

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: P201332

Luminaire Tested: **4LBLED-LD4-11-SYMW-UNV-L835-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201332
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28136)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4LBLED-LD4-11-SYMW-UNV-L835-CD1-U
Description: 4 ft. Low Bay Linear, 11000 lm, Wht Sym lens, 3.3.5K
Light Source: (392) 3500K CCT, 80 CRI LEDS
2UT217098A8354C
Ballast/Driver: OSRAM
(OT85W01920CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11002.2 lumens
Efficiency: N/A
Efficacy: 124.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 2.12 / 1.93
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

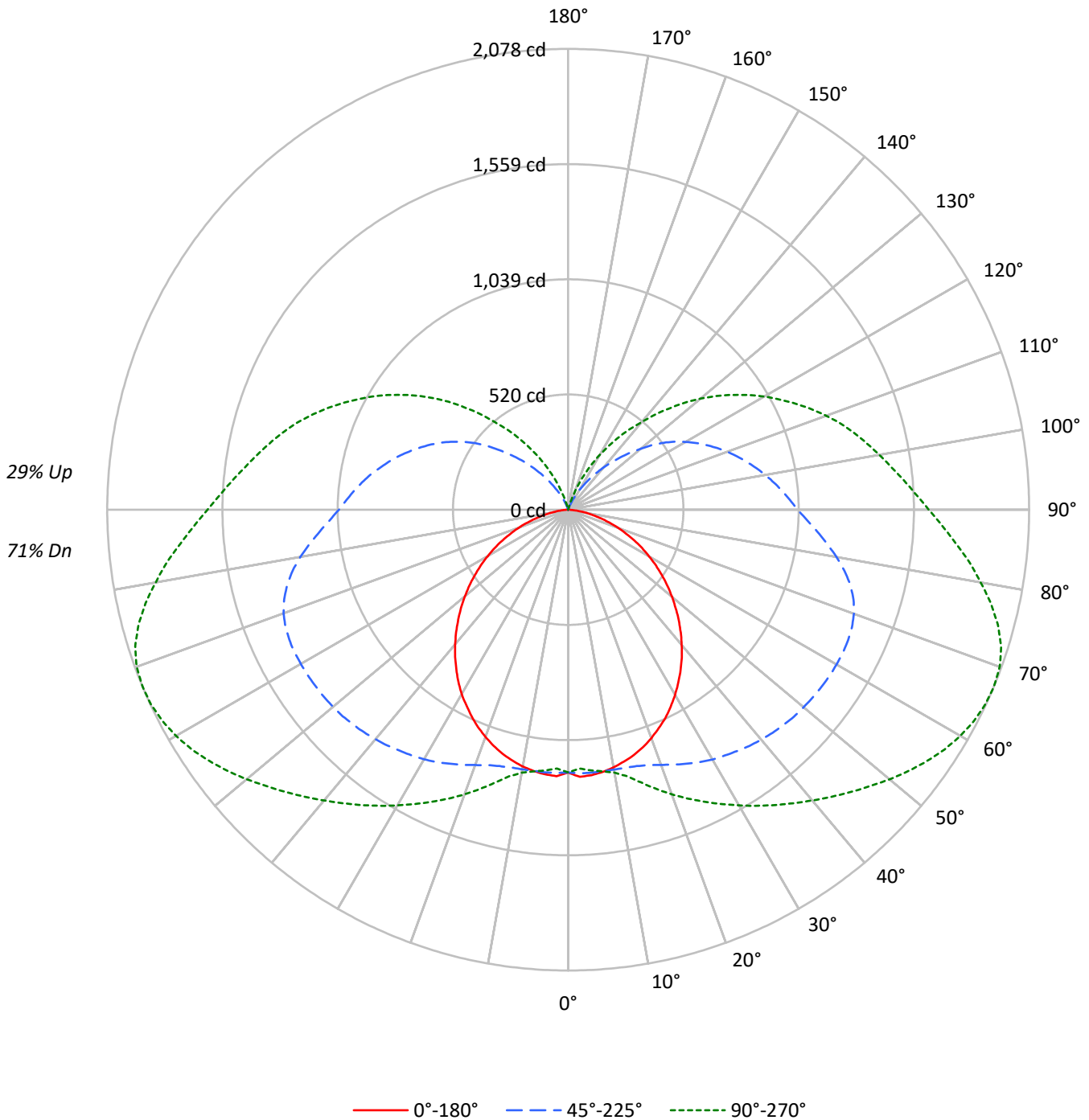
Input Watts (W): 88.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	97	90	84	79	91	85	80	75	75	71	67	66	63	60	58	55	53	49
2	86	76	67	60	81	71	64	57	63	57	51	55	50	46	48	44	40	36
3	77	65	55	48	72	61	52	45	54	47	41	47	41	36	41	36	32	28
4	70	56	46	39	65	53	44	37	47	39	33	41	35	30	35	30	26	23
5	64	50	40	32	60	47	38	31	41	34	28	36	30	25	31	26	22	19
6	59	44	34	27	55	42	33	26	37	29	24	32	26	21	28	23	19	16
7	54	40	30	24	50	37	29	23	33	26	20	29	23	18	25	20	16	14
8	50	36	27	21	47	34	25	20	30	23	18	26	20	16	23	18	14	12
9	47	33	24	18	44	31	23	17	27	21	16	24	18	14	21	16	13	10
10	43	30	22	16	41	28	21	15	25	19	14	22	17	13	20	15	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19091	19091	19091
5°	19348	17210	19284
10°	19130	16161	19066
15°	18843	15931	18761
20°	18443	16113	18342
25°	17994	16338	17857
30°	17405	16663	17351
35°	16767	17080	16693
40°	16034	17604	15973
45°	15263	18271	15176
50°	14416	19084	14345
55°	13489	19970	13413
60°	12473	20828	12388
65°	11289	21553	11186
70°	9857	22056	9737
75°	8040	22100	7727
80°	5948	21731	5525
85°	3096	21296	2748



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.2	1.0
10°-20°	340.8	3.1
20°-30°	576.9	5.2
30°-40°	806.7	7.3
40°-50°	1016.4	9.2
50°-60°	1193.4	10.8
60°-70°	1305.0	11.9
70°-80°	1289.3	11.7
80°-90°	1132.6	10.3
90°-100°	964.1	8.8
100°-110°	804.0	7.3
110°-120°	622.7	5.7
120°-130°	433.5	3.9
130°-140°	253.0	2.3
140°-150°	115.4	1.0
150°-160°	33.0	0.3
160°-170°	2.4	0.0
170°-180°	0.0	0.0
0°-30°	1030.8	9.4
0°-40°	1837.5	16.7
0°-60°	4047.3	36.8
0°-90°	7774.2	70.7
90°-120°	2390.9	21.7
90°-150°	3192.8	29.0
90°-180°	3228.0	29.3
0°-180°	11002.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1185	1185	1185	1185	1185	
5°	1202	1191	1180	1189	1198	114
15°	1145	1197	1274	1197	1140	323
25°	1037	1264	1453	1264	1029	477
35°	883	1328	1626	1326	880	552
45°	705	1373	1800	1371	701	543
55°	516	1393	1975	1389	513	462
65°	329	1392	2075	1387	326	326
75°	154	1317	2005	1311	148	165
85°	27	1126	1755	1124	24	34
90°	0	1034	1626	1034	0	1
95°	0	968	1519	969	0	0
105°	1	833	1335	836	0	1
115°	1	689	1131	691	1	1
125°	2	527	902	527	1	2
135°	2	334	647	334	1	2
145°	3	171	401	169	2	1
155°	3	48	178	46	2	1
165°	3	5	13	0	2	1
175°	0	0	0	0	0	0
180°	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°	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8
2.5°	1205.6	1204.6	1199.6	1191.7	1188.8	1186.8	1185.8	1182.8	1181.8	1183.8	1189.7
5°	1201.6	1199.6	1195.7	1188.8	1185.8	1184.8	1183.8	1180.8	1179.9	1182.8	1190.7
7.5°	1192.7	1191.7	1187.8	1180.8	1179.9	1177.9	1177.9	1175.9	1175.9	1180.8	1189.7
10°	1179.9	1178.9	1174.9	1170.0	1169.0	1169.0	1169.0	1169.0	1171.0	1178.9	1189.7
12.5°	1163.1	1163.1	1160.1	1156.1	1157.1	1157.1	1158.1	1160.1	1166.0	1177.9	1191.7
15°	1145.3	1144.3	1141.3	1140.3	1143.3	1144.3	1147.3	1152.2	1162.1	1178.9	1196.7
17.5°	1122.5	1122.5	1119.6	1120.6	1126.5	1129.5	1134.4	1143.3	1159.1	1181.8	1207.5
20°	1095.9	1096.9	1095.9	1098.8	1108.7	1114.6	1120.6	1135.4	1158.1	1189.7	1224.3
22.5°	1066.2	1068.2	1068.2	1076.1	1088.9	1097.8	1106.7	1127.5	1160.1	1203.6	1244.1
25°	1036.6	1036.6	1039.5	1050.4	1068.2	1079.1	1092.9	1122.5	1167.0	1218.4	1263.9
27.5°	1001.0	1004.0	1008.9	1023.7	1048.4	1063.3	1080.1	1122.5	1174.9	1233.2	1283.6
30°	963.5	966.4	974.3	995.1	1026.7	1045.5	1069.2	1122.5	1181.8	1245.1	1300.4
32.5°	923.9	928.9	939.7	966.4	1005.0	1030.6	1061.3	1121.6	1187.8	1255.0	1314.2
35°	883.4	888.4	905.2	936.8	987.2	1016.8	1052.4	1118.6	1190.7	1263.9	1328.1
37.5°	840.9	849.8	868.6	908.1	969.4	1005.0	1042.5	1115.6	1193.7	1270.8	1341.9
40°	795.5	804.4	831.0	878.5	951.6	989.1	1030.6	1111.7	1195.7	1277.7	1353.8
42.5°	751.0	762.9	793.5	850.8	933.8	975.3	1018.8	1105.7	1194.7	1282.6	1363.7
45°	704.6	718.4	755.9	824.1	914.0	958.5	1005.0	1097.8	1192.7	1285.6	1372.6
47.5°	657.1	673.9	718.4	797.4	894.3	940.7	991.1	1089.9	1189.7	1287.6	1380.5
50°	610.7	630.4	680.8	770.8	872.5	922.0	974.3	1081.0	1184.8	1288.6	1385.4
52.5°	564.2	586.0	645.3	744.1	849.8	902.2	957.5	1070.2	1178.9	1287.6	1390.3
55°	515.8	539.5	609.7	715.4	826.1	880.4	938.7	1056.3	1170.0	1283.6	1393.3
57.5°	469.4	496.1	576.1	687.8	801.4	858.7	921.0	1041.5	1160.1	1280.7	1396.3
60°	421.9	452.6	541.5	656.1	775.7	835.0	899.2	1024.7	1148.2	1273.7	1396.3
62.5°	375.5	410.1	507.9	627.5	750.0	811.3	877.5	1005.9	1135.4	1266.8	1396.3
65°	329.1	368.6	473.3	595.9	721.4	785.6	852.8	986.2	1119.6	1256.9	1392.3
67.5°	283.6	329.1	437.8	563.2	691.7	757.9	827.1	963.5	1101.8	1244.1	1384.4
70°	239.1	289.5	402.2	528.7	661.1	726.3	798.4	938.7	1081.0	1227.3	1370.6
72.5°	194.7	252.0	364.6	494.1	628.5	695.7	768.8	910.1	1055.4	1204.6	1348.8
75°	154.2	214.4	329.1	458.5	594.9	663.1	736.2	878.5	1024.7	1174.9	1317.2
77.5°	117.6	179.8	294.5	423.9	559.3	630.4	702.6	843.9	989.1	1137.4	1275.7
80°	83.0	146.2	259.9	388.3	523.7	593.9	665.0	806.3	951.6	1092.9	1228.3
82.5°	51.4	115.6	225.3	353.8	489.1	558.3	628.5	768.8	909.1	1046.5	1176.9
85°	26.7	87.0	192.7	321.2	455.5	523.7	592.9	730.2	865.6	999.0	1126.5
87.5°	8.9	63.2	166.0	292.5	424.9	493.1	560.3	693.7	825.1	952.6	1077.1
90°	0.0	47.4	146.2	269.8	399.2	465.4	532.6	661.1	789.5	915.0	1033.6
92.5°	0.0	40.5	133.4	254.0	381.4	446.6	511.9	639.3	762.9	884.4	1000.0
95°	0.0	32.6	122.5	238.1	362.7	426.9	491.1	615.6	737.2	855.7	968.4
97.5°	0.0	25.7	110.7	223.3	343.9	406.1	468.4	591.9	710.5	827.1	935.8
100°	1.0	19.8	97.8	204.5	324.1	385.4	445.7	566.2	681.8	794.5	902.2
102.5°	1.0	13.8	86.0	188.7	303.4	362.7	421.9	539.5	653.2	764.8	867.6
105°	1.0	9.9	74.1	171.9	283.6	340.9	399.2	513.8	624.5	732.2	833.0
107.5°	1.0	6.9	63.2	156.1	263.8	318.2	374.5	486.2	594.9	699.6	798.4
110°	1.0	4.9	53.4	139.3	242.1	296.4	350.8	458.5	564.2	666.0	762.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	4.0	43.5	123.5	220.4	273.7	326.1	430.8	533.6	632.4	726.3
115°	1.0	4.0	34.6	108.7	198.6	250.0	300.4	403.2	501.0	597.8	688.7
117.5°	1.0	3.0	26.7	93.9	178.9	226.3	274.7	372.5	469.4	563.2	651.2
120°	1.0	3.0	19.8	79.1	158.1	202.6	250.0	342.9	435.8	526.7	610.7
122.5°	2.0	3.0	14.8	66.2	139.3	179.8	225.3	313.2	400.2	488.1	571.2
125°	2.0	2.0	11.9	53.4	119.6	157.1	197.6	282.6	361.7	445.7	526.7
127.5°	2.0	2.0	8.9	40.5	99.8	134.4	171.0	250.0	327.1	402.2	479.3
130°	2.0	2.0	7.9	29.6	81.0	111.7	145.3	216.4	288.5	357.7	427.9
132.5°	2.0	2.0	5.9	21.7	64.2	91.9	121.5	184.8	251.0	318.2	381.4
135°	2.0	2.0	4.9	15.8	48.4	73.1	98.8	155.1	215.4	278.7	334.0
137.5°	2.0	2.0	4.9	11.9	35.6	55.3	78.1	129.4	182.8	239.1	289.5
140°	2.0	2.0	4.0	9.9	24.7	40.5	59.3	103.8	149.2	201.6	250.0
142.5°	2.0	2.0	3.0	7.9	17.8	28.7	42.5	80.0	120.6	166.0	208.5
145°	3.0	2.0	3.0	6.9	12.8	19.8	29.6	60.3	92.9	133.4	171.0
147.5°	2.0	2.0	2.0	4.9	9.9	13.8	19.8	41.5	70.2	103.8	135.4
150°	3.0	2.0	2.0	4.0	7.9	9.9	13.8	27.7	48.4	76.1	103.8
152.5°	3.0	2.0	2.0	4.0	5.9	7.9	9.9	17.8	31.6	51.4	74.1
155°	3.0	2.0	2.0	3.0	4.9	5.9	7.9	11.9	18.8	31.6	48.4
157.5°	3.0	3.0	3.0	3.0	4.0	4.9	5.9	8.9	10.9	17.8	27.7
160°	3.0	3.0	2.0	2.0	3.0	3.0	4.0	5.9	7.9	9.9	13.8
162.5°	3.0	3.0	3.0	2.0	2.0	2.0	3.0	4.0	4.9	6.9	8.9
165°	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	4.0	4.9
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°	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8
2.5°	1191.7	1186.8	1184.8	1180.8	1177.9	1175.9	1172.9	1171.0	1169.0	1168.0	1168.0
5°	1192.7	1187.8	1185.8	1182.8	1181.8	1179.9	1177.9	1179.9	1178.9	1179.9	1178.9
7.5°	1193.7	1189.7	1189.7	1188.8	1187.8	1187.8	1185.8	1187.8	1188.8	1189.7	1188.8
10°	1196.7	1195.7	1197.6	1198.6	1198.6	1198.6	1198.6	1200.6	1204.6	1204.6	1203.6
12.5°	1201.6	1204.6	1210.5	1215.4	1217.4	1217.4	1221.4	1225.3	1230.3	1231.2	1230.3
15°	1211.5	1220.4	1233.2	1244.1	1249.0	1252.0	1259.9	1266.8	1271.8	1273.7	1271.8
17.5°	1229.3	1246.1	1265.8	1281.6	1287.6	1291.5	1302.4	1309.3	1315.2	1320.2	1318.2
20°	1253.0	1275.7	1299.4	1318.2	1326.1	1331.0	1342.9	1355.8	1361.7	1365.6	1364.6
22.5°	1278.7	1305.4	1332.0	1354.8	1363.7	1369.6	1384.4	1396.3	1405.2	1410.1	1409.1
25°	1303.4	1334.0	1366.6	1391.3	1402.2	1409.1	1424.9	1438.8	1448.6	1452.6	1451.6
27.5°	1328.1	1363.7	1399.2	1427.9	1438.8	1447.7	1466.4	1481.2	1493.1	1496.1	1496.1
30°	1347.8	1389.3	1427.9	1460.5	1472.4	1484.2	1505.0	1524.7	1535.6	1539.5	1538.6
32.5°	1366.6	1413.1	1456.5	1493.1	1507.9	1519.8	1544.5	1566.2	1579.1	1583.0	1579.1
35°	1385.4	1436.8	1485.2	1524.7	1540.5	1555.4	1583.0	1607.7	1621.6	1625.5	1623.5
37.5°	1403.2	1460.5	1512.9	1556.3	1575.1	1590.9	1619.6	1649.2	1664.1	1668.0	1664.1
40°	1420.0	1482.2	1539.5	1587.0	1607.7	1626.5	1660.1	1689.7	1706.5	1711.5	1709.5
42.5°	1435.8	1504.0	1566.2	1618.6	1642.3	1662.1	1699.6	1732.2	1750.0	1756.0	1751.0
45°	1449.6	1525.7	1592.9	1649.2	1674.9	1697.7	1740.1	1775.7	1793.5	1800.4	1794.5
47.5°	1463.5	1545.5	1617.6	1679.9	1709.5	1733.2	1780.7	1818.2	1839.0	1844.9	1839.0
50°	1476.3	1565.2	1644.3	1711.5	1743.1	1769.8	1821.2	1861.7	1882.4	1891.3	1883.4
52.5°	1488.2	1584.0	1669.0	1741.1	1775.7	1805.4	1860.7	1904.2	1928.9	1934.8	1926.9
55°	1500.0	1601.8	1690.7	1768.8	1806.4	1838.0	1898.3	1943.7	1968.4	1975.3	1967.4
57.5°	1509.9	1617.6	1711.5	1795.5	1834.0	1870.6	1930.9	1978.3	2004.0	2011.9	2004.0
60°	1516.8	1630.5	1730.3	1817.2	1857.7	1895.3	1959.5	2006.9	2032.6	2040.5	2032.6
62.5°	1521.8	1640.3	1743.1	1834.0	1877.5	1916.0	1981.3	2027.7	2054.4	2062.3	2054.4
65°	1522.8	1644.3	1750.0	1844.9	1889.4	1927.9	1994.1	2040.5	2068.2	2075.1	2067.2
67.5°	1516.8	1640.3	1750.0	1846.9	1891.3	1930.9	1997.1	2043.5	2070.2	2078.1	2070.2
70°	1505.0	1628.5	1740.1	1839.0	1883.4	1923.0	1988.2	2035.6	2062.3	2070.2	2061.3
72.5°	1482.2	1607.7	1719.4	1820.2	1862.7	1901.2	1965.4	2011.9	2037.6	2046.5	2036.6
75°	1449.6	1575.1	1686.8	1783.6	1828.1	1863.7	1927.9	1973.3	1997.1	2005.0	1996.1
77.5°	1407.1	1533.6	1641.3	1737.2	1781.6	1814.3	1876.5	1921.0	1944.7	1951.6	1942.7
80°	1357.7	1483.2	1587.0	1681.8	1723.3	1754.0	1816.2	1858.7	1881.5	1888.4	1883.4
82.5°	1303.4	1425.9	1526.7	1619.6	1659.1	1689.7	1751.0	1792.5	1815.2	1825.1	1817.2
85°	1248.0	1365.6	1464.4	1554.4	1593.9	1626.5	1682.8	1724.3	1747.1	1755.0	1750.0
87.5°	1192.7	1306.3	1402.2	1489.2	1525.7	1559.3	1615.6	1657.1	1679.9	1687.8	1681.8
90°	1146.3	1255.0	1346.9	1432.8	1470.4	1501.0	1555.4	1594.9	1617.6	1625.5	1620.6
92.5°	1108.7	1212.5	1301.4	1380.5	1416.0	1448.6	1501.0	1539.5	1562.3	1569.2	1564.3
95°	1073.1	1173.9	1259.9	1337.0	1371.6	1403.2	1452.6	1490.1	1511.9	1518.8	1514.8
97.5°	1039.5	1136.4	1219.4	1294.5	1330.1	1358.7	1406.1	1441.7	1463.5	1469.4	1463.5
100°	1002.0	1099.8	1180.8	1255.0	1285.6	1314.2	1361.7	1397.3	1416.0	1423.9	1419.0
102.5°	966.4	1060.3	1140.3	1213.5	1246.1	1274.7	1318.2	1352.8	1374.5	1379.5	1374.5
105°	929.9	1020.8	1098.8	1171.0	1203.6	1231.2	1274.7	1308.3	1329.1	1335.0	1330.1
107.5°	892.3	980.3	1058.3	1126.5	1158.1	1183.8	1228.3	1260.9	1278.7	1289.5	1281.6
110°	851.8	938.7	1013.8	1080.1	1110.7	1135.4	1178.9	1211.5	1228.3	1238.2	1231.2



TEST NUMBER: P201332

CATALOG NUMBER: 4LBLED-LD4-11-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	814.2	896.3	968.4	1032.6	1061.3	1086.0	1128.5	1160.1	1175.9	1185.8	1178.9
115°	774.7	850.8	922.0	983.2	1011.9	1034.6	1077.1	1106.7	1122.5	1131.4	1125.5
117.5°	732.2	806.3	873.5	933.8	960.5	983.2	1023.7	1053.4	1068.2	1075.1	1069.2
120°	690.7	762.9	826.1	883.4	910.1	931.8	971.4	999.0	1012.9	1020.8	1014.8
122.5°	647.2	717.4	774.7	832.0	856.7	877.5	913.1	942.7	955.5	962.5	958.5
125°	600.8	670.0	725.3	777.7	801.4	821.2	855.7	880.4	895.3	902.2	898.2
127.5°	552.4	618.6	674.9	723.3	746.1	767.8	796.5	824.1	834.0	841.9	838.0
130°	498.0	564.2	616.6	666.0	687.8	705.5	737.2	759.9	772.7	779.7	776.7
132.5°	444.7	505.9	561.3	605.7	626.5	645.3	673.9	695.7	713.4	714.4	710.5
135°	393.3	446.6	497.0	544.5	565.2	584.0	609.7	629.5	646.3	647.2	642.3
137.5°	343.9	393.3	436.8	481.2	503.0	522.7	546.5	565.2	581.0	584.0	577.1
140°	296.4	341.9	381.4	421.0	441.7	460.5	486.2	502.0	514.8	515.8	511.9
142.5°	251.0	292.5	327.1	363.6	382.4	399.2	427.9	443.7	455.5	458.5	452.6
145°	208.5	245.1	277.7	309.3	325.1	340.9	369.6	388.3	398.2	401.2	395.3
147.5°	168.0	198.6	227.3	255.9	269.8	284.6	308.3	332.0	340.9	342.9	337.9
150°	130.4	156.1	181.8	205.5	217.4	230.2	251.0	272.7	284.6	286.6	282.6
152.5°	95.9	117.6	138.3	158.1	168.0	177.9	195.7	216.4	231.2	232.2	228.3
155°	65.2	83.0	99.8	114.6	123.5	131.4	145.3	161.1	176.9	177.9	174.9
157.5°	39.5	51.4	65.2	77.1	83.0	89.9	99.8	111.7	125.5	128.5	125.5
160°	19.8	26.7	34.6	42.5	47.4	52.4	57.3	67.2	75.1	82.0	78.1
162.5°	9.9	11.9	13.8	17.8	19.8	22.7	26.7	30.6	34.6	41.5	36.6
165°	5.9	6.9	7.9	7.9	8.9	8.9	8.9	8.9	8.9	12.8	8.9
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



TEST NUMBER: P201332

CATALOG NUMBER: 4LBLELD4-11-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8
2.5°	1171.0	1172.9	1176.9	1178.9	1180.8	1182.8	1186.8	1192.7	1187.8	1182.8	1183.8
5°	1178.9	1178.9	1179.9	1182.8	1182.8	1183.8	1187.8	1193.7	1188.8	1181.8	1181.8
7.5°	1188.8	1187.8	1188.8	1189.7	1188.8	1188.8	1190.7	1193.7	1187.8	1179.9	1177.9
10°	1202.6	1199.6	1198.6	1199.6	1198.6	1195.7	1196.7	1196.7	1188.8	1176.9	1172.0
12.5°	1227.3	1222.4	1218.4	1217.4	1214.4	1209.5	1206.5	1202.6	1190.7	1176.9	1167.0
15°	1267.8	1259.9	1252.0	1249.0	1244.1	1232.2	1222.4	1213.5	1196.7	1176.9	1163.1
17.5°	1313.3	1303.4	1292.5	1288.6	1281.6	1264.8	1248.0	1231.2	1207.5	1179.9	1160.1
20°	1356.7	1344.9	1332.0	1325.1	1318.2	1297.5	1277.7	1255.9	1225.3	1188.8	1159.1
22.5°	1400.2	1386.4	1368.6	1362.7	1353.8	1330.1	1306.3	1281.6	1245.1	1201.6	1161.1
25°	1442.7	1426.9	1410.1	1400.2	1390.3	1363.7	1335.0	1305.4	1263.9	1216.4	1168.0
27.5°	1485.2	1467.4	1446.7	1435.8	1425.9	1396.3	1363.7	1330.1	1283.6	1230.3	1176.9
30°	1526.7	1506.9	1482.2	1470.4	1458.5	1424.9	1387.4	1349.8	1299.4	1242.1	1182.8
32.5°	1568.2	1546.5	1518.8	1505.0	1491.1	1452.6	1411.1	1368.6	1313.3	1253.0	1187.8
35°	1608.7	1585.0	1554.4	1537.6	1522.8	1481.2	1434.8	1387.4	1326.1	1261.9	1190.7
37.5°	1650.2	1623.5	1589.9	1571.2	1554.4	1508.9	1457.5	1404.2	1339.9	1268.8	1193.7
40°	1691.7	1663.1	1625.5	1605.8	1585.0	1535.6	1480.3	1421.0	1351.8	1275.7	1194.7
42.5°	1734.2	1702.6	1661.1	1639.4	1617.6	1562.3	1501.0	1435.8	1361.7	1280.7	1193.7
45°	1776.7	1741.1	1696.7	1672.0	1648.2	1588.0	1521.8	1448.6	1370.6	1283.6	1191.7
47.5°	1819.2	1781.6	1733.2	1706.5	1677.9	1613.7	1541.5	1462.5	1378.5	1284.6	1189.7
50°	1862.7	1822.2	1769.8	1740.1	1710.5	1638.4	1561.3	1474.3	1383.4	1285.6	1184.8
52.5°	1905.2	1861.7	1805.4	1773.7	1739.2	1663.1	1580.1	1486.2	1387.4	1284.6	1177.9
55°	1943.7	1898.3	1839.0	1805.4	1766.8	1685.8	1596.9	1496.1	1389.3	1281.6	1169.0
57.5°	1979.3	1932.8	1870.6	1833.0	1795.5	1707.5	1612.7	1506.9	1391.3	1276.7	1159.1
60°	2006.9	1960.5	1895.3	1857.7	1817.2	1725.3	1625.5	1512.9	1391.3	1269.8	1146.3
62.5°	2027.7	1981.3	1916.0	1876.5	1834.0	1740.1	1635.4	1518.8	1391.3	1262.9	1133.4
65°	2040.5	1995.1	1927.9	1888.4	1844.9	1747.1	1640.3	1519.8	1387.4	1253.0	1117.6
67.5°	2042.5	1997.1	1929.9	1891.3	1846.9	1747.1	1637.4	1514.8	1379.5	1240.1	1099.8
70°	2033.6	1988.2	1922.0	1882.4	1839.0	1738.2	1626.5	1503.0	1365.6	1223.3	1079.1
72.5°	2010.9	1964.5	1900.2	1859.7	1817.2	1717.4	1603.8	1481.2	1342.9	1199.6	1054.4
75°	1971.4	1925.9	1862.7	1825.1	1781.6	1683.8	1569.2	1449.6	1311.3	1170.0	1023.7
77.5°	1919.0	1874.5	1812.3	1774.7	1734.2	1638.4	1525.7	1407.1	1272.7	1133.4	988.2
80°	1856.7	1814.3	1753.0	1716.4	1676.9	1584.0	1473.3	1357.7	1225.3	1089.9	948.6
82.5°	1790.5	1749.0	1689.7	1652.2	1614.6	1524.7	1419.0	1304.4	1174.9	1043.5	906.1
85°	1726.3	1681.8	1622.6	1588.0	1550.4	1462.5	1362.7	1249.0	1123.5	996.1	864.6
87.5°	1659.1	1615.6	1557.3	1524.7	1489.2	1400.2	1305.4	1194.7	1075.1	953.6	824.1
90°	1597.9	1555.4	1499.0	1466.4	1432.8	1346.9	1254.0	1149.2	1033.6	916.0	790.5
92.5°	1541.5	1502.0	1448.6	1417.0	1384.4	1302.4	1213.5	1111.7	1000.0	886.4	763.8
95°	1493.1	1454.6	1405.2	1374.5	1340.9	1262.9	1175.9	1076.1	969.4	858.7	739.1
97.5°	1444.7	1408.1	1359.7	1330.1	1298.4	1222.4	1138.4	1042.5	937.8	828.1	712.5
100°	1400.2	1364.6	1315.2	1288.6	1257.9	1184.8	1101.8	1007.9	905.2	797.4	683.8
102.5°	1356.7	1321.2	1273.7	1247.1	1217.4	1144.3	1063.3	970.4	870.6	766.8	656.1
105°	1312.3	1277.7	1230.3	1203.6	1173.9	1102.8	1023.7	933.8	836.0	735.2	627.5
107.5°	1263.9	1230.3	1184.8	1158.1	1130.5	1059.3	983.2	895.3	801.4	702.6	597.8
110°	1214.4	1180.8	1139.3	1110.7	1084.0	1014.8	940.7	856.7	764.8	669.0	567.2



TEST NUMBER: P201332

CATALOG NUMBER: 4LBLED-LD4-11-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1163.1	1130.5	1089.9	1063.3	1035.6	969.4	898.2	817.2	728.3	634.4	535.6
115°	1110.7	1078.1	1037.6	1010.9	986.2	922.9	853.8	776.7	690.7	599.8	504.0
117.5°	1053.4	1024.7	986.2	962.5	936.8	873.5	809.3	735.2	653.2	563.2	471.4
120°	1000.0	972.3	934.8	909.1	886.4	826.1	764.8	692.7	611.7	527.7	437.8
122.5°	943.7	914.0	879.5	857.7	833.0	777.7	718.4	649.2	570.2	487.2	401.2
125°	884.4	856.7	823.1	802.4	779.7	727.3	671.0	601.8	526.7	446.6	363.6
127.5°	824.1	798.4	765.8	747.0	725.3	673.9	619.6	552.4	477.3	402.2	325.1
130°	762.9	737.2	707.5	687.8	667.0	618.6	565.2	499.0	427.9	357.7	287.6
132.5°	698.6	673.9	644.3	626.5	607.7	561.3	506.9	442.7	379.5	316.2	251.0
135°	632.4	609.7	583.0	566.2	547.4	500.0	448.6	390.3	334.0	275.7	215.4
137.5°	568.2	547.4	521.7	504.9	484.2	439.7	394.3	341.9	290.5	236.2	179.8
140°	504.9	486.2	461.5	442.7	424.9	383.4	341.9	294.5	248.0	198.6	148.2
142.5°	445.7	428.9	401.2	383.4	366.6	330.0	293.5	249.0	207.5	163.0	119.6
145°	387.4	372.5	341.9	326.1	312.3	279.6	243.1	206.5	169.0	130.4	92.9
147.5°	331.0	313.2	284.6	270.8	257.9	229.3	198.6	165.0	134.4	100.8	68.2
150°	276.7	254.9	230.2	218.4	207.5	182.8	156.1	128.5	101.8	73.1	47.4
152.5°	220.4	197.6	180.8	169.0	159.1	139.3	117.6	93.9	72.1	49.4	29.6
155°	163.0	147.2	131.4	125.5	116.6	99.8	82.0	63.2	45.5	29.6	16.8
157.5°	112.6	100.8	90.9	85.0	78.1	65.2	50.4	36.6	25.7	15.8	7.9
160°	68.2	60.3	53.4	48.4	43.5	34.6	24.7	16.8	10.9	4.9	3.0
162.5°	30.6	25.7	22.7	19.8	16.8	12.8	7.9	4.0	2.0	1.0	1.0
165°	5.9	4.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201332

CATALOG NUMBER: 4LBLED-LD4-11-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8	1184.8
2.5°	1184.8	1185.8	1186.8	1186.8	1189.7	1194.7	1201.6	1202.6
5°	1181.8	1182.8	1182.8	1183.8	1186.8	1190.7	1196.7	1197.6
7.5°	1176.9	1176.9	1176.9	1176.9	1178.9	1182.8	1187.8	1188.8
10°	1170.0	1168.0	1167.0	1166.0	1167.0	1171.0	1174.9	1175.9
12.5°	1162.1	1157.1	1155.2	1154.2	1154.2	1155.2	1159.1	1159.1
15°	1153.2	1145.3	1142.3	1140.3	1136.4	1136.4	1140.3	1140.3
17.5°	1144.3	1133.4	1127.5	1123.5	1117.6	1116.6	1118.6	1116.6
20°	1136.4	1119.6	1111.7	1104.8	1095.9	1092.9	1092.9	1089.9
22.5°	1128.5	1105.7	1094.9	1085.0	1071.2	1066.2	1063.3	1061.3
25°	1123.5	1090.9	1077.1	1065.2	1046.5	1035.6	1032.6	1028.7
27.5°	1122.5	1079.1	1060.3	1045.5	1019.8	1006.9	999.0	994.1
30°	1122.5	1067.2	1042.5	1021.8	990.1	970.4	962.5	960.5
32.5°	1121.6	1058.3	1028.7	1002.0	961.5	935.8	923.9	921.0
35°	1118.6	1049.4	1014.8	982.2	932.8	900.2	883.4	879.5
37.5°	1114.6	1038.6	1002.0	964.4	903.2	863.6	842.9	837.0
40°	1110.7	1027.7	986.2	945.7	873.5	826.1	799.4	792.5
42.5°	1103.8	1015.8	972.3	927.9	845.9	788.5	757.9	747.0
45°	1096.9	1002.0	955.5	908.1	818.2	750.0	711.5	700.6
47.5°	1088.0	987.2	938.7	886.4	792.5	712.5	669.0	655.1
50°	1078.1	972.3	920.0	865.6	764.8	675.9	622.5	607.7
52.5°	1067.2	955.5	901.2	843.9	737.2	641.3	579.1	560.3
55°	1053.4	936.8	879.5	819.2	708.5	605.7	534.6	512.9
57.5°	1038.6	918.0	858.7	796.5	679.9	572.1	491.1	466.4
60°	1020.8	896.3	833.0	770.8	650.2	537.6	447.6	419.0
62.5°	1002.0	874.5	810.3	744.1	620.6	504.0	405.1	372.5
65°	982.2	849.8	784.6	716.4	588.9	468.4	363.6	326.1
67.5°	958.5	823.1	755.9	686.8	556.3	432.8	323.1	280.6
70°	934.8	794.5	724.3	655.1	522.7	397.2	284.6	236.2
72.5°	906.1	763.8	692.7	622.5	488.1	362.7	247.0	191.7
75°	874.5	732.2	660.1	588.9	452.6	326.1	209.5	148.2
77.5°	840.9	697.6	626.5	554.4	419.0	291.5	174.9	111.7
80°	805.3	661.1	590.9	518.8	383.4	256.9	141.3	77.1
82.5°	765.8	625.5	555.3	483.2	349.8	223.3	110.7	47.4
85°	728.3	589.9	521.7	450.6	317.2	189.7	83.0	23.7
87.5°	691.7	557.3	491.1	421.0	289.5	164.0	60.3	6.9
90°	662.1	530.6	465.4	397.2	267.8	145.3	45.5	0.0
92.5°	638.3	509.9	445.7	379.5	252.0	132.4	38.5	0.0
95°	615.6	488.1	426.9	360.7	236.2	121.5	30.6	0.0
97.5°	590.9	467.4	406.1	341.9	220.4	109.7	24.7	0.0
100°	566.2	444.7	385.4	323.1	202.6	97.8	17.8	0.0
102.5°	539.5	421.0	362.7	302.4	186.8	85.0	11.9	0.0
105°	513.8	397.2	340.9	281.6	170.0	74.1	7.9	0.0
107.5°	486.2	373.5	318.2	261.9	153.2	62.3	4.9	0.0
110°	458.5	349.8	295.5	241.1	137.4	51.4	4.0	0.0



TEST NUMBER: P201332

CATALOG NUMBER: 4LBLED-LD4-11-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	430.8	325.1	272.7	219.4	121.5	41.5	3.0	1.0
115°	401.2	299.4	249.0	197.6	105.7	32.6	3.0	1.0
117.5°	371.5	272.7	226.3	176.9	90.9	24.7	2.0	1.0
120°	340.9	249.0	201.6	157.1	77.1	17.8	2.0	1.0
122.5°	311.3	224.3	178.9	136.4	63.2	13.8	2.0	1.0
125°	280.6	195.7	156.1	117.6	50.4	10.9	2.0	1.0
127.5°	248.0	169.0	132.4	96.8	38.5	7.9	2.0	1.0
130°	214.4	142.3	109.7	79.1	27.7	5.9	2.0	1.0
132.5°	182.8	119.6	88.9	62.3	19.8	4.9	2.0	1.0
135°	154.2	96.8	70.2	46.4	13.8	4.0	1.0	1.0
137.5°	126.5	77.1	53.4	33.6	9.9	3.0	2.0	1.0
140°	101.8	58.3	38.5	23.7	6.9	2.0	2.0	1.0
142.5°	79.1	41.5	26.7	15.8	4.9	2.0	1.0	1.0
145°	58.3	27.7	17.8	9.9	4.0	2.0	2.0	2.0
147.5°	39.5	18.8	10.9	6.9	3.0	2.0	2.0	1.0
150°	25.7	11.9	6.9	4.9	2.0	2.0	2.0	1.0
152.5°	15.8	6.9	4.0	3.0	2.0	2.0	2.0	1.0
155°	7.9	4.0	3.0	2.0	2.0	2.0	2.0	2.0
157.5°	4.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
160°	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0
162.5°	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
165°	0.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
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)