

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: P201298

Luminaire Tested: **4LBLED-LD4-9-SYMW-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201298
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-LD4-9-SYMW-UNV-L850-CD1-U
Description: 4 ft. Low Bay Linear, 9000 lm, Wht Sym lens, 5K
Light Source: (392) 5000K CCT, 80 CRI LEDS
2UT217098A8504C
Ballast/Driver: OSRAM
(OTI85W01480CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9495.1 lumens
Efficiency: N/A
Efficacy: 142.6 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

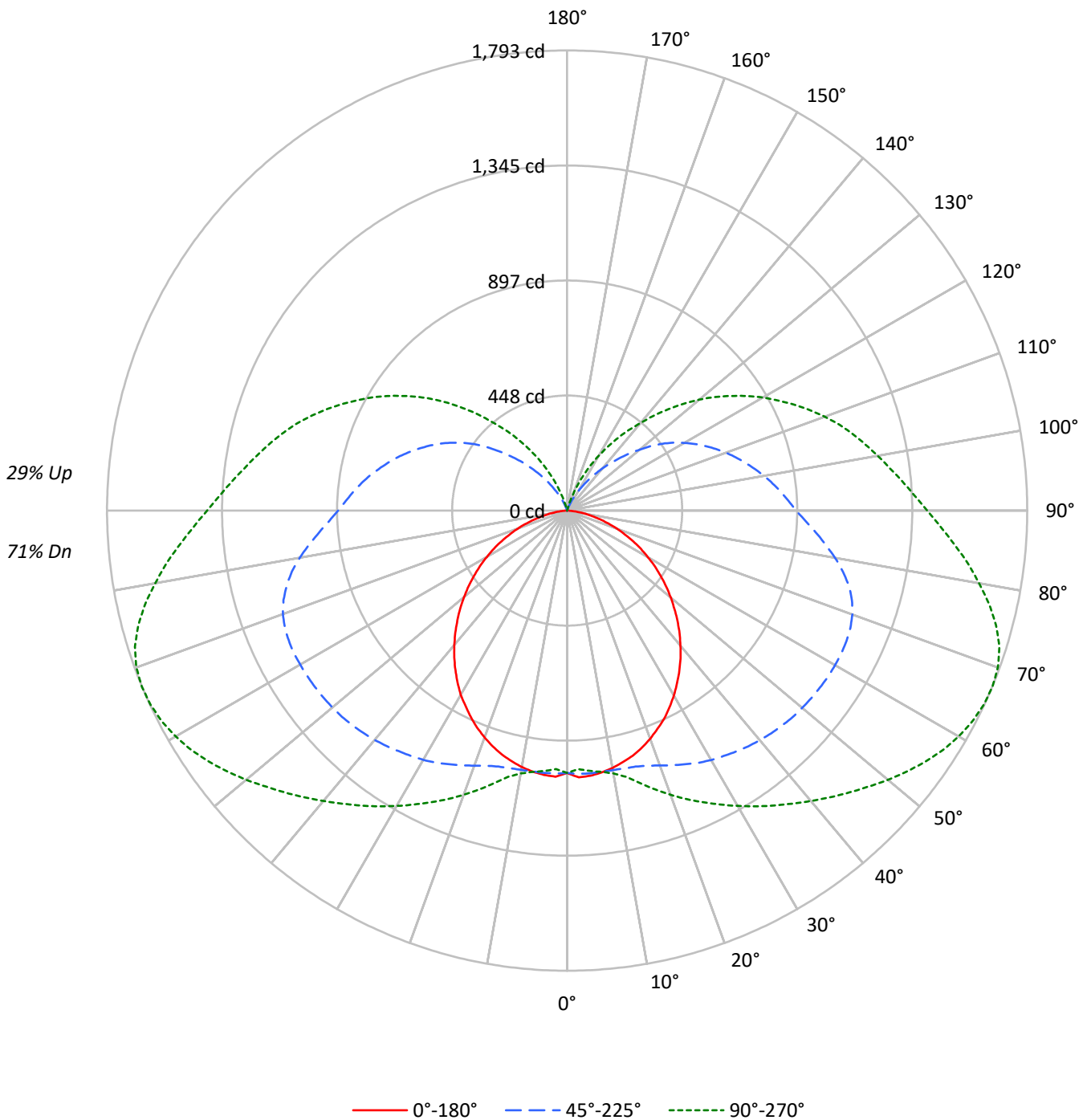
Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16476	16476	16476
5°	16698	14851	16643
10°	16509	13947	16454
15°	16262	13750	16191
20°	15915	13906	15830
25°	15529	14099	15411
30°	15020	14381	14973
35°	14470	14740	14406
40°	13837	15192	13784
45°	13170	15768	13097
50°	12440	16470	12381
55°	11643	17234	11575
60°	10764	17975	10691
65°	9742	18601	9653
70°	8509	19035	8401
75°	6935	19072	6669
80°	5131	18754	4765
85°	2667	18379	2377



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.7	1.0
10°-20°	294.1	3.1
20°-30°	497.9	5.2
30°-40°	696.2	7.3
40°-50°	877.2	9.2
50°-60°	1029.9	10.8
60°-70°	1126.2	11.9
70°-80°	1112.7	11.7
80°-90°	977.5	10.3
90°-100°	832.0	8.8
100°-110°	693.9	7.3
110°-120°	537.4	5.7
120°-130°	374.1	3.9
130°-140°	218.3	2.3
140°-150°	99.6	1.0
150°-160°	28.4	0.3
160°-170°	2.0	0.0
170°-180°	0.0	0.0
0°-30°	889.6	9.4
0°-40°	1585.8	16.7
0°-60°	3492.9	36.8
0°-90°	6709.2	70.7
90°-120°	2063.4	21.7
90°-150°	2755.4	29.0
90°-180°	2786.0	29.3
0°-180°	9495.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1022	1022	1022	1022	1022	
5°	1037	1028	1018	1026	1034	98
15°	988	1033	1099	1033	984	278
25°	895	1091	1254	1091	888	411
35°	762	1146	1403	1144	759	476
45°	608	1184	1554	1183	605	469
55°	445	1202	1705	1199	443	398
65°	284	1202	1791	1197	281	281
75°	133	1137	1730	1132	128	143
85°	23	972	1515	970	20	29
90°	0	892	1403	892	0	1
95°	0	836	1311	837	0	0
105°	1	719	1152	722	0	1
115°	1	594	976	596	1	1
125°	2	454	779	454	1	1
135°	2	288	559	288	1	1
145°	3	148	346	146	2	1
155°	3	42	154	39	2	1
165°	3	4	11	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°	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
2.5°	1040.4	1039.6	1035.3	1028.5	1025.9	1024.2	1023.4	1020.8	1019.9	1021.6	1026.8
5°	1037.0	1035.3	1031.9	1025.9	1023.4	1022.5	1021.6	1019.1	1018.2	1020.8	1027.6
7.5°	1029.3	1028.5	1025.1	1019.1	1018.2	1016.5	1016.5	1014.8	1014.8	1019.1	1026.8
10°	1018.2	1017.4	1014.0	1009.7	1008.9	1008.9	1008.9	1008.9	1010.6	1017.4	1026.8
12.5°	1003.7	1003.7	1001.2	997.8	998.6	998.6	999.5	1001.2	1006.3	1016.5	1028.5
15°	988.4	987.5	985.0	984.1	986.7	987.5	990.1	994.4	1002.9	1017.4	1032.7
17.5°	968.8	968.8	966.2	967.1	972.2	974.7	979.0	986.7	1000.3	1019.9	1042.1
20°	945.7	946.6	945.7	948.3	956.8	962.0	967.1	979.9	999.5	1026.8	1056.6
22.5°	920.2	921.9	921.9	928.7	939.8	947.5	955.1	973.0	1001.2	1038.7	1073.7
25°	894.6	894.6	897.1	906.5	921.9	931.3	943.2	968.8	1007.2	1051.5	1090.7
27.5°	863.9	866.4	870.7	883.5	904.8	917.6	932.1	968.8	1014.0	1064.3	1107.8
30°	831.5	834.0	840.9	858.8	886.1	902.3	922.7	968.8	1019.9	1074.5	1122.3
32.5°	797.4	801.6	811.0	834.0	867.3	889.5	915.9	967.9	1025.1	1083.0	1134.2
35°	762.4	766.7	781.2	808.4	851.9	877.5	908.2	965.4	1027.6	1090.7	1146.2
37.5°	725.7	733.4	749.6	783.7	836.6	867.3	899.7	962.8	1030.2	1096.7	1158.1
40°	686.5	694.2	717.2	758.1	821.2	853.6	889.5	959.4	1031.9	1102.7	1168.3
42.5°	648.1	658.4	684.8	734.3	805.9	841.7	879.2	954.3	1031.0	1106.9	1176.9
45°	608.0	620.0	652.4	711.2	788.8	827.2	867.3	947.5	1029.3	1109.5	1184.5
47.5°	567.1	581.6	620.0	688.2	771.8	811.9	855.4	940.6	1026.8	1111.2	1191.4
50°	527.0	544.1	587.6	665.2	753.0	795.7	840.9	933.0	1022.5	1112.0	1195.6
52.5°	486.9	505.7	556.9	642.2	733.4	778.6	826.4	923.6	1017.4	1111.2	1199.9
55°	445.2	465.6	526.2	617.4	712.9	759.8	810.2	911.6	1009.7	1107.8	1202.4
57.5°	405.1	428.1	497.2	593.5	691.6	741.1	794.8	898.8	1001.2	1105.2	1205.0
60°	364.1	390.6	467.3	566.3	669.4	720.6	776.0	884.3	990.9	1099.3	1205.0
62.5°	324.1	353.9	438.3	541.5	647.3	700.1	757.3	868.1	979.9	1093.3	1205.0
65°	284.0	318.1	408.5	514.2	622.5	678.0	736.0	851.1	966.2	1084.8	1201.6
67.5°	244.8	284.0	377.8	486.1	597.0	654.1	713.8	831.5	950.9	1073.7	1194.8
70°	206.4	249.9	347.1	456.2	570.5	626.8	689.1	810.2	933.0	1059.2	1182.8
72.5°	168.0	217.5	314.7	426.4	542.4	600.4	663.5	785.4	910.8	1039.6	1164.1
75°	133.0	185.1	284.0	395.7	513.4	572.2	635.3	758.1	884.3	1014.0	1136.8
77.5°	101.5	155.2	254.1	365.8	482.7	544.1	606.3	728.3	853.6	981.6	1101.0
80°	71.6	126.2	224.3	335.1	452.0	512.5	573.9	695.9	821.2	943.2	1060.0
82.5°	44.3	99.8	194.4	305.3	422.1	481.8	542.4	663.5	784.6	903.1	1015.7
85°	23.0	75.0	166.3	277.2	393.1	452.0	511.7	630.2	747.0	862.2	972.2
87.5°	7.7	54.6	143.3	252.4	366.7	425.5	483.5	598.7	712.1	822.1	929.5
90°	0.0	40.9	126.2	232.8	344.5	401.7	459.7	570.5	681.4	789.7	892.0
92.5°	0.0	35.0	115.1	219.2	329.2	385.5	441.7	551.8	658.4	763.3	863.0
95°	0.0	28.1	105.7	205.5	313.0	368.4	423.8	531.3	636.2	738.5	835.7
97.5°	0.0	22.2	95.5	192.7	296.8	350.5	404.2	510.8	613.2	713.8	807.6
100°	0.9	17.1	84.4	176.5	279.7	332.6	384.6	488.7	588.4	685.6	778.6
102.5°	0.9	11.9	74.2	162.9	261.8	313.0	364.1	465.6	563.7	660.1	748.8
105°	0.9	8.5	64.0	148.4	244.8	294.2	344.5	443.5	539.0	631.9	718.9
107.5°	0.9	6.0	54.6	134.7	227.7	274.6	323.2	419.6	513.4	603.8	689.1
110°	0.9	4.3	46.1	120.2	208.9	255.8	302.7	395.7	486.9	574.8	658.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.4	37.5	106.6	190.2	236.2	281.4	371.8	460.5	545.8	626.8
115°	0.9	3.4	29.8	93.8	171.4	215.8	259.2	347.9	432.4	515.9	594.4
117.5°	0.9	2.6	23.0	81.0	154.4	195.3	237.1	321.5	405.1	486.1	562.0
120°	0.9	2.6	17.1	68.2	136.4	174.8	215.8	295.9	376.1	454.5	527.0
122.5°	1.7	2.6	12.8	57.1	120.2	155.2	194.4	270.3	345.4	421.3	492.9
125°	1.7	1.7	10.2	46.1	103.2	135.6	170.6	243.9	312.1	384.6	454.5
127.5°	1.7	1.7	7.7	35.0	86.1	116.0	147.5	215.8	282.3	347.1	413.6
130°	1.7	1.7	6.8	25.6	69.9	96.4	125.4	186.8	249.0	308.7	369.3
132.5°	1.7	1.7	5.1	18.8	55.4	79.3	104.9	159.5	216.6	274.6	329.2
135°	1.7	1.7	4.3	13.6	41.8	63.1	85.3	133.9	185.9	240.5	288.2
137.5°	1.7	1.7	4.3	10.2	30.7	47.8	67.4	111.7	157.8	206.4	249.9
140°	1.7	1.7	3.4	8.5	21.3	35.0	51.2	89.5	128.8	174.0	215.8
142.5°	1.7	1.7	2.6	6.8	15.4	24.7	36.7	69.1	104.0	143.3	179.9
145°	2.6	1.7	2.6	6.0	11.1	17.1	25.6	52.0	80.2	115.1	147.5
147.5°	1.7	1.7	1.7	4.3	8.5	11.9	17.1	35.8	60.5	89.5	116.8
150°	2.6	1.7	1.7	3.4	6.8	8.5	11.9	23.9	41.8	65.7	89.5
152.5°	2.6	1.7	1.7	3.4	5.1	6.8	8.5	15.4	27.3	44.3	64.0
155°	2.6	1.7	1.7	2.6	4.3	5.1	6.8	10.2	16.2	27.3	41.8
157.5°	2.6	2.6	2.6	2.6	3.4	4.3	5.1	7.7	9.4	15.4	23.9
160°	2.6	2.6	1.7	1.7	2.6	2.6	3.4	5.1	6.8	8.5	11.9
162.5°	2.6	2.6	2.6	1.7	1.7	1.7	2.6	3.4	4.3	6.0	7.7
165°	2.6	2.6	1.7	1.7	1.7	1.7	1.7	1.7	2.6	3.4	4.3
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°	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
2.5°	1028.5	1024.2	1022.5	1019.1	1016.5	1014.8	1012.3	1010.6	1008.9	1008.0	1008.0
5°	1029.3	1025.1	1023.4	1020.8	1019.9	1018.2	1016.5	1018.2	1017.4	1018.2	1017.4
7.5°	1030.2	1026.8	1026.8	1025.9	1025.1	1025.1	1023.4	1025.1	1025.9	1026.8	1025.9
10°	1032.7	1031.9	1033.6	1034.4	1034.4	1034.4	1034.4	1036.1	1039.6	1039.6	1038.7
12.5°	1037.0	1039.6	1044.7	1048.9	1050.6	1050.6	1054.1	1057.5	1061.7	1062.6	1061.7
15°	1045.5	1053.2	1064.3	1073.7	1077.9	1080.5	1087.3	1093.3	1097.5	1099.3	1097.5
17.5°	1060.9	1075.4	1092.4	1106.1	1111.2	1114.6	1124.0	1130.0	1135.1	1139.3	1137.6
20°	1081.3	1101.0	1121.4	1137.6	1144.5	1148.7	1158.9	1170.0	1175.2	1178.6	1177.7
22.5°	1103.5	1126.5	1149.6	1169.2	1176.9	1182.0	1194.8	1205.0	1212.7	1216.9	1216.1
25°	1124.8	1151.3	1179.4	1200.7	1210.1	1216.1	1229.7	1241.7	1250.2	1253.6	1252.8
27.5°	1146.2	1176.9	1207.6	1232.3	1241.7	1249.3	1265.5	1278.3	1288.6	1291.1	1291.1
30°	1163.2	1199.0	1232.3	1260.4	1270.7	1280.9	1298.8	1315.9	1325.2	1328.7	1327.8
32.5°	1179.4	1219.5	1257.0	1288.6	1301.4	1311.6	1332.9	1351.7	1362.8	1366.2	1362.8
35°	1195.6	1240.0	1281.8	1315.9	1329.5	1342.3	1366.2	1387.5	1399.4	1402.8	1401.1
37.5°	1211.0	1260.4	1305.6	1343.2	1359.4	1373.0	1397.7	1423.3	1436.1	1439.5	1436.1
40°	1225.5	1279.2	1328.7	1369.6	1387.5	1403.7	1432.7	1458.3	1472.8	1477.0	1475.3
42.5°	1239.1	1298.0	1351.7	1396.9	1417.3	1434.4	1466.8	1494.9	1510.3	1515.4	1511.2
45°	1251.1	1316.7	1374.7	1423.3	1445.5	1465.1	1501.8	1532.5	1547.8	1553.8	1548.7
47.5°	1263.0	1333.8	1396.0	1449.8	1475.3	1495.8	1536.7	1569.1	1587.1	1592.2	1587.1
50°	1274.1	1350.8	1419.1	1477.0	1504.3	1527.4	1571.7	1606.7	1624.6	1632.2	1625.4
52.5°	1284.3	1367.0	1440.4	1502.6	1532.5	1558.1	1605.8	1643.3	1664.7	1669.8	1663.0
55°	1294.5	1382.4	1459.1	1526.5	1558.9	1586.2	1638.2	1677.4	1698.8	1704.7	1697.9
57.5°	1303.1	1396.0	1477.0	1549.5	1582.8	1614.3	1666.4	1707.3	1729.5	1736.3	1729.5
60°	1309.0	1407.1	1493.2	1568.3	1603.3	1635.7	1691.1	1732.0	1754.2	1761.0	1754.2
62.5°	1313.3	1415.6	1504.3	1582.8	1620.3	1653.6	1709.9	1749.9	1773.0	1779.8	1773.0
65°	1314.2	1419.1	1510.3	1592.2	1630.5	1663.8	1720.9	1761.0	1784.9	1790.9	1784.0
67.5°	1309.0	1415.6	1510.3	1593.9	1632.2	1666.4	1723.5	1763.6	1786.6	1793.4	1786.6
70°	1298.8	1405.4	1501.8	1587.1	1625.4	1659.5	1715.8	1756.8	1779.8	1786.6	1778.9
72.5°	1279.2	1387.5	1483.9	1570.8	1607.5	1640.8	1696.2	1736.3	1758.5	1766.1	1757.6
75°	1251.1	1359.4	1455.7	1539.3	1577.7	1608.4	1663.8	1703.0	1723.5	1730.3	1722.6
77.5°	1214.4	1323.5	1416.5	1499.2	1537.6	1565.7	1619.5	1657.8	1678.3	1684.3	1676.6
80°	1171.7	1280.0	1369.6	1451.5	1487.3	1513.7	1567.4	1604.1	1623.7	1629.7	1625.4
82.5°	1124.8	1230.6	1317.6	1397.7	1431.8	1458.3	1511.2	1547.0	1566.6	1575.1	1568.3
85°	1077.1	1178.6	1263.8	1341.4	1375.6	1403.7	1452.3	1488.1	1507.7	1514.6	1510.3
87.5°	1029.3	1127.4	1210.1	1285.2	1316.7	1345.7	1394.3	1430.1	1449.8	1456.6	1451.5
90°	989.2	1083.0	1162.4	1236.6	1269.0	1295.4	1342.3	1376.4	1396.0	1402.8	1398.6
92.5°	956.8	1046.4	1123.1	1191.4	1222.1	1250.2	1295.4	1328.7	1348.3	1354.2	1350.0
95°	926.1	1013.1	1087.3	1153.8	1183.7	1211.0	1253.6	1286.0	1304.8	1310.7	1307.3
97.5°	897.1	980.7	1052.3	1117.2	1147.9	1172.6	1213.5	1244.2	1263.0	1268.1	1263.0
100°	864.7	949.2	1019.1	1083.0	1109.5	1134.2	1175.2	1205.9	1222.1	1228.9	1224.6
102.5°	834.0	915.0	984.1	1047.2	1075.4	1100.1	1137.6	1167.5	1186.2	1190.5	1186.2
105°	802.5	880.9	948.3	1010.6	1038.7	1062.6	1100.1	1129.1	1147.0	1152.1	1147.9
107.5°	770.1	846.0	913.3	972.2	999.5	1021.6	1060.0	1088.2	1103.5	1112.9	1106.1
110°	735.1	810.2	875.0	932.1	958.5	979.9	1017.4	1045.5	1060.0	1068.6	1062.6



TEST NUMBER: P201298

CATALOG NUMBER: 4LBLED-LD4-9-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	702.7	773.5	835.7	891.2	915.9	937.2	973.9	1001.2	1014.8	1023.4	1017.4
115°	668.6	734.3	795.7	848.5	873.3	892.9	929.5	955.1	968.8	976.5	971.3
117.5°	631.9	695.9	753.9	805.9	828.9	848.5	883.5	909.1	921.9	927.8	922.7
120°	596.1	658.4	712.9	762.4	785.4	804.2	838.3	862.2	874.1	880.9	875.8
122.5°	558.6	619.1	668.6	718.1	739.4	757.3	788.0	813.6	824.7	830.6	827.2
125°	518.5	578.2	626.0	671.1	691.6	708.7	738.5	759.8	772.6	778.6	775.2
127.5°	476.7	533.8	582.5	624.2	643.9	662.6	687.4	711.2	719.8	726.6	723.2
130°	429.8	486.9	532.1	574.8	593.5	608.9	636.2	655.8	666.9	672.9	670.3
132.5°	383.8	436.6	484.4	522.8	540.7	556.9	581.6	600.4	615.7	616.6	613.2
135°	339.4	385.5	429.0	469.9	487.8	504.0	526.2	543.2	557.7	558.6	554.3
137.5°	296.8	339.4	376.9	415.3	434.1	451.1	471.6	487.8	501.4	504.0	498.0
140°	255.8	295.1	329.2	363.3	381.2	397.4	419.6	433.2	444.3	445.2	441.7
142.5°	216.6	252.4	282.3	313.8	330.0	344.5	369.3	382.9	393.1	395.7	390.6
145°	179.9	211.5	239.6	266.9	280.6	294.2	318.9	335.1	343.7	346.2	341.1
147.5°	145.0	171.4	196.1	220.9	232.8	245.6	266.1	286.5	294.2	295.9	291.7
150°	112.6	134.7	156.9	177.4	187.6	198.7	216.6	235.4	245.6	247.3	243.9
152.5°	82.7	101.5	119.4	136.4	145.0	153.5	168.9	186.8	199.6	200.4	197.0
155°	56.3	71.6	86.1	98.9	106.6	113.4	125.4	139.0	152.7	153.5	150.9
157.5°	34.1	44.3	56.3	66.5	71.6	77.6	86.1	96.4	108.3	110.9	108.3
160°	17.1	23.0	29.8	36.7	40.9	45.2	49.5	58.0	64.8	70.8	67.4
162.5°	8.5	10.2	11.9	15.4	17.1	19.6	23.0	26.4	29.8	35.8	31.6
165°	5.1	6.0	6.8	6.8	7.7	7.7	7.7	7.7	7.7	11.1	7.7
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: P201298

CATALOG NUMBER: 4LBLEDD4-9-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
2.5°	1010.6	1012.3	1015.7	1017.4	1019.1	1020.8	1024.2	1029.3	1025.1	1020.8	1021.6
5°	1017.4	1017.4	1018.2	1020.8	1020.8	1021.6	1025.1	1030.2	1025.9	1019.9	1019.9
7.5°	1025.9	1025.1	1025.9	1026.8	1025.9	1025.9	1027.6	1030.2	1025.1	1018.2	1016.5
10°	1037.9	1035.3	1034.4	1035.3	1034.4	1031.9	1032.7	1032.7	1025.9	1015.7	1011.4
12.5°	1059.2	1054.9	1051.5	1050.6	1048.1	1043.8	1041.3	1037.9	1027.6	1015.7	1007.2
15°	1094.1	1087.3	1080.5	1077.9	1073.7	1063.4	1054.9	1047.2	1032.7	1015.7	1003.7
17.5°	1133.4	1124.8	1115.5	1112.0	1106.1	1091.6	1077.1	1062.6	1042.1	1018.2	1001.2
20°	1170.9	1160.7	1149.6	1143.6	1137.6	1119.7	1102.7	1083.9	1057.5	1025.9	1000.3
22.5°	1208.4	1196.5	1181.1	1176.0	1168.3	1147.9	1127.4	1106.1	1074.5	1037.0	1002.0
25°	1245.1	1231.4	1216.9	1208.4	1199.9	1176.9	1152.1	1126.5	1090.7	1049.8	1008.0
27.5°	1281.8	1266.4	1248.5	1239.1	1230.6	1205.0	1176.9	1147.9	1107.8	1061.7	1015.7
30°	1317.6	1300.5	1279.2	1269.0	1258.7	1229.7	1197.3	1164.9	1121.4	1072.0	1020.8
32.5°	1353.4	1334.6	1310.7	1298.8	1286.9	1253.6	1217.8	1181.1	1133.4	1081.3	1025.1
35°	1388.4	1367.9	1341.4	1326.9	1314.2	1278.3	1238.3	1197.3	1144.5	1089.0	1027.6
37.5°	1424.2	1401.1	1372.1	1355.9	1341.4	1302.2	1257.9	1211.8	1156.4	1095.0	1030.2
40°	1460.0	1435.3	1402.8	1385.8	1367.9	1325.2	1277.5	1226.3	1166.6	1101.0	1031.0
42.5°	1496.7	1469.4	1433.5	1414.8	1396.0	1348.3	1295.4	1239.1	1175.2	1105.2	1030.2
45°	1533.3	1502.6	1464.2	1442.9	1422.5	1370.4	1313.3	1250.2	1182.8	1107.8	1028.5
47.5°	1570.0	1537.6	1495.8	1472.8	1448.0	1392.6	1330.4	1262.1	1189.6	1108.6	1026.8
50°	1607.5	1572.6	1527.4	1501.8	1476.2	1413.9	1347.4	1272.4	1193.9	1109.5	1022.5
52.5°	1644.2	1606.7	1558.1	1530.8	1500.9	1435.3	1363.6	1282.6	1197.3	1108.6	1016.5
55°	1677.4	1638.2	1587.1	1558.1	1524.8	1454.9	1378.1	1291.1	1199.0	1106.1	1008.9
57.5°	1708.1	1668.1	1614.3	1581.9	1549.5	1473.6	1391.8	1300.5	1200.7	1101.8	1000.3
60°	1732.0	1691.9	1635.7	1603.3	1568.3	1489.0	1402.8	1305.6	1200.7	1095.8	989.2
62.5°	1749.9	1709.9	1653.6	1619.5	1582.8	1501.8	1411.4	1310.7	1200.7	1089.9	978.2
65°	1761.0	1721.8	1663.8	1629.7	1592.2	1507.7	1415.6	1311.6	1197.3	1081.3	964.5
67.5°	1762.7	1723.5	1665.5	1632.2	1593.9	1507.7	1413.1	1307.3	1190.5	1070.3	949.2
70°	1755.1	1715.8	1658.7	1624.6	1587.1	1500.1	1403.7	1297.1	1178.6	1055.8	931.3
72.5°	1735.4	1695.4	1639.9	1605.0	1568.3	1482.2	1384.1	1278.3	1158.9	1035.3	909.9
75°	1701.3	1662.1	1607.5	1575.1	1537.6	1453.2	1354.2	1251.1	1131.7	1009.7	883.5
77.5°	1656.1	1617.8	1564.0	1531.6	1496.7	1413.9	1316.7	1214.4	1098.4	978.2	852.8
80°	1602.4	1565.7	1512.9	1481.3	1447.2	1367.0	1271.5	1171.7	1057.5	940.6	818.7
82.5°	1545.3	1509.4	1458.3	1425.9	1393.5	1315.9	1224.6	1125.7	1014.0	900.6	782.0
85°	1489.8	1451.5	1400.3	1370.4	1338.0	1262.1	1176.0	1077.9	969.6	859.6	746.2
87.5°	1431.8	1394.3	1344.0	1315.9	1285.2	1208.4	1126.5	1031.0	927.8	822.9	711.2
90°	1379.0	1342.3	1293.7	1265.5	1236.6	1162.4	1082.2	991.8	892.0	790.5	682.2
92.5°	1330.4	1296.2	1250.2	1222.9	1194.8	1124.0	1047.2	959.4	863.0	765.0	659.2
95°	1288.6	1255.3	1212.7	1186.2	1157.2	1089.9	1014.8	928.7	836.6	741.1	637.9
97.5°	1246.8	1215.2	1173.4	1147.9	1120.6	1054.9	982.4	899.7	809.3	714.6	614.9
100°	1208.4	1177.7	1135.1	1112.0	1085.6	1022.5	950.9	869.9	781.2	688.2	590.1
102.5°	1170.9	1140.2	1099.3	1076.2	1050.6	987.5	917.6	837.4	751.3	661.8	566.3
105°	1132.5	1102.7	1061.7	1038.7	1013.1	951.7	883.5	805.9	721.5	634.5	541.5
107.5°	1090.7	1061.7	1022.5	999.5	975.6	914.2	848.5	772.6	691.6	606.3	515.9
110°	1048.1	1019.1	983.3	958.5	935.5	875.8	811.9	739.4	660.1	577.3	489.5



TEST NUMBER: P201298

CATALOG NUMBER: 4LBLED-LD4-9-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1003.7	975.6	940.6	917.6	893.7	836.6	775.2	705.3	628.5	547.5	462.2
115°	958.5	930.4	895.4	872.4	851.1	796.5	736.8	670.3	596.1	517.6	434.9
117.5°	909.1	884.3	851.1	830.6	808.4	753.9	698.4	634.5	563.7	486.1	406.8
120°	863.0	839.2	806.7	784.6	765.0	712.9	660.1	597.8	527.9	455.4	377.8
122.5°	814.4	788.8	759.0	740.2	718.9	671.1	620.0	560.3	492.1	420.4	346.2
125°	763.3	739.4	710.4	692.5	672.9	627.7	579.0	519.4	454.5	385.5	313.8
127.5°	711.2	689.1	660.9	644.7	626.0	581.6	534.7	476.7	411.9	347.1	280.6
130°	658.4	636.2	610.6	593.5	575.6	533.8	487.8	430.7	369.3	308.7	248.2
132.5°	602.9	581.6	556.0	540.7	524.5	484.4	437.5	382.1	327.5	272.9	216.6
135°	545.8	526.2	503.1	488.7	472.4	431.5	387.2	336.9	288.2	237.9	185.9
137.5°	490.4	472.4	450.3	435.8	417.9	379.5	340.3	295.1	250.7	203.8	155.2
140°	435.8	419.6	398.3	382.1	366.7	330.9	295.1	254.1	214.1	171.4	127.9
142.5°	384.6	370.1	346.2	330.9	316.4	284.8	253.3	214.9	179.1	140.7	103.2
145°	334.3	321.5	295.1	281.4	269.5	241.3	209.8	178.2	145.8	112.6	80.2
147.5°	285.7	270.3	245.6	233.7	222.6	197.8	171.4	142.4	116.0	87.0	58.8
150°	238.8	220.0	198.7	188.5	179.1	157.8	134.7	110.9	87.8	63.1	40.9
152.5°	190.2	170.6	156.1	145.8	137.3	120.2	101.5	81.0	62.3	42.6	25.6
155°	140.7	127.1	113.4	108.3	100.6	86.1	70.8	54.6	39.2	25.6	14.5
157.5°	97.2	87.0	78.5	73.3	67.4	56.3	43.5	31.6	22.2	13.6	6.8
160°	58.8	52.0	46.1	41.8	37.5	29.8	21.3	14.5	9.4	4.3	2.6
162.5°	26.4	22.2	19.6	17.1	14.5	11.1	6.8	3.4	1.7	0.9	0.9
165°	5.1	3.4	2.6	1.7	0.9	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: P201298

CATALOG NUMBER: 4LBLED-LD4-9-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
2.5°	1022.5	1023.4	1024.2	1024.2	1026.8	1031.0	1037.0	1037.9
5°	1019.9	1020.8	1020.8	1021.6	1024.2	1027.6	1032.7	1033.6
7.5°	1015.7	1015.7	1015.7	1015.7	1017.4	1020.8	1025.1	1025.9
10°	1009.7	1008.0	1007.2	1006.3	1007.2	1010.6	1014.0	1014.8
12.5°	1002.9	998.6	996.9	996.1	996.1	996.9	1000.3	1000.3
15°	995.2	988.4	985.8	984.1	980.7	980.7	984.1	984.1
17.5°	987.5	978.2	973.0	969.6	964.5	963.7	965.4	963.7
20°	980.7	966.2	959.4	953.4	945.7	943.2	943.2	940.6
22.5°	973.9	954.3	944.9	936.4	924.4	920.2	917.6	915.9
25°	969.6	941.5	929.5	919.3	903.1	893.7	891.2	887.8
27.5°	968.8	931.3	915.0	902.3	880.1	869.0	862.2	857.9
30°	968.8	921.0	899.7	881.8	854.5	837.4	830.6	828.9
32.5°	967.9	913.3	887.8	864.7	829.8	807.6	797.4	794.8
35°	965.4	905.7	875.8	847.7	805.0	776.9	762.4	759.0
37.5°	962.0	896.3	864.7	832.3	779.5	745.3	727.4	722.3
40°	958.5	886.9	851.1	816.1	753.9	712.9	689.9	683.9
42.5°	952.6	876.7	839.2	800.8	730.0	680.5	654.1	644.7
45°	946.6	864.7	824.7	783.7	706.1	647.3	614.0	604.6
47.5°	938.9	851.9	810.2	765.0	683.9	614.9	577.3	565.4
50°	930.4	839.2	794.0	747.0	660.1	583.3	537.3	524.5
52.5°	921.0	824.7	777.7	728.3	636.2	553.5	499.7	483.5
55°	909.1	808.4	759.0	707.0	611.5	522.8	461.4	442.6
57.5°	896.3	792.2	741.1	687.4	586.7	493.8	423.8	402.5
60°	880.9	773.5	718.9	665.2	561.1	463.9	386.3	361.6
62.5°	864.7	754.7	699.3	642.2	535.6	434.9	349.6	321.5
65°	847.7	733.4	677.1	618.3	508.3	404.2	313.8	281.4
67.5°	827.2	710.4	652.4	592.7	480.1	373.5	278.9	242.2
70°	806.7	685.6	625.1	565.4	451.1	342.8	245.6	203.8
72.5°	782.0	659.2	597.8	537.3	421.3	313.0	213.2	165.4
75°	754.7	631.9	569.7	508.3	390.6	281.4	180.8	127.9
77.5°	725.7	602.1	540.7	478.4	361.6	251.6	150.9	96.4
80°	695.0	570.5	510.0	447.7	330.9	221.7	121.9	66.5
82.5°	660.9	539.8	479.3	417.0	301.9	192.7	95.5	40.9
85°	628.5	509.1	450.3	388.9	273.7	163.7	71.6	20.5
87.5°	597.0	481.0	423.8	363.3	249.9	141.6	52.0	6.0
90°	571.4	458.0	401.7	342.8	231.1	125.4	39.2	0.0
92.5°	550.9	440.0	384.6	327.5	217.5	114.3	33.3	0.0
95°	531.3	421.3	368.4	311.3	203.8	104.9	26.4	0.0
97.5°	510.0	403.4	350.5	295.1	190.2	94.7	21.3	0.0
100°	488.7	383.8	332.6	278.9	174.8	84.4	15.4	0.0
102.5°	465.6	363.3	313.0	261.0	161.2	73.3	10.2	0.0
105°	443.5	342.8	294.2	243.0	146.7	64.0	6.8	0.0
107.5°	419.6	322.4	274.6	226.0	132.2	53.7	4.3	0.0
110°	395.7	301.9	255.0	208.1	118.5	44.3	3.4	0.0



TEST NUMBER: P201298

CATALOG NUMBER: 4LBLED-LD4-9-SYMW-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	371.8	280.6	235.4	189.3	104.9	35.8	2.6	0.9
115°	346.2	258.4	214.9	170.6	91.2	28.1	2.6	0.9
117.5°	320.7	235.4	195.3	152.7	78.5	21.3	1.7	0.9
120°	294.2	214.9	174.0	135.6	66.5	15.4	1.7	0.9
122.5°	268.6	193.6	154.4	117.7	54.6	11.9	1.7	0.9
125°	242.2	168.9	134.7	101.5	43.5	9.4	1.7	0.9
127.5°	214.1	145.8	114.3	83.6	33.3	6.8	1.7	0.9
130°	185.1	122.8	94.7	68.2	23.9	5.1	1.7	0.9
132.5°	157.8	103.2	76.8	53.7	17.1	4.3	1.7	0.9
135°	133.0	83.6	60.5	40.1	11.9	3.4	0.9	0.9
137.5°	109.2	66.5	46.1	29.0	8.5	2.6	1.7	0.9
140°	87.8	50.3	33.3	20.5	6.0	1.7	1.7	0.9
142.5°	68.2	35.8	23.0	13.6	4.3	1.7	0.9	0.9
145°	50.3	23.9	15.4	8.5	3.4	1.7	1.7	1.7
147.5°	34.1	16.2	9.4	6.0	2.6	1.7	1.7	0.9
150°	22.2	10.2	6.0	4.3	1.7	1.7	1.7	0.9
152.5°	13.6	6.0	3.4	2.6	1.7	1.7	1.7	0.9
155°	6.8	3.4	2.6	1.7	1.7	1.7	1.7	1.7
157.5°	3.4	2.6	1.7	1.7	1.7	1.7	1.7	1.7
160°	1.7	1.7	0.9	0.9	1.7	1.7	1.7	1.7
162.5°	0.9	0.9	0.9	0.9	1.7	1.7	1.7	1.7
165°	0.0	0.9	0.9	0.9	1.7	1.7	1.7	1.7
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)