

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: P201319

Luminaire Tested: **4LBLED-LD4-10-SYMF-UNV-L835-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201319  
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-L835-CD1-U  
Description: 4 ft. Low Bay Linear, 10000 lm, Frst Sym lens, 3.5K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
2UT217098A8354C  
Ballast/Driver: OSRAM  
(OTi85W01720CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10580.0 lumens  
Efficiency: N/A  
Efficacy: 135.3 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

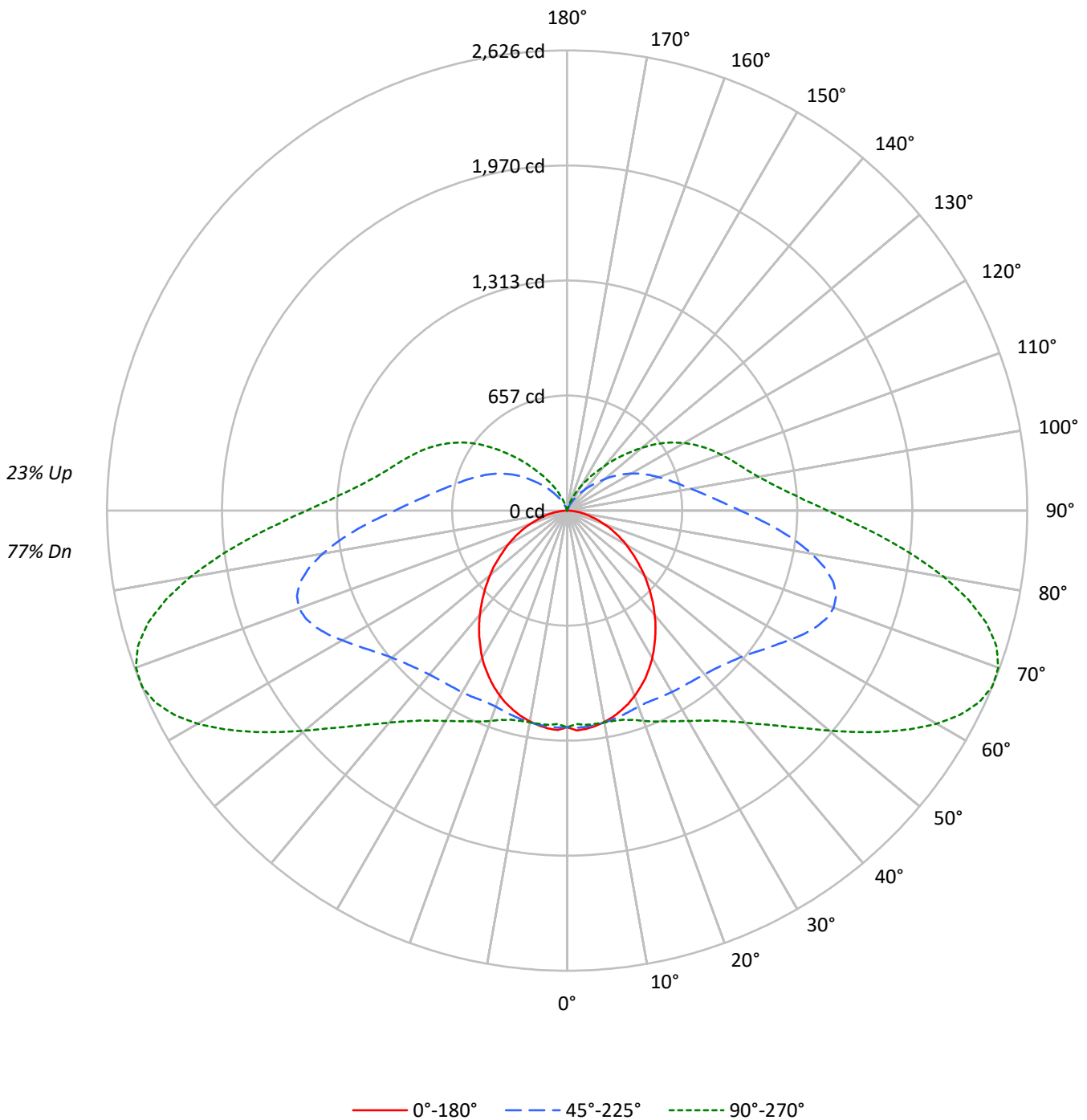
Input Watts (W): 78.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	19918	19918	19918
5°	20134	17898	20090
10°	19852	16463	19808
15°	19451	15461	19421
20°	18943	15072	18913
25°	18338	14923	18259
30°	17542	15002	17526
35°	16640	15366	16606
40°	15679	16243	15606
45°	14632	17649	14594
50°	13571	19706	13528
55°	12498	22250	12474
60°	11527	24839	11554
65°	10445	26926	10476
70°	9296	27898	9296
75°	7915	27298	7868
80°	6371	25120	6306
85°	4372	22063	4163



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.4	1.1
10°-20°	341.3	3.2
20°-30°	548.6	5.2
30°-40°	742.9	7.0
40°-50°	954.3	9.0
50°-60°	1227.8	11.6
60°-70°	1502.1	14.2
70°-80°	1518.6	14.4
80°-90°	1174.4	11.1
90°-100°	815.9	7.7
100°-110°	609.4	5.8
110°-120°	456.7	4.3
120°-130°	307.6	2.9
130°-140°	168.7	1.6
140°-150°	71.9	0.7
150°-160°	20.6	0.2
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	1007.3	9.5
0°-40°	1750.2	16.5
0°-60°	3932.4	37.2
0°-90°	8127.5	76.8
90°-120°	1882.0	17.8
90°-150°	2430.2	23.0
90°-180°	2453.0	23.2
0°-180°	10580.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1236	1236	1236	1236	1236	
5°	1250	1239	1227	1237	1248	118
15°	1182	1210	1236	1210	1180	333
25°	1056	1188	1327	1188	1052	485
35°	877	1204	1462	1205	875	548
45°	676	1250	1739	1255	674	521
55°	478	1377	2201	1383	477	428
65°	304	1569	2592	1579	305	302
75°	152	1572	2477	1577	151	162
85°	38	1202	1818	1198	36	41
90°	1	987	1485	982	0	2
95°	1	833	1256	829	0	1
105°	1	630	1012	630	0	1
115°	1	490	857	490	0	1
125°	1	351	672	349	0	1
135°	2	212	441	209	0	1
145°	2	108	242	103	0	1
155°	2	34	101	32	0	1
165°	2	2	10	4	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°	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1
2.5°	1255.8	1254.9	1249.5	1241.4	1237.9	1237.0	1236.1	1232.5	1231.6	1233.4	1240.5
5°	1250.4	1249.5	1244.1	1236.1	1233.4	1232.5	1231.6	1228.9	1228.9	1231.6	1238.8
7.5°	1239.6	1238.8	1233.4	1227.1	1224.4	1223.5	1223.5	1221.7	1221.7	1226.2	1234.3
10°	1224.4	1223.5	1219.0	1213.6	1211.8	1211.8	1211.8	1210.9	1212.7	1218.1	1227.1
12.5°	1206.4	1204.6	1201.0	1196.5	1196.5	1196.5	1197.4	1197.4	1200.1	1209.1	1219.9
15°	1182.2	1183.1	1179.5	1175.9	1177.7	1178.6	1180.4	1182.2	1186.6	1197.4	1210.0
17.5°	1157.0	1157.0	1154.3	1152.5	1156.1	1157.9	1160.6	1163.3	1171.4	1184.9	1199.2
20°	1125.6	1126.5	1125.6	1126.5	1131.0	1133.6	1137.2	1143.5	1154.3	1173.2	1190.2
22.5°	1091.4	1093.2	1093.2	1096.8	1104.0	1108.5	1113.0	1122.0	1137.2	1161.5	1185.8
25°	1056.4	1055.5	1060.0	1066.3	1073.5	1079.8	1085.1	1098.6	1121.1	1153.4	1187.5
27.5°	1014.2	1016.0	1022.3	1031.2	1042.0	1050.1	1058.2	1077.1	1109.4	1152.5	1192.0
30°	971.1	973.8	981.8	994.4	1009.7	1020.5	1029.4	1059.1	1103.1	1152.5	1195.6
32.5°	924.3	928.8	939.6	955.8	977.3	989.9	1004.3	1043.8	1097.7	1150.7	1199.2
35°	876.7	882.1	896.5	916.3	941.4	956.7	979.1	1032.1	1090.5	1148.9	1203.7
37.5°	828.2	834.5	850.7	875.8	908.2	931.5	958.5	1019.6	1085.1	1148.9	1210.0
40°	777.9	785.1	805.8	834.5	875.8	906.4	938.7	1007.0	1079.8	1149.8	1219.9
42.5°	726.7	734.8	760.0	794.1	848.0	883.9	919.9	996.2	1076.2	1154.3	1232.5
45°	675.5	686.3	714.1	755.5	822.8	860.6	901.9	986.3	1074.4	1162.4	1249.5
47.5°	624.3	636.9	669.2	718.6	796.8	841.7	884.8	978.2	1076.2	1173.2	1272.0
50°	574.9	589.3	625.2	685.4	772.5	821.0	868.7	972.9	1079.8	1189.3	1298.9
52.5°	524.6	543.5	583.0	655.8	751.0	802.2	855.2	969.3	1086.9	1210.9	1334.0
55°	477.9	497.7	543.5	627.0	730.3	786.0	842.6	968.4	1099.5	1237.0	1377.1
57.5°	430.3	454.5	504.8	599.2	708.8	769.8	832.7	970.2	1114.8	1264.8	1421.1
60°	389.9	411.4	469.8	572.2	689.9	754.6	823.7	972.0	1131.0	1297.1	1472.3
62.5°	346.7	370.1	439.3	546.2	671.0	741.1	814.8	974.7	1148.0	1330.4	1524.4
65°	304.5	328.8	408.7	521.0	652.2	726.7	804.0	974.7	1161.5	1360.9	1569.3
67.5°	264.1	290.1	378.2	494.1	630.6	708.8	790.5	970.2	1169.6	1382.5	1604.4
70°	225.5	254.2	348.5	465.3	607.2	687.2	771.6	960.3	1168.7	1390.6	1619.6
72.5°	186.8	220.1	316.2	436.6	582.1	662.9	749.2	941.4	1156.1	1380.7	1609.7
75°	151.8	187.7	287.5	407.8	553.4	634.2	721.3	912.7	1128.3	1350.1	1572.0
77.5°	119.5	159.0	256.9	376.4	521.0	601.0	686.3	875.8	1084.2	1296.2	1505.5
80°	88.9	132.9	228.2	344.9	486.0	564.1	646.8	829.1	1026.8	1223.5	1416.6
82.5°	62.0	108.7	200.3	313.5	450.0	524.6	603.7	773.4	960.3	1139.0	1314.2
85°	37.7	87.1	172.5	283.0	413.2	483.3	557.8	715.0	887.5	1047.4	1201.9
87.5°	16.2	67.4	148.2	253.3	376.4	442.9	511.1	659.3	810.3	952.2	1089.6
90°	0.9	50.3	126.7	225.5	341.4	403.3	467.1	600.1	739.3	865.1	987.2
92.5°	0.0	43.1	114.1	208.4	317.1	374.6	433.9	556.0	681.8	794.1	902.8
95°	0.9	35.9	103.3	189.5	292.8	347.6	402.4	516.5	629.7	733.0	832.7
97.5°	0.9	29.6	91.6	172.5	270.4	320.7	371.9	477.9	580.3	678.2	770.7
100°	0.9	23.4	80.8	156.3	247.0	293.7	342.3	442.0	538.1	629.7	716.8
102.5°	0.9	17.1	71.9	141.0	225.5	269.5	314.4	408.7	499.5	587.5	670.1
105°	0.9	11.7	62.9	126.7	205.7	247.0	289.3	378.2	464.4	548.9	629.7
107.5°	0.9	8.1	54.8	113.2	184.2	225.5	265.0	349.4	432.1	513.8	592.9
110°	0.9	7.2	47.6	101.5	167.1	204.8	242.5	322.5	401.5	479.7	556.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	6.3	40.4	90.7	150.0	184.2	221.0	296.4	373.7	449.1	522.8
115°	0.9	6.3	33.2	80.8	135.6	166.2	200.3	271.3	344.9	417.7	489.6
117.5°	0.9	6.3	26.9	71.9	122.2	150.0	179.7	247.9	316.2	387.2	457.2
120°	0.9	5.4	21.6	62.9	110.5	135.6	163.5	225.5	288.4	354.8	422.2
122.5°	0.9	5.4	18.0	54.8	98.8	122.2	147.3	202.1	262.3	323.4	386.3
125°	0.9	4.5	15.3	45.8	87.1	109.6	132.0	181.5	237.2	293.7	351.2
127.5°	1.8	4.5	12.6	37.7	75.5	95.2	116.8	161.7	210.2	261.4	316.2
130°	1.8	4.5	10.8	28.7	63.8	81.7	100.6	141.9	186.8	230.9	278.5
132.5°	1.8	3.6	9.9	22.5	53.0	69.2	86.2	123.1	162.6	202.1	243.4
135°	1.8	3.6	8.1	18.0	42.2	56.6	72.8	105.1	140.1	177.0	212.0
137.5°	1.8	2.7	7.2	14.4	32.3	45.8	60.2	88.9	119.5	150.9	183.3
140°	1.8	2.7	6.3	11.7	24.3	34.1	47.6	72.8	99.7	127.6	155.4
142.5°	1.8	2.7	5.4	9.9	18.9	26.1	35.9	59.3	82.6	106.0	130.3
145°	1.8	2.7	4.5	8.1	14.4	19.8	26.1	45.8	66.5	87.1	107.8
147.5°	1.8	2.7	4.5	7.2	11.7	15.3	19.8	33.2	52.1	69.2	87.1
150°	1.8	2.7	3.6	6.3	9.9	11.7	14.4	23.4	37.7	53.0	68.3
152.5°	1.8	1.8	3.6	5.4	7.2	9.0	10.8	17.1	26.1	37.7	51.2
155°	1.8	1.8	2.7	4.5	6.3	7.2	8.1	11.7	17.1	24.3	34.1
157.5°	1.8	1.8	2.7	3.6	4.5	5.4	6.3	8.1	11.7	15.3	20.7
160°	1.8	1.8	2.7	3.6	3.6	4.5	4.5	5.4	7.2	9.0	11.7
162.5°	1.8	1.8	2.7	2.7	2.7	3.6	3.6	3.6	4.5	4.5	5.4
165°	1.8	1.8	1.8	2.7	1.8	2.7	1.8	2.7	2.7	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°	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1
2.5°	1243.2	1237.0	1234.3	1230.7	1228.0	1226.2	1223.5	1221.7	1219.0	1219.0	1219.9
5°	1241.4	1235.2	1233.4	1229.8	1228.0	1227.1	1225.3	1226.2	1226.2	1227.1	1226.2
7.5°	1237.9	1232.5	1230.7	1228.9	1227.1	1226.2	1225.3	1227.1	1227.1	1228.0	1228.0
10°	1231.6	1228.0	1228.0	1226.2	1225.3	1224.4	1222.6	1225.3	1225.3	1227.1	1226.2
12.5°	1224.4	1223.5	1224.4	1225.3	1225.3	1224.4	1223.5	1227.1	1228.9	1228.9	1229.8
15°	1216.3	1218.1	1222.6	1225.3	1227.1	1227.1	1228.9	1232.5	1235.2	1236.1	1236.1
17.5°	1210.0	1214.5	1222.6	1229.8	1233.4	1235.2	1239.6	1246.8	1251.3	1252.2	1252.2
20°	1205.5	1216.3	1230.7	1244.1	1248.6	1252.2	1261.2	1270.2	1276.5	1277.4	1277.4
22.5°	1209.1	1227.1	1246.8	1262.1	1268.4	1272.9	1282.8	1294.4	1301.6	1302.5	1302.5
25°	1218.1	1239.6	1262.1	1281.0	1288.2	1293.5	1304.3	1316.9	1324.1	1326.8	1325.9
27.5°	1226.2	1252.2	1278.3	1299.8	1307.9	1315.1	1328.6	1343.0	1351.9	1354.6	1352.8
30°	1233.4	1263.9	1293.5	1319.6	1330.4	1338.5	1354.6	1371.7	1383.4	1386.1	1383.4
32.5°	1240.5	1277.4	1312.4	1343.0	1353.7	1365.4	1386.1	1405.8	1417.5	1421.1	1419.3
35°	1250.4	1293.5	1334.9	1369.9	1384.3	1397.7	1422.0	1445.4	1459.7	1462.4	1459.7
37.5°	1263.9	1314.2	1360.0	1404.0	1419.3	1438.2	1466.9	1494.8	1511.8	1515.4	1511.8
40°	1281.0	1340.3	1394.2	1445.4	1466.0	1485.8	1520.8	1554.1	1572.9	1579.2	1576.5
42.5°	1303.4	1372.6	1435.5	1496.6	1519.9	1545.1	1586.4	1625.0	1646.6	1653.8	1646.6
45°	1331.3	1413.0	1485.8	1556.7	1583.7	1614.2	1663.6	1707.7	1732.8	1739.1	1732.8
47.5°	1368.1	1460.6	1545.1	1626.8	1659.2	1695.1	1753.5	1803.8	1830.7	1837.9	1831.6
50°	1407.6	1518.1	1615.1	1708.6	1749.0	1786.7	1855.0	1910.7	1939.4	1952.9	1941.2
52.5°	1457.0	1581.0	1695.1	1799.3	1847.8	1892.7	1968.2	2029.3	2064.3	2076.0	2059.8
55°	1516.3	1656.5	1784.0	1904.4	1952.9	2003.2	2086.7	2151.4	2188.2	2200.8	2189.1
57.5°	1581.9	1736.4	1877.4	2004.1	2060.7	2111.9	2205.3	2272.7	2305.0	2321.2	2306.8
60°	1650.2	1819.0	1971.8	2106.5	2168.5	2221.5	2316.7	2383.2	2417.3	2433.5	2420.0
62.5°	1716.6	1899.0	2059.8	2199.9	2259.2	2317.6	2412.8	2476.6	2511.6	2526.0	2513.4
65°	1774.1	1966.4	2131.7	2276.3	2337.4	2394.9	2484.7	2545.8	2582.6	2592.5	2583.5
67.5°	1817.3	2012.2	2179.3	2322.1	2381.4	2438.9	2524.2	2580.8	2616.7	2625.7	2617.6
70°	1837.0	2030.1	2195.4	2334.7	2393.1	2444.3	2525.1	2579.0	2613.1	2618.5	2612.2
72.5°	1824.4	2012.2	2172.1	2305.0	2360.7	2405.6	2480.2	2531.4	2563.7	2568.2	2563.7
75°	1777.7	1957.4	2108.3	2232.3	2284.4	2322.1	2393.1	2440.7	2473.0	2476.6	2471.2
77.5°	1698.7	1865.8	2004.1	2123.6	2166.7	2203.5	2270.9	2313.1	2339.2	2344.6	2338.3
80°	1592.7	1746.3	1870.3	1977.1	2018.5	2049.9	2115.5	2161.3	2175.7	2182.9	2173.9
82.5°	1471.4	1608.8	1719.3	1816.4	1853.2	1891.8	1934.0	1976.3	1996.9	2003.2	1996.0
85°	1341.2	1463.3	1561.2	1648.4	1680.7	1715.7	1752.6	1793.9	1811.9	1818.2	1811.0
87.5°	1210.9	1318.7	1404.9	1482.2	1511.8	1543.3	1587.3	1608.8	1633.1	1640.3	1632.2
90°	1094.1	1191.1	1268.4	1338.5	1366.3	1395.1	1429.2	1456.1	1478.6	1484.9	1477.7
92.5°	999.8	1086.9	1157.9	1220.8	1245.0	1272.0	1305.2	1331.3	1351.0	1357.3	1350.1
95°	921.7	1001.6	1068.1	1126.5	1149.8	1175.0	1211.8	1232.5	1250.4	1255.8	1250.4
97.5°	855.2	930.6	993.5	1050.1	1072.6	1095.9	1131.9	1152.5	1169.6	1174.1	1169.6
100°	796.8	870.4	932.4	986.3	1008.8	1031.2	1066.3	1086.9	1103.1	1108.5	1103.1
102.5°	748.3	819.2	880.3	935.1	956.7	979.1	1012.4	1036.6	1049.2	1055.5	1050.1
105°	706.1	775.2	836.3	890.2	912.7	934.2	968.4	990.8	1005.2	1012.4	1006.1
107.5°	667.4	735.7	797.7	849.8	872.2	893.8	928.8	951.3	964.8	972.9	965.7
110°	630.6	698.0	757.3	811.2	833.6	856.1	891.1	913.6	927.0	934.2	927.9





TEST NUMBER: P201319

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	594.7	660.2	721.3	773.4	795.0	817.4	853.4	876.7	889.3	897.4	890.2
115°	558.7	623.4	682.7	733.0	754.6	777.9	813.0	837.2	850.7	857.0	849.8
117.5°	523.7	585.7	642.3	691.7	713.2	735.7	769.8	794.1	808.5	814.8	807.6
120°	487.8	547.1	602.8	647.7	670.1	690.8	725.8	749.2	763.6	769.8	762.7
122.5°	449.1	507.5	560.5	604.6	626.1	645.9	680.0	703.4	716.8	723.1	716.8
125°	409.6	464.4	515.6	559.6	577.6	596.5	629.7	652.2	666.5	671.9	666.5
127.5°	370.1	420.4	468.0	506.6	526.4	544.4	575.8	597.4	609.9	616.2	611.7
130°	330.6	378.2	421.3	456.3	473.4	490.5	519.2	539.0	551.6	556.9	552.5
132.5°	288.4	334.2	376.4	406.9	423.1	437.5	463.5	480.6	491.4	497.7	492.3
135°	250.6	288.4	327.9	359.3	375.5	388.1	411.4	425.8	435.7	441.1	435.7
137.5°	216.5	248.8	281.2	309.0	324.3	337.8	360.2	373.7	382.7	388.1	382.7
140°	185.0	212.9	241.6	264.1	277.6	288.4	309.0	320.7	328.8	333.3	327.9
142.5°	154.5	179.7	203.9	224.6	236.3	245.2	265.0	274.0	280.3	283.0	280.3
145°	128.5	149.1	169.8	188.6	197.6	204.8	224.6	234.5	239.8	242.5	239.8
147.5°	104.2	121.3	138.3	153.6	161.7	170.7	184.2	195.8	200.3	202.1	200.3
150°	81.7	97.0	110.5	123.1	129.4	135.6	147.3	159.0	163.5	166.2	163.5
152.5°	62.0	74.6	85.3	95.2	100.6	106.0	115.9	126.7	131.2	132.9	131.2
155°	44.9	53.9	63.8	71.0	75.5	79.1	86.2	93.4	100.6	100.6	100.6
157.5°	27.8	35.0	43.1	49.4	52.1	55.7	61.1	67.4	72.8	75.5	75.5
160°	14.4	18.9	24.3	28.7	31.4	34.1	37.7	43.1	46.7	49.4	47.6
162.5°	6.3	8.1	10.8	12.6	14.4	15.3	18.0	20.7	22.5	26.9	23.4
165°	1.8	1.8	2.7	3.6	3.6	3.6	4.5	5.4	6.3	9.9	7.2
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: P201319

CATALOG NUMBER: 4LBLELD4-10-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1
2.5°	1221.7	1224.4	1228.0	1229.8	1232.5	1234.3	1238.8	1244.1	1239.6	1233.4	1234.3
5°	1226.2	1225.3	1228.0	1229.8	1231.6	1232.5	1237.0	1242.3	1237.0	1230.7	1230.7
7.5°	1228.0	1227.1	1228.0	1228.9	1229.8	1229.8	1234.3	1238.8	1233.4	1225.3	1223.5
10°	1225.3	1224.4	1225.3	1227.1	1227.1	1227.1	1229.8	1233.4	1227.1	1217.2	1213.6
12.5°	1227.1	1224.4	1224.4	1225.3	1225.3	1223.5	1224.4	1227.1	1219.0	1208.2	1202.8
15°	1233.4	1228.9	1227.1	1227.1	1225.3	1220.8	1219.0	1219.0	1210.0	1195.6	1188.4
17.5°	1248.6	1241.4	1236.1	1233.4	1229.8	1221.7	1215.4	1211.8	1200.1	1184.0	1172.3
20°	1272.0	1262.1	1254.0	1248.6	1244.1	1229.8	1217.2	1207.3	1191.1	1171.4	1156.1
22.5°	1295.3	1284.6	1272.9	1267.5	1261.2	1245.0	1228.0	1210.9	1186.6	1159.7	1139.0
25°	1317.8	1307.0	1293.5	1288.2	1280.1	1261.2	1239.6	1219.9	1188.4	1151.6	1122.0
27.5°	1343.9	1330.4	1316.0	1307.9	1298.9	1277.4	1253.1	1228.9	1193.8	1151.6	1110.3
30°	1373.5	1357.3	1338.5	1329.5	1318.7	1293.5	1263.9	1235.2	1197.4	1151.6	1104.0
32.5°	1407.6	1388.8	1366.3	1353.7	1341.2	1311.5	1276.5	1243.2	1200.1	1150.7	1098.6
35°	1447.2	1425.6	1398.6	1384.3	1369.0	1334.0	1292.6	1252.2	1204.6	1149.8	1091.4
37.5°	1496.6	1471.4	1439.1	1421.1	1403.1	1361.8	1314.2	1265.7	1211.8	1150.7	1086.0
40°	1555.8	1526.2	1488.5	1466.0	1444.5	1396.9	1340.3	1282.8	1221.7	1152.5	1080.7
42.5°	1625.9	1590.0	1547.8	1521.7	1496.6	1437.3	1372.6	1304.3	1235.2	1156.1	1078.0
45°	1709.5	1671.7	1617.8	1585.5	1557.6	1488.5	1413.9	1333.1	1254.9	1165.1	1077.1
47.5°	1805.6	1758.0	1699.6	1661.8	1628.6	1548.7	1462.4	1369.0	1277.4	1176.8	1078.9
50°	1913.4	1859.5	1792.1	1752.6	1711.3	1619.6	1519.9	1411.2	1306.1	1193.8	1083.3
52.5°	2031.9	1972.7	1899.9	1853.2	1807.4	1701.4	1584.6	1465.1	1339.4	1215.4	1091.4
55°	2155.0	2091.2	2010.4	1959.2	1908.0	1791.2	1660.9	1523.5	1383.4	1242.3	1104.9
57.5°	2274.5	2208.9	2120.0	2067.9	2010.4	1886.4	1742.7	1587.3	1431.0	1273.8	1120.2
60°	2385.0	2319.4	2229.6	2176.6	2113.7	1980.7	1826.2	1657.4	1480.4	1307.0	1138.1
62.5°	2478.4	2415.5	2325.7	2271.8	2207.1	2069.7	1906.2	1725.6	1534.3	1342.1	1155.2
65°	2547.6	2488.3	2401.1	2345.5	2283.5	2140.6	1973.6	1785.8	1579.2	1372.6	1170.5
67.5°	2582.6	2526.9	2442.5	2389.5	2328.4	2186.5	2019.4	1826.2	1613.3	1394.2	1180.4
70°	2579.0	2526.0	2447.0	2394.9	2336.5	2199.9	2035.5	1842.4	1628.6	1402.2	1178.6
72.5°	2532.3	2479.3	2408.3	2358.0	2302.3	2174.8	2013.1	1828.0	1616.9	1389.7	1164.2
75°	2439.8	2391.3	2319.4	2278.1	2227.8	2109.2	1954.7	1775.0	1577.4	1356.4	1134.5
77.5°	2306.8	2270.0	2199.9	2161.3	2111.9	2002.3	1856.8	1695.1	1508.2	1300.7	1088.7
80°	2144.2	2113.7	2045.4	2011.3	1962.8	1867.6	1741.8	1585.5	1416.6	1225.3	1029.4
82.5°	1966.4	1931.3	1877.4	1846.0	1800.2	1714.8	1595.4	1467.8	1310.6	1139.0	960.3
85°	1782.2	1749.9	1700.5	1673.5	1633.1	1556.7	1449.8	1337.6	1198.3	1043.8	885.7
87.5°	1607.1	1575.6	1528.9	1504.6	1467.8	1399.5	1306.1	1207.3	1084.2	952.2	806.7
90°	1455.2	1425.6	1381.6	1359.1	1325.9	1263.9	1179.5	1090.5	981.8	860.6	735.7
92.5°	1330.4	1303.4	1262.1	1240.5	1210.9	1154.3	1078.0	997.1	899.2	794.1	678.2
95°	1231.6	1205.5	1168.7	1148.0	1120.2	1061.8	994.4	919.0	829.1	733.0	626.1
97.5°	1151.6	1130.1	1089.6	1069.9	1047.4	988.1	927.0	852.5	768.9	679.1	579.4
100°	1086.9	1062.7	1025.9	1007.0	983.6	927.9	866.0	795.9	715.0	629.7	537.2
102.5°	1036.6	1011.5	977.3	955.8	933.3	876.7	815.7	747.4	670.1	587.5	498.6
105°	991.7	967.5	933.3	911.8	889.3	833.6	775.2	706.1	629.7	549.8	463.5
107.5°	949.5	927.9	893.8	872.2	849.8	794.1	735.7	667.4	592.9	514.7	431.2
110°	913.6	890.2	854.3	833.6	809.4	756.4	698.0	631.5	556.9	480.6	400.6



TEST NUMBER: P201319

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	877.6	852.5	816.6	795.9	771.6	718.6	661.1	595.6	522.8	449.1	371.9
115°	838.1	813.9	776.1	755.5	731.2	679.1	623.4	559.6	489.6	417.7	343.1
117.5°	795.9	771.6	733.9	714.1	690.8	639.6	586.6	524.6	456.3	387.2	314.4
120°	750.1	726.7	690.8	671.0	648.6	599.2	548.0	486.0	421.3	354.8	287.5
122.5°	703.4	680.9	645.9	626.1	604.6	557.8	507.5	447.4	385.4	323.4	261.4
125°	653.1	630.6	597.4	578.5	556.9	512.0	463.5	406.9	349.4	293.7	234.5
127.5°	594.7	576.7	544.4	525.5	505.7	466.2	419.5	368.3	315.3	261.4	208.4
130°	539.0	520.1	489.6	472.5	455.4	419.5	378.2	328.8	276.7	230.0	182.4
132.5°	480.6	463.5	437.5	423.1	407.8	375.5	333.3	284.8	240.7	200.3	158.1
135°	425.8	411.4	388.1	375.5	360.2	326.1	286.6	246.1	209.3	173.4	135.6
137.5°	374.6	360.2	338.7	325.2	309.0	278.5	246.1	212.9	178.8	148.2	115.0
140°	320.7	309.0	289.3	277.6	263.2	237.2	210.2	178.8	151.8	124.0	95.2
142.5°	274.9	265.0	245.2	234.5	221.9	200.3	175.2	150.9	126.7	102.4	78.2
145°	235.4	225.5	203.9	195.8	184.2	165.3	144.6	123.1	103.3	82.6	62.9
147.5°	196.7	185.0	166.2	159.0	150.0	133.8	117.7	100.6	83.5	65.6	48.5
150°	160.8	147.3	132.0	127.6	118.6	106.0	92.5	78.2	64.7	50.3	35.0
152.5°	126.7	115.0	102.4	97.9	90.7	82.6	71.0	59.3	48.5	35.0	24.3
155°	94.3	85.3	75.5	72.8	67.4	61.1	51.2	42.2	32.3	23.4	17.1
157.5°	66.5	59.3	52.1	50.3	46.7	41.3	33.2	26.1	20.7	15.3	11.7
160°	41.3	36.8	31.4	29.6	26.9	23.4	18.0	15.3	12.6	9.9	7.2
162.5°	19.8	17.1	15.3	14.4	12.6	10.8	9.9	8.1	7.2	6.3	5.4
165°	7.2	7.2	7.2	6.3	6.3	6.3	6.3	5.4	4.5	4.5	3.6
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: P201319

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1	1236.1
2.5°	1235.2	1237.0	1237.0	1237.9	1240.5	1245.9	1253.1	1254.0
5°	1231.6	1232.5	1232.5	1232.5	1235.2	1239.6	1246.8	1247.7
7.5°	1223.5	1223.5	1223.5	1223.5	1226.2	1229.8	1236.1	1237.0
10°	1212.7	1211.8	1211.8	1210.9	1212.7	1215.4	1222.6	1221.7
12.5°	1199.2	1197.4	1196.5	1196.5	1195.6	1198.3	1202.8	1203.7
15°	1184.0	1180.4	1178.6	1176.8	1175.9	1175.9	1181.3	1180.4
17.5°	1166.0	1160.6	1157.9	1155.2	1151.6	1151.6	1155.2	1154.3
20°	1145.3	1138.1	1133.6	1130.1	1124.7	1122.9	1124.7	1123.8
22.5°	1124.7	1113.0	1108.5	1103.1	1095.0	1091.4	1090.5	1089.6
25°	1100.4	1086.0	1079.8	1074.4	1062.7	1058.2	1053.7	1051.9
27.5°	1078.9	1058.2	1050.1	1041.1	1027.7	1021.4	1014.2	1012.4
30°	1060.0	1029.4	1016.9	1007.9	990.8	980.9	972.0	970.2
32.5°	1045.6	1003.4	986.3	975.5	952.2	938.7	927.0	921.7
35°	1033.0	979.1	956.7	939.6	911.8	895.6	879.4	874.9
37.5°	1021.4	958.5	928.8	905.5	874.0	850.7	832.7	825.5
40°	1009.7	939.6	903.7	874.0	832.7	805.8	783.3	774.3
42.5°	998.9	920.8	882.1	846.2	792.3	760.0	735.7	723.1
45°	989.0	903.7	861.5	821.9	752.8	715.0	685.4	673.7
47.5°	981.8	887.5	840.8	797.7	715.9	669.2	638.7	623.4
50°	976.4	872.2	821.0	773.4	683.6	625.2	591.1	573.1
52.5°	973.8	858.8	803.1	751.9	654.0	583.0	542.6	529.1
55°	974.7	848.0	787.8	732.1	626.1	542.6	497.7	477.0
57.5°	976.4	838.1	772.5	712.3	598.3	503.0	452.7	431.2
60°	980.0	830.0	759.1	693.5	572.2	468.9	411.4	390.8
62.5°	983.6	822.8	745.6	675.5	547.1	437.5	370.1	346.7
65°	984.5	812.1	731.2	657.6	521.9	406.0	327.9	305.4
67.5°	980.9	798.6	713.2	636.9	495.9	375.5	288.4	265.0
70°	970.2	780.6	692.6	613.5	467.1	345.8	250.6	225.5
72.5°	950.4	757.3	668.3	587.5	439.3	314.4	216.5	185.9
75°	922.6	728.5	639.6	557.8	409.6	284.8	185.0	150.9
77.5°	884.8	691.7	605.5	524.6	377.3	254.2	158.1	118.6
80°	836.3	653.1	567.7	488.7	345.8	226.4	132.0	88.0
82.5°	778.8	609.0	527.3	451.8	316.2	197.6	107.8	61.1
85°	719.5	561.4	485.1	413.2	284.8	170.7	87.1	35.9
87.5°	661.1	513.8	444.7	378.2	252.4	146.4	67.4	14.4
90°	603.7	468.0	402.4	340.5	224.6	124.0	50.3	0.0
92.5°	556.0	433.9	374.6	315.3	206.6	112.3	43.1	0.0
95°	513.8	401.5	344.9	290.1	187.7	101.5	35.9	0.0
97.5°	475.2	371.0	318.9	266.8	170.7	89.8	29.6	0.0
100°	438.4	340.5	291.9	245.2	154.5	79.9	22.5	0.0
102.5°	406.0	313.5	267.7	221.9	138.3	70.1	16.2	0.0
105°	374.6	287.5	245.2	201.2	124.0	61.1	9.9	0.0
107.5°	346.7	263.2	222.8	182.4	110.5	53.0	6.3	0.0
110°	319.8	240.7	201.2	164.4	98.8	45.8	5.4	0.0



TEST NUMBER: P201319

CATALOG NUMBER: 4LBLED-LD4-10-SYMF-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	294.6	219.2	182.4	147.3	88.9	38.6	5.4	0.0
115°	268.6	198.5	164.4	132.9	79.1	31.4	4.5	0.0
117.5°	246.1	178.8	148.2	121.3	69.2	25.2	4.5	0.0
120°	223.7	161.7	134.7	108.7	60.2	18.9	4.5	0.0
122.5°	201.2	146.4	120.4	97.0	52.1	15.3	3.6	0.0
125°	180.6	130.3	106.9	84.4	43.1	13.5	3.6	0.0
127.5°	159.9	114.1	92.5	72.8	34.1	11.7	2.7	0.0
130°	139.2	97.9	79.1	61.1	26.1	9.9	2.7	0.0
132.5°	120.4	82.6	66.5	50.3	20.7	8.1	1.8	0.0
135°	101.5	69.2	54.8	39.5	16.2	7.2	1.8	0.0
137.5°	85.3	56.6	43.1	29.6	13.5	5.4	1.8	0.0
140°	70.1	44.9	32.3	22.5	10.8	4.5	0.9	0.0
142.5°	55.7	33.2	24.3	17.1	9.0	3.6	0.9	0.0
145°	43.1	24.3	18.0	13.5	8.1	2.7	0.9	0.0
147.5°	31.4	18.9	14.4	11.7	6.3	2.7	0.9	0.0
150°	22.5	14.4	11.7	9.0	4.5	1.8	0.9	0.0
152.5°	17.1	10.8	9.0	7.2	3.6	1.8	0.9	0.0
155°	12.6	8.1	7.2	5.4	2.7	1.8	0.9	0.0
157.5°	9.0	6.3	5.4	3.6	2.7	1.8	0.9	0.0
160°	5.4	4.5	3.6	2.7	1.8	0.9	0.9	0.0
162.5°	4.5	2.7	2.7	2.7	1.8	0.9	0.9	0.0
165°	2.7	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)