527.1	1472.3	1441.4	1407.2	1322.7	1229.0	1121.6	1006.3	886.3	758.4
105°	1516.8	1476.8	1422.0	1391.2	1356.9	1274.7	1183.3	1079.4	966.3	849.8	725.3
107.5°	1460.9	1422.0	1369.5	1338.6	1306.7	1224.4	1136.5	1034.8	926.3	812.1	691.0
110°	1403.7	1364.9	1316.9	1283.8	1253.0	1173.0	1087.4	990.3	884.1	773.3	655.6



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1344.4	1306.7	1259.8	1229.0	1197.0	1120.5	1038.2	944.6	841.8	733.3	619.1
115°	1283.8	1246.1	1199.3	1168.5	1139.9	1066.8	986.8	897.8	798.4	693.3	582.5
117.5°	1217.6	1184.4	1139.9	1112.5	1082.8	1009.7	935.4	849.8	755.0	651.0	544.8
120°	1155.9	1123.9	1080.5	1050.8	1024.5	954.9	884.1	800.7	707.0	609.9	506.0
122.5°	1090.8	1056.5	1016.5	991.4	962.9	898.9	830.4	750.4	659.0	563.1	463.7
125°	1022.3	990.3	951.4	927.5	901.2	840.6	775.5	695.6	608.8	516.3	420.3
127.5°	952.6	922.9	885.2	863.5	838.4	779.0	716.2	638.5	551.7	464.9	375.8
130°	881.8	852.1	817.8	795.0	771.0	715.0	653.3	576.8	494.6	413.5	332.4
132.5°	807.5	779.0	744.7	724.1	702.4	648.8	585.9	511.7	438.6	365.5	290.1
135°	731.0	704.7	673.9	654.5	632.8	577.9	518.6	451.2	386.1	318.7	249.0
137.5°	656.8	632.8	603.1	583.7	559.7	508.3	455.7	395.2	335.8	273.0	207.9
140°	583.7	562.0	533.4	511.7	491.1	443.2	395.2	340.4	286.7	229.6	171.3
142.5°	515.1	495.7	463.7	443.2	423.8	381.5	339.2	287.8	239.9	188.5	138.2
145°	447.7	430.6	395.2	376.9	360.9	323.2	281.0	238.7	195.3	150.8	107.4
147.5°	382.6	362.1	328.9	313.0	298.1	265.0	229.6	190.7	155.3	116.5	78.8
150°	319.8	294.7	266.1	252.4	239.9	211.3	180.5	148.5	117.6	84.5	54.8
152.5°	254.7	228.4	209.0	195.3	183.9	161.0	135.9	108.5	83.4	57.1	34.3
155°	188.5	170.2	151.9	145.1	134.8	115.4	94.8	73.1	52.5	34.3	19.4
157.5°	130.2	116.5	105.1	98.2	90.2	75.4	58.3	42.3	29.7	18.3	9.1
160°	78.8	69.7	61.7	56.0	50.3	40.0	28.6	19.4	12.6	5.7	3.4
162.5°	35.4	29.7	26.3	22.8	19.4	14.8	9.1	4.6	2.3	1.1	1.1
165°	6.9	4.6	3.4	2.3	1.1	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: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5	1369.5
2.5°	1369.5	1370.6	1371.8	1371.8	1375.2	1380.9	1388.9	1390.0
5°	1366.1	1367.2	1367.2	1368.3	1371.8	1376.3	1383.2	1384.3
7.5°	1360.3	1360.3	1360.3	1360.3	1362.6	1367.2	1372.9	1374.0
10°	1352.3	1350.1	1348.9	1347.8	1348.9	1353.5	1358.1	1359.2
12.5°	1343.2	1337.5	1335.2	1334.1	1334.1	1335.2	1339.8	1339.8
15°	1332.9	1323.8	1320.4	1318.1	1313.5	1313.5	1318.1	1318.1
17.5°	1322.7	1310.1	1303.2	1298.7	1291.8	1290.7	1293.0	1290.7
20°	1313.5	1294.1	1285.0	1277.0	1266.7	1263.3	1263.3	1259.8
22.5°	1304.4	1278.1	1265.5	1254.1	1238.1	1232.4	1229.0	1226.7
25°	1298.7	1261.0	1245.0	1231.3	1209.6	1197.0	1193.6	1189.0
27.5°	1297.5	1247.3	1225.6	1208.4	1178.7	1163.9	1154.7	1149.0
30°	1297.5	1233.6	1205.0	1181.0	1144.5	1121.6	1112.5	1110.2
32.5°	1296.4	1223.3	1189.0	1158.2	1111.3	1081.6	1067.9	1064.5
35°	1293.0	1213.0	1173.0	1135.3	1078.2	1040.5	1021.1	1016.5
37.5°	1288.4	1200.4	1158.2	1114.8	1044.0	998.3	974.3	967.4
40°	1283.8	1187.9	1139.9	1093.1	1009.7	954.9	924.0	916.0
42.5°	1275.8	1174.2	1123.9	1072.5	977.7	911.5	876.1	863.5
45°	1267.8	1158.2	1104.5	1049.7	945.7	866.9	822.4	809.8
47.5°	1257.5	1141.0	1085.1	1024.5	916.0	823.5	773.3	757.3
50°	1246.1	1123.9	1063.4	1000.6	884.1	781.3	719.6	702.4
52.5°	1233.6	1104.5	1041.7	975.4	852.1	741.3	669.3	647.6
55°	1217.6	1082.8	1016.5	946.9	818.9	700.2	617.9	592.8
57.5°	1200.4	1061.1	992.6	920.6	785.8	661.3	567.7	539.1
60°	1179.9	1036.0	962.9	890.9	751.6	621.3	517.4	484.3
62.5°	1158.2	1010.8	936.6	860.1	717.3	582.5	468.3	430.6
65°	1135.3	982.3	906.9	828.1	680.7	541.4	420.3	376.9
67.5°	1107.9	951.4	873.8	793.8	643.1	500.3	373.5	324.4
70°	1080.5	918.3	837.2	757.3	604.2	459.2	328.9	273.0
72.5°	1047.4	882.9	800.7	719.6	564.2	419.2	285.5	221.6
75°	1010.8	846.4	763.0	680.7	523.1	376.9	242.1	171.3
77.5°	972.0	806.4	724.1	640.8	484.3	336.9	202.2	129.1
80°	930.9	764.1	683.0	599.6	443.2	297.0	163.3	89.1
82.5°	885.2	723.0	641.9	558.5	404.3	258.1	127.9	54.8
85°	841.8	681.9	603.1	520.8	366.6	219.3	95.9	27.4
87.5°	799.5	644.2	567.7	486.6	334.7	189.6	69.7	8.0
90°	765.3	613.4	538.0	459.2	309.5	167.9	52.5	0.0
92.5°	737.9	589.4	515.1	438.6	291.3	153.1	44.5	0.0
95°	711.6	564.2	493.4	416.9	273.0	140.5	35.4	0.0
97.5°	683.0	540.3	469.4	395.2	254.7	126.8	28.6	0.0
100°	654.5	514.0	445.5	373.5	234.1	113.1	20.6	0.0
102.5°	623.6	486.6	419.2	349.5	215.9	98.2	13.7	0.0
105°	593.9	459.2	394.1	325.5	196.5	85.7	9.1	0.0
107.5°	562.0	431.7	367.8	302.7	177.0	72.0	5.7	0.0
110°	530.0	404.3	341.5	278.7	158.8	59.4	4.6	0.0



TEST NUMBER: P201308

CATALOG NUMBER: 8LBLED-LD4-12-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	498.0	375.8	315.2	253.6	140.5	48.0	3.4	1.1
115°	463.7	346.1	287.8	228.4	122.2	37.7	3.4	1.1
117.5°	429.5	315.2	261.6	204.5	105.1	28.6	2.3	1.1
120°	394.1	287.8	233.0	181.6	89.1	20.6	2.3	1.1
122.5°	359.8	259.3	206.7	157.6	73.1	16.0	2.3	1.1
125°	324.4	226.2	180.5	135.9	58.3	12.6	2.3	1.1
127.5°	286.7	195.3	153.1	111.9	44.5	9.1	2.3	1.1
130°	247.9	164.5	126.8	91.4	32.0	6.9	2.3	1.1
132.5°	211.3	138.2	102.8	72.0	22.8	5.7	2.3	1.1
135°	178.2	111.9	81.1	53.7	16.0	4.6	1.1	1.1
137.5°	146.2	89.1	61.7	38.8	11.4	3.4	2.3	1.1
140°	117.6	67.4	44.5	27.4	8.0	2.3	2.3	1.1
142.5°	91.4	48.0	30.8	18.3	5.7	2.3	1.1	1.1
145°	67.4	32.0	20.6	11.4	4.6	2.3	2.3	2.3
147.5°	45.7	21.7	12.6	8.0	3.4	2.3	2.3	1.1
150°	29.7	13.7	8.0	5.7	2.3	2.3	2.3	1.1
152.5°	18.3	8.0	4.6	3.4	2.3	2.3	2.3	1.1
155°	9.1	4.6	3.4	2.3	2.3	2.3	2.3	2.3
157.5°	4.6	3.4	2.3	2.3	2.3	2.3	2.3	2.3
160°	2.3	2.3	1.1	1.1	2.3	2.3	2.3	2.3
162.5°	1.1	1.1	1.1	1.1	2.3	2.3	2.3	2.3
165°	0.0	1.1	1.1	1.1	2.3	2.3	2.3	2.3
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)