

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: P201252

Luminaire Tested: **4LBLED-LD4-10-SYMF-UNV-L850-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201252  
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: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U  
Description: 4 ft. Low Bay Linear, 10000 lm, Frst Sym lens, 5K  
Light Source: (392) 5000K CCT, 80 CRI LEDS  
2UT217098A8504C  
Ballast/Driver: OSRAM  
(OTi85W01720CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11167.9 lumens  
Efficiency: N/A  
Efficacy: 142.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')  
CIE Type: Semi-Direct

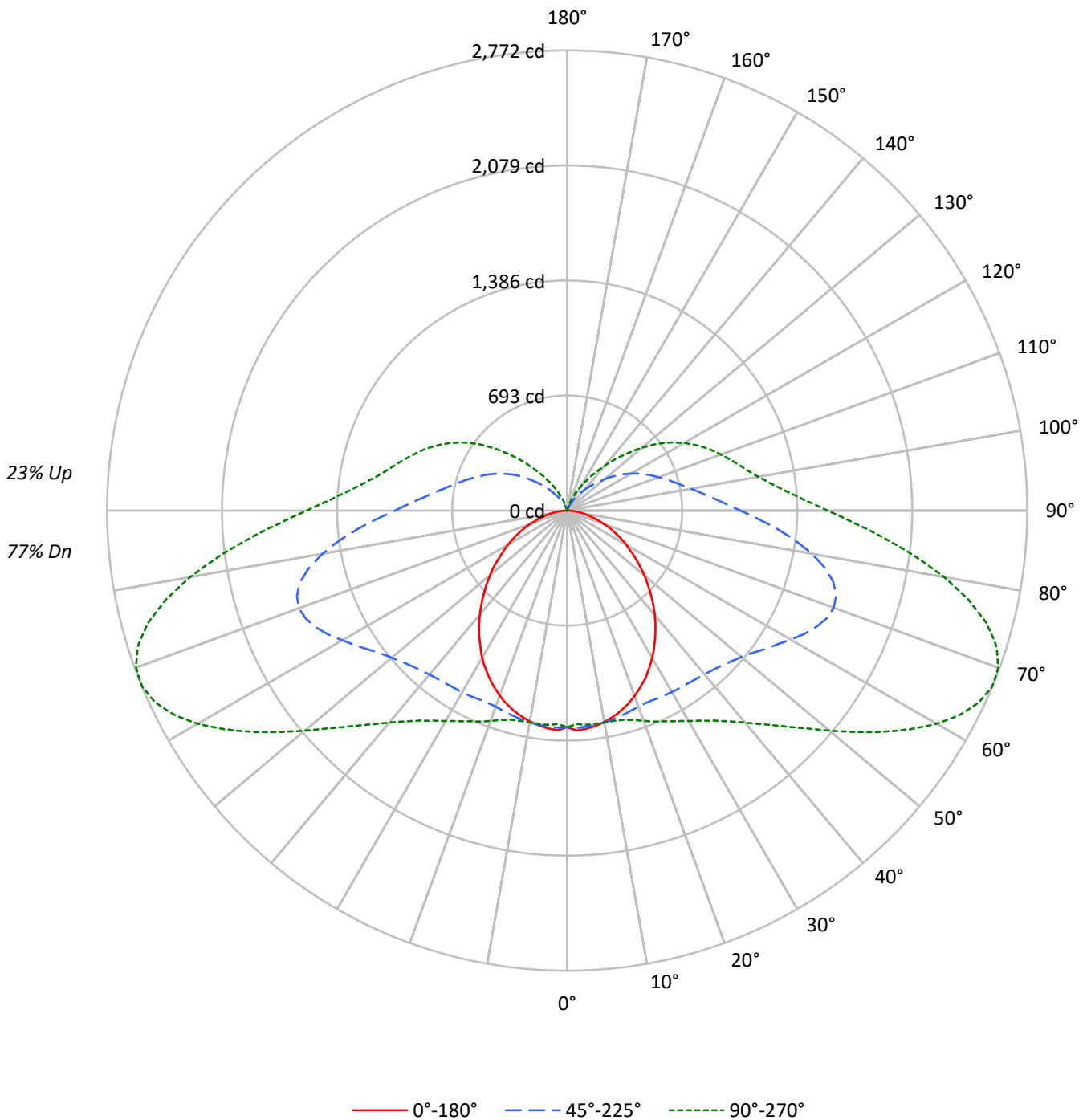
Input Watts (W): 78.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	21023	21023	21023
5°	21253	18893	21208
10°	20954	17378	20909
15°	20530	16319	20499
20°	19995	15910	19963
25°	19356	15752	19275
30°	18516	15836	18499
35°	17566	16220	17530
40°	16552	17146	16475
45°	15447	18629	15406
50°	14326	20801	14281
55°	13191	23486	13167
60°	12166	26219	12195
65°	11025	28422	11059
70°	9811	29448	9811
75°	8353	28815	8306
80°	6729	26516	6657
85°	4615	23288	4395



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.9	1.1
10°-20°	360.3	3.2
20°-30°	579.1	5.2
30°-40°	784.1	7.0
40°-50°	1007.4	9.0
50°-60°	1296.1	11.6
60°-70°	1585.6	14.2
70°-80°	1603.0	14.4
80°-90°	1239.6	11.1
90°-100°	861.2	7.7
100°-110°	643.3	5.8
110°-120°	482.1	4.3
120°-130°	324.7	2.9
130°-140°	178.0	1.6
140°-150°	75.9	0.7
150°-160°	21.7	0.2
160°-170°	1.9	0.0
170°-180°	0.0	0.0
0°-30°	1063.3	9.5
0°-40°	1847.4	16.5
0°-60°	4150.9	37.2
0°-90°	8579.1	76.8
90°-120°	1986.6	17.8
90°-150°	2565.2	23.0
90°-180°	2589.0	23.2
0°-180°	11167.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1305	1305	1305	1305	1305	
5°	1320	1308	1295	1306	1317	125
15°	1248	1277	1305	1277	1246	352
25°	1115	1254	1400	1254	1110	512
35°	926	1271	1544	1272	924	578
45°	713	1319	1836	1325	711	550
55°	504	1454	2323	1460	504	452
65°	321	1656	2736	1667	322	319
75°	160	1659	2614	1665	159	171
85°	40	1269	1919	1265	38	44
90°	1	1042	1567	1036	0	3
95°	1	879	1326	875	0	1
105°	1	665	1069	665	0	1
115°	1	517	905	517	0	1
125°	1	371	709	369	0	1
135°	2	224	466	221	0	1
145°	2	114	256	109	0	1
155°	2	36	106	34	0	1
165°	2	2	10	5	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°	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7
2.5°	1325.6	1324.6	1319.0	1310.4	1306.6	1305.7	1304.7	1300.9	1300.0	1301.9	1309.5
5°	1319.9	1319.0	1313.3	1304.7	1301.9	1300.9	1300.0	1297.2	1297.2	1300.0	1307.6
7.5°	1308.5	1307.6	1301.9	1295.3	1292.4	1291.5	1291.5	1289.6	1289.6	1294.3	1302.8
10°	1292.4	1291.5	1286.7	1281.0	1279.1	1279.1	1279.1	1278.2	1280.1	1285.8	1295.3
12.5°	1273.4	1271.5	1267.8	1263.0	1263.0	1263.0	1264.0	1264.0	1266.8	1276.3	1287.7
15°	1247.8	1248.8	1245.0	1241.2	1243.1	1244.1	1245.9	1247.8	1252.6	1264.0	1277.2
17.5°	1221.3	1221.3	1218.5	1216.6	1220.3	1222.2	1225.1	1227.9	1236.5	1250.7	1265.9
20°	1188.1	1189.1	1188.1	1189.1	1193.8	1196.6	1200.4	1207.1	1218.5	1238.4	1256.4
22.5°	1152.1	1154.0	1154.0	1157.8	1165.4	1170.1	1174.8	1184.3	1200.4	1226.0	1251.6
25°	1115.1	1114.1	1118.9	1125.5	1133.1	1139.7	1145.4	1159.7	1183.4	1217.5	1253.5
27.5°	1070.5	1072.4	1079.1	1088.5	1099.9	1108.5	1117.0	1136.9	1171.0	1216.6	1258.3
30°	1025.0	1027.9	1036.4	1049.7	1065.8	1077.2	1086.6	1117.9	1164.4	1216.6	1262.1
32.5°	975.7	980.4	991.8	1008.9	1031.7	1044.9	1060.1	1101.8	1158.7	1214.7	1265.9
35°	925.5	931.1	946.3	967.2	993.7	1009.8	1033.5	1089.5	1151.1	1212.8	1270.6
37.5°	874.2	880.9	898.0	924.5	958.6	983.3	1011.7	1076.2	1145.4	1212.8	1277.2
40°	821.2	828.7	850.5	880.9	924.5	956.7	990.9	1062.9	1139.7	1213.7	1287.7
42.5°	767.1	775.6	802.2	838.2	895.1	933.0	971.0	1051.6	1136.0	1218.5	1300.9
45°	713.1	724.4	753.8	797.4	868.6	908.4	952.0	1041.1	1134.1	1227.0	1319.0
47.5°	659.0	672.3	706.4	758.6	841.1	888.5	934.0	1032.6	1136.0	1238.4	1342.7
50°	606.9	622.0	660.0	723.5	815.5	866.7	916.9	1026.9	1139.7	1255.4	1371.1
52.5°	553.8	573.7	615.4	692.2	792.7	846.8	902.7	1023.1	1147.3	1278.2	1408.1
55°	504.4	525.3	573.7	661.9	770.9	829.7	889.4	1022.2	1160.6	1305.7	1453.6
57.5°	454.2	479.8	532.9	632.5	748.1	812.6	879.0	1024.1	1176.7	1335.1	1500.1
60°	411.5	434.3	495.9	604.0	728.2	796.5	869.5	1026.0	1193.8	1369.2	1554.1
62.5°	366.0	390.7	463.7	576.5	708.3	782.3	860.0	1028.8	1211.8	1404.3	1609.1
65°	321.4	347.0	431.4	550.0	688.4	767.1	848.6	1028.8	1226.0	1436.5	1656.5
67.5°	278.8	306.3	399.2	521.5	665.6	748.1	834.4	1024.1	1234.6	1459.3	1693.5
70°	238.0	268.3	367.9	491.2	641.0	725.4	814.5	1013.6	1233.6	1467.8	1709.6
72.5°	197.2	232.3	333.8	460.8	614.4	699.8	790.8	993.7	1220.3	1457.4	1699.2
75°	160.2	198.2	303.4	430.5	584.1	669.4	761.4	963.4	1191.0	1425.2	1659.4
77.5°	126.1	167.8	271.2	397.3	550.0	634.4	724.4	924.5	1144.5	1368.3	1589.2
80°	93.9	140.3	240.8	364.1	513.0	595.5	682.7	875.2	1083.8	1291.5	1495.3
82.5°	65.4	114.7	211.5	330.9	475.1	553.8	637.2	816.4	1013.6	1202.3	1387.2
85°	39.8	92.0	182.1	298.7	436.2	510.1	588.8	754.8	936.8	1105.6	1268.7
87.5°	17.1	71.1	156.5	267.4	397.3	467.5	539.5	696.0	855.3	1005.1	1150.2
90°	0.9	53.1	133.7	238.0	360.3	425.7	493.1	633.4	780.4	913.1	1042.1
92.5°	0.0	45.5	120.4	220.0	334.7	395.4	458.0	586.9	719.7	838.2	953.0
95°	0.9	37.9	109.0	200.1	309.1	367.0	424.8	545.2	664.7	773.7	879.0
97.5°	0.9	31.3	96.7	182.1	285.4	338.5	392.6	504.4	612.5	715.9	813.6
100°	0.9	24.7	85.3	165.0	260.8	310.1	361.3	466.5	568.0	664.7	756.7
102.5°	0.9	18.0	75.9	148.9	238.0	284.5	331.9	431.4	527.2	620.1	707.4
105°	0.9	12.3	66.4	133.7	217.1	260.8	305.3	399.2	490.2	579.4	664.7
107.5°	0.9	8.5	57.8	119.5	194.4	238.0	279.7	368.9	456.1	542.4	625.8
110°	0.9	7.6	50.3	107.1	176.4	216.2	256.0	340.4	423.8	506.3	587.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	6.6	42.7	95.8	158.4	194.4	233.3	312.9	394.5	474.1	551.9
115°	0.9	6.6	35.1	85.3	143.2	175.4	211.5	286.4	364.1	440.9	516.8
117.5°	0.9	6.6	28.4	75.9	129.0	158.4	189.6	261.7	333.8	408.7	482.6
120°	0.9	5.7	22.8	66.4	116.6	143.2	172.6	238.0	304.4	374.5	445.7
122.5°	0.9	5.7	19.0	57.8	104.3	129.0	155.5	213.3	276.9	341.4	407.7
125°	0.9	4.7	16.1	48.4	92.0	115.7	139.4	191.5	250.3	310.1	370.8
127.5°	1.9	4.7	13.3	39.8	79.6	100.5	123.3	170.7	221.9	275.9	333.8
130°	1.9	4.7	11.4	30.3	67.3	86.3	106.2	149.8	197.2	243.7	293.9
132.5°	1.9	3.8	10.4	23.7	55.9	73.0	91.0	129.9	171.6	213.3	257.0
135°	1.9	3.8	8.5	19.0	44.6	59.7	76.8	110.9	147.9	186.8	223.8
137.5°	1.9	2.8	7.6	15.2	34.1	48.4	63.5	93.9	126.1	159.3	193.4
140°	1.9	2.8	6.6	12.3	25.6	36.0	50.3	76.8	105.3	134.6	164.0
142.5°	1.9	2.8	5.7	10.4	19.9	27.5	37.9	62.6	87.2	111.9	137.5
145°	1.9	2.8	4.7	8.5	15.2	20.9	27.5	48.4	70.2	92.0	113.8
147.5°	1.9	2.8	4.7	7.6	12.3	16.1	20.9	35.1	55.0	73.0	92.0
150°	1.9	2.8	3.8	6.6	10.4	12.3	15.2	24.7	39.8	55.9	72.1
152.5°	1.9	1.9	3.8	5.7	7.6	9.5	11.4	18.0	27.5	39.8	54.0
155°	1.9	1.9	2.8	4.7	6.6	7.6	8.5	12.3	18.0	25.6	36.0
157.5°	1.9	1.9	2.8	3.8	4.7	5.7	6.6	8.5	12.3	16.1	21.8
160°	1.9	1.9	2.8	3.8	3.8	4.7	4.7	5.7	7.6	9.5	12.3
162.5°	1.9	1.9	2.8	2.8	2.8	3.8	3.8	3.8	4.7	4.7	5.7
165°	1.9	1.9	1.9	2.8	1.9	2.8	1.9	2.8	2.8	1.9	1.9
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°	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7
2.5°	1312.3	1305.7	1302.8	1299.0	1296.2	1294.3	1291.5	1289.6	1286.7	1286.7	1287.7
5°	1310.4	1303.8	1301.9	1298.1	1296.2	1295.3	1293.4	1294.3	1294.3	1295.3	1294.3
7.5°	1306.6	1300.9	1299.0	1297.2	1295.3	1294.3	1293.4	1295.3	1295.3	1296.2	1296.2
10°	1300.0	1296.2	1296.2	1294.3	1293.4	1292.4	1290.5	1293.4	1293.4	1295.3	1294.3
12.5°	1292.4	1291.5	1292.4	1293.4	1293.4	1292.4	1291.5	1295.3	1297.2	1297.2	1298.1
15°	1283.9	1285.8	1290.5	1293.4	1295.3	1295.3	1297.2	1300.9	1303.8	1304.7	1304.7
17.5°	1277.2	1282.0	1290.5	1298.1	1301.9	1303.8	1308.5	1316.1	1320.9	1321.8	1321.8
20°	1272.5	1283.9	1299.0	1313.3	1318.0	1321.8	1331.3	1340.8	1347.4	1348.4	1348.4
22.5°	1276.3	1295.3	1316.1	1332.2	1338.9	1343.6	1354.0	1366.4	1374.0	1374.9	1374.9
25°	1285.8	1308.5	1332.2	1352.1	1359.7	1365.4	1376.8	1390.1	1397.7	1400.5	1399.6
27.5°	1294.3	1321.8	1349.3	1372.1	1380.6	1388.2	1402.4	1417.6	1427.1	1429.9	1428.0
30°	1301.9	1334.1	1365.4	1392.9	1404.3	1412.8	1429.9	1447.9	1460.2	1463.1	1460.2
32.5°	1309.5	1348.4	1385.3	1417.6	1429.0	1441.3	1463.1	1483.9	1496.3	1500.1	1498.2
35°	1319.9	1365.4	1409.0	1446.0	1461.2	1475.4	1501.0	1525.7	1540.8	1543.7	1540.8
37.5°	1334.1	1387.2	1435.6	1482.1	1498.2	1518.1	1548.4	1577.8	1595.8	1599.6	1595.8
40°	1352.1	1414.7	1471.6	1525.7	1547.5	1568.3	1605.3	1640.4	1660.3	1667.0	1664.1
42.5°	1375.9	1448.9	1515.2	1579.7	1604.4	1630.9	1674.5	1715.3	1738.1	1745.7	1738.1
45°	1405.2	1491.5	1568.3	1643.2	1671.7	1703.9	1756.1	1802.5	1829.1	1835.7	1829.1
47.5°	1444.1	1541.8	1630.9	1717.2	1751.3	1789.3	1850.9	1904.0	1932.5	1940.0	1933.4
50°	1485.8	1602.5	1704.9	1803.5	1846.2	1886.0	1958.1	2016.8	2047.2	2061.4	2049.1
52.5°	1538.0	1668.8	1789.3	1899.3	1950.5	1997.9	2077.5	2142.0	2179.0	2191.3	2174.2
55°	1600.6	1748.5	1883.1	2010.2	2061.4	2114.5	2202.7	2271.0	2309.8	2323.1	2310.8
57.5°	1669.8	1832.9	1981.8	2115.5	2175.2	2229.2	2327.9	2399.0	2433.1	2450.2	2435.0
60°	1741.9	1920.1	2081.3	2223.6	2289.0	2344.9	2445.4	2515.6	2551.6	2568.7	2554.5
62.5°	1812.0	2004.5	2174.2	2322.2	2384.7	2446.4	2546.9	2614.2	2651.2	2666.4	2653.1
65°	1872.7	2075.6	2250.1	2402.8	2467.2	2527.9	2622.7	2687.2	2726.1	2736.5	2727.1
67.5°	1918.2	2124.0	2300.4	2451.1	2513.7	2574.4	2664.5	2724.2	2762.1	2771.6	2763.1
70°	1939.1	2143.0	2317.4	2464.4	2526.0	2580.1	2665.4	2722.3	2758.3	2764.0	2757.4
72.5°	1925.8	2124.0	2292.8	2433.1	2491.9	2539.3	2618.0	2672.1	2706.2	2710.9	2706.2
75°	1876.5	2066.2	2225.4	2356.3	2411.3	2451.1	2526.0	2576.3	2610.4	2614.2	2608.5
77.5°	1793.1	1969.4	2115.5	2241.6	2287.1	2326.0	2397.1	2441.6	2469.1	2474.8	2468.2
80°	1681.2	1843.3	1974.2	2087.0	2130.6	2163.8	2233.0	2281.4	2296.6	2304.2	2294.7
82.5°	1553.2	1698.2	1814.9	1917.3	1956.2	1996.9	2041.5	2086.1	2107.9	2114.5	2106.9
85°	1415.7	1544.6	1648.0	1740.0	1774.1	1811.1	1850.0	1893.6	1912.5	1919.2	1911.6
87.5°	1278.2	1392.0	1483.0	1564.5	1595.8	1629.0	1675.5	1698.2	1723.8	1731.4	1722.9
90°	1154.9	1257.3	1338.9	1412.8	1442.2	1472.6	1508.6	1537.0	1560.8	1567.4	1559.8
92.5°	1055.4	1147.3	1222.2	1288.6	1314.2	1342.7	1377.7	1405.2	1426.1	1432.7	1425.2
95°	972.9	1057.3	1127.4	1189.1	1213.7	1240.3	1279.1	1300.9	1319.9	1325.6	1319.9
97.5°	902.7	982.3	1048.7	1108.5	1132.2	1156.8	1194.7	1216.6	1234.6	1239.3	1234.6
100°	841.1	918.8	984.2	1041.1	1064.8	1088.5	1125.5	1147.3	1164.4	1170.1	1164.4
102.5°	789.9	864.8	929.2	987.1	1009.8	1033.5	1068.6	1094.2	1107.5	1114.1	1108.5
105°	745.3	818.3	882.8	939.7	963.4	986.1	1022.2	1045.9	1061.0	1068.6	1062.0
107.5°	704.5	776.6	842.0	897.0	920.7	943.5	980.4	1004.2	1018.4	1026.9	1019.3
110°	665.6	736.8	799.3	856.2	879.9	903.6	940.6	964.3	978.6	986.1	979.5





TEST NUMBER: P201252

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	627.7	696.9	761.4	816.4	839.2	862.9	900.8	925.5	938.7	947.3	939.7
115°	589.8	658.1	720.6	773.7	796.5	821.2	858.1	883.7	898.0	904.6	897.0
117.5°	552.8	618.2	678.0	730.1	752.9	776.6	812.6	838.2	853.4	860.0	852.4
120°	514.9	577.5	636.2	683.7	707.4	729.2	766.2	790.8	806.0	812.6	805.0
122.5°	474.1	535.7	591.7	638.1	660.9	681.8	717.8	742.4	756.7	763.3	756.7
125°	432.4	490.2	544.3	590.7	609.7	629.6	664.7	688.4	703.6	709.3	703.6
127.5°	390.7	443.8	494.0	534.8	555.7	574.6	607.8	630.6	643.8	650.5	645.7
130°	348.9	399.2	444.7	481.7	499.7	517.7	548.1	568.9	582.2	587.9	583.1
132.5°	304.4	352.7	397.3	429.5	446.6	461.8	489.3	507.3	518.7	525.3	519.6
135°	264.6	304.4	346.1	379.3	396.4	409.6	434.3	449.5	459.9	465.6	459.9
137.5°	228.5	262.7	296.8	326.2	342.3	356.5	380.2	394.5	403.9	409.6	403.9
140°	195.3	224.7	255.1	278.8	293.0	304.4	326.2	338.5	347.0	351.8	346.1
142.5°	163.1	189.6	215.2	237.1	249.4	258.9	279.7	289.2	295.8	298.7	295.8
145°	135.6	157.4	179.2	199.1	208.6	216.2	237.1	247.5	253.2	256.0	253.2
147.5°	110.0	128.0	146.0	162.1	170.7	180.2	194.4	206.7	211.5	213.3	211.5
150°	86.3	102.4	116.6	129.9	136.5	143.2	155.5	167.8	172.6	175.4	172.6
152.5°	65.4	78.7	90.1	100.5	106.2	111.9	122.3	133.7	138.4	140.3	138.4
155°	47.4	56.9	67.3	74.9	79.6	83.4	91.0	98.6	106.2	106.2	106.2
157.5°	29.4	37.0	45.5	52.2	55.0	58.8	64.5	71.1	76.8	79.6	79.6
160°	15.2	19.9	25.6	30.3	33.2	36.0	39.8	45.5	49.3	52.2	50.3
162.5°	6.6	8.5	11.4	13.3	15.2	16.1	19.0	21.8	23.7	28.4	24.7
165°	1.9	1.9	2.8	3.8	3.8	3.8	4.7	5.7	6.6	10.4	7.6
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



TEST NUMBER: P201252

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7
2.5°	1289.6	1292.4	1296.2	1298.1	1300.9	1302.8	1307.6	1313.3	1308.5	1301.9	1302.8
5°	1294.3	1293.4	1296.2	1298.1	1300.0	1300.9	1305.7	1311.4	1305.7	1299.0	1299.0
7.5°	1296.2	1295.3	1296.2	1297.2	1298.1	1298.1	1302.8	1307.6	1301.9	1293.4	1291.5
10°	1293.4	1292.4	1293.4	1295.3	1295.3	1295.3	1298.1	1301.9	1295.3	1284.8	1281.0
12.5°	1295.3	1292.4	1292.4	1293.4	1293.4	1291.5	1292.4	1295.3	1286.7	1275.3	1269.7
15°	1301.9	1297.2	1295.3	1295.3	1293.4	1288.6	1286.7	1286.7	1277.2	1262.1	1254.5
17.5°	1318.0	1310.4	1304.7	1301.9	1298.1	1289.6	1282.9	1279.1	1266.8	1249.7	1237.4
20°	1342.7	1332.2	1323.7	1318.0	1313.3	1298.1	1284.8	1274.4	1257.3	1236.5	1220.3
22.5°	1367.3	1355.9	1343.6	1337.9	1331.3	1314.2	1296.2	1278.2	1252.6	1224.1	1202.3
25°	1391.0	1379.6	1365.4	1359.7	1351.2	1331.3	1308.5	1287.7	1254.5	1215.6	1184.3
27.5°	1418.5	1404.3	1389.1	1380.6	1371.1	1348.4	1322.8	1297.2	1260.2	1215.6	1172.0
30°	1449.8	1432.7	1412.8	1403.4	1392.0	1365.4	1334.1	1303.8	1264.0	1215.6	1165.4
32.5°	1485.8	1465.9	1442.2	1429.0	1415.7	1384.4	1347.4	1312.3	1266.8	1214.7	1159.7
35°	1527.6	1504.8	1476.4	1461.2	1445.1	1408.1	1364.5	1321.8	1271.5	1213.7	1152.1
37.5°	1579.7	1553.2	1519.0	1500.1	1481.1	1437.5	1387.2	1336.0	1279.1	1214.7	1146.4
40°	1642.3	1611.0	1571.2	1547.5	1524.7	1474.5	1414.7	1354.0	1289.6	1216.6	1140.7
42.5°	1716.3	1678.3	1633.8	1606.3	1579.7	1517.1	1448.9	1376.8	1303.8	1220.3	1137.9
45°	1804.4	1764.6	1707.7	1673.6	1644.2	1571.2	1492.5	1407.1	1324.6	1229.8	1136.9
47.5°	1905.9	1855.6	1794.0	1754.2	1719.1	1634.7	1543.7	1445.1	1348.4	1242.2	1138.8
50°	2019.7	1962.8	1891.7	1850.0	1806.3	1709.6	1604.4	1489.6	1378.7	1260.2	1143.5
52.5°	2144.9	2082.3	2005.5	1956.2	1907.8	1795.9	1672.6	1546.5	1413.8	1282.9	1152.1
55°	2274.8	2207.4	2122.1	2068.0	2014.0	1890.7	1753.2	1608.2	1460.2	1311.4	1166.3
57.5°	2400.9	2331.6	2237.8	2182.8	2122.1	1991.2	1839.5	1675.5	1510.5	1344.6	1182.4
60°	2517.5	2448.3	2353.5	2297.5	2231.1	2090.8	1927.7	1749.4	1562.7	1379.6	1201.4
62.5°	2616.1	2549.7	2454.9	2398.0	2329.8	2184.7	2012.1	1821.5	1619.5	1416.6	1219.4
65°	2689.1	2626.5	2534.6	2475.8	2410.4	2259.6	2083.2	1885.0	1667.0	1448.9	1235.5
67.5°	2726.1	2667.3	2578.2	2522.2	2457.8	2307.9	2131.6	1927.7	1703.0	1471.6	1245.9
70°	2722.3	2666.4	2582.9	2527.9	2466.3	2322.2	2148.6	1944.8	1719.1	1480.2	1244.1
72.5°	2673.0	2617.1	2542.2	2489.1	2430.3	2295.6	2124.9	1929.6	1706.8	1466.9	1228.9
75°	2575.3	2524.1	2448.3	2404.7	2351.6	2226.4	2063.3	1873.7	1665.1	1431.8	1197.6
77.5°	2435.0	2396.1	2322.2	2281.4	2229.2	2113.6	1960.0	1789.3	1592.0	1373.0	1149.2
80°	2263.4	2231.1	2159.1	2123.0	2071.8	1971.3	1838.6	1673.6	1495.3	1293.4	1086.6
82.5°	2075.6	2038.7	1981.8	1948.6	1900.2	1810.1	1684.0	1549.4	1383.4	1202.3	1013.6
85°	1881.2	1847.1	1795.0	1766.5	1723.8	1643.2	1530.4	1411.9	1264.9	1101.8	934.9
87.5°	1696.3	1663.2	1613.9	1588.3	1549.4	1477.3	1378.7	1274.4	1144.5	1005.1	851.5
90°	1536.1	1504.8	1458.3	1434.6	1399.6	1334.1	1245.0	1151.1	1036.4	908.4	776.6
92.5°	1404.3	1375.9	1332.2	1309.5	1278.2	1218.5	1137.9	1052.5	949.2	838.2	715.9
95°	1300.0	1272.5	1233.6	1211.8	1182.4	1120.8	1049.7	970.0	875.2	773.7	660.9
97.5°	1215.6	1192.8	1150.2	1129.3	1105.6	1043.0	978.6	899.9	811.7	716.8	611.6
100°	1147.3	1121.7	1082.9	1062.9	1038.3	979.5	914.1	840.1	754.8	664.7	567.0
102.5°	1094.2	1067.7	1031.7	1008.9	985.2	925.5	861.0	788.9	707.4	620.1	526.3
105°	1046.8	1021.2	985.2	962.4	938.7	879.9	818.3	745.3	664.7	580.3	489.3
107.5°	1002.3	979.5	943.5	920.7	897.0	838.2	776.6	704.5	625.8	543.3	455.1
110°	964.3	939.7	901.7	879.9	854.3	798.4	736.8	666.6	587.9	507.3	422.9



TEST NUMBER: P201252

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	926.4	899.9	861.9	840.1	814.5	758.6	697.9	628.7	551.9	474.1	392.6
115°	884.7	859.1	819.3	797.4	771.8	716.8	658.1	590.7	516.8	440.9	362.2
117.5°	840.1	814.5	774.7	753.8	729.2	675.1	619.2	553.8	481.7	408.7	331.9
120°	791.8	767.1	729.2	708.3	684.6	632.5	578.4	513.0	444.7	374.5	303.4
122.5°	742.4	718.7	681.8	660.9	638.1	588.8	535.7	472.2	406.8	341.4	275.9
125°	689.3	665.6	630.6	610.6	587.9	540.5	489.3	429.5	368.9	310.1	247.5
127.5°	627.7	608.8	574.6	554.7	533.8	492.1	442.8	388.8	332.8	275.9	220.0
130°	568.9	549.0	516.8	498.8	480.7	442.8	399.2	347.0	292.0	242.7	192.5
132.5°	507.3	489.3	461.8	446.6	430.5	396.4	351.8	300.6	254.1	211.5	166.9
135°	449.5	434.3	409.6	396.4	380.2	344.2	302.5	259.8	220.9	183.0	143.2
137.5°	395.4	380.2	357.5	343.3	326.2	293.9	259.8	224.7	188.7	156.5	121.4
140°	338.5	326.2	305.3	293.0	277.8	250.3	221.9	188.7	160.2	130.9	100.5
142.5°	290.2	279.7	258.9	247.5	234.2	211.5	184.9	159.3	133.7	108.1	82.5
145°	248.4	238.0	215.2	206.7	194.4	174.5	152.7	129.9	109.0	87.2	66.4
147.5°	207.7	195.3	175.4	167.8	158.4	141.3	124.2	106.2	88.2	69.2	51.2
150°	169.7	155.5	139.4	134.6	125.2	111.9	97.7	82.5	68.3	53.1	37.0
152.5°	133.7	121.4	108.1	103.4	95.8	87.2	74.9	62.6	51.2	37.0	25.6
155°	99.6	90.1	79.6	76.8	71.1	64.5	54.0	44.6	34.1	24.7	18.0
157.5°	70.2	62.6	55.0	53.1	49.3	43.6	35.1	27.5	21.8	16.1	12.3
160°	43.6	38.9	33.2	31.3	28.4	24.7	19.0	16.1	13.3	10.4	7.6
162.5°	20.9	18.0	16.1	15.2	13.3	11.4	10.4	8.5	7.6	6.6	5.7
165°	7.6	7.6	7.6	6.6	6.6	6.6	6.6	5.7	4.7	4.7	3.8
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: P201252

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7	1304.7
2.5°	1303.8	1305.7	1305.7	1306.6	1309.5	1315.2	1322.8	1323.7
5°	1300.0	1300.9	1300.9	1300.9	1303.8	1308.5	1316.1	1317.1
7.5°	1291.5	1291.5	1291.5	1291.5	1294.3	1298.1	1304.7	1305.7
10°	1280.1	1279.1	1279.1	1278.2	1280.1	1282.9	1290.5	1289.6
12.5°	1265.9	1264.0	1263.0	1263.0	1262.1	1264.9	1269.7	1270.6
15°	1249.7	1245.9	1244.1	1242.2	1241.2	1241.2	1246.9	1245.9
17.5°	1230.8	1225.1	1222.2	1219.4	1215.6	1215.6	1219.4	1218.5
20°	1209.0	1201.4	1196.6	1192.8	1187.2	1185.3	1187.2	1186.2
22.5°	1187.2	1174.8	1170.1	1164.4	1155.9	1152.1	1151.1	1150.2
25°	1161.6	1146.4	1139.7	1134.1	1121.7	1117.0	1112.3	1110.4
27.5°	1138.8	1117.0	1108.5	1099.0	1084.8	1078.1	1070.5	1068.6
30°	1118.9	1086.6	1073.4	1063.9	1045.9	1035.4	1026.0	1024.1
32.5°	1103.7	1059.2	1041.1	1029.8	1005.1	990.9	978.6	972.9
35°	1090.4	1033.5	1009.8	991.8	962.4	945.4	928.3	923.6
37.5°	1078.1	1011.7	980.4	955.8	922.6	898.0	879.0	871.4
40°	1065.8	991.8	953.9	922.6	879.0	850.5	826.8	817.4
42.5°	1054.4	971.9	931.1	893.2	836.3	802.2	776.6	763.3
45°	1044.0	953.9	909.3	867.6	794.6	754.8	723.5	711.2
47.5°	1036.4	936.8	887.5	842.0	755.7	706.4	674.2	658.1
50°	1030.7	920.7	866.7	816.4	721.6	660.0	623.9	605.0
52.5°	1027.9	906.5	847.7	793.7	690.3	615.4	572.7	558.5
55°	1028.8	895.1	831.6	772.8	660.9	572.7	525.3	503.5
57.5°	1030.7	884.7	815.5	751.9	631.5	531.0	477.9	455.1
60°	1034.5	876.1	801.2	732.0	604.0	495.0	434.3	412.5
62.5°	1038.3	868.6	787.0	713.1	577.5	461.8	390.7	366.0
65°	1039.2	857.2	771.8	694.1	550.9	428.6	346.1	322.4
67.5°	1035.4	843.0	752.9	672.3	523.4	396.4	304.4	279.7
70°	1024.1	824.0	731.1	647.6	493.1	365.1	264.6	238.0
72.5°	1003.2	799.3	705.5	620.1	463.7	331.9	228.5	196.3
75°	973.8	769.0	675.1	588.8	432.4	300.6	195.3	159.3
77.5°	934.0	730.1	639.1	553.8	398.2	268.3	166.9	125.2
80°	882.8	689.3	599.3	515.8	365.1	238.9	139.4	92.9
82.5°	822.1	642.9	556.6	476.9	333.8	208.6	113.8	64.5
85°	759.5	592.6	512.0	436.2	300.6	180.2	92.0	37.9
87.5°	697.9	542.4	469.4	399.2	266.4	154.6	71.1	15.2
90°	637.2	494.0	424.8	359.4	237.1	130.9	53.1	0.0
92.5°	586.9	458.0	395.4	332.8	218.1	118.5	45.5	0.0
95°	542.4	423.8	364.1	306.3	198.2	107.1	37.9	0.0
97.5°	501.6	391.6	336.6	281.6	180.2	94.8	31.3	0.0
100°	462.7	359.4	308.2	258.9	163.1	84.4	23.7	0.0
102.5°	428.6	330.9	282.6	234.2	146.0	74.0	17.1	0.0
105°	395.4	303.4	258.9	212.4	130.9	64.5	10.4	0.0
107.5°	366.0	277.8	235.2	192.5	116.6	55.9	6.6	0.0
110°	337.6	254.1	212.4	173.5	104.3	48.4	5.7	0.0



TEST NUMBER: P201252

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	311.0	231.4	192.5	155.5	93.9	40.8	5.7	0.0
115°	283.5	209.6	173.5	140.3	83.4	33.2	4.7	0.0
117.5°	259.8	188.7	156.5	128.0	73.0	26.5	4.7	0.0
120°	236.1	170.7	142.2	114.7	63.5	19.9	4.7	0.0
122.5°	212.4	154.6	127.1	102.4	55.0	16.1	3.8	0.0
125°	190.6	137.5	112.8	89.1	45.5	14.2	3.8	0.0
127.5°	168.8	120.4	97.7	76.8	36.0	12.3	2.8	0.0
130°	147.0	103.4	83.4	64.5	27.5	10.4	2.8	0.0
132.5°	127.1	87.2	70.2	53.1	21.8	8.5	1.9	0.0
135°	107.1	73.0	57.8	41.7	17.1	7.6	1.9	0.0
137.5°	90.1	59.7	45.5	31.3	14.2	5.7	1.9	0.0
140°	74.0	47.4	34.1	23.7	11.4	4.7	0.9	0.0
142.5°	58.8	35.1	25.6	18.0	9.5	3.8	0.9	0.0
145°	45.5	25.6	19.0	14.2	8.5	2.8	0.9	0.0
147.5°	33.2	19.9	15.2	12.3	6.6	2.8	0.9	0.0
150°	23.7	15.2	12.3	9.5	4.7	1.9	0.9	0.0
152.5°	18.0	11.4	9.5	7.6	3.8	1.9	0.9	0.0
155°	13.3	8.5	7.6	5.7	2.8	1.9	0.9	0.0
157.5°	9.5	6.6	5.7	3.8	2.8	1.9	0.9	0.0
160°	5.7	4.7	3.8	2.8	1.9	0.9	0.9	0.0
162.5°	4.7	2.8	2.8	2.8	1.9	0.9	0.9	0.0
165°	2.8	1.9	1.9	1.9	0.9	0.9	0.9	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)