

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: P201317

Luminaire Tested: **4LBLED-LD4-8-SYMF-UNV-L835-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201317
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-LD4-8-SYMF-UNV-L835-CD1-U
Description: 4 ft. Low Bay Linear, 8000 lm, Frst Sym lens, 3.5K
Light Source: (392) 3500K CCT, 80 CRI LEDS
2UT217098A8354C
Ballast/Driver: OSRAM
(OTI85W01280CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8338.5 lumens
Efficiency: N/A
Efficacy: 145.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

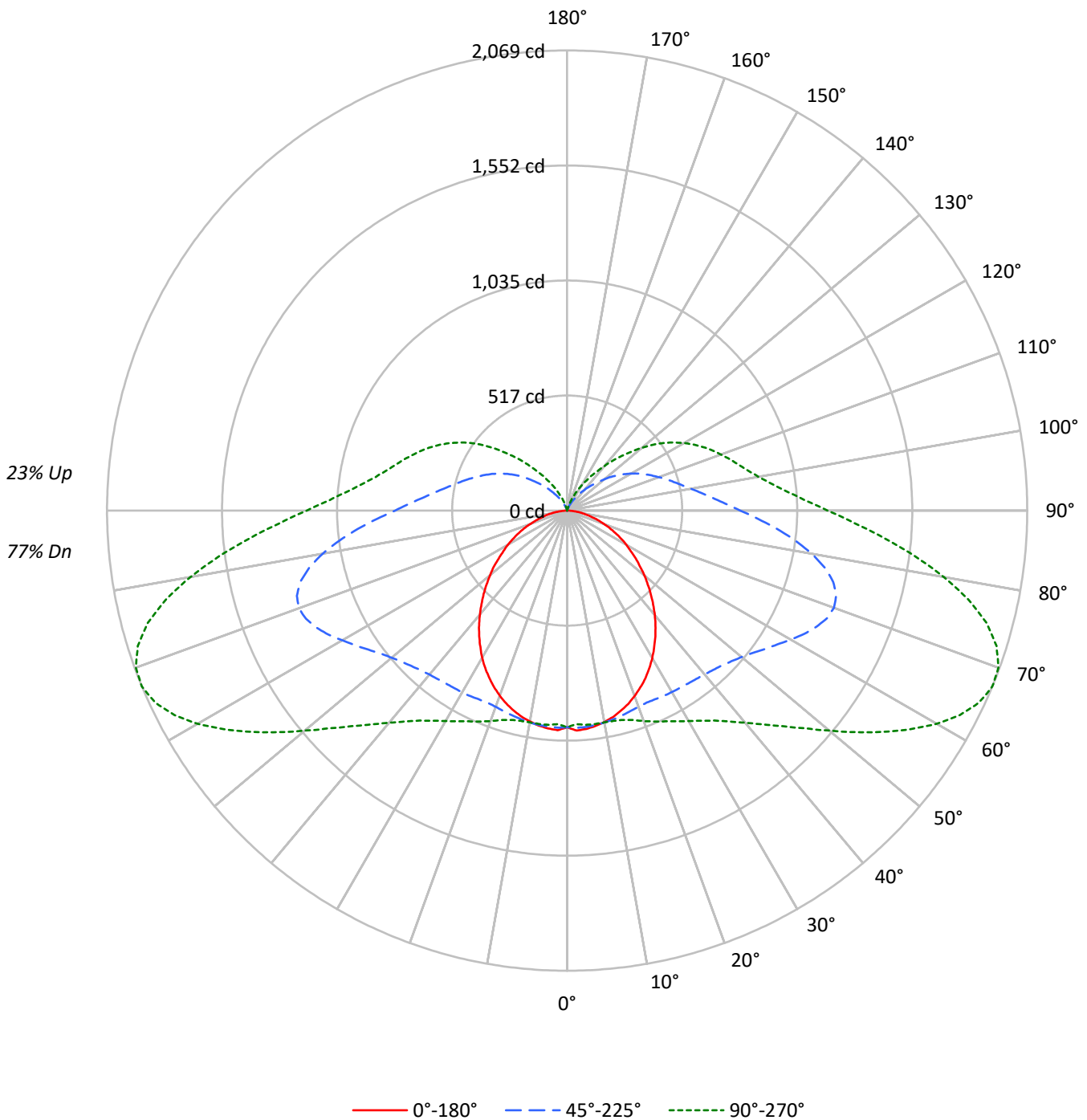
Input Watts (W): 57.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

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°	15698	15698	15698
5°	15868	14106	15835
10°	15646	12974	15612
15°	15329	12185	15306
20°	14929	11879	14906
25°	14453	11761	14390
30°	13824	11823	13812
35°	13115	12111	13089
40°	12357	12801	12301
45°	11533	13910	11502
50°	10696	15531	10663
55°	9849	17537	9830
60°	9085	19577	9106
65°	8233	21221	8257
70°	7325	21988	7325
75°	6236	21515	6199
80°	5023	19798	4973
85°	3444	17389	3282



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	1.1
10°-20°	269.0	3.2
20°-30°	432.4	5.2
30°-40°	585.5	7.0
40°-50°	752.2	9.0
50°-60°	967.7	11.6
60°-70°	1183.9	14.2
70°-80°	1196.9	14.4
80°-90°	925.6	11.1
90°-100°	643.1	7.7
100°-110°	480.3	5.8
110°-120°	360.0	4.3
120°-130°	242.4	2.9
130°-140°	132.9	1.6
140°-150°	56.7	0.7
150°-160°	16.2	0.2
160°-170°	1.4	0.0
170°-180°	0.0	0.0
0°-30°	793.9	9.5
0°-40°	1379.4	16.5
0°-60°	3099.3	37.2
0°-90°	6405.6	76.8
90°-120°	1483.3	17.8
90°-150°	1915.3	23.0
90°-180°	1933.0	23.2
0°-180°	8338.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	974	974	974	974	974	
5°	986	976	967	975	983	93
15°	932	954	974	954	930	263
25°	833	936	1046	937	829	382
35°	691	949	1153	949	690	432
45°	532	985	1371	989	531	411
55°	377	1085	1735	1090	376	337
65°	240	1237	2043	1245	241	238
75°	120	1239	1952	1243	119	128
85°	30	947	1433	944	28	33
90°	1	778	1170	774	0	2
95°	1	656	990	654	0	0
105°	1	496	798	496	0	1
115°	1	386	675	386	0	1
125°	1	277	530	275	0	1
135°	1	167	348	165	0	1
145°	1	85	191	81	0	1
155°	1	27	79	26	0	1
165°	1	1	8	4	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2
2.5°	989.8	989.1	984.8	978.4	975.6	974.9	974.2	971.4	970.6	972.1	977.7
5°	985.5	984.8	980.6	974.2	972.1	971.4	970.6	968.5	968.5	970.6	976.3
7.5°	977.0	976.3	972.1	967.1	965.0	964.3	964.3	962.9	962.9	966.4	972.8
10°	965.0	964.3	960.7	956.5	955.1	955.1	955.1	954.4	955.8	960.0	967.1
12.5°	950.8	949.4	946.6	943.0	943.0	943.0	943.7	943.7	945.9	952.9	961.4
15°	931.7	932.4	929.6	926.7	928.2	928.9	930.3	931.7	935.2	943.7	953.7
17.5°	911.9	911.9	909.8	908.3	911.2	912.6	914.7	916.8	923.2	933.8	945.2
20°	887.1	887.8	887.1	887.8	891.4	893.5	896.3	901.3	909.8	924.6	938.1
22.5°	860.2	861.6	861.6	864.4	870.1	873.7	877.2	884.3	896.3	915.4	934.5
25°	832.6	831.9	835.4	840.4	846.0	851.0	855.2	865.9	883.6	909.1	936.0
27.5°	799.3	800.7	805.7	812.8	821.3	827.6	834.0	848.9	874.4	908.3	939.5
30°	765.3	767.5	773.8	783.7	795.8	804.3	811.3	834.7	869.4	908.3	942.3
32.5°	728.5	732.1	740.6	753.3	770.3	780.2	791.5	822.7	865.2	906.9	945.2
35°	691.0	695.2	706.6	722.1	742.0	754.0	771.7	813.5	859.5	905.5	948.7
37.5°	652.8	657.7	670.5	690.3	715.8	734.2	755.4	803.6	855.2	905.5	953.7
40°	613.1	618.8	635.1	657.7	690.3	714.4	739.8	793.6	851.0	906.2	961.4
42.5°	572.8	579.1	599.0	625.9	668.3	696.7	725.0	785.2	848.2	909.8	971.4
45°	532.4	540.9	562.8	595.4	648.5	678.2	710.8	777.4	846.7	916.1	984.8
47.5°	492.0	502.0	527.4	566.4	628.0	663.4	697.4	771.0	848.2	924.6	1002.5
50°	453.1	464.4	492.8	540.2	608.9	647.1	684.6	766.7	851.0	937.4	1023.7
52.5°	413.5	428.3	459.5	516.8	591.9	632.2	674.0	763.9	856.7	954.4	1051.4
55°	376.6	392.2	428.3	494.2	575.6	619.5	664.1	763.2	866.6	974.9	1085.3
57.5°	339.1	358.2	397.9	472.2	558.6	606.7	656.3	764.6	878.6	996.8	1120.0
60°	307.3	324.3	370.3	451.0	543.7	594.7	649.2	766.0	891.4	1022.3	1160.4
62.5°	273.3	291.7	346.2	430.5	528.9	584.1	642.1	768.2	904.8	1048.5	1201.4
65°	240.0	259.1	322.1	410.6	514.0	572.8	633.6	768.2	915.4	1072.6	1236.8
67.5°	208.1	228.7	298.1	389.4	497.0	558.6	623.0	764.6	921.8	1089.6	1264.5
70°	177.7	200.4	274.7	366.7	478.6	541.6	608.2	756.8	921.1	1096.0	1276.5
72.5°	147.3	173.5	249.2	344.1	458.8	522.5	590.5	742.0	911.2	1088.2	1268.7
75°	119.6	148.0	226.6	321.4	436.1	499.8	568.5	719.3	889.2	1064.1	1239.0
77.5°	94.2	125.3	202.5	296.6	410.6	473.6	540.9	690.3	854.5	1021.6	1186.6
80°	70.1	104.8	179.8	271.9	383.0	444.6	509.7	653.5	809.2	964.3	1116.5
82.5°	48.9	85.7	157.9	247.1	354.7	413.5	475.8	609.6	756.8	897.7	1035.8
85°	29.7	68.7	135.9	223.0	325.7	380.9	439.7	563.6	699.5	825.5	947.3
87.5°	12.7	53.1	116.8	199.7	296.6	349.0	402.8	519.7	638.6	750.5	858.8
90°	0.7	39.6	99.8	177.7	269.0	317.9	368.2	472.9	582.7	681.8	778.1
92.5°	0.0	34.0	89.9	164.3	249.9	295.2	342.0	438.2	537.4	625.9	711.5
95°	0.7	28.3	81.4	149.4	230.8	274.0	317.2	407.1	496.3	577.7	656.3
97.5°	0.7	23.4	72.2	135.9	213.1	252.7	293.1	376.6	457.4	534.5	607.4
100°	0.7	18.4	63.7	123.2	194.7	231.5	269.7	348.3	424.1	496.3	565.0
102.5°	0.7	13.5	56.6	111.2	177.7	212.4	247.8	322.1	393.6	463.0	528.2
105°	0.7	9.2	49.6	99.8	162.1	194.7	228.0	298.1	366.0	432.6	496.3
107.5°	0.7	6.4	43.2	89.2	145.1	177.7	208.9	275.4	340.5	405.0	467.3
110°	0.7	5.7	37.5	80.0	131.7	161.4	191.2	254.2	316.5	378.1	438.9



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	5.0	31.9	71.5	118.2	145.1	174.2	233.6	294.5	354.0	412.0
115°	0.7	5.0	26.2	63.7	106.9	131.0	157.9	213.8	271.9	329.2	385.9
117.5°	0.7	5.0	21.2	56.6	96.3	118.2	141.6	195.4	249.2	305.1	360.4
120°	0.7	4.2	17.0	49.6	87.1	106.9	128.9	177.7	227.3	279.7	332.8
122.5°	0.7	4.2	14.2	43.2	77.9	96.3	116.1	159.3	206.7	254.9	304.4
125°	0.7	3.5	12.0	36.1	68.7	86.4	104.1	143.0	186.9	231.5	276.8
127.5°	1.4	3.5	9.9	29.7	59.5	75.0	92.0	127.4	165.7	206.0	249.2
130°	1.4	3.5	8.5	22.7	50.3	64.4	79.3	111.9	147.3	182.0	219.5
132.5°	1.4	2.8	7.8	17.7	41.8	54.5	68.0	97.0	128.1	159.3	191.9
135°	1.4	2.8	6.4	14.2	33.3	44.6	57.3	82.8	110.4	139.5	167.1
137.5°	1.4	2.1	5.7	11.3	25.5	36.1	47.4	70.1	94.2	118.9	144.4
140°	1.4	2.1	5.0	9.2	19.1	26.9	37.5	57.3	78.6	100.5	122.5
142.5°	1.4	2.1	4.2	7.8	14.9	20.5	28.3	46.7	65.1	83.5	102.7
145°	1.4	2.1	3.5	6.4	11.3	15.6	20.5	36.1	52.4	68.7	85.0
147.5°	1.4	2.1	3.5	5.7	9.2	12.0	15.6	26.2	41.1	54.5	68.7
150°	1.4	2.1	2.8	5.0	7.8	9.2	11.3	18.4	29.7	41.8	53.8
152.5°	1.4	1.4	2.8	4.2	5.7	7.1	8.5	13.5	20.5	29.7	40.4
155°	1.4	1.4	2.1	3.5	5.0	5.7	6.4	9.2	13.5	19.1	26.9
157.5°	1.4	1.4	2.1	2.8	3.5	4.2	5.0	6.4	9.2	12.0	16.3
160°	1.4	1.4	2.1	2.8	2.8	3.5	3.5	4.2	5.7	7.1	9.2
162.5°	1.4	1.4	2.1	2.1	2.1	2.8	2.8	2.8	3.5	3.5	4.2
165°	1.4	1.4	1.4	2.1	1.4	2.1	1.4	2.1	2.1	1.4	1.4
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: P201317

CATALOG NUMBER: 4LBLELD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2
2.5°	979.8	974.9	972.8	969.9	967.8	966.4	964.3	962.9	960.7	960.7	961.4
5°	978.4	973.5	972.1	969.2	967.8	967.1	965.7	966.4	966.4	967.1	966.4
7.5°	975.6	971.4	969.9	968.5	967.1	966.4	965.7	967.1	967.1	967.8	967.8
10°	970.6	967.8	967.8	966.4	965.7	965.0	963.6	965.7	965.7	967.1	966.4
12.5°	965.0	964.3	965.0	965.7	965.7	965.0	964.3	967.1	968.5	968.5	969.2
15°	958.6	960.0	963.6	965.7	967.1	967.1	968.5	971.4	973.5	974.2	974.2
17.5°	953.7	957.2	963.6	969.2	972.1	973.5	977.0	982.7	986.2	986.9	986.9
20°	950.1	958.6	969.9	980.6	984.1	986.9	994.0	1001.1	1006.0	1006.8	1006.8
22.5°	952.9	967.1	982.7	994.7	999.7	1003.2	1011.0	1020.2	1025.9	1026.6	1026.6
25°	960.0	977.0	994.7	1009.6	1015.2	1019.5	1028.0	1037.9	1043.6	1045.7	1045.0
27.5°	966.4	986.9	1007.5	1024.5	1030.8	1036.5	1047.1	1058.4	1065.5	1067.6	1066.2
30°	972.1	996.1	1019.5	1040.0	1048.5	1054.9	1067.6	1081.1	1090.3	1092.4	1090.3
32.5°	977.7	1006.8	1034.4	1058.4	1066.9	1076.1	1092.4	1108.0	1117.2	1120.0	1118.6
35°	985.5	1019.5	1052.1	1079.7	1091.0	1101.6	1120.7	1139.1	1150.5	1152.6	1150.5
37.5°	996.1	1035.8	1071.9	1106.6	1118.6	1133.5	1156.1	1178.1	1191.5	1194.4	1191.5
40°	1009.6	1056.3	1098.8	1139.1	1155.4	1171.0	1198.6	1224.8	1239.7	1244.6	1242.5
42.5°	1027.3	1081.8	1131.4	1179.5	1197.9	1217.7	1250.3	1280.7	1297.7	1303.4	1297.7
45°	1049.2	1113.7	1171.0	1226.9	1248.2	1272.2	1311.2	1345.9	1365.7	1370.7	1365.7
47.5°	1078.3	1151.2	1217.7	1282.2	1307.6	1336.0	1382.0	1421.6	1442.9	1448.5	1443.6
50°	1109.4	1196.5	1273.0	1346.6	1378.4	1408.2	1462.0	1505.9	1528.5	1539.2	1530.0
52.5°	1148.3	1246.1	1336.0	1418.1	1456.3	1491.7	1551.2	1599.3	1626.9	1636.1	1623.4
55°	1195.1	1305.5	1406.1	1500.9	1539.2	1578.8	1644.6	1695.6	1724.6	1734.6	1725.4
57.5°	1246.8	1368.5	1479.7	1579.5	1624.1	1664.5	1738.1	1791.2	1816.7	1829.4	1818.1
60°	1300.6	1433.7	1554.0	1660.2	1709.1	1750.8	1825.9	1878.3	1905.2	1917.9	1907.3
62.5°	1353.0	1496.7	1623.4	1733.9	1780.6	1826.6	1901.6	1951.9	1979.5	1990.8	1980.9
65°	1398.3	1549.8	1680.0	1794.0	1842.2	1887.5	1958.3	2006.4	2035.5	2043.2	2036.2
67.5°	1432.2	1585.9	1717.6	1830.1	1876.9	1922.2	1989.4	2034.0	2062.4	2069.4	2063.1
70°	1447.8	1600.0	1730.3	1840.0	1886.1	1926.4	1990.1	2032.6	2059.5	2063.8	2058.8
72.5°	1437.9	1585.9	1711.9	1816.7	1860.6	1896.0	1954.7	1995.1	2020.6	2024.1	2020.6
75°	1401.1	1542.7	1661.6	1759.3	1800.4	1830.1	1886.1	1923.6	1949.1	1951.9	1947.7
77.5°	1338.8	1470.5	1579.5	1673.7	1707.7	1736.7	1789.8	1823.1	1843.6	1847.8	1842.9
80°	1255.3	1376.3	1474.0	1558.3	1590.8	1615.6	1667.3	1703.4	1714.7	1720.4	1713.3
82.5°	1159.7	1268.0	1355.1	1431.5	1460.6	1491.0	1524.3	1557.6	1573.8	1578.8	1573.1
85°	1057.0	1153.3	1230.5	1299.1	1324.6	1352.2	1381.3	1413.8	1428.0	1433.0	1427.3
87.5°	954.4	1039.3	1107.3	1168.2	1191.5	1216.3	1251.0	1268.0	1287.1	1292.8	1286.4
90°	862.3	938.8	999.7	1054.9	1076.8	1099.5	1126.4	1147.6	1165.3	1170.3	1164.6
92.5°	788.0	856.7	912.6	962.1	981.3	1002.5	1028.7	1049.2	1064.8	1069.8	1064.1
95°	726.4	789.4	841.8	887.8	906.2	926.0	955.1	971.4	985.5	989.8	985.5
97.5°	674.0	733.5	783.0	827.6	845.3	863.7	892.1	908.3	921.8	925.3	921.8
100°	628.0	686.0	734.9	777.4	795.1	812.8	840.4	856.7	869.4	873.7	869.4
102.5°	589.7	645.7	693.8	737.0	754.0	771.7	797.9	817.0	826.9	831.9	827.6
105°	556.5	611.0	659.1	701.6	719.3	736.3	763.2	780.9	792.2	797.9	792.9
107.5°	526.0	579.8	628.7	669.8	687.5	704.4	732.1	749.8	760.4	766.7	761.1
110°	497.0	550.1	596.8	639.3	657.0	674.7	702.3	720.0	730.6	736.3	731.3



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	468.7	520.4	568.5	609.6	626.6	644.3	672.6	691.0	700.9	707.3	701.6
115°	440.4	491.3	538.1	577.7	594.7	613.1	640.7	659.8	670.5	675.4	669.8
117.5°	412.8	461.6	506.2	545.1	562.1	579.8	606.7	625.9	637.2	642.1	636.5
120°	384.4	431.2	475.1	510.5	528.2	544.4	572.1	590.5	601.8	606.7	601.1
122.5°	354.0	400.0	441.8	476.5	493.5	509.0	535.9	554.4	565.0	569.9	565.0
125°	322.8	366.0	406.4	441.1	455.2	470.1	496.3	514.0	525.3	529.6	525.3
127.5°	291.7	331.3	368.9	399.3	414.9	429.0	453.8	470.8	480.7	485.7	482.1
130°	260.5	298.1	332.0	359.7	373.1	386.6	409.2	424.8	434.7	438.9	435.4
132.5°	227.3	263.4	296.6	320.7	333.5	344.8	365.3	378.8	387.3	392.2	388.0
135°	197.5	227.3	258.4	283.2	295.9	305.8	324.3	335.6	343.4	347.6	343.4
137.5°	170.6	196.1	221.6	243.5	255.6	266.2	283.9	294.5	301.6	305.8	301.6
140°	145.8	167.8	190.4	208.1	218.8	227.3	243.5	252.7	259.1	262.7	258.4
142.5°	121.8	141.6	160.7	177.0	186.2	193.3	208.9	215.9	220.9	223.0	220.9
145°	101.2	117.5	133.8	148.7	155.8	161.4	177.0	184.8	189.0	191.2	189.0
147.5°	82.1	95.6	109.0	121.1	127.4	134.5	145.1	154.3	157.9	159.3	157.9
150°	64.4	76.5	87.1	97.0	101.9	106.9	116.1	125.3	128.9	131.0	128.9
152.5°	48.9	58.8	67.3	75.0	79.3	83.5	91.3	99.8	103.4	104.8	103.4
155°	35.4	42.5	50.3	55.9	59.5	62.3	68.0	73.6	79.3	79.3	79.3
157.5°	21.9	27.6	34.0	38.9	41.1	43.9	48.1	53.1	57.3	59.5	59.5
160°	11.3	14.9	19.1	22.7	24.8	26.9	29.7	34.0	36.8	38.9	37.5
162.5°	5.0	6.4	8.5	9.9	11.3	12.0	14.2	16.3	17.7	21.2	18.4
165°	1.4	1.4	2.1	2.8	2.8	2.8	3.5	4.2	5.0	7.8	5.7
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: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2
2.5°	962.9	965.0	967.8	969.2	971.4	972.8	976.3	980.6	977.0	972.1	972.8
5°	966.4	965.7	967.8	969.2	970.6	971.4	974.9	979.1	974.9	969.9	969.9
7.5°	967.8	967.1	967.8	968.5	969.2	969.2	972.8	976.3	972.1	965.7	964.3
10°	965.7	965.0	965.7	967.1	967.1	967.1	969.2	972.1	967.1	959.3	956.5
12.5°	967.1	965.0	965.0	965.7	965.7	964.3	965.0	967.1	960.7	952.2	948.0
15°	972.1	968.5	967.1	967.1	965.7	962.1	960.7	960.7	953.7	942.3	936.7
17.5°	984.1	978.4	974.2	972.1	969.2	962.9	957.9	955.1	945.9	933.1	923.9
20°	1002.5	994.7	988.3	984.1	980.6	969.2	959.3	951.5	938.8	923.2	911.2
22.5°	1020.9	1012.4	1003.2	999.0	994.0	981.3	967.8	954.4	935.2	914.0	897.7
25°	1038.6	1030.1	1019.5	1015.2	1008.9	994.0	977.0	961.4	936.7	907.6	884.3
27.5°	1059.1	1048.5	1037.2	1030.8	1023.7	1006.8	987.6	968.5	940.9	907.6	875.1
30°	1082.5	1069.8	1054.9	1047.8	1039.3	1019.5	996.1	973.5	943.7	907.6	870.1
32.5°	1109.4	1094.5	1076.8	1066.9	1057.0	1033.7	1006.0	979.8	945.9	906.9	865.9
35°	1140.6	1123.6	1102.3	1091.0	1079.0	1051.4	1018.8	986.9	949.4	906.2	860.2
37.5°	1179.5	1159.7	1134.2	1120.0	1105.9	1073.3	1035.8	997.5	955.1	906.9	856.0
40°	1226.2	1202.9	1173.1	1155.4	1138.4	1100.9	1056.3	1011.0	962.9	908.3	851.7
42.5°	1281.4	1253.1	1219.9	1199.3	1179.5	1132.8	1081.8	1028.0	973.5	911.2	849.6
45°	1347.3	1317.6	1275.1	1249.6	1227.6	1173.1	1114.4	1050.6	989.1	918.3	848.9
47.5°	1423.0	1385.5	1339.5	1309.8	1283.6	1220.6	1152.6	1079.0	1006.8	927.5	850.3
50°	1508.0	1465.5	1412.4	1381.3	1348.7	1276.5	1197.9	1112.2	1029.4	940.9	853.8
52.5°	1601.5	1554.7	1497.4	1460.6	1424.5	1340.9	1248.9	1154.7	1055.6	957.9	860.2
55°	1698.5	1648.2	1584.5	1544.1	1503.8	1411.7	1309.1	1200.7	1090.3	979.1	870.8
57.5°	1792.6	1740.9	1670.8	1629.8	1584.5	1486.8	1373.5	1251.0	1127.8	1003.9	882.9
60°	1879.7	1828.0	1757.2	1715.4	1665.9	1561.1	1439.3	1306.2	1166.8	1030.1	897.0
62.5°	1953.3	1903.8	1833.0	1790.5	1739.5	1631.2	1502.3	1360.0	1209.2	1057.7	910.5
65°	2007.8	1961.1	1892.4	1848.5	1799.7	1687.1	1555.4	1407.5	1244.6	1081.8	922.5
67.5°	2035.5	1991.6	1925.0	1883.2	1835.1	1723.2	1591.5	1439.3	1271.5	1098.8	930.3
70°	2032.6	1990.8	1928.5	1887.5	1841.5	1733.9	1604.3	1452.1	1283.6	1105.2	928.9
72.5°	1995.8	1954.0	1898.1	1858.5	1814.6	1714.0	1586.6	1440.7	1274.4	1095.2	917.5
75°	1922.9	1884.7	1828.0	1795.4	1755.8	1662.3	1540.6	1399.0	1243.2	1069.1	894.2
77.5°	1818.1	1789.1	1733.9	1703.4	1664.5	1578.1	1463.4	1336.0	1188.7	1025.2	858.1
80°	1690.0	1665.9	1612.1	1585.2	1546.9	1471.9	1372.8	1249.6	1116.5	965.7	811.3
82.5°	1549.8	1522.2	1479.7	1454.9	1418.8	1351.5	1257.4	1156.8	1032.9	897.7	756.8
85°	1404.6	1379.2	1340.2	1319.0	1287.1	1226.9	1142.7	1054.2	944.4	822.7	698.1
87.5°	1266.6	1241.8	1205.0	1185.9	1156.8	1103.0	1029.4	951.5	854.5	750.5	635.8
90°	1146.9	1123.6	1088.9	1071.2	1045.0	996.1	929.6	859.5	773.8	678.2	579.8
92.5°	1048.5	1027.3	994.7	977.7	954.4	909.8	849.6	785.9	708.7	625.9	534.5
95°	970.6	950.1	921.1	904.8	882.9	836.8	783.7	724.3	653.5	577.7	493.5
97.5°	907.6	890.6	858.8	843.2	825.5	778.8	730.6	671.9	606.0	535.2	456.6
100°	856.7	837.5	808.5	793.6	775.2	731.3	682.5	627.3	563.6	496.3	423.4
102.5°	817.0	797.2	770.3	753.3	735.6	691.0	642.8	589.0	528.2	463.0	392.9
105°	781.6	762.5	735.6	718.6	700.9	657.0	611.0	556.5	496.3	433.3	365.3
107.5°	748.3	731.3	704.4	687.5	669.8	625.9	579.8	526.0	467.3	405.7	339.8
110°	720.0	701.6	673.3	657.0	637.9	596.1	550.1	497.7	438.9	378.8	315.8



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	691.7	671.9	643.6	627.3	608.2	566.4	521.1	469.4	412.0	354.0	293.1
115°	660.5	641.4	611.7	595.4	576.3	535.2	491.3	441.1	385.9	329.2	270.4
117.5°	627.3	608.2	578.4	562.8	544.4	504.1	462.3	413.5	359.7	305.1	247.8
120°	591.2	572.8	544.4	528.9	511.2	472.2	431.9	383.0	332.0	279.7	226.6
122.5°	554.4	536.7	509.0	493.5	476.5	439.7	400.0	352.6	303.7	254.9	206.0
125°	514.7	497.0	470.8	455.9	438.9	403.6	365.3	320.7	275.4	231.5	184.8
127.5°	468.7	454.5	429.0	414.2	398.6	367.4	330.6	290.3	248.5	206.0	164.3
130°	424.8	409.9	385.9	372.4	358.9	330.6	298.1	259.1	218.1	181.2	143.7
132.5°	378.8	365.3	344.8	333.5	321.4	295.9	262.7	224.4	189.7	157.9	124.6
135°	335.6	324.3	305.8	295.9	283.9	257.0	225.8	194.0	165.0	136.6	106.9
137.5°	295.2	283.9	266.9	256.3	243.5	219.5	194.0	167.8	140.9	116.8	90.6
140°	252.7	243.5	228.0	218.8	207.4	186.9	165.7	140.9	119.6	97.7	75.0
142.5°	216.6	208.9	193.3	184.8	174.9	157.9	138.1	118.9	99.8	80.7	61.6
145°	185.5	177.7	160.7	154.3	145.1	130.3	114.0	97.0	81.4	65.1	49.6
147.5°	155.0	145.8	131.0	125.3	118.2	105.5	92.7	79.3	65.8	51.7	38.2
150°	126.7	116.1	104.1	100.5	93.5	83.5	72.9	61.6	51.0	39.6	27.6
152.5°	99.8	90.6	80.7	77.2	71.5	65.1	55.9	46.7	38.2	27.6	19.1
155°	74.3	67.3	59.5	57.3	53.1	48.1	40.4	33.3	25.5	18.4	13.5
157.5°	52.4	46.7	41.1	39.6	36.8	32.6	26.2	20.5	16.3	12.0	9.2
160°	32.6	29.0	24.8	23.4	21.2	18.4	14.2	12.0	9.9	7.8	5.7
162.5°	15.6	13.5	12.0	11.3	9.9	8.5	7.8	6.4	5.7	5.0	4.2
165°	5.7	5.7	5.7	5.0	5.0	5.0	5.0	4.2	3.5	3.5	2.8
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	974.2	974.2	974.2	974.2	974.2	974.2	974.2	974.2
2.5°	973.5	974.9	974.9	975.6	977.7	982.0	987.6	988.3
5°	970.6	971.4	971.4	971.4	973.5	977.0	982.7	983.4
7.5°	964.3	964.3	964.3	964.3	966.4	969.2	974.2	974.9
10°	955.8	955.1	955.1	954.4	955.8	957.9	963.6	962.9
12.5°	945.2	943.7	943.0	943.0	942.3	944.4	948.0	948.7
15°	933.1	930.3	928.9	927.5	926.7	926.7	931.0	930.3
17.5°	919.0	914.7	912.6	910.5	907.6	907.6	910.5	909.8
20°	902.7	897.0	893.5	890.6	886.4	885.0	886.4	885.7
22.5°	886.4	877.2	873.7	869.4	863.0	860.2	859.5	858.8
25°	867.3	856.0	851.0	846.7	837.5	834.0	830.5	829.0
27.5°	850.3	834.0	827.6	820.6	809.9	805.0	799.3	797.9
30°	835.4	811.3	801.4	794.4	780.9	773.1	766.0	764.6
32.5°	824.1	790.8	777.4	768.9	750.5	739.8	730.6	726.4
35°	814.2	771.7	754.0	740.6	718.6	705.9	693.1	689.6
37.5°	805.0	755.4	732.1	713.6	688.9	670.5	656.3	650.6
40°	795.8	740.6	712.2	688.9	656.3	635.1	617.4	610.3
42.5°	787.3	725.7	695.2	666.9	624.4	599.0	579.8	569.9
45°	779.5	712.2	679.0	647.8	593.3	563.6	540.2	531.0
47.5°	773.8	699.5	662.7	628.7	564.3	527.4	503.4	491.3
50°	769.6	687.5	647.1	609.6	538.8	492.8	465.9	451.7
52.5°	767.5	676.8	632.9	592.6	515.4	459.5	427.6	417.0
55°	768.2	668.3	620.9	577.0	493.5	427.6	392.2	375.9
57.5°	769.6	660.5	608.9	561.4	471.5	396.5	356.8	339.8
60°	772.4	654.2	598.2	546.6	451.0	369.6	324.3	308.0
62.5°	775.2	648.5	587.6	532.4	431.2	344.8	291.7	273.3
65°	775.9	640.0	576.3	518.2	411.3	320.0	258.4	240.7
67.5°	773.1	629.4	562.1	502.0	390.8	295.9	227.3	208.9
70°	764.6	615.2	545.9	483.6	368.2	272.6	197.5	177.7
72.5°	749.0	596.8	526.7	463.0	346.2	247.8	170.6	146.6
75°	727.1	574.2	504.1	439.7	322.8	224.4	145.8	118.9
77.5°	697.4	545.1	477.2	413.5	297.4	200.4	124.6	93.5
80°	659.1	514.7	447.4	385.1	272.6	178.4	104.1	69.4
82.5°	613.8	480.0	415.6	356.1	249.2	155.8	85.0	48.1
85°	567.1	442.5	382.3	325.7	224.4	134.5	68.7	28.3
87.5°	521.1	405.0	350.5	298.1	198.9	115.4	53.1	11.3
90°	475.8	368.9	317.2	268.3	177.0	97.7	39.6	0.0
92.5°	438.2	342.0	295.2	248.5	162.8	88.5	34.0	0.0
95°	405.0	316.5	271.9	228.7	148.0	80.0	28.3	0.0
97.5°	374.5	292.4	251.3	210.3	134.5	70.8	23.4	0.0
100°	345.5	268.3	230.1	193.3	121.8	63.0	17.7	0.0
102.5°	320.0	247.1	211.0	174.9	109.0	55.2	12.7	0.0
105°	295.2	226.6	193.3	158.6	97.7	48.1	7.8	0.0
107.5°	273.3	207.4	175.6	143.7	87.1	41.8	5.0	0.0
110°	252.0	189.7	158.6	129.6	77.9	36.1	4.2	0.0



TEST NUMBER: P201317

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	232.2	172.7	143.7	116.1	70.1	30.4	4.2	0.0
115°	211.7	156.5	129.6	104.8	62.3	24.8	3.5	0.0
117.5°	194.0	140.9	116.8	95.6	54.5	19.8	3.5	0.0
120°	176.3	127.4	106.2	85.7	47.4	14.9	3.5	0.0
122.5°	158.6	115.4	94.9	76.5	41.1	12.0	2.8	0.0
125°	142.3	102.7	84.2	66.6	34.0	10.6	2.8	0.0
127.5°	126.0	89.9	72.9	57.3	26.9	9.2	2.1	0.0
130°	109.7	77.2	62.3	48.1	20.5	7.8	2.1	0.0
132.5°	94.9	65.1	52.4	39.6	16.3	6.4	1.4	0.0
135°	80.0	54.5	43.2	31.2	12.7	5.7	1.4	0.0
137.5°	67.3	44.6	34.0	23.4	10.6	4.2	1.4	0.0
140°	55.2	35.4	25.5	17.7	8.5	3.5	0.7	0.0
142.5°	43.9	26.2	19.1	13.5	7.1	2.8	0.7	0.0
145°	34.0	19.1	14.2	10.6	6.4	2.1	0.7	0.0
147.5°	24.8	14.9	11.3	9.2	5.0	2.1	0.7	0.0
150°	17.7	11.3	9.2	7.1	3.5	1.4	0.7	0.0
152.5°	13.5	8.5	7.1	5.7	2.8	1.4	0.7	0.0
155°	9.9	6.4	5.7	4.2	2.1	1.4	0.7	0.0
157.5°	7.1	5.0	4.2	2.8	2.1	1.4	0.7	0.0
160°	4.2	3.5	2.8	2.1	1.4	0.7	0.7	0.0
162.5°	3.5	2.1	2.1	2.1	1.4	0.7	0.7	0.0
165°	2.1	1.4	1.4	1.4	0.7	0.7	0.7	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)