

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: P201296

Luminaire Tested: **4LBLED-LD4-8-SYMW-UNV-L850-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201296  
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-LD4-8-SYMW-UNV-L850-CD1-U  
Description: 4 ft. Low Bay Linear, 8000 lm, Wht Sym lens, 5K  
Light Source: (392) 5000K CCT, 80 CRI LEDS  
2UT217098A8504C  
Ballast/Driver: OSRAM  
(OTI85W01280CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8320.6 lumens  
Efficiency: N/A  
Efficacy: 145.5 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

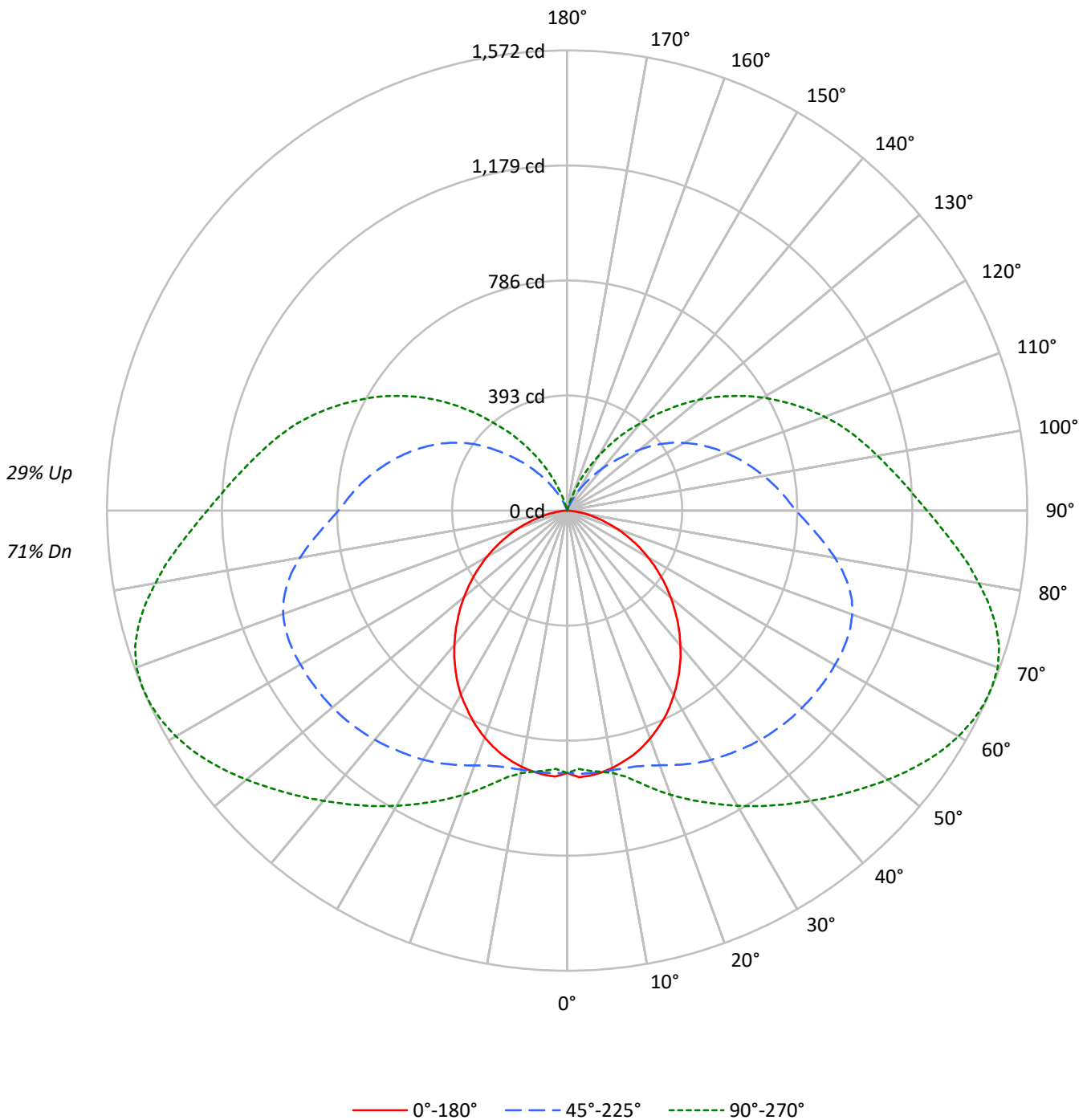
Input Watts (W): 57.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	14438	14438	14438
5°	14632	13015	14584
10°	14467	12222	14419
15°	14250	12049	14189
20°	13948	12186	13872
25°	13607	12355	13503
30°	13162	12602	13122
35°	12681	12917	12624
40°	12126	13312	12079
45°	11541	13818	11476
50°	10901	14433	10849
55°	10202	15103	10144
60°	9434	15752	9369
65°	8538	16299	8459
70°	7453	16680	7363
75°	6079	16713	5845
80°	4500	16434	4178
85°	2342	16105	2076



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.6	1.0
10°-20°	257.7	3.1
20°-30°	436.3	5.2
30°-40°	610.1	7.3
40°-50°	768.7	9.2
50°-60°	902.5	10.8
60°-70°	986.9	11.9
70°-80°	975.0	11.7
80°-90°	856.6	10.3
90°-100°	729.1	8.8
100°-110°	608.1	7.3
110°-120°	471.0	5.7
120°-130°	327.8	3.9
130°-140°	191.3	2.3
140°-150°	87.3	1.0
150°-160°	24.9	0.3
160°-170°	1.8	0.0
170°-180°	0.0	0.0
0°-30°	779.6	9.4
0°-40°	1389.6	16.7
0°-60°	3060.8	36.8
0°-90°	5879.3	70.7
90°-120°	1808.1	21.7
90°-150°	2414.6	29.0
90°-180°	2441.0	29.3
0°-180°	8320.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	896	896	896	896	896	
5°	909	900	892	899	906	86
15°	866	905	963	905	862	244
25°	784	956	1098	956	778	360
35°	668	1004	1229	1003	665	417
45°	533	1038	1362	1036	530	411
55°	390	1054	1494	1051	388	349
65°	249	1053	1569	1049	247	247
75°	117	996	1516	992	112	125
85°	20	852	1327	850	18	26
90°	0	782	1229	782	0	1
95°	0	732	1149	733	0	0
105°	1	630	1010	632	0	1
115°	1	521	856	522	1	1
125°	2	398	682	398	1	1
135°	2	253	490	253	1	1
145°	2	129	303	128	2	1
155°	2	37	134	34	2	1
165°	2	4	10	0	2	0
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°	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0
2.5°	911.7	911.0	907.2	901.3	899.0	897.5	896.8	894.5	893.8	895.3	899.8
5°	908.7	907.2	904.2	899.0	896.8	896.0	895.3	893.0	892.3	894.5	900.5
7.5°	902.0	901.3	898.3	893.0	892.3	890.8	890.8	889.3	889.3	893.0	899.8
10°	892.3	891.5	888.5	884.8	884.1	884.1	884.1	884.1	885.6	891.5	899.8
12.5°	879.6	879.6	877.3	874.4	875.1	875.1	875.8	877.3	881.8	890.8	901.3
15°	866.1	865.4	863.1	862.4	864.6	865.4	867.6	871.4	878.8	891.5	905.0
17.5°	848.9	848.9	846.7	847.4	851.9	854.2	857.9	864.6	876.6	893.8	913.2
20°	828.8	829.5	828.8	831.0	838.5	843.0	847.4	858.7	875.8	899.8	925.9
22.5°	806.3	807.8	807.8	813.8	823.5	830.3	837.0	852.7	877.3	910.2	940.9
25°	783.9	783.9	786.2	794.4	807.8	816.1	826.5	848.9	882.6	921.4	955.8
27.5°	757.0	759.3	763.0	774.2	792.9	804.1	816.8	848.9	888.5	932.6	970.8
30°	728.6	730.9	736.8	752.5	776.5	790.7	808.6	848.9	893.8	941.6	983.5
32.5°	698.7	702.5	710.7	730.9	760.0	779.4	802.6	848.2	898.3	949.1	993.9
35°	668.1	671.8	684.5	708.4	746.6	769.0	795.9	846.0	900.5	955.8	1004.4
37.5°	636.0	642.7	656.9	686.8	733.1	760.0	788.4	843.7	902.7	961.0	1014.8
40°	601.6	608.3	628.5	664.4	719.7	748.1	779.4	840.7	904.2	966.3	1023.8
42.5°	568.0	576.9	600.1	643.4	706.2	737.6	770.5	836.2	903.5	970.0	1031.3
45°	532.8	543.3	571.7	623.3	691.3	724.9	760.0	830.3	902.0	972.2	1038.0
47.5°	497.0	509.7	543.3	603.1	676.3	711.4	749.6	824.3	899.8	973.7	1044.0
50°	461.8	476.8	514.9	582.9	659.9	697.2	736.8	817.6	896.0	974.5	1047.7
52.5°	426.7	443.2	488.0	562.7	642.7	682.3	724.1	809.3	891.5	973.7	1051.5
55°	390.1	408.0	461.1	541.1	624.7	665.9	709.9	798.9	884.8	970.8	1053.7
57.5°	355.0	375.1	435.7	520.1	606.1	649.4	696.5	787.7	877.3	968.5	1055.9
60°	319.1	342.3	409.5	496.2	586.6	631.5	680.1	775.0	868.4	963.3	1055.9
62.5°	284.0	310.1	384.1	474.5	567.2	613.5	663.6	760.8	858.7	958.0	1055.9
65°	248.9	278.7	358.0	450.6	545.5	594.1	644.9	745.8	846.7	950.6	1053.0
67.5°	214.5	248.9	331.1	426.0	523.1	573.2	625.5	728.6	833.2	940.9	1047.0
70°	180.8	219.0	304.2	399.8	499.9	549.3	603.8	709.9	817.6	928.2	1036.5
72.5°	147.2	190.6	275.8	373.7	475.3	526.1	581.4	688.3	798.1	911.0	1020.1
75°	116.6	162.2	248.9	346.8	449.9	501.4	556.7	664.4	775.0	888.5	996.2
77.5°	88.9	136.0	222.7	320.6	423.0	476.8	531.3	638.2	748.1	860.2	964.8
80°	62.8	110.6	196.5	293.7	396.1	449.1	502.9	609.8	719.7	826.5	928.9
82.5°	38.9	87.4	170.4	267.5	369.9	422.2	475.3	581.4	687.5	791.4	890.0
85°	20.2	65.8	145.7	242.9	344.5	396.1	448.4	552.3	654.6	755.5	851.9
87.5°	6.7	47.8	125.5	221.2	321.3	372.9	423.7	524.6	624.0	720.4	814.6
90°	0.0	35.9	110.6	204.0	301.9	352.0	402.8	499.9	597.1	692.0	781.7
92.5°	0.0	30.6	100.9	192.1	288.5	337.8	387.1	483.5	576.9	668.8	756.3
95°	0.0	24.7	92.7	180.1	274.3	322.8	371.4	465.6	557.5	647.2	732.4
97.5°	0.0	19.4	83.7	168.9	260.1	307.1	354.2	447.6	537.3	625.5	707.7
100°	0.7	14.9	74.0	154.7	245.1	291.5	337.0	428.2	515.6	600.8	682.3
102.5°	0.7	10.5	65.0	142.7	229.4	274.3	319.1	408.0	494.0	578.4	656.1
105°	0.7	7.5	56.0	130.0	214.5	257.8	301.9	388.6	472.3	553.8	630.0
107.5°	0.7	5.2	47.8	118.1	199.5	240.6	283.2	367.7	449.9	529.1	603.8
110°	0.7	3.7	40.4	105.4	183.1	224.2	265.3	346.8	426.7	503.7	576.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	3.0	32.9	93.4	166.6	207.0	246.6	325.8	403.5	478.3	549.3
115°	0.7	3.0	26.2	82.2	150.2	189.1	227.2	304.9	378.9	452.1	520.9
117.5°	0.7	2.2	20.2	71.0	135.3	171.1	207.8	281.7	355.0	426.0	492.5
120°	0.7	2.2	14.9	59.8	119.6	153.2	189.1	259.3	329.6	398.3	461.8
122.5°	1.5	2.2	11.2	50.1	105.4	136.0	170.4	236.9	302.7	369.2	431.9
125°	1.5	1.5	9.0	40.4	90.4	118.8	149.5	213.7	273.5	337.0	398.3
127.5°	1.5	1.5	6.7	30.6	75.5	101.6	129.3	189.1	247.4	304.2	362.4
130°	1.5	1.5	6.0	22.4	61.3	84.4	109.9	163.7	218.2	270.5	323.6
132.5°	1.5	1.5	4.5	16.4	48.6	69.5	91.9	139.7	189.8	240.6	288.5
135°	1.5	1.5	3.7	12.0	36.6	55.3	74.7	117.3	162.9	210.7	252.6
137.5°	1.5	1.5	3.7	9.0	26.9	41.8	59.0	97.9	138.3	180.8	219.0
140°	1.5	1.5	3.0	7.5	18.7	30.6	44.8	78.5	112.8	152.5	189.1
142.5°	1.5	1.5	2.2	6.0	13.5	21.7	32.1	60.5	91.2	125.5	157.7
145°	2.2	1.5	2.2	5.2	9.7	14.9	22.4	45.6	70.2	100.9	129.3
147.5°	1.5	1.5	1.5	3.7	7.5	10.5	14.9	31.4	53.1	78.5	102.4
150°	2.2	1.5	1.5	3.0	6.0	7.5	10.5	20.9	36.6	57.5	78.5
152.5°	2.2	1.5	1.5	3.0	4.5	6.0	7.5	13.5	23.9	38.9	56.0
155°	2.2	1.5	1.5	2.2	3.7	4.5	6.0	9.0	14.2	23.9	36.6
157.5°	2.2	2.2	2.2	2.2	3.0	3.7	4.5	6.7	8.2	13.5	20.9
160°	2.2	2.2	1.5	1.5	2.2	2.2	3.0	4.5	6.0	7.5	10.5
162.5°	2.2	2.2	2.2	1.5	1.5	1.5	2.2	3.0	3.7	5.2	6.7
165°	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5	2.2	3.0	3.7
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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0
2.5°	901.3	897.5	896.0	893.0	890.8	889.3	887.1	885.6	884.1	883.3	883.3
5°	902.0	898.3	896.8	894.5	893.8	892.3	890.8	892.3	891.5	892.3	891.5
7.5°	902.7	899.8	899.8	899.0	898.3	898.3	896.8	898.3	899.0	899.8	899.0
10°	905.0	904.2	905.7	906.5	906.5	906.5	906.5	908.0	911.0	911.0	910.2
12.5°	908.7	911.0	915.5	919.2	920.7	920.7	923.7	926.7	930.4	931.1	930.4
15°	916.2	922.9	932.6	940.9	944.6	946.8	952.8	958.0	961.8	963.3	961.8
17.5°	929.7	942.4	957.3	969.3	973.7	976.7	985.0	990.2	994.7	998.4	996.9
20°	947.6	964.8	982.7	996.9	1002.9	1006.6	1015.6	1025.3	1029.8	1032.8	1032.0
22.5°	967.0	987.2	1007.4	1024.6	1031.3	1035.8	1047.0	1055.9	1062.7	1066.4	1065.7
25°	985.7	1008.9	1033.5	1052.2	1060.4	1065.7	1077.6	1088.1	1095.6	1098.5	1097.8
27.5°	1004.4	1031.3	1058.2	1079.9	1088.1	1094.8	1109.0	1120.2	1129.2	1131.4	1131.4
30°	1019.3	1050.7	1079.9	1104.5	1113.5	1122.5	1138.2	1153.1	1161.3	1164.3	1163.6
32.5°	1033.5	1068.7	1101.5	1129.2	1140.4	1149.4	1168.0	1184.5	1194.2	1197.2	1194.2
35°	1047.7	1086.6	1123.2	1153.1	1165.1	1176.3	1197.2	1215.9	1226.3	1229.3	1227.8
37.5°	1061.2	1104.5	1144.1	1177.0	1191.2	1203.2	1224.8	1247.3	1258.5	1261.5	1258.5
40°	1073.9	1121.0	1164.3	1200.2	1215.9	1230.1	1255.5	1277.9	1290.6	1294.3	1292.8
42.5°	1085.8	1137.4	1184.5	1224.1	1242.0	1257.0	1285.4	1310.0	1323.5	1328.0	1324.2
45°	1096.3	1153.8	1204.7	1247.3	1266.7	1283.9	1316.0	1342.9	1356.4	1361.6	1357.1
47.5°	1106.8	1168.8	1223.3	1270.4	1292.8	1310.8	1346.6	1375.0	1390.7	1395.2	1390.7
50°	1116.5	1183.7	1243.5	1294.3	1318.3	1338.4	1377.3	1407.9	1423.6	1430.3	1424.4
52.5°	1125.4	1197.9	1262.2	1316.8	1342.9	1365.3	1407.2	1440.1	1458.7	1463.2	1457.3
55°	1134.4	1211.4	1278.6	1337.7	1366.1	1390.0	1435.6	1470.0	1488.6	1493.9	1487.9
57.5°	1141.9	1223.3	1294.3	1357.9	1387.0	1414.7	1460.2	1496.1	1515.5	1521.5	1515.5
60°	1147.1	1233.1	1308.5	1374.3	1404.9	1433.3	1481.9	1517.8	1537.2	1543.2	1537.2
62.5°	1150.9	1240.5	1318.3	1387.0	1419.9	1449.0	1498.4	1533.5	1553.7	1559.6	1553.7
65°	1151.6	1243.5	1323.5	1395.2	1428.9	1458.0	1508.1	1543.2	1564.1	1569.3	1563.4
67.5°	1147.1	1240.5	1323.5	1396.7	1430.3	1460.2	1510.3	1545.4	1565.6	1571.6	1565.6
70°	1138.2	1231.6	1316.0	1390.7	1424.4	1454.3	1503.6	1539.5	1559.6	1565.6	1558.9
72.5°	1121.0	1215.9	1300.3	1376.5	1408.7	1437.8	1486.4	1521.5	1540.9	1547.7	1540.2
75°	1096.3	1191.2	1275.7	1348.9	1382.5	1409.4	1458.0	1492.4	1510.3	1516.3	1509.6
77.5°	1064.2	1159.8	1241.3	1313.8	1347.4	1372.1	1419.1	1452.8	1470.7	1475.9	1469.2
80°	1026.8	1121.7	1200.2	1271.9	1303.3	1326.5	1373.6	1405.7	1422.9	1428.1	1424.4
82.5°	985.7	1078.4	1154.6	1224.8	1254.7	1277.9	1324.2	1355.6	1372.8	1380.3	1374.3
85°	943.9	1032.8	1107.5	1175.5	1205.4	1230.1	1272.7	1304.1	1321.2	1327.2	1323.5
87.5°	902.0	987.9	1060.4	1126.2	1153.8	1179.3	1221.8	1253.2	1270.4	1276.4	1271.9
90°	866.9	949.1	1018.6	1083.6	1112.0	1135.2	1176.3	1206.2	1223.3	1229.3	1225.6
92.5°	838.5	916.9	984.2	1044.0	1070.9	1095.6	1135.2	1164.3	1181.5	1186.7	1183.0
95°	811.6	887.8	952.8	1011.1	1037.3	1061.2	1098.5	1126.9	1143.4	1148.6	1145.6
97.5°	786.2	859.4	922.2	979.0	1005.9	1027.5	1063.4	1090.3	1106.8	1111.2	1106.8
100°	757.8	831.8	893.0	949.1	972.2	993.9	1029.8	1056.7	1070.9	1076.9	1073.1
102.5°	730.9	801.9	862.4	917.7	942.4	964.0	996.9	1023.1	1039.5	1043.2	1039.5
105°	703.2	772.0	831.0	885.6	910.2	931.1	964.0	989.4	1005.1	1009.6	1005.9
107.5°	674.8	741.3	800.4	851.9	875.8	895.3	928.9	953.6	967.0	975.2	969.3
110°	644.2	709.9	766.7	816.8	840.0	858.7	891.5	916.2	928.9	936.4	931.1





TEST NUMBER: P201296

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	615.8	677.8	732.4	780.9	802.6	821.3	853.4	877.3	889.3	896.8	891.5
115°	585.9	643.4	697.2	743.6	765.2	782.4	814.6	837.0	848.9	855.7	851.2
117.5°	553.8	609.8	660.6	706.2	726.4	743.6	774.2	796.6	807.8	813.1	808.6
120°	522.4	576.9	624.7	668.1	688.3	704.7	734.6	755.5	766.0	772.0	767.5
122.5°	489.5	542.5	585.9	629.2	647.9	663.6	690.5	712.9	722.6	727.9	724.9
125°	454.4	506.7	548.5	588.1	606.1	621.0	647.2	665.9	677.1	682.3	679.3
127.5°	417.7	467.8	510.4	547.0	564.2	580.7	602.3	623.3	630.7	636.7	633.7
130°	376.6	426.7	466.3	503.7	520.1	533.6	557.5	574.7	584.4	589.6	587.4
132.5°	336.3	382.6	424.5	458.1	473.8	488.0	509.7	526.1	539.6	540.3	537.3
135°	297.4	337.8	375.9	411.8	427.5	441.7	461.1	476.0	488.7	489.5	485.8
137.5°	260.1	297.4	330.3	363.9	380.4	395.3	413.3	427.5	439.4	441.7	436.4
140°	224.2	258.6	288.5	318.4	334.0	348.2	367.7	379.6	389.3	390.1	387.1
142.5°	189.8	221.2	247.4	275.0	289.2	301.9	323.6	335.5	344.5	346.8	342.3
145°	157.7	185.3	210.0	233.9	245.9	257.8	279.5	293.7	301.2	303.4	298.9
147.5°	127.0	150.2	171.9	193.6	204.0	215.2	233.2	251.1	257.8	259.3	255.6
150°	98.6	118.1	137.5	155.4	164.4	174.1	189.8	206.3	215.2	216.7	213.7
152.5°	72.5	88.9	104.6	119.6	127.0	134.5	148.0	163.7	174.9	175.6	172.6
155°	49.3	62.8	75.5	86.7	93.4	99.4	109.9	121.8	133.8	134.5	132.3
157.5°	29.9	38.9	49.3	58.3	62.8	68.0	75.5	84.4	94.9	97.2	94.9
160°	14.9	20.2	26.2	32.1	35.9	39.6	43.3	50.8	56.8	62.0	59.0
162.5°	7.5	9.0	10.5	13.5	14.9	17.2	20.2	23.2	26.2	31.4	27.7
165°	4.5	5.2	6.0	6.0	6.7	6.7	6.7	6.7	6.7	9.7	6.7
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: P201296

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0
2.5°	885.6	887.1	890.0	891.5	893.0	894.5	897.5	902.0	898.3	894.5	895.3
5°	891.5	891.5	892.3	894.5	894.5	895.3	898.3	902.7	899.0	893.8	893.8
7.5°	899.0	898.3	899.0	899.8	899.0	899.0	900.5	902.7	898.3	892.3	890.8
10°	909.5	907.2	906.5	907.2	906.5	904.2	905.0	905.0	899.0	890.0	886.3
12.5°	928.2	924.4	921.4	920.7	918.4	914.7	912.5	909.5	900.5	890.0	882.6
15°	958.8	952.8	946.8	944.6	940.9	931.9	924.4	917.7	905.0	890.0	879.6
17.5°	993.2	985.7	977.5	974.5	969.3	956.6	943.9	931.1	913.2	892.3	877.3
20°	1026.1	1017.1	1007.4	1002.1	996.9	981.2	966.3	949.8	926.7	899.0	876.6
22.5°	1058.9	1048.5	1035.0	1030.5	1023.8	1005.9	987.9	969.3	941.6	908.7	878.1
25°	1091.1	1079.1	1066.4	1058.9	1051.5	1031.3	1009.6	987.2	955.8	919.9	883.3
27.5°	1123.2	1109.8	1094.1	1085.8	1078.4	1055.9	1031.3	1005.9	970.8	930.4	890.0
30°	1154.6	1139.6	1121.0	1112.0	1103.0	1077.6	1049.2	1020.8	982.7	939.4	894.5
32.5°	1186.0	1169.5	1148.6	1138.2	1127.7	1098.5	1067.2	1035.0	993.2	947.6	898.3
35°	1216.6	1198.7	1175.5	1162.8	1151.6	1120.2	1085.1	1049.2	1002.9	954.3	900.5
37.5°	1248.0	1227.8	1202.4	1188.2	1175.5	1141.1	1102.3	1061.9	1013.3	959.5	902.7
40°	1279.4	1257.7	1229.3	1214.4	1198.7	1161.3	1119.5	1074.6	1022.3	964.8	903.5
42.5°	1311.5	1287.6	1256.2	1239.8	1223.3	1181.5	1135.2	1085.8	1029.8	968.5	902.7
45°	1343.7	1316.8	1283.1	1264.4	1246.5	1200.9	1150.9	1095.6	1036.5	970.8	901.3
47.5°	1375.8	1347.4	1310.8	1290.6	1268.9	1220.4	1165.8	1106.0	1042.5	971.5	899.8
50°	1408.7	1378.0	1338.4	1316.0	1293.6	1239.0	1180.7	1115.0	1046.2	972.2	896.0
52.5°	1440.8	1407.9	1365.3	1341.4	1315.3	1257.7	1194.9	1124.0	1049.2	971.5	890.8
55°	1470.0	1435.6	1390.7	1365.3	1336.2	1274.9	1207.6	1131.4	1050.7	969.3	884.1
57.5°	1496.9	1461.7	1414.7	1386.3	1357.9	1291.3	1219.6	1139.6	1052.2	965.5	876.6
60°	1517.8	1482.7	1433.3	1404.9	1374.3	1304.8	1229.3	1144.1	1052.2	960.3	866.9
62.5°	1533.5	1498.4	1449.0	1419.1	1387.0	1316.0	1236.8	1148.6	1052.2	955.1	857.2
65°	1543.2	1508.8	1458.0	1428.1	1395.2	1321.2	1240.5	1149.4	1049.2	947.6	845.2
67.5°	1544.7	1510.3	1459.5	1430.3	1396.7	1321.2	1238.3	1145.6	1043.2	937.9	831.8
70°	1538.0	1503.6	1453.5	1423.6	1390.7	1314.5	1230.1	1136.7	1032.8	925.2	816.1
72.5°	1520.8	1485.6	1437.1	1406.4	1374.3	1298.8	1212.9	1120.2	1015.6	907.2	797.4
75°	1490.9	1456.5	1408.7	1380.3	1347.4	1273.4	1186.7	1096.3	991.7	884.8	774.2
77.5°	1451.3	1417.6	1370.6	1342.2	1311.5	1239.0	1153.8	1064.2	962.5	857.2	747.3
80°	1404.2	1372.1	1325.7	1298.1	1268.2	1197.9	1114.2	1026.8	926.7	824.3	717.4
82.5°	1354.1	1322.7	1277.9	1249.5	1221.1	1153.1	1073.1	986.4	888.5	789.2	685.3
85°	1305.5	1271.9	1227.1	1200.9	1172.5	1106.0	1030.5	944.6	849.7	753.3	653.9
87.5°	1254.7	1221.8	1177.8	1153.1	1126.2	1058.9	987.2	903.5	813.1	721.2	623.3
90°	1208.4	1176.3	1133.7	1109.0	1083.6	1018.6	948.3	869.1	781.7	692.8	597.8
92.5°	1165.8	1135.9	1095.6	1071.6	1047.0	985.0	917.7	840.7	756.3	670.3	577.7
95°	1129.2	1100.0	1062.7	1039.5	1014.1	955.1	889.3	813.8	733.1	649.4	559.0
97.5°	1092.6	1064.9	1028.3	1005.9	982.0	924.4	860.9	788.4	709.2	626.2	538.8
100°	1058.9	1032.0	994.7	974.5	951.3	896.0	833.2	762.3	684.5	603.1	517.1
102.5°	1026.1	999.2	963.3	943.1	920.7	865.4	804.1	733.9	658.4	579.9	496.2
105°	992.4	966.3	930.4	910.2	887.8	834.0	774.2	706.2	632.2	556.0	474.5
107.5°	955.8	930.4	896.0	875.8	854.9	801.1	743.6	677.1	606.1	531.3	452.1
110°	918.4	893.0	861.6	840.0	819.8	767.5	711.4	647.9	578.4	505.9	429.0



TEST NUMBER: P201296

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	879.6	854.9	824.3	804.1	783.2	733.1	679.3	618.0	550.8	479.8	405.0
115°	840.0	815.3	784.7	764.5	745.8	698.0	645.7	587.4	522.4	453.6	381.1
117.5°	796.6	775.0	745.8	727.9	708.4	660.6	612.0	556.0	494.0	426.0	356.5
120°	756.3	735.4	707.0	687.5	670.3	624.7	578.4	523.9	462.6	399.1	331.1
122.5°	713.7	691.3	665.1	648.7	630.0	588.1	543.3	491.0	431.2	368.4	303.4
125°	668.8	647.9	622.5	606.8	589.6	550.0	507.4	455.1	398.3	337.8	275.0
127.5°	623.3	603.8	579.2	565.0	548.5	509.7	468.6	417.7	360.9	304.2	245.9
130°	576.9	557.5	535.1	520.1	504.4	467.8	427.5	377.4	323.6	270.5	217.5
132.5°	528.3	509.7	487.2	473.8	459.6	424.5	383.4	334.8	287.0	239.1	189.8
135°	478.3	461.1	440.9	428.2	414.0	378.1	339.3	295.2	252.6	208.5	162.9
137.5°	429.7	414.0	394.6	381.9	366.2	332.6	298.2	258.6	219.7	178.6	136.0
140°	381.9	367.7	349.0	334.8	321.3	290.0	258.6	222.7	187.6	150.2	112.1
142.5°	337.0	324.3	303.4	290.0	277.3	249.6	222.0	188.3	156.9	123.3	90.4
145°	292.9	281.7	258.6	246.6	236.1	211.5	183.8	156.2	127.8	98.6	70.2
147.5°	250.3	236.9	215.2	204.8	195.0	173.4	150.2	124.8	101.6	76.2	51.6
150°	209.2	192.8	174.1	165.2	156.9	138.3	118.1	97.2	77.0	55.3	35.9
152.5°	166.6	149.5	136.8	127.8	120.3	105.4	88.9	71.0	54.6	37.4	22.4
155°	123.3	111.3	99.4	94.9	88.2	75.5	62.0	47.8	34.4	22.4	12.7
157.5°	85.2	76.2	68.8	64.3	59.0	49.3	38.1	27.7	19.4	12.0	6.0
160°	51.6	45.6	40.4	36.6	32.9	26.2	18.7	12.7	8.2	3.7	2.2
162.5°	23.2	19.4	17.2	14.9	12.7	9.7	6.0	3.0	1.5	0.7	0.7
165°	4.5	3.0	2.2	1.5	0.7	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: P201296

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	896.0	896.0	896.0	896.0	896.0	896.0	896.0	896.0
2.5°	896.0	896.8	897.5	897.5	899.8	903.5	908.7	909.5
5°	893.8	894.5	894.5	895.3	897.5	900.5	905.0	905.7
7.5°	890.0	890.0	890.0	890.0	891.5	894.5	898.3	899.0
10°	884.8	883.3	882.6	881.8	882.6	885.6	888.5	889.3
12.5°	878.8	875.1	873.6	872.9	872.9	873.6	876.6	876.6
15°	872.1	866.1	863.9	862.4	859.4	859.4	862.4	862.4
17.5°	865.4	857.2	852.7	849.7	845.2	844.5	846.0	844.5
20°	859.4	846.7	840.7	835.5	828.8	826.5	826.5	824.3
22.5°	853.4	836.2	828.0	820.5	810.1	806.3	804.1	802.6
25°	849.7	825.0	814.6	805.6	791.4	783.2	780.9	777.9
27.5°	848.9	816.1	801.9	790.7	771.2	761.5	755.5	751.8
30°	848.9	807.1	788.4	772.7	748.8	733.9	727.9	726.4
32.5°	848.2	800.4	777.9	757.8	727.1	707.7	698.7	696.5
35°	846.0	793.6	767.5	742.8	705.5	680.8	668.1	665.1
37.5°	843.0	785.4	757.8	729.4	683.0	653.1	637.5	633.0
40°	840.0	777.2	745.8	715.2	660.6	624.7	604.6	599.3
42.5°	834.7	768.2	735.4	701.7	639.7	596.4	573.2	565.0
45°	829.5	757.8	722.6	686.8	618.8	567.2	538.1	529.8
47.5°	822.8	746.6	709.9	670.3	599.3	538.8	505.9	495.5
50°	815.3	735.4	695.7	654.6	578.4	511.2	470.8	459.6
52.5°	807.1	722.6	681.5	638.2	557.5	485.0	437.9	423.7
55°	796.6	708.4	665.1	619.5	535.8	458.1	404.3	387.9
57.5°	785.4	694.2	649.4	602.3	514.1	432.7	371.4	352.7
60°	772.0	677.8	630.0	582.9	491.7	406.5	338.5	316.9
62.5°	757.8	661.4	612.8	562.7	469.3	381.1	306.4	281.7
65°	742.8	642.7	593.4	541.8	445.4	354.2	275.0	246.6
67.5°	724.9	622.5	571.7	519.4	420.7	327.3	244.4	212.2
70°	707.0	600.8	547.8	495.5	395.3	300.4	215.2	178.6
72.5°	685.3	577.7	523.9	470.8	369.2	274.3	186.8	145.0
75°	661.4	553.8	499.2	445.4	342.3	246.6	158.4	112.1
77.5°	636.0	527.6	473.8	419.2	316.9	220.5	132.3	84.4
80°	609.1	499.9	446.9	392.3	290.0	194.3	106.9	58.3
82.5°	579.2	473.0	420.0	365.4	264.5	168.9	83.7	35.9
85°	550.8	446.1	394.6	340.8	239.9	143.5	62.8	17.9
87.5°	523.1	421.5	371.4	318.4	219.0	124.1	45.6	5.2
90°	500.7	401.3	352.0	300.4	202.5	109.9	34.4	0.0
92.5°	482.8	385.6	337.0	287.0	190.6	100.1	29.1	0.0
95°	465.6	369.2	322.8	272.8	178.6	91.9	23.2	0.0
97.5°	446.9	353.5	307.1	258.6	166.6	83.0	18.7	0.0
100°	428.2	336.3	291.5	244.4	153.2	74.0	13.5	0.0
102.5°	408.0	318.4	274.3	228.7	141.2	64.3	9.0	0.0
105°	388.6	300.4	257.8	213.0	128.5	56.0	6.0	0.0
107.5°	367.7	282.5	240.6	198.0	115.8	47.1	3.7	0.0
110°	346.8	264.5	223.4	182.3	103.9	38.9	3.0	0.0



TEST NUMBER: P201296

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L850-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	325.8	245.9	206.3	165.9	91.9	31.4	2.2	0.7
115°	303.4	226.4	188.3	149.5	80.0	24.7	2.2	0.7
117.5°	281.0	206.3	171.1	133.8	68.8	18.7	1.5	0.7
120°	257.8	188.3	152.5	118.8	58.3	13.5	1.5	0.7
122.5°	235.4	169.6	135.3	103.1	47.8	10.5	1.5	0.7
125°	212.2	148.0	118.1	88.9	38.1	8.2	1.5	0.7
127.5°	187.6	127.8	100.1	73.2	29.1	6.0	1.5	0.7
130°	162.2	107.6	83.0	59.8	20.9	4.5	1.5	0.7
132.5°	138.3	90.4	67.3	47.1	14.9	3.7	1.5	0.7
135°	116.6	73.2	53.1	35.1	10.5	3.0	0.7	0.7
137.5°	95.7	58.3	40.4	25.4	7.5	2.2	1.5	0.7
140°	77.0	44.1	29.1	17.9	5.2	1.5	1.5	0.7
142.5°	59.8	31.4	20.2	12.0	3.7	1.5	0.7	0.7
145°	44.1	20.9	13.5	7.5	3.0	1.5	1.5	1.5
147.5°	29.9	14.2	8.2	5.2	2.2	1.5	1.5	0.7
150°	19.4	9.0	5.2	3.7	1.5	1.5	1.5	0.7
152.5°	12.0	5.2	3.0	2.2	1.5	1.5	1.5	0.7
155°	6.0	3.0	2.2	1.5	1.5	1.5	1.5	1.5
157.5°	3.0	2.2	1.5	1.5	1.5	1.5	1.5	1.5
160°	1.5	1.5	0.7	0.7	1.5	1.5	1.5	1.5
162.5°	0.7	0.7	0.7	0.7	1.5	1.5	1.5	1.5
165°	0.0	0.7	0.7	0.7	1.5	1.5	1.5	1.5
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)