

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: P201257

Luminaire Tested: **8LBLED-LD4-10-SYMF-UNV-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201257
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-LD4-10-SYMF-UNV-L840-CD1-U
Description: 8 ft. Low Bay Linear, 10000 lm, Frst Sym lens, 4K
Light Source: (784) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
(OTi85W01600CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10823.8 lumens
Efficiency: N/A
Efficacy: 150.4 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

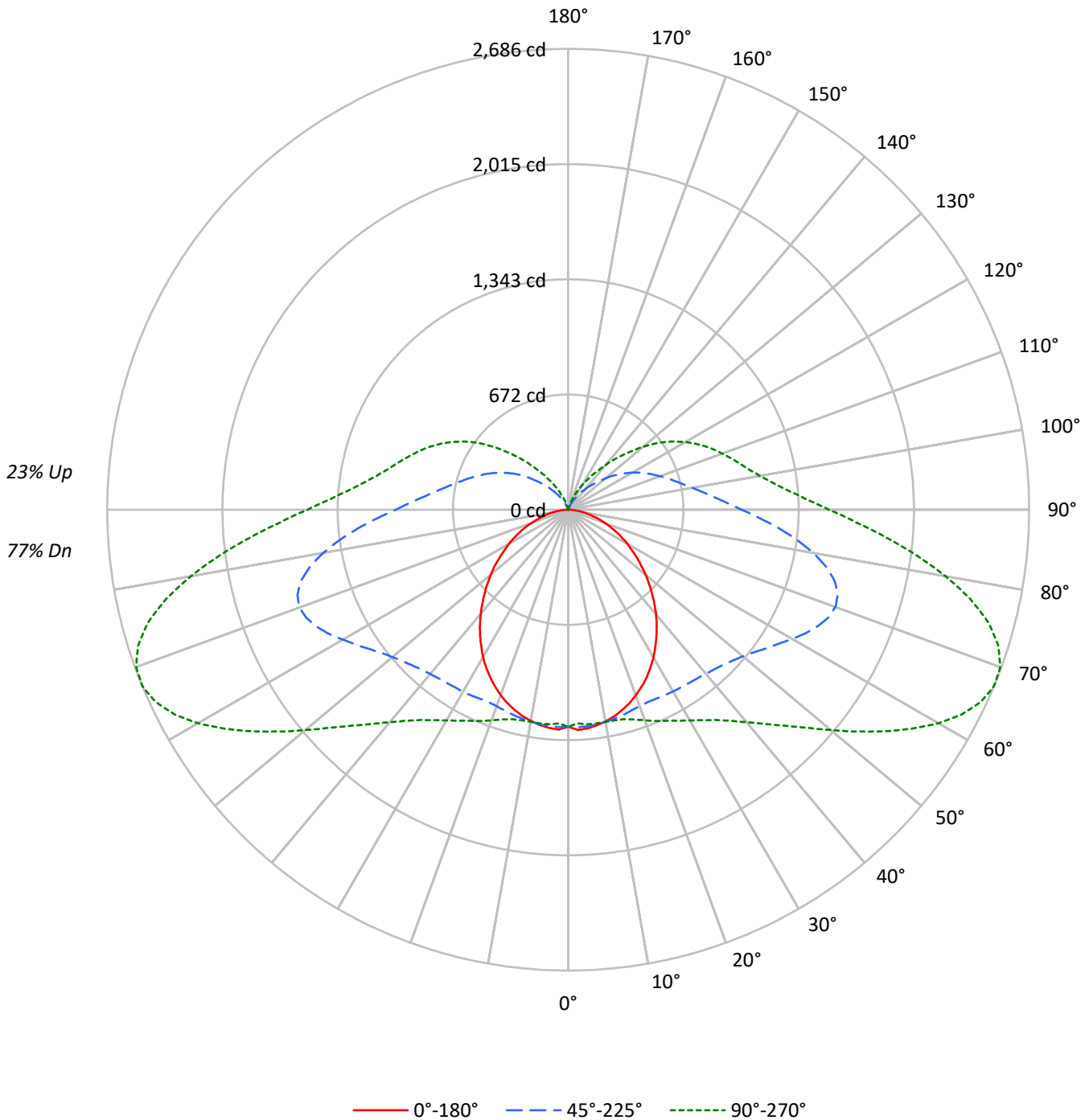
Input Watts (W): 71.96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10188	10188	10188
5°	10322	9155	10300
10°	10201	8420	10178
15°	10018	7908	10003
20°	9780	7709	9765
25°	9492	7633	9452
30°	9105	7674	9097
35°	8664	7860	8646
40°	8191	8309	8154
45°	7675	9028	7654
50°	7151	10080	7128
55°	6622	11381	6609
60°	6149	12706	6165
65°	5625	13773	5643
70°	5072	14271	5072
75°	4407	13964	4381
80°	3680	12850	3643
85°	2751	11285	2622



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.1	1.1
10°-20°	349.2	3.2
20°-30°	561.3	5.2
30°-40°	760.0	7.0
40°-50°	976.3	9.0
50°-60°	1256.1	11.6
60°-70°	1536.7	14.2
70°-80°	1553.6	14.4
80°-90°	1201.4	11.1
90°-100°	834.7	7.7
100°-110°	623.4	5.8
110°-120°	467.3	4.3
120°-130°	314.7	2.9
130°-140°	172.6	1.6
140°-150°	73.5	0.7
150°-160°	21.0	0.2
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	1030.5	9.5
0°-40°	1790.5	16.5
0°-60°	4023.0	37.2
0°-90°	8314.8	76.8
90°-120°	1925.4	17.8
90°-150°	2486.2	23.0
90°-180°	2509.0	23.2
0°-180°	10823.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1264	1264	1264	1264	1264	
5°	1279	1267	1255	1266	1276	121
15°	1209	1238	1264	1238	1208	341
25°	1081	1215	1357	1216	1076	496
35°	897	1232	1496	1232	895	561
45°	691	1278	1779	1284	689	533
55°	489	1409	2252	1415	488	438
65°	312	1606	2652	1616	312	309
75°	155	1608	2534	1614	154	166
85°	39	1230	1860	1226	37	42
90°	1	1010	1519	1004	0	3
95°	1	852	1285	848	0	1
105°	1	644	1036	644	0	1
115°	1	501	877	501	0	1
125°	1	359	687	358	0	1
135°	2	217	451	214	0	1
145°	2	110	248	106	0	1
155°	2	35	103	33	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°	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5
2.5°	1284.8	1283.8	1278.3	1270.1	1266.4	1265.5	1264.5	1260.9	1259.9	1261.8	1269.1
5°	1279.2	1278.3	1272.8	1264.5	1261.8	1260.9	1259.9	1257.2	1257.2	1259.9	1267.3
7.5°	1268.2	1267.3	1261.8	1255.3	1252.6	1251.7	1251.7	1249.8	1249.8	1254.4	1262.7
10°	1252.6	1251.7	1247.1	1241.6	1239.7	1239.7	1239.7	1238.8	1240.6	1246.2	1255.3
12.5°	1234.2	1232.4	1228.7	1224.1	1224.1	1224.1	1225.0	1225.0	1227.8	1237.0	1248.0
15°	1209.4	1210.3	1206.6	1203.0	1204.8	1205.7	1207.6	1209.4	1214.0	1225.0	1237.9
17.5°	1183.7	1183.7	1180.9	1179.1	1182.7	1184.6	1187.3	1190.1	1198.4	1212.2	1226.9
20°	1151.5	1152.4	1151.5	1152.4	1157.0	1159.8	1163.4	1169.9	1180.9	1200.2	1217.7
22.5°	1116.6	1118.4	1118.4	1122.1	1129.4	1134.0	1138.6	1147.8	1163.4	1188.3	1213.1
25°	1080.7	1079.8	1084.4	1090.8	1098.2	1104.6	1110.1	1123.9	1146.9	1180.0	1214.9
27.5°	1037.5	1039.4	1045.8	1055.0	1066.0	1074.3	1082.6	1101.9	1135.0	1179.1	1219.5
30°	993.4	996.2	1004.5	1017.3	1032.9	1044.0	1053.2	1083.5	1128.5	1179.1	1223.2
32.5°	945.6	950.2	961.3	977.8	999.9	1012.7	1027.4	1067.9	1123.0	1177.2	1226.9
35°	896.9	902.5	917.2	937.4	963.1	978.7	1001.7	1055.9	1115.7	1175.4	1231.5
37.5°	847.3	853.7	870.3	896.0	929.1	953.0	980.6	1043.1	1110.1	1175.4	1237.9
40°	795.8	803.2	824.3	853.7	896.0	927.3	960.3	1030.2	1104.6	1176.3	1248.0
42.5°	743.5	751.7	777.5	812.4	867.5	904.3	941.1	1019.2	1101.0	1180.9	1260.9
45°	691.1	702.1	730.6	772.9	841.8	880.4	922.7	1009.1	1099.1	1189.2	1278.3
47.5°	638.7	651.6	684.7	735.2	815.1	861.1	905.2	1000.8	1101.0	1200.2	1301.3
50°	588.2	602.9	639.6	701.2	790.3	840.0	888.7	995.3	1104.6	1216.7	1328.9
52.5°	536.7	556.0	596.4	670.9	768.3	820.7	874.9	991.6	1112.0	1238.8	1364.7
55°	488.9	509.1	556.0	641.5	747.1	804.1	862.0	990.7	1124.8	1265.5	1408.8
57.5°	440.2	465.0	516.5	613.0	725.1	787.6	851.9	992.5	1140.5	1293.9	1453.8
60°	398.8	420.9	480.6	585.4	705.8	772.0	842.7	994.4	1157.0	1327.0	1506.2
62.5°	354.7	378.6	449.4	558.7	686.5	758.2	833.5	997.1	1174.5	1361.0	1559.5
65°	311.5	336.4	418.1	533.0	667.2	743.5	822.5	997.1	1188.3	1392.3	1605.5
67.5°	270.2	296.8	386.9	505.4	645.1	725.1	808.7	992.5	1196.5	1414.3	1641.3
70°	230.7	260.1	356.6	476.0	621.2	703.0	789.4	982.4	1195.6	1422.6	1656.9
72.5°	191.2	225.2	323.5	446.6	595.5	678.2	766.4	963.1	1182.7	1412.5	1646.8
75°	155.3	192.1	294.1	417.2	566.1	648.8	738.0	933.7	1154.3	1381.2	1608.2
77.5°	122.2	162.7	262.8	385.1	533.0	614.8	702.1	896.0	1109.2	1326.1	1540.2
80°	91.0	136.0	233.4	352.9	497.2	577.1	661.7	848.2	1050.4	1251.7	1449.3
82.5°	63.4	111.2	204.9	320.7	460.4	536.7	617.6	791.3	982.4	1165.3	1344.5
85°	38.6	89.1	176.4	289.5	422.7	494.4	570.7	731.5	908.0	1071.5	1229.6
87.5°	16.5	68.9	151.6	259.2	385.1	453.1	522.9	674.5	828.9	974.1	1114.7
90°	0.9	51.5	129.6	230.7	349.2	412.6	477.9	613.9	756.3	885.0	1010.0
92.5°	0.0	44.1	116.7	213.2	324.4	383.2	443.9	568.9	697.5	812.4	923.6
95°	0.9	36.8	105.7	193.9	299.6	355.7	411.7	528.4	644.2	749.9	851.9
97.5°	0.9	30.3	93.7	176.4	276.6	328.1	380.5	488.9	593.7	693.8	788.5
100°	0.9	23.9	82.7	159.9	252.7	300.5	350.1	452.1	550.5	644.2	733.4
102.5°	0.9	17.5	73.5	144.3	230.7	275.7	321.6	418.1	511.0	601.0	685.6
105°	0.9	11.9	64.3	129.6	210.4	252.7	295.9	386.9	475.1	561.5	644.2
107.5°	0.9	8.3	56.1	115.8	188.4	230.7	271.1	357.5	442.0	525.7	606.5
110°	0.9	7.4	48.7	103.8	170.9	209.5	248.1	329.9	410.8	490.7	569.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	6.4	41.4	92.8	153.5	188.4	226.1	303.3	382.3	459.5	534.9
115°	0.9	6.4	34.0	82.7	138.8	170.0	204.9	277.5	352.9	427.3	500.9
117.5°	0.9	6.4	27.6	73.5	125.0	153.5	183.8	253.6	323.5	396.1	467.8
120°	0.9	5.5	22.1	64.3	113.0	138.8	167.3	230.7	295.0	363.0	431.9
122.5°	0.9	5.5	18.4	56.1	101.1	125.0	150.7	206.8	268.3	330.8	395.2
125°	0.9	4.6	15.6	46.9	89.1	112.1	135.1	185.6	242.6	300.5	359.3
127.5°	1.8	4.6	12.9	38.6	77.2	97.4	119.5	165.4	215.0	267.4	323.5
130°	1.8	4.6	11.0	29.4	65.2	83.6	102.9	145.2	191.2	236.2	284.9
132.5°	1.8	3.7	10.1	23.0	54.2	70.8	88.2	125.9	166.3	206.8	249.0
135°	1.8	3.7	8.3	18.4	43.2	57.9	74.4	107.5	143.4	181.0	216.9
137.5°	1.8	2.8	7.4	14.7	33.1	46.9	61.6	91.0	122.2	154.4	187.5
140°	1.8	2.8	6.4	11.9	24.8	34.9	48.7	74.4	102.0	130.5	159.0
142.5°	1.8	2.8	5.5	10.1	19.3	26.7	36.8	60.7	84.5	108.4	133.3
145°	1.8	2.8	4.6	8.3	14.7	20.2	26.7	46.9	68.0	89.1	110.3
147.5°	1.8	2.8	4.6	7.4	11.9	15.6	20.2	34.0	53.3	70.8	89.1
150°	1.8	2.8	3.7	6.4	10.1	11.9	14.7	23.9	38.6	54.2	69.8
152.5°	1.8	1.8	3.7	5.5	7.4	9.2	11.0	17.5	26.7	38.6	52.4
155°	1.8	1.8	2.8	4.6	6.4	7.4	8.3	11.9	17.5	24.8	34.9
157.5°	1.8	1.8	2.8	3.7	4.6	5.5	6.4	8.3	11.9	15.6	21.1
160°	1.8	1.8	2.8	3.7	3.7	4.6	4.6	5.5	7.4	9.2	11.9
162.5°	1.8	1.8	2.8	2.8	2.8	3.7	3.7	3.7	4.6	4.6	5.5
165°	1.8	1.8	1.8	2.8	1.8	2.8	1.8	2.8	2.8	1.8	1.8
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5
2.5°	1271.9	1265.5	1262.7	1259.0	1256.3	1254.4	1251.7	1249.8	1247.1	1247.1	1248.0
5°	1270.1	1263.6	1261.8	1258.1	1256.3	1255.3	1253.5	1254.4	1254.4	1255.3	1254.4
7.5°	1266.4	1260.9	1259.0	1257.2	1255.3	1254.4	1253.5	1255.3	1255.3	1256.3	1256.3
10°	1259.9	1256.3	1256.3	1254.4	1253.5	1252.6	1250.8	1253.5	1253.5	1255.3	1254.4
12.5°	1252.6	1251.7	1252.6	1253.5	1253.5	1252.6	1251.7	1255.3	1257.2	1257.2	1258.1
15°	1244.3	1246.2	1250.8	1253.5	1255.3	1255.3	1257.2	1260.9	1263.6	1264.5	1264.5
17.5°	1237.9	1242.5	1250.8	1258.1	1261.8	1263.6	1268.2	1275.6	1280.2	1281.1	1281.1
20°	1233.3	1244.3	1259.0	1272.8	1277.4	1281.1	1290.3	1299.5	1305.9	1306.8	1306.8
22.5°	1237.0	1255.3	1275.6	1291.2	1297.6	1302.2	1312.3	1324.3	1331.6	1332.5	1332.5
25°	1246.2	1268.2	1291.2	1310.5	1317.8	1323.4	1334.4	1347.2	1354.6	1357.4	1356.4
27.5°	1254.4	1281.1	1307.7	1329.8	1338.1	1345.4	1359.2	1373.9	1383.1	1385.8	1384.0
30°	1261.8	1293.0	1323.4	1350.0	1361.0	1369.3	1385.8	1403.3	1415.3	1418.0	1415.3
32.5°	1269.1	1306.8	1342.7	1373.9	1384.9	1396.9	1418.0	1438.2	1450.2	1453.8	1452.0
35°	1279.2	1323.4	1365.6	1401.5	1416.2	1430.0	1454.8	1478.7	1493.4	1496.1	1493.4
37.5°	1293.0	1344.5	1391.4	1436.4	1452.0	1471.3	1500.7	1529.2	1546.7	1550.3	1546.7
40°	1310.5	1371.1	1426.3	1478.7	1499.8	1520.0	1555.9	1589.9	1609.2	1615.6	1612.8
42.5°	1333.5	1404.2	1468.6	1531.0	1554.9	1580.7	1622.9	1662.5	1684.5	1691.9	1684.5
45°	1361.9	1445.6	1520.0	1592.6	1620.2	1651.4	1702.0	1747.0	1772.7	1779.2	1772.7
47.5°	1399.6	1494.3	1580.7	1664.3	1697.4	1734.1	1793.9	1845.3	1872.9	1880.3	1873.8
50°	1440.1	1553.1	1652.4	1747.9	1789.3	1827.9	1897.7	1954.7	1984.1	1997.9	1985.9
52.5°	1490.6	1617.4	1734.1	1840.7	1890.4	1936.3	2013.5	2076.0	2111.8	2123.8	2107.3
55°	1551.3	1694.6	1825.1	1948.3	1997.9	2049.4	2134.8	2201.0	2238.7	2251.5	2239.6
57.5°	1618.3	1776.4	1920.7	2050.3	2108.2	2160.6	2256.1	2325.1	2358.1	2374.7	2360.0
60°	1688.2	1861.0	2017.2	2155.0	2218.5	2272.7	2370.1	2438.1	2473.0	2489.6	2475.8
62.5°	1756.2	1942.8	2107.3	2250.6	2311.3	2371.0	2468.4	2533.7	2569.5	2584.2	2571.3
65°	1815.0	2011.7	2180.8	2328.7	2391.2	2450.0	2541.9	2604.4	2642.1	2652.2	2643.0
67.5°	1859.1	2058.5	2229.5	2375.6	2436.3	2495.1	2582.4	2640.3	2677.0	2686.2	2677.9
70°	1879.3	2076.9	2246.0	2388.5	2448.2	2500.6	2583.3	2638.4	2673.4	2678.9	2672.4
72.5°	1866.5	2058.5	2222.1	2358.1	2415.1	2461.1	2537.3	2589.7	2622.8	2627.4	2622.8
75°	1818.7	2002.5	2156.9	2283.7	2337.0	2375.6	2448.2	2496.9	2530.0	2533.7	2528.2
77.5°	1737.8	1908.8	2050.3	2172.5	2216.6	2254.3	2323.2	2366.4	2393.1	2398.6	2392.1
80°	1629.4	1786.5	1913.3	2022.7	2065.0	2097.1	2164.2	2211.1	2225.8	2233.2	2224.0
82.5°	1505.3	1645.9	1759.0	1858.2	1895.9	1935.4	1978.6	2021.8	2042.9	2049.4	2042.0
85°	1372.1	1497.0	1597.2	1686.4	1719.4	1755.3	1793.0	1835.2	1853.6	1860.0	1852.7
87.5°	1238.8	1349.1	1437.3	1516.3	1546.7	1578.8	1623.9	1645.9	1670.7	1678.1	1669.8
90°	1119.3	1218.6	1297.6	1369.3	1397.8	1427.2	1462.1	1489.7	1512.7	1519.1	1511.7
92.5°	1022.8	1112.0	1184.6	1248.9	1273.7	1301.3	1335.3	1361.9	1382.2	1388.6	1381.2
95°	942.9	1024.7	1092.7	1152.4	1176.3	1202.0	1239.7	1260.9	1279.2	1284.8	1279.2
97.5°	874.9	952.1	1016.4	1074.3	1097.3	1121.2	1157.9	1179.1	1196.5	1201.1	1196.5
100°	815.1	890.5	953.9	1009.1	1032.0	1055.0	1090.8	1112.0	1128.5	1134.0	1128.5
102.5°	765.5	838.1	900.6	956.7	978.7	1001.7	1035.7	1060.5	1073.4	1079.8	1074.3
105°	722.3	793.1	855.6	910.7	933.7	955.8	990.7	1013.7	1028.4	1035.7	1029.3
107.5°	682.8	752.7	816.1	869.4	892.3	914.4	950.2	973.2	987.0	995.3	987.9
110°	645.1	714.1	774.7	829.9	852.8	875.8	911.6	934.6	948.4	955.8	949.3



TEST NUMBER: P201257

CATALOG NUMBER: 8LBLED-LD4-10-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	608.4	675.5	738.0	791.3	813.3	836.3	873.0	896.9	909.8	918.1	910.7
115°	571.6	637.8	698.4	749.9	772.0	795.8	831.7	856.5	870.3	876.7	869.4
117.5°	535.8	599.2	657.1	707.6	729.7	752.7	787.6	812.4	827.1	833.5	826.2
120°	499.0	559.7	616.6	662.6	685.6	706.7	742.5	766.4	781.1	787.6	780.2
122.5°	459.5	519.2	573.5	618.5	640.5	660.8	695.7	719.6	733.4	739.8	733.4
125°	419.1	475.1	527.5	572.5	590.9	610.2	644.2	667.2	681.9	687.4	681.9
127.5°	378.6	430.1	478.8	518.3	538.5	556.9	589.1	611.1	624.0	630.4	625.8
130°	338.2	386.9	431.0	466.8	484.3	501.8	531.2	551.4	564.3	569.8	565.2
132.5°	295.0	341.9	385.1	416.3	432.8	447.6	474.2	491.7	502.7	509.1	503.6
135°	256.4	295.0	335.4	367.6	384.1	397.0	420.9	435.6	445.7	451.2	445.7
137.5°	221.5	254.6	287.6	316.1	331.8	345.5	368.5	382.3	391.5	397.0	391.5
140°	189.3	217.8	247.2	270.2	284.0	295.0	316.1	328.1	336.4	340.9	335.4
142.5°	158.1	183.8	208.6	229.7	241.7	250.9	271.1	280.3	286.7	289.5	286.7
145°	131.4	152.6	173.7	193.0	202.2	209.5	229.7	239.9	245.4	248.1	245.4
147.5°	106.6	124.1	141.5	157.1	165.4	174.6	188.4	200.3	204.9	206.8	204.9
150°	83.6	99.3	113.0	125.9	132.3	138.8	150.7	162.7	167.3	170.0	167.3
152.5°	63.4	76.3	87.3	97.4	102.9	108.4	118.6	129.6	134.2	136.0	134.2
155°	45.9	55.1	65.2	72.6	77.2	80.9	88.2	95.6	102.9	102.9	102.9
157.5°	28.5	35.8	44.1	50.5	53.3	57.0	62.5	68.9	74.4	77.2	77.2
160°	14.7	19.3	24.8	29.4	32.2	34.9	38.6	44.1	47.8	50.5	48.7
162.5°	6.4	8.3	11.0	12.9	14.7	15.6	18.4	21.1	23.0	27.6	23.9
165°	1.8	1.8	2.8	3.7	3.7	3.7	4.6	5.5	6.4	10.1	7.4
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: P201257

CATALOG NUMBER: 8LBLELD4-10-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5
2.5°	1249.8	1252.6	1256.3	1258.1	1260.9	1262.7	1267.3	1272.8	1268.2	1261.8	1262.7
5°	1254.4	1253.5	1256.3	1258.1	1259.9	1260.9	1265.5	1271.0	1265.5	1259.0	1259.0
7.5°	1256.3	1255.3	1256.3	1257.2	1258.1	1258.1	1262.7	1267.3	1261.8	1253.5	1251.7
10°	1253.5	1252.6	1253.5	1255.3	1255.3	1255.3	1258.1	1261.8	1255.3	1245.2	1241.6
12.5°	1255.3	1252.6	1252.6	1253.5	1253.5	1251.7	1252.6	1255.3	1247.1	1236.0	1230.5
15°	1261.8	1257.2	1255.3	1255.3	1253.5	1248.9	1247.1	1247.1	1237.9	1223.2	1215.8
17.5°	1277.4	1270.1	1264.5	1261.8	1258.1	1249.8	1243.4	1239.7	1227.8	1211.2	1199.3
20°	1301.3	1291.2	1282.9	1277.4	1272.8	1258.1	1245.2	1235.1	1218.6	1198.4	1182.7
22.5°	1325.2	1314.2	1302.2	1296.7	1290.3	1273.7	1256.3	1238.8	1214.0	1186.4	1165.3
25°	1348.2	1337.1	1323.4	1317.8	1309.6	1290.3	1268.2	1248.0	1215.8	1178.2	1147.8
27.5°	1374.8	1361.0	1346.3	1338.1	1328.9	1306.8	1282.0	1257.2	1221.3	1178.2	1135.9
30°	1405.1	1388.6	1369.3	1360.1	1349.1	1323.4	1293.0	1263.6	1225.0	1178.2	1129.4
32.5°	1440.1	1420.8	1397.8	1384.9	1372.1	1341.7	1305.9	1271.9	1227.8	1177.2	1123.9
35°	1480.5	1458.4	1430.9	1416.2	1400.5	1364.7	1322.4	1281.1	1232.4	1176.3	1116.6
37.5°	1531.0	1505.3	1472.2	1453.8	1435.5	1393.2	1344.5	1294.9	1239.7	1177.2	1111.1
40°	1591.7	1561.4	1522.8	1499.8	1477.7	1429.0	1371.1	1312.3	1249.8	1179.1	1105.6
42.5°	1663.4	1626.6	1583.4	1556.8	1531.0	1470.4	1404.2	1334.4	1263.6	1182.7	1102.8
45°	1748.8	1710.2	1655.1	1622.0	1593.5	1522.8	1446.5	1363.8	1283.8	1191.9	1101.9
47.5°	1847.2	1798.5	1738.7	1700.1	1666.1	1584.3	1496.1	1400.5	1306.8	1203.9	1103.7
50°	1957.5	1902.3	1833.4	1793.0	1750.7	1656.9	1554.9	1443.7	1336.2	1221.3	1108.3
52.5°	2078.8	2018.1	1943.7	1895.9	1849.0	1740.6	1621.1	1498.9	1370.2	1243.4	1116.6
55°	2204.7	2139.4	2056.7	2004.3	1951.9	1832.5	1699.2	1558.6	1415.3	1271.0	1130.4
57.5°	2326.9	2259.8	2168.8	2115.5	2056.7	1929.9	1782.8	1623.9	1464.0	1303.1	1146.0
60°	2439.9	2372.8	2280.9	2226.7	2162.4	2026.4	1868.3	1695.5	1514.5	1337.1	1164.4
62.5°	2535.5	2471.2	2379.3	2324.1	2258.0	2117.4	1950.1	1765.4	1569.6	1373.0	1181.8
65°	2606.3	2545.6	2456.5	2399.5	2336.1	2190.0	2019.0	1827.0	1615.6	1404.2	1197.4
67.5°	2642.1	2585.1	2498.7	2444.5	2382.0	2236.8	2065.9	1868.3	1650.5	1426.3	1207.6
70°	2638.4	2584.2	2503.3	2450.0	2390.3	2250.6	2082.4	1884.9	1666.1	1434.6	1205.7
72.5°	2590.6	2536.4	2463.8	2412.4	2355.4	2224.9	2059.5	1870.2	1654.2	1421.7	1191.0
75°	2496.0	2446.4	2372.8	2330.6	2279.1	2157.8	1999.7	1815.9	1613.8	1387.7	1160.7
77.5°	2360.0	2322.3	2250.6	2211.1	2160.6	2048.4	1899.6	1734.1	1543.0	1330.7	1113.8
80°	2193.6	2162.4	2092.6	2057.6	2008.0	1910.6	1781.9	1622.0	1449.3	1253.5	1053.2
82.5°	2011.7	1975.8	1920.7	1888.5	1841.7	1754.4	1632.1	1501.6	1340.8	1165.3	982.4
85°	1823.3	1790.2	1739.7	1712.1	1670.7	1592.6	1483.3	1368.4	1225.9	1067.9	906.1
87.5°	1644.1	1611.9	1564.1	1539.3	1501.6	1431.8	1336.2	1235.1	1109.2	974.1	825.3
90°	1488.8	1458.4	1413.4	1390.4	1356.4	1293.0	1206.6	1115.7	1004.5	880.4	752.7
92.5°	1361.0	1333.5	1291.2	1269.1	1238.8	1180.9	1102.8	1020.1	919.9	812.4	693.8
95°	1259.9	1233.3	1195.6	1174.5	1146.0	1086.3	1017.3	940.1	848.2	749.9	640.5
97.5°	1178.2	1156.1	1114.7	1094.5	1071.5	1010.9	948.4	872.1	786.7	694.8	592.8
100°	1112.0	1087.2	1049.5	1030.2	1006.3	949.3	885.9	814.2	731.5	644.2	549.6
102.5°	1060.5	1034.8	999.9	977.8	954.8	896.9	834.4	764.6	685.6	601.0	510.0
105°	1014.6	989.8	954.8	932.8	909.8	852.8	793.1	722.3	644.2	562.4	474.2
107.5°	971.4	949.3	914.4	892.3	869.4	812.4	752.7	682.8	606.5	526.6	441.1
110°	934.6	910.7	874.0	852.8	828.0	773.8	714.1	646.1	569.8	491.7	409.9



TEST NUMBER: P201257

CATALOG NUMBER: 8LBLED-LD4-10-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	897.9	872.1	835.4	814.2	789.4	735.2	676.4	609.3	534.9	459.5	380.5
115°	857.4	832.6	794.0	772.9	748.1	694.8	637.8	572.5	500.9	427.3	351.1
117.5°	814.2	789.4	750.8	730.6	706.7	654.3	600.1	536.7	466.8	396.1	321.6
120°	767.4	743.5	706.7	686.5	663.5	613.0	560.6	497.2	431.0	363.0	294.1
122.5°	719.6	696.6	660.8	640.5	618.5	570.7	519.2	457.7	394.2	330.8	267.4
125°	668.1	645.1	611.1	591.8	569.8	523.8	474.2	416.3	357.5	300.5	239.9
127.5°	608.4	590.0	556.9	537.6	517.4	477.0	429.2	376.8	322.6	267.4	213.2
130°	551.4	532.1	500.9	483.4	465.9	429.2	386.9	336.4	283.1	235.3	186.6
132.5°	491.7	474.2	447.6	432.8	417.2	384.1	340.9	291.3	246.3	204.9	161.7
135°	435.6	420.9	397.0	384.1	368.5	333.6	293.2	251.8	214.1	177.4	138.8
137.5°	383.2	368.5	346.5	332.7	316.1	284.9	251.8	217.8	182.9	151.6	117.6
140°	328.1	316.1	295.9	284.0	269.3	242.6	215.0	182.9	155.3	126.8	97.4
142.5°	281.2	271.1	250.9	239.9	227.0	204.9	179.2	154.4	129.6	104.8	80.0
145°	240.8	230.7	208.6	200.3	188.4	169.1	148.0	125.9	105.7	84.5	64.3
147.5°	201.3	189.3	170.0	162.7	153.5	136.9	120.4	102.9	85.5	67.1	49.6
150°	164.5	150.7	135.1	130.5	121.3	108.4	94.7	80.0	66.2	51.5	35.8
152.5°	129.6	117.6	104.8	100.2	92.8	84.5	72.6	60.7	49.6	35.8	24.8
155°	96.5	87.3	77.2	74.4	68.9	62.5	52.4	43.2	33.1	23.9	17.5
157.5°	68.0	60.7	53.3	51.5	47.8	42.3	34.0	26.7	21.1	15.6	11.9
160°	42.3	37.7	32.2	30.3	27.6	23.9	18.4	15.6	12.9	10.1	7.4
162.5°	20.2	17.5	15.6	14.7	12.9	11.0	10.1	8.3	7.4	6.4	5.5
165°	7.4	7.4	7.4	6.4	6.4	6.4	6.4	5.5	4.6	4.6	3.7
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: P201257

CATALOG NUMBER: 8LBLED-LD4-10-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5	1264.5
2.5°	1263.6	1265.5	1265.5	1266.4	1269.1	1274.6	1282.0	1282.9
5°	1259.9	1260.9	1260.9	1260.9	1263.6	1268.2	1275.6	1276.5
7.5°	1251.7	1251.7	1251.7	1251.7	1254.4	1258.1	1264.5	1265.5
10°	1240.6	1239.7	1239.7	1238.8	1240.6	1243.4	1250.8	1249.8
12.5°	1226.9	1225.0	1224.1	1224.1	1223.2	1225.9	1230.5	1231.5
15°	1211.2	1207.6	1205.7	1203.9	1203.0	1203.0	1208.5	1207.6
17.5°	1192.9	1187.3	1184.6	1181.8	1178.2	1178.2	1181.8	1180.9
20°	1171.7	1164.4	1159.8	1156.1	1150.6	1148.7	1150.6	1149.7
22.5°	1150.6	1138.6	1134.0	1128.5	1120.3	1116.6	1115.7	1114.7
25°	1125.8	1111.1	1104.6	1099.1	1087.2	1082.6	1078.0	1076.1
27.5°	1103.7	1082.6	1074.3	1065.1	1051.3	1044.9	1037.5	1035.7
30°	1084.4	1053.2	1040.3	1031.1	1013.7	1003.5	994.4	992.5
32.5°	1069.7	1026.5	1009.1	998.0	974.1	960.3	948.4	942.9
35°	1056.8	1001.7	978.7	961.3	932.8	916.2	899.7	895.1
37.5°	1044.9	980.6	950.2	926.3	894.2	870.3	851.9	844.6
40°	1032.9	961.3	924.5	894.2	851.9	824.3	801.4	792.2
42.5°	1021.9	942.0	902.5	865.7	810.6	777.5	752.7	739.8
45°	1011.8	924.5	881.3	840.9	770.1	731.5	701.2	689.2
47.5°	1004.5	908.0	860.2	816.1	732.4	684.7	653.4	637.8
50°	998.9	892.3	840.0	791.3	699.4	639.6	604.7	586.3
52.5°	996.2	878.6	821.6	769.2	669.0	596.4	555.1	541.3
55°	997.1	867.5	806.0	749.0	640.5	555.1	509.1	488.0
57.5°	998.9	857.4	790.3	728.8	612.1	514.6	463.2	441.1
60°	1002.6	849.2	776.6	709.5	585.4	479.7	420.9	399.8
62.5°	1006.3	841.8	762.8	691.1	559.7	447.6	378.6	354.7
65°	1007.2	830.8	748.1	672.7	533.9	415.4	335.4	312.5
67.5°	1003.5	817.0	729.7	651.6	507.3	384.1	295.0	271.1
70°	992.5	798.6	708.5	627.7	477.9	353.8	256.4	230.7
72.5°	972.3	774.7	683.7	601.0	449.4	321.6	221.5	190.2
75°	943.8	745.3	654.3	570.7	419.1	291.3	189.3	154.4
77.5°	905.2	707.6	619.4	536.7	386.0	260.1	161.7	121.3
80°	855.6	668.1	580.8	499.9	353.8	231.6	135.1	90.1
82.5°	796.8	623.1	539.4	462.3	323.5	202.2	110.3	62.5
85°	736.1	574.4	496.3	422.7	291.3	174.6	89.1	36.8
87.5°	676.4	525.7	454.9	386.9	258.2	149.8	68.9	14.7
90°	617.6	478.8	411.7	348.3	229.7	126.8	51.5	0.0
92.5°	568.9	443.9	383.2	322.6	211.4	114.9	44.1	0.0
95°	525.7	410.8	352.9	296.8	192.1	103.8	36.8	0.0
97.5°	486.1	379.5	326.2	272.9	174.6	91.9	30.3	0.0
100°	448.5	348.3	298.7	250.9	158.1	81.8	23.0	0.0
102.5°	415.4	320.7	273.9	227.0	141.5	71.7	16.5	0.0
105°	383.2	294.1	250.9	205.9	126.8	62.5	10.1	0.0
107.5°	354.7	269.3	227.9	186.6	113.0	54.2	6.4	0.0
110°	327.2	246.3	205.9	168.2	101.1	46.9	5.5	0.0



TEST NUMBER: P201257

CATALOG NUMBER: 8LBLED-LD4-10-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	301.4	224.2	186.6	150.7	91.0	39.5	5.5	0.0
115°	274.8	203.1	168.2	136.0	80.9	32.2	4.6	0.0
117.5°	251.8	182.9	151.6	124.1	70.8	25.7	4.6	0.0
120°	228.8	165.4	137.8	111.2	61.6	19.3	4.6	0.0
122.5°	205.9	149.8	123.1	99.3	53.3	15.6	3.7	0.0
125°	184.7	133.3	109.4	86.4	44.1	13.8	3.7	0.0
127.5°	163.6	116.7	94.7	74.4	34.9	11.9	2.8	0.0
130°	142.4	100.2	80.9	62.5	26.7	10.1	2.8	0.0
132.5°	123.1	84.5	68.0	51.5	21.1	8.3	1.8	0.0
135°	103.8	70.8	56.1	40.4	16.5	7.4	1.8	0.0
137.5°	87.3	57.9	44.1	30.3	13.8	5.5	1.8	0.0
140°	71.7	45.9	33.1	23.0	11.0	4.6	0.9	0.0
142.5°	57.0	34.0	24.8	17.5	9.2	3.7	0.9	0.0
145°	44.1	24.8	18.4	13.8	8.3	2.8	0.9	0.0
147.5°	32.2	19.3	14.7	11.9	6.4	2.8	0.9	0.0
150°	23.0	14.7	11.9	9.2	4.6	1.8	0.9	0.0
152.5°	17.5	11.0	9.2	7.4	3.7	1.8	0.9	0.0
155°	12.9	8.3	7.4	5.5	2.8	1.8	0.9	0.0
157.5°	9.2	6.4	5.5	3.7	2.8	1.8	0.9	0.0
160°	5.5	4.6	3.7	2.8	1.8	0.9	0.9	0.0
162.5°	4.6	2.8	2.8	2.8	1.8	0.9	0.9	0.0
165°	2.8	1.8	1.8	1.8	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)