

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: P201318

Luminaire Tested: **4LBLED-LD4-9-SYMF-UNV-L835-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201318
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-LD4-9-SYMF-UNV-L835-CD1-U
Description: 4 ft. Low Bay Linear, 9000 lm, Frst Sym lens, 3.5K
Light Source: (392) 3500K CCT, 80 CRI LEDS
2UT217098A8354C
Ballast/Driver: OSRAM
(OTi85W01480CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9515.6 lumens
Efficiency: N/A
Efficacy: 142.9 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

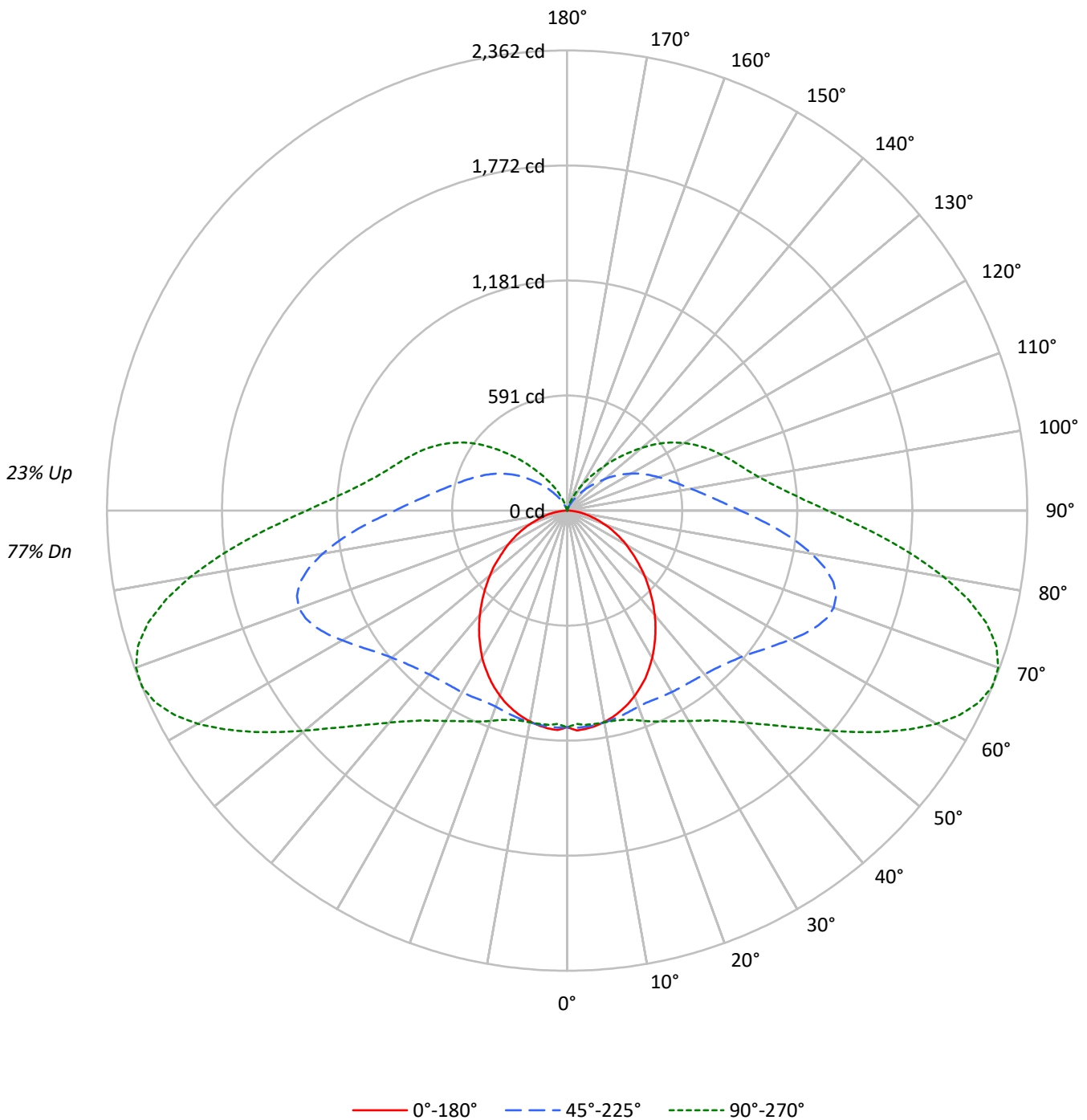
Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	50	30	10	0
RCR																					
0	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77			77
1	98	91	84	78	92	86	80	75	77	73	68	69	65	62	62	59	56	52			52
2	86	75	66	59	81	71	63	56	64	57	51	57	51	47	50	46	42	38			38
3	77	64	54	46	72	61	51	44	54	46	40	48	42	37	43	37	33	29			29
4	70	55	45	37	65	52	43	36	47	39	32	42	35	30	37	31	27	23			23
5	63	49	38	31	59	46	37	29	41	33	27	37	30	25	32	27	22	19			19
6	58	43	33	26	55	41	32	25	37	29	23	33	26	21	29	23	19	16			16
7	54	39	29	22	50	37	28	21	33	25	20	30	23	18	26	21	16	14			14
8	50	35	26	19	47	33	25	19	30	22	17	27	20	16	24	18	14	12			12
9	46	32	23	17	44	30	22	16	27	20	15	25	18	14	22	17	13	10			10
10	43	29	21	15	41	28	20	15	25	18	14	23	17	12	20	15	11	9			9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17914	17914	17914
5°	18108	16097	18070
10°	17854	14806	17815
15°	17493	13905	17466
20°	17036	13556	17009
25°	16492	13421	16423
30°	15777	13492	15763
35°	14966	13820	14935
40°	14103	14608	14036
45°	13162	15873	13125
50°	12206	17723	12169
55°	11240	20012	11219
60°	10365	22341	10389
65°	9396	24218	9423
70°	8360	25092	8360
75°	7117	24551	7075
80°	5733	22592	5676
85°	3931	19842	3746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	1.1
10°-20°	307.0	3.2
20°-30°	493.4	5.2
30°-40°	668.1	7.0
40°-50°	858.3	9.0
50°-60°	1104.3	11.6
60°-70°	1351.0	14.2
70°-80°	1365.8	14.4
80°-90°	1056.2	11.1
90°-100°	733.8	7.7
100°-110°	548.1	5.8
110°-120°	410.8	4.3
120°-130°	276.6	2.9
130°-140°	151.7	1.6
140°-150°	64.7	0.7
150°-160°	18.5	0.2
160°-170°	1.6	0.0
170°-180°	0.0	0.0
0°-30°	906.0	9.5
0°-40°	1574.1	16.5
0°-60°	3536.7	37.2
0°-90°	7309.8	76.8
90°-120°	1692.7	17.8
90°-150°	2185.7	23.0
90°-180°	2206.0	23.2
0°-180°	9515.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1112	1112	1112	1112	1112	
5°	1125	1114	1104	1112	1122	107
15°	1063	1088	1112	1088	1062	300
25°	950	1068	1193	1069	946	436
35°	788	1083	1315	1083	787	493
45°	608	1124	1564	1129	606	469
55°	430	1238	1979	1244	429	385
65°	274	1411	2332	1420	275	272
75°	136	1414	2227	1419	136	146
85°	34	1081	1635	1078	32	37
90°	1	888	1336	883	0	2
95°	1	749	1130	746	0	1
105°	1	566	910	566	0	1
115°	1	440	771	440	0	1
125°	1	316	604	314	0	1
135°	2	191	397	188	0	1
145°	2	97	218	93	0	1
155°	2	31	90	29	0	1
165°	2	2	9	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°	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7
2.5°	1129.5	1128.7	1123.8	1116.5	1113.3	1112.5	1111.7	1108.5	1107.7	1109.3	1115.7
5°	1124.6	1123.8	1119.0	1111.7	1109.3	1108.5	1107.7	1105.2	1105.2	1107.7	1114.1
7.5°	1114.9	1114.1	1109.3	1103.6	1101.2	1100.4	1100.4	1098.8	1098.8	1102.8	1110.1
10°	1101.2	1100.4	1096.3	1091.5	1089.9	1089.9	1089.9	1089.1	1090.7	1095.5	1103.6
12.5°	1085.0	1083.4	1080.2	1076.1	1076.1	1076.1	1077.0	1077.0	1079.4	1087.5	1097.2
15°	1063.2	1064.0	1060.8	1057.6	1059.2	1060.0	1061.6	1063.2	1067.3	1077.0	1088.3
17.5°	1040.6	1040.6	1038.2	1036.6	1039.8	1041.4	1043.8	1046.3	1053.5	1065.6	1078.6
20°	1012.3	1013.1	1012.3	1013.1	1017.2	1019.6	1022.8	1028.5	1038.2	1055.1	1070.5
22.5°	981.6	983.2	983.2	986.5	992.9	997.0	1001.0	1009.1	1022.8	1044.6	1066.5
25°	950.1	949.3	953.3	959.0	965.5	971.1	976.0	988.1	1008.3	1037.4	1068.1
27.5°	912.1	913.8	919.4	927.5	937.2	944.5	951.7	968.7	997.8	1036.6	1072.1
30°	873.4	875.8	883.1	894.4	908.1	917.8	925.9	952.5	992.1	1036.6	1075.3
32.5°	831.3	835.4	845.1	859.6	879.0	890.3	903.3	938.8	987.3	1034.9	1078.6
35°	788.5	793.4	806.3	824.1	846.7	860.4	880.6	928.3	980.8	1033.3	1082.6
37.5°	744.9	750.6	765.1	787.7	816.8	837.8	862.0	917.0	976.0	1033.3	1088.3
40°	699.7	706.1	724.7	750.6	787.7	815.2	844.3	905.7	971.1	1034.1	1097.2
42.5°	653.6	660.9	683.5	714.2	762.7	795.0	827.3	896.0	967.9	1038.2	1108.5
45°	607.6	617.3	642.3	679.5	740.1	774.0	811.2	887.1	966.3	1045.4	1123.8
47.5°	561.5	572.8	601.9	646.3	716.6	757.0	795.8	879.8	967.9	1055.1	1144.0
50°	517.1	530.0	562.3	616.4	694.8	738.4	781.3	875.0	971.1	1069.7	1168.3
52.5°	471.8	488.8	524.3	589.8	675.4	721.5	769.1	871.7	977.6	1089.1	1199.8
55°	429.8	447.6	488.8	563.9	656.8	706.9	757.8	870.9	988.9	1112.5	1238.5
57.5°	387.0	408.8	454.1	538.9	637.4	692.4	748.9	872.6	1002.6	1137.5	1278.1
60°	350.6	370.0	422.5	514.6	620.5	678.7	740.9	874.2	1017.2	1166.6	1324.2
62.5°	311.9	332.9	395.1	491.2	603.5	666.5	732.8	876.6	1032.5	1196.5	1371.0
65°	273.9	295.7	367.6	468.6	586.5	653.6	723.1	876.6	1044.6	1224.0	1411.4
67.5°	237.5	261.0	340.1	444.4	567.2	637.4	711.0	872.6	1051.9	1243.4	1442.9
70°	202.8	228.6	313.5	418.5	546.2	618.1	694.0	863.7	1051.1	1250.7	1456.7
72.5°	168.0	197.9	284.4	392.6	523.5	596.2	673.8	846.7	1039.8	1241.8	1447.8
75°	136.5	168.9	258.5	366.8	497.7	570.4	648.8	820.8	1014.7	1214.3	1413.9
77.5°	107.5	143.0	231.1	338.5	468.6	540.5	617.3	787.7	975.2	1165.8	1354.1
80°	80.0	119.6	205.2	310.2	437.1	507.4	581.7	745.7	923.5	1100.4	1274.1
82.5°	55.7	97.8	180.2	282.0	404.8	471.8	542.9	695.6	863.7	1024.4	1182.0
85°	33.9	78.4	155.1	254.5	371.6	434.7	501.7	643.1	798.2	942.0	1081.0
87.5°	14.5	60.6	133.3	227.8	338.5	398.3	459.7	593.0	728.7	856.4	980.0
90°	0.8	45.2	113.9	202.8	307.0	362.8	420.1	539.7	664.9	778.0	887.9
92.5°	0.0	38.8	102.6	187.4	285.2	336.9	390.2	500.1	613.2	714.2	812.0
95°	0.8	32.3	92.9	170.5	263.4	312.7	361.9	464.6	566.4	659.3	748.9
97.5°	0.8	26.7	82.4	155.1	243.2	288.4	334.5	429.8	521.9	610.0	693.2
100°	0.8	21.0	72.7	140.6	222.2	264.2	307.8	397.5	483.9	566.4	644.7
102.5°	0.8	15.4	64.6	126.8	202.8	242.4	282.8	367.6	449.2	528.4	602.7
105°	0.8	10.5	56.6	113.9	185.0	222.2	260.1	340.1	417.7	493.6	566.4
107.5°	0.8	7.3	49.3	101.8	165.6	202.8	238.3	314.3	388.6	462.1	533.2
110°	0.8	6.5	42.8	91.3	150.3	184.2	218.1	290.0	361.1	431.4	500.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	5.7	36.4	81.6	134.9	165.6	198.7	266.6	336.1	404.0	470.2
115°	0.8	5.7	29.9	72.7	122.0	149.5	180.2	244.0	310.2	375.7	440.3
117.5°	0.8	5.7	24.2	64.6	109.9	134.9	161.6	223.0	284.4	348.2	411.2
120°	0.8	4.8	19.4	56.6	99.4	122.0	147.0	202.8	259.3	319.1	379.7
122.5°	0.8	4.8	16.2	49.3	88.9	109.9	132.5	181.8	235.9	290.9	347.4
125°	0.8	4.0	13.7	41.2	78.4	98.6	118.8	163.2	213.3	264.2	315.9
127.5°	1.6	4.0	11.3	33.9	67.9	85.6	105.0	145.4	189.1	235.1	284.4
130°	1.6	4.0	9.7	25.9	57.4	73.5	90.5	127.7	168.0	207.6	250.5
132.5°	1.6	3.2	8.9	20.2	47.7	62.2	77.6	110.7	146.2	181.8	218.9
135°	1.6	3.2	7.3	16.2	38.0	50.9	65.4	94.5	126.0	159.2	190.7
137.5°	1.6	2.4	6.5	12.9	29.1	41.2	54.1	80.0	107.5	135.7	164.8
140°	1.6	2.4	5.7	10.5	21.8	30.7	42.8	65.4	89.7	114.7	139.8
142.5°	1.6	2.4	4.8	8.9	17.0	23.4	32.3	53.3	74.3	95.3	117.1
145°	1.6	2.4	4.0	7.3	12.9	17.8	23.4	41.2	59.8	78.4	97.0
147.5°	1.6	2.4	4.0	6.5	10.5	13.7	17.8	29.9	46.9	62.2	78.4
150°	1.6	2.4	3.2	5.7	8.9	10.5	12.9	21.0	33.9	47.7	61.4
152.5°	1.6	1.6	3.2	4.8	6.5	8.1	9.7	15.4	23.4	33.9	46.1
155°	1.6	1.6	2.4	4.0	5.7	6.5	7.3	10.5	15.4	21.8	30.7
157.5°	1.6	1.6	2.4	3.2	4.0	4.8	5.7	7.3	10.5	13.7	18.6
160°	1.6	1.6	2.4	3.2	3.2	4.0	4.0	4.8	6.5	8.1	10.5
162.5°	1.6	1.6	2.4	2.4	2.4	3.2	3.2	3.2	4.0	4.0	4.8
165°	1.6	1.6	1.6	2.4	1.6	2.4	1.6	2.4	2.4	1.6	1.6
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7
2.5°	1118.2	1112.5	1110.1	1106.8	1104.4	1102.8	1100.4	1098.8	1096.3	1096.3	1097.2
5°	1116.5	1110.9	1109.3	1106.0	1104.4	1103.6	1102.0	1102.8	1102.8	1103.6	1102.8
7.5°	1113.3	1108.5	1106.8	1105.2	1103.6	1102.8	1102.0	1103.6	1103.6	1104.4	1104.4
10°	1107.7	1104.4	1104.4	1102.8	1102.0	1101.2	1099.6	1102.0	1102.0	1103.6	1102.8
12.5°	1101.2	1100.4	1101.2	1102.0	1102.0	1101.2	1100.4	1103.6	1105.2	1105.2	1106.0
15°	1093.9	1095.5	1099.6	1102.0	1103.6	1103.6	1105.2	1108.5	1110.9	1111.7	1111.7
17.5°	1088.3	1092.3	1099.6	1106.0	1109.3	1110.9	1114.9	1121.4	1125.4	1126.2	1126.2
20°	1084.2	1093.9	1106.8	1119.0	1123.0	1126.2	1134.3	1142.4	1148.1	1148.9	1148.9
22.5°	1087.5	1103.6	1121.4	1135.1	1140.8	1144.8	1153.7	1164.2	1170.7	1171.5	1171.5
25°	1095.5	1114.9	1135.1	1152.1	1158.6	1163.4	1173.1	1184.4	1190.9	1193.3	1192.5
27.5°	1102.8	1126.2	1149.7	1169.1	1176.3	1182.8	1194.9	1207.8	1215.9	1218.3	1216.7
30°	1109.3	1136.7	1163.4	1186.8	1196.5	1203.8	1218.3	1233.7	1244.2	1246.6	1244.2
32.5°	1115.7	1148.9	1180.4	1207.8	1217.5	1228.0	1246.6	1264.4	1274.9	1278.1	1276.5
35°	1124.6	1163.4	1200.6	1232.1	1245.0	1257.1	1278.9	1299.9	1312.9	1315.3	1312.9
37.5°	1136.7	1182.0	1223.2	1262.8	1276.5	1293.5	1319.3	1344.4	1359.7	1363.0	1359.7
40°	1152.1	1205.4	1253.9	1299.9	1318.5	1336.3	1367.8	1397.7	1414.7	1420.3	1417.9
42.5°	1172.3	1234.5	1291.1	1346.0	1367.0	1389.6	1426.8	1461.5	1480.9	1487.4	1480.9
45°	1197.3	1270.9	1336.3	1400.1	1424.4	1451.8	1496.3	1535.9	1558.5	1564.1	1558.5
47.5°	1230.5	1313.7	1389.6	1463.1	1492.2	1524.5	1577.1	1622.3	1646.5	1653.0	1647.3
50°	1266.0	1365.4	1452.6	1536.7	1573.0	1607.0	1668.4	1718.4	1744.3	1756.4	1745.9
52.5°	1310.4	1421.9	1524.5	1618.3	1661.9	1702.3	1770.2	1825.1	1856.6	1867.1	1852.6
55°	1363.8	1489.8	1604.5	1712.8	1756.4	1801.7	1876.8	1935.0	1968.1	1979.4	1968.9
57.5°	1422.7	1561.7	1688.6	1802.5	1853.4	1899.4	1983.4	2044.0	2073.1	2087.7	2074.7
60°	1484.1	1636.0	1773.4	1894.6	1950.3	1998.0	2083.6	2143.4	2174.1	2188.7	2176.5
62.5°	1543.9	1707.9	1852.6	1978.6	2031.9	2084.4	2170.1	2227.4	2258.9	2271.9	2260.6
65°	1595.6	1768.5	1917.2	2047.3	2102.2	2153.9	2234.7	2289.6	2322.8	2331.7	2323.6
67.5°	1634.4	1809.7	1960.0	2088.5	2141.8	2193.5	2270.3	2321.2	2353.5	2361.5	2354.3
70°	1652.2	1825.9	1974.6	2099.8	2152.3	2198.3	2271.1	2319.5	2350.2	2355.1	2349.4
72.5°	1640.9	1809.7	1953.5	2073.1	2123.2	2163.6	2230.7	2276.7	2305.8	2309.8	2305.8
75°	1598.9	1760.5	1896.2	2007.7	2054.5	2088.5	2152.3	2195.1	2224.2	2227.4	2222.6
77.5°	1527.8	1678.0	1802.5	1909.9	1948.7	1981.8	2042.4	2080.4	2103.8	2108.7	2103.0
80°	1432.4	1570.6	1682.1	1778.2	1815.4	1843.7	1902.6	1943.9	1956.8	1963.2	1955.2
82.5°	1323.4	1447.0	1546.4	1633.6	1666.7	1701.5	1739.4	1777.4	1796.0	1801.7	1795.2
85°	1206.2	1316.1	1404.2	1482.5	1511.6	1543.1	1576.2	1613.4	1629.6	1635.2	1628.8
87.5°	1089.1	1186.0	1263.6	1333.1	1359.7	1388.0	1427.6	1447.0	1468.8	1475.3	1468.0
90°	984.0	1071.3	1140.8	1203.8	1228.8	1254.7	1285.4	1309.6	1329.8	1335.5	1329.0
92.5°	899.2	977.6	1041.4	1098.0	1119.8	1144.0	1173.9	1197.3	1215.1	1220.8	1214.3
95°	828.9	900.8	960.6	1013.1	1034.1	1056.8	1089.9	1108.5	1124.6	1129.5	1124.6
97.5°	769.1	837.0	893.6	944.5	964.7	985.7	1018.0	1036.6	1051.9	1055.9	1051.9
100°	716.6	782.9	838.6	887.1	907.3	927.5	959.0	977.6	992.1	997.0	992.1
102.5°	673.0	736.8	791.8	841.0	860.4	880.6	910.5	932.3	943.6	949.3	944.5
105°	635.0	697.2	752.2	800.6	820.8	840.2	870.9	891.1	904.1	910.5	904.9
107.5°	600.3	661.7	717.4	764.3	784.5	803.9	835.4	855.6	867.7	875.0	868.5
110°	567.2	627.8	681.1	729.6	749.7	769.9	801.5	821.7	833.8	840.2	834.6



TEST NUMBER: P201318

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	534.8	593.8	648.8	695.6	715.0	735.2	767.5	788.5	799.8	807.1	800.6
115°	502.5	560.7	614.0	659.3	678.7	699.7	731.2	753.0	765.1	770.8	764.3
117.5°	471.0	526.8	577.7	622.1	641.5	661.7	692.4	714.2	727.1	732.8	726.3
120°	438.7	492.0	542.1	582.5	602.7	621.3	652.8	673.8	686.7	692.4	685.9
122.5°	404.0	456.5	504.1	543.7	563.1	580.9	611.6	632.6	644.7	650.4	644.7
125°	368.4	417.7	463.7	503.3	519.5	536.5	566.4	586.5	599.5	604.3	599.5
127.5°	332.9	378.1	420.9	455.7	473.4	489.6	517.9	537.3	548.6	554.2	550.2
130°	297.3	340.1	378.9	410.4	425.8	441.1	467.0	484.8	496.1	500.9	496.9
132.5°	259.3	300.5	338.5	366.0	380.5	393.5	416.9	432.2	441.9	447.6	442.7
135°	225.4	259.3	294.9	323.2	337.7	349.0	370.0	383.0	391.8	396.7	391.8
137.5°	194.7	223.8	252.9	277.9	291.7	303.8	324.0	336.1	344.2	349.0	344.2
140°	166.4	191.5	217.3	237.5	249.6	259.3	277.9	288.4	295.7	299.7	294.9
142.5°	139.0	161.6	183.4	202.0	212.5	220.6	238.3	246.4	252.1	254.5	252.1
145°	115.5	134.1	152.7	169.7	177.7	184.2	202.0	210.9	215.7	218.1	215.7
147.5°	93.7	109.1	124.4	138.2	145.4	153.5	165.6	176.1	180.2	181.8	180.2
150°	73.5	87.3	99.4	110.7	116.3	122.0	132.5	143.0	147.0	149.5	147.0
152.5°	55.7	67.1	76.8	85.6	90.5	95.3	104.2	113.9	118.0	119.6	118.0
155°	40.4	48.5	57.4	63.8	67.9	71.1	77.6	84.0	90.5	90.5	90.5
157.5°	25.0	31.5	38.8	44.4	46.9	50.1	54.9	60.6	65.4	67.9	67.9
160°	12.9	17.0	21.8	25.9	28.3	30.7	33.9	38.8	42.0	44.4	42.8
162.5°	5.7	7.3	9.7	11.3	12.9	13.7	16.2	18.6	20.2	24.2	21.0
165°	1.6	1.6	2.4	3.2	3.2	3.2	4.0	4.8	5.7	8.9	6.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201318

CATALOG NUMBER: 4LBLEDD4-9-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7
2.5°	1098.8	1101.2	1104.4	1106.0	1108.5	1110.1	1114.1	1119.0	1114.9	1109.3	1110.1
5°	1102.8	1102.0	1104.4	1106.0	1107.7	1108.5	1112.5	1117.4	1112.5	1106.8	1106.8
7.5°	1104.4	1103.6	1104.4	1105.2	1106.0	1106.0	1110.1	1114.1	1109.3	1102.0	1100.4
10°	1102.0	1101.2	1102.0	1103.6	1103.6	1103.6	1106.0	1109.3	1103.6	1094.7	1091.5
12.5°	1103.6	1101.2	1101.2	1102.0	1102.0	1100.4	1101.2	1103.6	1096.3	1086.7	1081.8
15°	1109.3	1105.2	1103.6	1103.6	1102.0	1098.0	1096.3	1096.3	1088.3	1075.3	1068.9
17.5°	1123.0	1116.5	1111.7	1109.3	1106.0	1098.8	1093.1	1089.9	1079.4	1064.8	1054.3
20°	1144.0	1135.1	1127.9	1123.0	1119.0	1106.0	1094.7	1085.8	1071.3	1053.5	1039.8
22.5°	1165.0	1155.3	1144.8	1140.0	1134.3	1119.8	1104.4	1089.1	1067.3	1043.0	1024.4
25°	1185.2	1175.5	1163.4	1158.6	1151.3	1134.3	1114.9	1097.2	1068.9	1035.8	1009.1
27.5°	1208.6	1196.5	1183.6	1176.3	1168.3	1148.9	1127.0	1105.2	1073.7	1035.8	998.6
30°	1235.3	1220.8	1203.8	1195.7	1186.0	1163.4	1136.7	1110.9	1077.0	1035.8	992.9
32.5°	1266.0	1249.0	1228.8	1217.5	1206.2	1179.6	1148.1	1118.2	1079.4	1034.9	988.1
35°	1301.6	1282.2	1257.9	1245.0	1231.3	1199.8	1162.6	1126.2	1083.4	1034.1	981.6
37.5°	1346.0	1323.4	1294.3	1278.1	1262.0	1224.8	1182.0	1138.4	1089.9	1034.9	976.8
40°	1399.3	1372.7	1338.7	1318.5	1299.1	1256.3	1205.4	1153.7	1098.8	1036.6	971.9
42.5°	1462.3	1430.0	1392.0	1368.6	1346.0	1292.7	1234.5	1173.1	1110.9	1039.8	969.5
45°	1537.5	1503.5	1455.1	1426.0	1400.9	1338.7	1271.7	1199.0	1128.7	1047.9	968.7
47.5°	1623.9	1581.1	1528.6	1494.6	1464.8	1392.9	1315.3	1231.3	1148.9	1058.4	970.3
50°	1720.9	1672.4	1611.8	1576.2	1539.1	1456.7	1367.0	1269.2	1174.7	1073.7	974.4
52.5°	1827.5	1774.2	1708.7	1666.7	1625.5	1530.2	1425.2	1317.7	1204.6	1093.1	981.6
55°	1938.2	1880.8	1808.1	1762.1	1716.0	1611.0	1493.8	1370.2	1244.2	1117.4	993.7
57.5°	2045.7	1986.7	1906.7	1859.8	1808.1	1696.6	1567.4	1427.6	1287.0	1145.6	1007.5
60°	2145.0	2086.0	2005.3	1957.6	1901.0	1781.5	1642.5	1490.6	1331.5	1175.5	1023.6
62.5°	2229.0	2172.5	2091.7	2043.2	1985.1	1861.4	1714.4	1552.0	1379.9	1207.0	1039.0
65°	2291.3	2237.9	2159.6	2109.5	2053.7	1925.3	1775.0	1606.1	1420.3	1234.5	1052.7
67.5°	2322.8	2272.7	2196.7	2149.1	2094.1	1966.5	1816.2	1642.5	1451.0	1253.9	1061.6
70°	2319.5	2271.9	2200.8	2153.9	2101.4	1978.6	1830.7	1657.0	1464.8	1261.2	1060.0
72.5°	2277.5	2229.9	2166.0	2120.8	2070.7	1956.0	1810.5	1644.1	1454.3	1249.9	1047.1
75°	2194.3	2150.7	2086.0	2048.9	2003.6	1897.0	1758.0	1596.4	1418.7	1220.0	1020.4
77.5°	2074.7	2041.6	1978.6	1943.9	1899.4	1800.9	1670.0	1524.5	1356.5	1169.9	979.2
80°	1928.5	1901.0	1839.6	1808.9	1765.3	1679.7	1566.6	1426.0	1274.1	1102.0	925.9
82.5°	1768.5	1737.0	1688.6	1660.3	1619.1	1542.3	1434.9	1320.1	1178.8	1024.4	863.7
85°	1602.9	1573.8	1529.4	1505.2	1468.8	1400.1	1304.0	1203.0	1077.8	938.8	796.6
87.5°	1445.4	1417.1	1375.1	1353.3	1320.1	1258.7	1174.7	1085.8	975.2	856.4	725.5
90°	1308.8	1282.2	1242.6	1222.4	1192.5	1136.7	1060.8	980.8	883.1	774.0	661.7
92.5°	1196.5	1172.3	1135.1	1115.7	1089.1	1038.2	969.5	896.8	808.7	714.2	610.0
95°	1107.7	1084.2	1051.1	1032.5	1007.5	955.0	894.4	826.5	745.7	659.3	563.1
97.5°	1035.8	1016.4	980.0	962.2	942.0	888.7	833.8	766.7	691.6	610.8	521.1
100°	977.6	955.8	922.6	905.7	884.7	834.6	778.8	715.8	643.1	566.4	483.1
102.5°	932.3	909.7	879.0	859.6	839.4	788.5	733.6	672.2	602.7	528.4	448.4
105°	891.9	870.1	839.4	820.0	799.8	749.7	697.2	635.0	566.4	494.4	416.9
107.5°	854.0	834.6	803.9	784.5	764.3	714.2	661.7	600.3	533.2	462.9	387.8
110°	821.7	800.6	768.3	749.7	727.9	680.3	627.8	568.0	500.9	432.2	360.3



TEST NUMBER: P201318

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	789.3	766.7	734.4	715.8	694.0	646.3	594.6	535.7	470.2	404.0	334.5
115°	753.8	732.0	698.0	679.5	657.6	610.8	560.7	503.3	440.3	375.7	308.6
117.5°	715.8	694.0	660.1	642.3	621.3	575.2	527.6	471.8	410.4	348.2	282.8
120°	674.6	653.6	621.3	603.5	583.3	538.9	492.8	437.1	378.9	319.1	258.5
122.5°	632.6	612.4	580.9	563.1	543.7	501.7	456.5	402.3	346.6	290.9	235.1
125°	587.4	567.2	537.3	520.3	500.9	460.5	416.9	366.0	314.3	264.2	210.9
127.5°	534.8	518.7	489.6	472.6	454.9	419.3	377.3	331.2	283.6	235.1	187.4
130°	484.8	467.8	440.3	425.0	409.6	377.3	340.1	295.7	248.8	206.8	164.0
132.5°	432.2	416.9	393.5	380.5	366.8	337.7	299.7	256.1	216.5	180.2	142.2
135°	383.0	370.0	349.0	337.7	324.0	293.3	257.7	221.4	188.2	155.9	122.0
137.5°	336.9	324.0	304.6	292.5	277.9	250.5	221.4	191.5	160.8	133.3	103.4
140°	288.4	277.9	260.1	249.6	236.7	213.3	189.1	160.8	136.5	111.5	85.6
142.5°	247.2	238.3	220.6	210.9	199.6	180.2	157.5	135.7	113.9	92.1	70.3
145°	211.7	202.8	183.4	176.1	165.6	148.7	130.1	110.7	92.9	74.3	56.6
147.5°	176.9	166.4	149.5	143.0	134.9	120.4	105.8	90.5	75.1	59.0	43.6
150°	144.6	132.5	118.8	114.7	106.6	95.3	83.2	70.3	58.2	45.2	31.5
152.5°	113.9	103.4	92.1	88.1	81.6	74.3	63.8	53.3	43.6	31.5	21.8
155°	84.8	76.8	67.9	65.4	60.6	54.9	46.1	38.0	29.1	21.0	15.4
157.5°	59.8	53.3	46.9	45.2	42.0	37.2	29.9	23.4	18.6	13.7	10.5
160°	37.2	33.1	28.3	26.7	24.2	21.0	16.2	13.7	11.3	8.9	6.5
162.5°	17.8	15.4	13.7	12.9	11.3	9.7	8.9	7.3	6.5	5.7	4.8
165°	6.5	6.5	6.5	5.7	5.7	5.7	5.7	4.8	4.0	4.0	3.2
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: P201318

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7	1111.7
2.5°	1110.9	1112.5	1112.5	1113.3	1115.7	1120.6	1127.0	1127.9
5°	1107.7	1108.5	1108.5	1108.5	1110.9	1114.9	1121.4	1122.2
7.5°	1100.4	1100.4	1100.4	1100.4	1102.8	1106.0	1111.7	1112.5
10°	1090.7	1089.9	1089.9	1089.1	1090.7	1093.1	1099.6	1098.8
12.5°	1078.6	1077.0	1076.1	1076.1	1075.3	1077.8	1081.8	1082.6
15°	1064.8	1061.6	1060.0	1058.4	1057.6	1057.6	1062.4	1061.6
17.5°	1048.7	1043.8	1041.4	1039.0	1035.8	1035.8	1039.0	1038.2
20°	1030.1	1023.6	1019.6	1016.4	1011.5	1009.9	1011.5	1010.7
22.5°	1011.5	1001.0	997.0	992.1	984.9	981.6	980.8	980.0
25°	989.7	976.8	971.1	966.3	955.8	951.7	947.7	946.1
27.5°	970.3	951.7	944.5	936.4	924.3	918.6	912.1	910.5
30°	953.3	925.9	914.6	906.5	891.1	882.2	874.2	872.6
32.5°	940.4	902.4	887.1	877.4	856.4	844.3	833.8	828.9
35°	929.1	880.6	860.4	845.1	820.0	805.5	791.0	786.9
37.5°	918.6	862.0	835.4	814.4	786.1	765.1	748.9	742.5
40°	908.1	845.1	812.8	786.1	748.9	724.7	704.5	696.4
42.5°	898.4	828.1	793.4	761.1	712.6	683.5	661.7	650.4
45°	889.5	812.8	774.8	739.2	677.0	643.1	616.4	605.9
47.5°	883.1	798.2	756.2	717.4	643.9	601.9	574.4	560.7
50°	878.2	784.5	738.4	695.6	614.8	562.3	531.6	515.5
52.5°	875.8	772.4	722.3	676.2	588.2	524.3	488.0	475.9
55°	876.6	762.7	708.5	658.5	563.1	488.0	447.6	429.0
57.5°	878.2	753.8	694.8	640.7	538.1	452.4	407.2	387.8
60°	881.4	746.5	682.7	623.7	514.6	421.7	370.0	351.4
62.5°	884.7	740.1	670.6	607.6	492.0	393.5	332.9	311.9
65°	885.5	730.4	657.6	591.4	469.4	365.2	294.9	274.7
67.5°	882.2	718.2	641.5	572.8	446.0	337.7	259.3	238.3
70°	872.6	702.1	622.9	551.8	420.1	311.0	225.4	202.8
72.5°	854.8	681.1	601.1	528.4	395.1	282.8	194.7	167.2
75°	829.7	655.2	575.2	501.7	368.4	256.1	166.4	135.7
77.5°	795.8	622.1	544.5	471.8	339.3	228.6	142.2	106.6
80°	752.2	587.4	510.6	439.5	311.0	203.6	118.8	79.2
82.5°	700.5	547.8	474.2	406.4	284.4	177.7	97.0	54.9
85°	647.1	504.9	436.3	371.6	256.1	153.5	78.4	32.3
87.5°	594.6	462.1	399.9	340.1	227.0	131.7	60.6	12.9
90°	542.9	420.9	361.9	306.2	202.0	111.5	45.2	0.0
92.5°	500.1	390.2	336.9	283.6	185.8	101.0	38.8	0.0
95°	462.1	361.1	310.2	261.0	168.9	91.3	32.3	0.0
97.5°	427.4	333.7	286.8	240.0	153.5	80.8	26.7	0.0
100°	394.3	306.2	262.6	220.6	139.0	71.9	20.2	0.0
102.5°	365.2	282.0	240.8	199.6	124.4	63.0	14.5	0.0
105°	336.9	258.5	220.6	181.0	111.5	54.9	8.9	0.0
107.5°	311.9	236.7	200.4	164.0	99.4	47.7	5.7	0.0
110°	287.6	216.5	181.0	147.8	88.9	41.2	4.8	0.0



TEST NUMBER: P201318

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	265.0	197.1	164.0	132.5	80.0	34.7	4.8	0.0
115°	241.6	178.6	147.8	119.6	71.1	28.3	4.0	0.0
117.5°	221.4	160.8	133.3	109.1	62.2	22.6	4.0	0.0
120°	201.2	145.4	121.2	97.8	54.1	17.0	4.0	0.0
122.5°	181.0	131.7	108.3	87.3	46.9	13.7	3.2	0.0
125°	162.4	117.1	96.1	75.9	38.8	12.1	3.2	0.0
127.5°	143.8	102.6	83.2	65.4	30.7	10.5	2.4	0.0
130°	125.2	88.1	71.1	54.9	23.4	8.9	2.4	0.0
132.5°	108.3	74.3	59.8	45.2	18.6	7.3	1.6	0.0
135°	91.3	62.2	49.3	35.5	14.5	6.5	1.6	0.0
137.5°	76.8	50.9	38.8	26.7	12.1	4.8	1.6	0.0
140°	63.0	40.4	29.1	20.2	9.7	4.0	0.8	0.0
142.5°	50.1	29.9	21.8	15.4	8.1	3.2	0.8	0.0
145°	38.8	21.8	16.2	12.1	7.3	2.4	0.8	0.0
147.5°	28.3	17.0	12.9	10.5	5.7	2.4	0.8	0.0
150°	20.2	12.9	10.5	8.1	4.0	1.6	0.8	0.0
152.5°	15.4	9.7	8.1	6.5	3.2	1.6	0.8	0.0
155°	11.3	7.3	6.5	4.8	2.4	1.6	0.8	0.0
157.5°	8.1	5.7	4.8	3.2	2.4	1.6	0.8	0.0
160°	4.8	4.0	3.2	2.4	1.6	0.8	0.8	0.0
162.5°	4.0	2.4	2.4	2.4	1.6	0.8	0.8	0.0
165°	2.4	1.6	1.6	1.6	0.8	0.8	0.8	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)