

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: P201299

Luminaire Tested: **4LBLED-LD4-10-SYMW-UNV-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201299
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-LD4-10-SYMW-UNV-L840-CD1-U
Description: 4 ft. Low Bay Linear, 10000 lm, Wht Sym lens, 4K
Light Source: (392) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
(OTi85W01720CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10121.3 lumens
Efficiency: N/A
Efficacy: 129.4 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

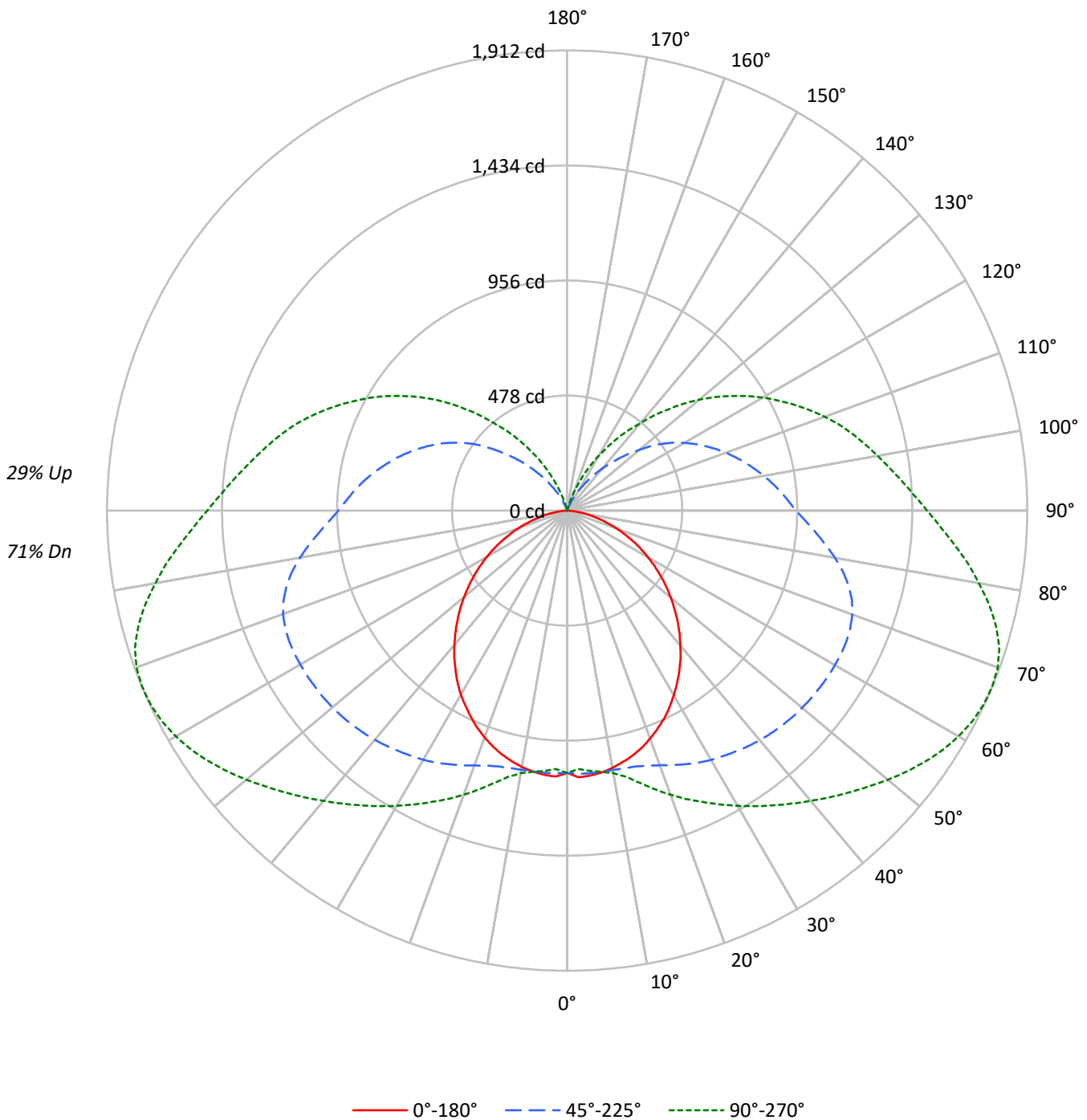
Input Watts (W): 78.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-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	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°	17562	17562	17562
5°	17799	15831	17741
10°	17598	14866	17540
15°	17335	14655	17259
20°	16966	14823	16875
25°	16553	15030	16426
30°	16010	15329	15961
35°	15425	15713	15355
40°	14750	16194	14693
45°	14039	16809	13961
50°	13262	17557	13198
55°	12409	18372	12338
60°	11477	19161	11394
65°	10383	19827	10291
70°	9069	20290	8958
75°	7393	20330	7112
80°	5475	19991	5081
85°	2841	19590	2528



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.1	1.0
10°-20°	313.5	3.1
20°-30°	530.7	5.2
30°-40°	742.1	7.3
40°-50°	935.0	9.2
50°-60°	1097.9	10.8
60°-70°	1200.5	11.9
70°-80°	1186.1	11.7
80°-90°	1041.9	10.3
90°-100°	886.9	8.8
100°-110°	739.7	7.3
110°-120°	572.9	5.7
120°-130°	398.8	3.9
130°-140°	232.7	2.3
140°-150°	106.2	1.0
150°-160°	30.3	0.3
160°-170°	2.2	0.0
170°-180°	0.0	0.0
0°-30°	948.3	9.4
0°-40°	1690.4	16.7
0°-60°	3723.3	36.8
0°-90°	7151.7	70.7
90°-120°	2199.4	21.7
90°-150°	2937.1	29.0
90°-180°	2970.0	29.3
0°-180°	10121.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1090	1090	1090	1090	1090	
5°	1105	1095	1085	1094	1102	105
15°	1054	1101	1172	1101	1049	297
25°	954	1163	1336	1163	946	438
35°	813	1222	1495	1220	809	508
45°	648	1263	1656	1261	644	500
55°	474	1282	1817	1278	472	425
65°	303	1281	1909	1276	300	300
75°	142	1212	1844	1206	136	152
85°	24	1036	1614	1034	22	31
90°	0	951	1495	951	0	1
95°	0	891	1397	892	0	0
105°	1	766	1228	769	0	1
115°	1	634	1041	635	1	1
125°	2	484	830	484	1	2
135°	2	307	595	307	1	1
145°	3	157	369	155	2	1
155°	3	44	164	42	2	1
165°	3	4	12	0	2	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9
2.5°	1109.0	1108.1	1103.6	1096.3	1093.6	1091.8	1090.8	1088.1	1087.2	1089.0	1094.5
5°	1105.4	1103.6	1099.9	1093.6	1090.8	1089.9	1089.0	1086.3	1085.4	1088.1	1095.4
7.5°	1097.2	1096.3	1092.7	1086.3	1085.4	1083.6	1083.6	1081.8	1081.8	1086.3	1094.5
10°	1085.4	1084.5	1080.8	1076.3	1075.4	1075.4	1075.4	1075.4	1077.2	1084.5	1094.5
12.5°	1069.9	1069.9	1067.2	1063.6	1064.5	1064.5	1065.4	1067.2	1072.7	1083.6	1096.3
15°	1053.6	1052.7	1049.9	1049.0	1051.8	1052.7	1055.4	1059.9	1069.0	1084.5	1100.8
17.5°	1032.7	1032.7	1029.9	1030.8	1036.3	1039.0	1043.6	1051.8	1066.3	1087.2	1110.8
20°	1008.1	1009.0	1008.1	1010.8	1019.9	1025.4	1030.8	1044.5	1065.4	1094.5	1126.3
22.5°	980.9	982.7	982.7	989.9	1001.8	1009.9	1018.1	1037.2	1067.2	1107.2	1144.5
25°	953.6	953.6	956.3	966.3	982.7	992.7	1005.4	1032.7	1073.6	1120.8	1162.7
27.5°	920.9	923.6	928.1	941.8	964.5	978.1	993.6	1032.7	1080.8	1134.5	1180.8
30°	886.3	889.0	896.3	915.4	944.5	961.8	983.6	1032.7	1087.2	1145.4	1196.3
32.5°	849.9	854.5	864.5	889.0	924.5	948.1	976.3	1031.8	1092.7	1154.5	1209.0
35°	812.7	817.2	832.7	861.8	908.1	935.4	968.1	1029.0	1095.4	1162.7	1221.7
37.5°	773.6	781.8	799.0	835.4	891.8	924.5	959.0	1026.3	1098.1	1169.0	1234.5
40°	731.8	740.0	764.5	808.1	875.4	909.9	948.1	1022.7	1099.9	1175.4	1245.4
42.5°	690.9	701.8	730.0	782.7	859.0	897.2	937.2	1017.2	1099.0	1179.9	1254.5
45°	648.1	660.9	695.4	758.1	840.9	881.8	924.5	1009.9	1097.2	1182.7	1262.7
47.5°	604.5	620.0	660.9	733.6	822.7	865.4	911.8	1002.7	1094.5	1184.5	1269.9
50°	561.8	580.0	626.3	709.0	802.7	848.1	896.3	994.5	1089.9	1185.4	1274.5
52.5°	519.1	539.1	593.6	684.5	781.8	830.0	880.9	984.5	1084.5	1184.5	1279.0
55°	474.5	496.3	560.9	658.1	760.0	810.0	863.6	971.8	1076.3	1180.8	1281.7
57.5°	431.8	456.3	530.0	632.7	737.2	790.0	847.2	958.1	1067.2	1178.1	1284.5
60°	388.2	416.3	498.2	603.6	713.6	768.1	827.2	942.7	1056.3	1171.7	1284.5
62.5°	345.4	377.3	467.2	577.2	690.0	746.3	807.2	925.4	1044.5	1165.4	1284.5
65°	302.7	339.1	435.4	548.1	663.6	722.7	784.5	907.2	1029.9	1156.3	1280.8
67.5°	260.9	302.7	402.7	518.2	636.3	697.2	760.9	886.3	1013.6	1144.5	1273.6
70°	220.0	266.3	370.0	486.3	608.1	668.1	734.5	863.6	994.5	1129.0	1260.8
72.5°	179.1	231.8	335.4	454.5	578.1	640.0	707.2	837.2	970.9	1108.1	1240.8
75°	141.8	197.3	302.7	421.8	547.2	610.0	677.2	808.1	942.7	1080.8	1211.7
77.5°	108.2	165.4	270.9	390.0	514.5	580.0	646.3	776.3	909.9	1046.3	1173.6
80°	76.4	134.5	239.1	357.3	481.8	546.3	611.8	741.8	875.4	1005.4	1129.9
82.5°	47.3	106.4	207.3	325.4	450.0	513.6	578.1	707.2	836.3	962.7	1082.7
85°	24.5	80.0	177.3	295.4	419.1	481.8	545.4	671.8	796.3	919.0	1036.3
87.5°	8.2	58.2	152.7	269.1	390.9	453.6	515.4	638.1	759.0	876.3	990.8
90°	0.0	43.6	134.5	248.2	367.3	428.2	490.0	608.1	726.3	841.8	950.9
92.5°	0.0	37.3	122.7	233.6	350.9	410.9	470.9	588.1	701.8	813.6	919.9
95°	0.0	30.0	112.7	219.1	333.6	392.7	451.8	566.3	678.1	787.2	890.9
97.5°	0.0	23.6	101.8	205.4	316.3	373.6	430.9	544.5	653.6	760.9	860.9
100°	0.9	18.2	90.0	188.2	298.2	354.5	410.0	520.9	627.2	730.9	830.0
102.5°	0.9	12.7	79.1	173.6	279.1	333.6	388.2	496.3	600.9	703.6	798.1
105°	0.9	9.1	68.2	158.2	260.9	313.6	367.3	472.7	574.5	673.6	766.3
107.5°	0.9	6.4	58.2	143.6	242.7	292.7	344.5	447.2	547.2	643.6	734.5
110°	0.9	4.5	49.1	128.2	222.7	272.7	322.7	421.8	519.1	612.7	701.8



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.6	40.0	113.6	202.7	251.8	300.0	396.3	490.9	581.8	668.1
115°	0.9	3.6	31.8	100.0	182.7	230.0	276.3	370.9	460.9	550.0	633.6
117.5°	0.9	2.7	24.5	86.4	164.5	208.2	252.7	342.7	431.8	518.2	599.1
120°	0.9	2.7	18.2	72.7	145.4	186.4	230.0	315.4	400.9	484.5	561.8
122.5°	1.8	2.7	13.6	60.9	128.2	165.4	207.3	288.2	368.2	449.1	525.4
125°	1.8	1.8	10.9	49.1	110.0	144.5	181.8	260.0	332.7	410.0	484.5
127.5°	1.8	1.8	8.2	37.3	91.8	123.6	157.3	230.0	300.9	370.0	440.9
130°	1.8	1.8	7.3	27.3	74.5	102.7	133.6	199.1	265.4	329.1	393.6
132.5°	1.8	1.8	5.5	20.0	59.1	84.5	111.8	170.0	230.9	292.7	350.9
135°	1.8	1.8	4.5	14.5	44.5	67.3	90.9	142.7	198.2	256.3	307.3
137.5°	1.8	1.8	4.5	10.9	32.7	50.9	71.8	119.1	168.2	220.0	266.3
140°	1.8	1.8	3.6	9.1	22.7	37.3	54.5	95.4	137.3	185.4	230.0
142.5°	1.8	1.8	2.7	7.3	16.4	26.4	39.1	73.6	110.9	152.7	191.8
145°	2.7	1.8	2.7	6.4	11.8	18.2	27.3	55.5	85.4	122.7	157.3
147.5°	1.8	1.8	1.8	4.5	9.1	12.7	18.2	38.2	64.5	95.4	124.5
150°	2.7	1.8	1.8	3.6	7.3	9.1	12.7	25.5	44.5	70.0	95.4
152.5°	2.7	1.8	1.8	3.6	5.5	7.3	9.1	16.4	29.1	47.3	68.2
155°	2.7	1.8	1.8	2.7	4.5	5.5	7.3	10.9	17.3	29.1	44.5
157.5°	2.7	2.7	2.7	2.7	3.6	4.5	5.5	8.2	10.0	16.4	25.5
160°	2.7	2.7	1.8	1.8	2.7	2.7	3.6	5.5	7.3	9.1	12.7
162.5°	2.7	2.7	2.7	1.8	1.8	1.8	2.7	3.6	4.5	6.4	8.2
165°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8	2.7	3.6	4.5
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLELD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9
2.5°	1096.3	1091.8	1089.9	1086.3	1083.6	1081.8	1079.0	1077.2	1075.4	1074.5	1074.5
5°	1097.2	1092.7	1090.8	1088.1	1087.2	1085.4	1083.6	1085.4	1084.5	1085.4	1084.5
7.5°	1098.1	1094.5	1094.5	1093.6	1092.7	1092.7	1090.8	1092.7	1093.6	1094.5	1093.6
10°	1100.8	1099.9	1101.8	1102.7	1102.7	1102.7	1102.7	1104.5	1108.1	1108.1	1107.2
12.5°	1105.4	1108.1	1113.6	1118.1	1119.9	1119.9	1123.6	1127.2	1131.8	1132.7	1131.8
15°	1114.5	1122.7	1134.5	1144.5	1149.0	1151.7	1159.0	1165.4	1169.9	1171.7	1169.9
17.5°	1130.8	1146.3	1164.5	1179.0	1184.5	1188.1	1198.1	1204.5	1209.9	1214.5	1212.7
20°	1152.7	1173.6	1195.4	1212.7	1219.9	1224.5	1235.4	1247.2	1252.7	1256.3	1255.4
22.5°	1176.3	1200.8	1225.4	1246.3	1254.5	1259.9	1273.6	1284.5	1292.7	1297.2	1296.3
25°	1199.0	1227.2	1257.2	1279.9	1289.9	1296.3	1310.8	1323.6	1332.6	1336.3	1335.4
27.5°	1221.7	1254.5	1287.2	1313.6	1323.6	1331.7	1349.0	1362.6	1373.6	1376.3	1376.3
30°	1239.9	1278.1	1313.6	1343.6	1354.5	1365.4	1384.5	1402.6	1412.6	1416.3	1415.4
32.5°	1257.2	1299.9	1339.9	1373.6	1387.2	1398.1	1420.8	1440.8	1452.6	1456.3	1452.6
35°	1274.5	1321.7	1366.3	1402.6	1417.2	1430.8	1456.3	1479.0	1491.7	1495.4	1493.5
37.5°	1290.8	1343.6	1391.7	1431.7	1449.0	1463.5	1489.9	1517.2	1530.8	1534.5	1530.8
40°	1306.3	1363.6	1416.3	1459.9	1479.0	1496.3	1527.2	1554.5	1569.9	1574.5	1572.6
42.5°	1320.8	1383.6	1440.8	1489.0	1510.8	1529.0	1563.5	1593.5	1609.9	1615.4	1610.8
45°	1333.6	1403.6	1465.4	1517.2	1540.8	1561.7	1600.8	1633.5	1649.9	1656.3	1650.8
47.5°	1346.3	1421.7	1488.1	1545.4	1572.6	1594.5	1638.1	1672.6	1691.7	1697.2	1691.7
50°	1358.1	1439.9	1512.6	1574.5	1603.5	1628.1	1675.4	1712.6	1731.7	1739.9	1732.6
52.5°	1369.0	1457.2	1535.4	1601.7	1633.5	1660.8	1711.7	1751.7	1774.4	1779.9	1772.6
55°	1379.9	1473.5	1555.4	1627.2	1661.7	1690.8	1746.3	1788.1	1810.8	1817.2	1809.9
57.5°	1389.0	1488.1	1574.5	1651.7	1687.2	1720.8	1776.3	1819.9	1843.5	1850.8	1843.5
60°	1395.4	1499.9	1591.7	1671.7	1709.0	1743.5	1802.6	1846.3	1869.9	1877.2	1869.9
62.5°	1399.9	1509.0	1603.5	1687.2	1727.2	1762.6	1822.6	1865.3	1889.9	1897.2	1889.9
65°	1400.8	1512.6	1609.9	1697.2	1738.1	1773.5	1834.4	1877.2	1902.6	1909.0	1901.7
67.5°	1395.4	1509.0	1609.9	1699.0	1739.9	1776.3	1837.2	1879.9	1904.4	1911.7	1904.4
70°	1384.5	1498.1	1600.8	1691.7	1732.6	1769.0	1829.0	1872.6	1897.2	1904.4	1896.3
72.5°	1363.6	1479.0	1581.7	1674.4	1713.5	1749.0	1808.1	1850.8	1874.4	1882.6	1873.5
75°	1333.6	1449.0	1551.7	1640.8	1681.7	1714.4	1773.5	1815.3	1837.2	1844.4	1836.3
77.5°	1294.5	1410.8	1509.9	1598.1	1639.0	1669.0	1726.3	1767.2	1789.0	1795.3	1787.2
80°	1249.0	1364.5	1459.9	1547.2	1585.4	1613.5	1670.8	1709.9	1730.8	1737.2	1732.6
82.5°	1199.0	1311.7	1404.5	1489.9	1526.3	1554.5	1610.8	1649.0	1669.9	1679.0	1671.7
85°	1148.1	1256.3	1347.2	1429.9	1466.3	1496.3	1548.1	1586.3	1607.2	1614.4	1609.9
87.5°	1097.2	1201.7	1289.9	1369.9	1403.6	1434.5	1486.3	1524.5	1545.4	1552.6	1547.2
90°	1054.5	1154.5	1239.0	1318.1	1352.6	1380.8	1430.8	1467.2	1488.1	1495.4	1490.8
92.5°	1019.9	1115.4	1197.2	1269.9	1302.6	1332.6	1380.8	1416.3	1437.2	1443.6	1439.0
95°	987.2	1079.9	1159.0	1229.9	1261.7	1290.8	1336.3	1370.8	1390.8	1397.2	1393.6
97.5°	956.3	1045.4	1121.8	1190.8	1223.6	1249.9	1293.6	1326.3	1346.3	1351.7	1346.3
100°	921.8	1011.8	1086.3	1154.5	1182.7	1209.0	1252.7	1285.4	1302.6	1309.9	1305.4
102.5°	889.0	975.4	1049.0	1116.3	1146.3	1172.7	1212.7	1244.5	1264.5	1269.0	1264.5
105°	855.4	939.0	1010.8	1077.2	1107.2	1132.7	1172.7	1203.6	1222.7	1228.1	1223.6
107.5°	820.9	901.8	973.6	1036.3	1065.4	1089.0	1129.9	1159.9	1176.3	1186.3	1179.0
110°	783.6	863.6	932.7	993.6	1021.8	1044.5	1084.5	1114.5	1129.9	1139.0	1132.7



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	749.0	824.5	890.9	949.9	976.3	999.0	1038.1	1067.2	1081.8	1090.8	1084.5
115°	712.7	782.7	848.1	904.5	930.9	951.8	990.8	1018.1	1032.7	1040.8	1035.4
117.5°	673.6	741.8	803.6	859.0	883.6	904.5	941.8	969.0	982.7	989.0	983.6
120°	635.4	701.8	760.0	812.7	837.2	857.2	893.6	919.0	931.8	939.0	933.6
122.5°	595.4	660.0	712.7	765.4	788.1	807.2	839.9	867.2	879.0	885.4	881.8
125°	552.7	616.3	667.2	715.4	737.2	755.4	787.2	810.0	823.6	830.0	826.3
127.5°	508.2	569.1	620.9	665.4	686.3	706.3	732.7	758.1	767.2	774.5	770.9
130°	458.2	519.1	567.2	612.7	632.7	649.1	678.1	699.0	710.9	717.2	714.5
132.5°	409.1	465.4	516.3	557.2	576.3	593.6	620.0	640.0	656.3	657.2	653.6
135°	361.8	410.9	457.2	500.9	520.0	537.2	560.9	579.1	594.5	595.4	590.9
137.5°	316.3	361.8	401.8	442.7	462.7	480.9	502.7	520.0	534.5	537.2	530.9
140°	272.7	314.5	350.9	387.2	406.3	423.6	447.2	461.8	473.6	474.5	470.9
142.5°	230.9	269.1	300.9	334.5	351.8	367.3	393.6	408.2	419.1	421.8	416.3
145°	191.8	225.4	255.4	284.5	299.1	313.6	340.0	357.3	366.3	369.1	363.6
147.5°	154.5	182.7	209.1	235.4	248.2	261.8	283.6	305.4	313.6	315.4	310.9
150°	120.0	143.6	167.3	189.1	200.0	211.8	230.9	250.9	261.8	263.6	260.0
152.5°	88.2	108.2	127.3	145.4	154.5	163.6	180.0	199.1	212.7	213.6	210.0
155°	60.0	76.4	91.8	105.4	113.6	120.9	133.6	148.2	162.7	163.6	160.9
157.5°	36.4	47.3	60.0	70.9	76.4	82.7	91.8	102.7	115.4	118.2	115.4
160°	18.2	24.5	31.8	39.1	43.6	48.2	52.7	61.8	69.1	75.5	71.8
162.5°	9.1	10.9	12.7	16.4	18.2	20.9	24.5	28.2	31.8	38.2	33.6
165°	5.5	6.4	7.3	7.3	8.2	8.2	8.2	8.2	8.2	11.8	8.2
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9
2.5°	1077.2	1079.0	1082.7	1084.5	1086.3	1088.1	1091.8	1097.2	1092.7	1088.1	1089.0
5°	1084.5	1084.5	1085.4	1088.1	1088.1	1089.0	1092.7	1098.1	1093.6	1087.2	1087.2
7.5°	1093.6	1092.7	1093.6	1094.5	1093.6	1093.6	1095.4	1098.1	1092.7	1085.4	1083.6
10°	1106.3	1103.6	1102.7	1103.6	1102.7	1099.9	1100.8	1100.8	1093.6	1082.7	1078.1
12.5°	1129.0	1124.5	1120.8	1119.9	1117.2	1112.7	1109.9	1106.3	1095.4	1082.7	1073.6
15°	1166.3	1159.0	1151.7	1149.0	1144.5	1133.6	1124.5	1116.3	1100.8	1082.7	1069.9
17.5°	1208.1	1199.0	1189.0	1185.4	1179.0	1163.6	1148.1	1132.7	1110.8	1085.4	1067.2
20°	1248.1	1237.2	1225.4	1219.0	1212.7	1193.6	1175.4	1155.4	1127.2	1093.6	1066.3
22.5°	1288.1	1275.4	1259.0	1253.6	1245.4	1223.6	1201.7	1179.0	1145.4	1105.4	1068.1
25°	1327.2	1312.6	1297.2	1288.1	1279.0	1254.5	1228.1	1200.8	1162.7	1119.0	1074.5
27.5°	1366.3	1349.9	1330.8	1320.8	1311.7	1284.5	1254.5	1223.6	1180.8	1131.8	1082.7
30°	1404.5	1386.3	1363.6	1352.6	1341.7	1310.8	1276.3	1241.7	1195.4	1142.7	1088.1
32.5°	1442.6	1422.6	1397.2	1384.5	1371.7	1336.3	1298.1	1259.0	1208.1	1152.7	1092.7
35°	1479.9	1458.1	1429.9	1414.5	1400.8	1362.6	1319.9	1276.3	1219.9	1160.8	1095.4
37.5°	1518.1	1493.5	1462.6	1445.4	1429.9	1388.1	1340.8	1291.7	1232.7	1167.2	1098.1
40°	1556.3	1529.9	1495.4	1477.2	1458.1	1412.6	1361.7	1307.2	1243.6	1173.6	1099.0
42.5°	1595.4	1566.3	1528.1	1508.1	1488.1	1437.2	1380.8	1320.8	1252.7	1178.1	1098.1
45°	1634.4	1601.7	1560.8	1538.1	1516.3	1460.8	1399.9	1332.6	1260.8	1180.8	1096.3
47.5°	1673.5	1639.0	1594.5	1569.9	1543.5	1484.5	1418.1	1345.4	1268.1	1181.7	1094.5
50°	1713.5	1676.3	1628.1	1600.8	1573.5	1507.2	1436.3	1356.3	1272.7	1182.7	1089.9
52.5°	1752.6	1712.6	1660.8	1631.7	1599.9	1529.9	1453.5	1367.2	1276.3	1181.7	1083.6
55°	1788.1	1746.3	1691.7	1660.8	1625.4	1550.8	1469.0	1376.3	1278.1	1179.0	1075.4
57.5°	1820.8	1778.1	1720.8	1686.3	1651.7	1570.8	1483.5	1386.3	1279.9	1174.5	1066.3
60°	1846.3	1803.5	1743.5	1709.0	1671.7	1587.2	1495.4	1391.7	1279.9	1168.1	1054.5
62.5°	1865.3	1822.6	1762.6	1726.3	1687.2	1600.8	1504.5	1397.2	1279.9	1161.7	1042.7
65°	1877.2	1835.3	1773.5	1737.2	1697.2	1607.2	1509.0	1398.1	1276.3	1152.7	1028.1
67.5°	1879.0	1837.2	1775.3	1739.9	1699.0	1607.2	1506.3	1393.6	1269.0	1140.8	1011.8
70°	1870.8	1829.0	1768.1	1731.7	1691.7	1599.0	1496.3	1382.6	1256.3	1125.4	992.7
72.5°	1849.9	1807.2	1748.1	1710.8	1671.7	1579.9	1475.4	1362.6	1235.4	1103.6	969.9
75°	1813.5	1771.7	1713.5	1679.0	1639.0	1549.0	1443.6	1333.6	1206.3	1076.3	941.8
77.5°	1765.3	1724.4	1667.2	1632.6	1595.4	1507.2	1403.6	1294.5	1170.8	1042.7	909.0
80°	1708.1	1669.0	1612.6	1579.0	1542.6	1457.2	1355.4	1249.0	1127.2	1002.7	872.7
82.5°	1647.2	1609.0	1554.5	1519.9	1485.4	1402.6	1305.4	1199.9	1080.8	959.9	833.6
85°	1588.1	1547.2	1492.6	1460.8	1426.3	1345.4	1253.6	1149.0	1033.6	916.3	795.4
87.5°	1526.3	1486.3	1432.6	1402.6	1369.9	1288.1	1200.8	1099.0	989.0	877.2	758.1
90°	1469.9	1430.8	1379.0	1349.0	1318.1	1239.0	1153.6	1057.2	950.9	842.7	727.2
92.5°	1418.1	1381.7	1332.6	1303.6	1273.6	1198.1	1116.3	1022.7	919.9	815.4	702.7
95°	1373.6	1338.1	1292.7	1264.5	1233.6	1161.7	1081.8	989.9	891.8	790.0	680.0
97.5°	1329.0	1295.4	1250.8	1223.6	1194.5	1124.5	1047.2	959.0	862.7	761.8	655.4
100°	1288.1	1255.4	1209.9	1185.4	1157.2	1089.9	1013.6	927.2	832.7	733.6	629.1
102.5°	1248.1	1215.4	1171.7	1147.2	1119.9	1052.7	978.1	892.7	800.9	705.4	603.6
105°	1207.2	1175.4	1131.8	1107.2	1079.9	1014.5	941.8	859.0	769.0	676.3	577.2
107.5°	1162.7	1131.8	1089.9	1065.4	1039.9	974.5	904.5	823.6	737.2	646.3	550.0
110°	1117.2	1086.3	1048.1	1021.8	997.2	933.6	865.4	788.1	703.6	615.4	521.8



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1069.9	1039.9	1002.7	978.1	952.7	891.8	826.3	751.8	670.0	583.6	492.7
115°	1021.8	991.8	954.5	929.9	907.2	849.0	785.4	714.5	635.4	551.8	463.6
117.5°	969.0	942.7	907.2	885.4	861.8	803.6	744.5	676.3	600.9	518.2	433.6
120°	919.9	894.5	859.9	836.3	815.4	760.0	703.6	637.2	562.7	485.4	402.7
122.5°	868.1	840.9	809.0	789.0	766.3	715.4	660.9	597.2	524.5	448.2	369.1
125°	813.6	788.1	757.2	738.1	717.2	669.1	617.2	553.6	484.5	410.9	334.5
127.5°	758.1	734.5	704.5	687.2	667.2	620.0	570.0	508.2	439.1	370.0	299.1
130°	701.8	678.1	650.9	632.7	613.6	569.1	520.0	459.1	393.6	329.1	264.5
132.5°	642.7	620.0	592.7	576.3	559.1	516.3	466.3	407.2	349.1	290.9	230.9
135°	581.8	560.9	536.3	520.9	503.6	460.0	412.7	359.1	307.3	253.6	198.2
137.5°	522.7	503.6	480.0	464.5	445.4	404.5	362.7	314.5	267.3	217.3	165.4
140°	464.5	447.2	424.5	407.2	390.9	352.7	314.5	270.9	228.2	182.7	136.4
142.5°	410.0	394.5	369.1	352.7	337.3	303.6	270.0	229.1	190.9	150.0	110.0
145°	356.3	342.7	314.5	300.0	287.3	257.3	223.6	190.0	155.4	120.0	85.4
147.5°	304.5	288.2	261.8	249.1	237.3	210.9	182.7	151.8	123.6	92.7	62.7
150°	254.5	234.5	211.8	200.9	190.9	168.2	143.6	118.2	93.6	67.3	43.6
152.5°	202.7	181.8	166.4	155.4	146.4	128.2	108.2	86.4	66.4	45.5	27.3
155°	150.0	135.4	120.9	115.4	107.3	91.8	75.5	58.2	41.8	27.3	15.5
157.5°	103.6	92.7	83.6	78.2	71.8	60.0	46.4	33.6	23.6	14.5	7.3
160°	62.7	55.5	49.1	44.5	40.0	31.8	22.7	15.5	10.0	4.5	2.7
162.5°	28.2	23.6	20.9	18.2	15.5	11.8	7.3	3.6	1.8	0.9	0.9
165°	5.5	3.6	2.7	1.8	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: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9	1089.9
2.5°	1089.9	1090.8	1091.8	1091.8	1094.5	1099.0	1105.4	1106.3
5°	1087.2	1088.1	1088.1	1089.0	1091.8	1095.4	1100.8	1101.8
7.5°	1082.7	1082.7	1082.7	1082.7	1084.5	1088.1	1092.7	1093.6
10°	1076.3	1074.5	1073.6	1072.7	1073.6	1077.2	1080.8	1081.8
12.5°	1069.0	1064.5	1062.7	1061.8	1061.8	1062.7	1066.3	1066.3
15°	1060.8	1053.6	1050.8	1049.0	1045.4	1045.4	1049.0	1049.0
17.5°	1052.7	1042.7	1037.2	1033.6	1028.1	1027.2	1029.0	1027.2
20°	1045.4	1029.9	1022.7	1016.3	1008.1	1005.4	1005.4	1002.7
22.5°	1038.1	1017.2	1007.2	998.1	985.4	980.9	978.1	976.3
25°	1033.6	1003.6	990.8	979.9	962.7	952.7	949.9	946.3
27.5°	1032.7	992.7	975.4	961.8	938.1	926.3	919.0	914.5
30°	1032.7	981.8	959.0	939.9	910.9	892.7	885.4	883.6
32.5°	1031.8	973.6	946.3	921.8	884.5	860.9	849.9	847.2
35°	1029.0	965.4	933.6	903.6	858.1	828.1	812.7	809.0
37.5°	1025.4	955.4	921.8	887.2	830.9	794.5	775.4	770.0
40°	1021.8	945.4	907.2	869.9	803.6	760.0	735.4	729.0
42.5°	1015.4	934.5	894.5	853.6	778.1	725.4	697.2	687.2
45°	1009.0	921.8	879.0	835.4	752.7	690.0	654.5	644.5
47.5°	1000.8	908.1	863.6	815.4	729.0	655.4	615.4	602.7
50°	991.8	894.5	846.3	796.3	703.6	621.8	572.7	559.1
52.5°	981.8	879.0	829.0	776.3	678.1	590.0	532.7	515.4
55°	969.0	861.8	809.0	753.6	651.8	557.2	491.8	471.8
57.5°	955.4	844.5	790.0	732.7	625.4	526.3	451.8	429.1
60°	939.0	824.5	766.3	709.0	598.1	494.5	411.8	385.4
62.5°	921.8	804.5	745.4	684.5	570.9	463.6	372.7	342.7
65°	903.6	781.8	721.8	659.1	541.8	430.9	334.5	300.0
67.5°	881.8	757.2	695.4	631.8	511.8	398.2	297.3	258.2
70°	859.9	730.9	666.3	602.7	480.9	365.4	261.8	217.3
72.5°	833.6	702.7	637.2	572.7	449.1	333.6	227.3	176.4
75°	804.5	673.6	607.2	541.8	416.3	300.0	192.7	136.4
77.5°	773.6	641.8	576.3	510.0	385.4	268.2	160.9	102.7
80°	740.9	608.1	543.6	477.2	352.7	236.3	130.0	70.9
82.5°	704.5	575.4	510.9	444.5	321.8	205.4	101.8	43.6
85°	670.0	542.7	480.0	414.5	291.8	174.5	76.4	21.8
87.5°	636.3	512.7	451.8	387.2	266.3	150.9	55.5	6.4
90°	609.1	488.2	428.2	365.4	246.3	133.6	41.8	0.0
92.5°	587.2	469.1	410.0	349.1	231.8	121.8	35.5	0.0
95°	566.3	449.1	392.7	331.8	217.3	111.8	28.2	0.0
97.5°	543.6	430.0	373.6	314.5	202.7	100.9	22.7	0.0
100°	520.9	409.1	354.5	297.3	186.4	90.0	16.4	0.0
102.5°	496.3	387.2	333.6	278.2	171.8	78.2	10.9	0.0
105°	472.7	365.4	313.6	259.1	156.4	68.2	7.3	0.0
107.5°	447.2	343.6	292.7	240.9	140.9	57.3	4.5	0.0
110°	421.8	321.8	271.8	221.8	126.4	47.3	3.6	0.0



TEST NUMBER: P201299

CATALOG NUMBER: 4LBLED-LD4-10-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	396.3	299.1	250.9	201.8	111.8	38.2	2.7	0.9
115°	369.1	275.4	229.1	181.8	97.3	30.0	2.7	0.9
117.5°	341.8	250.9	208.2	162.7	83.6	22.7	1.8	0.9
120°	313.6	229.1	185.4	144.5	70.9	16.4	1.8	0.9
122.5°	286.3	206.4	164.5	125.4	58.2	12.7	1.8	0.9
125°	258.2	180.0	143.6	108.2	46.4	10.0	1.8	0.9
127.5°	228.2	155.4	121.8	89.1	35.5	7.3	1.8	0.9
130°	197.3	130.9	100.9	72.7	25.5	5.5	1.8	0.9
132.5°	168.2	110.0	81.8	57.3	18.2	4.5	1.8	0.9
135°	141.8	89.1	64.5	42.7	12.7	3.6	0.9	0.9
137.5°	116.4	70.9	49.1	30.9	9.1	2.7	1.8	0.9
140°	93.6	53.6	35.5	21.8	6.4	1.8	1.8	0.9
142.5°	72.7	38.2	24.5	14.5	4.5	1.8	0.9	0.9
145°	53.6	25.5	16.4	9.1	3.6	1.8	1.8	1.8
147.5°	36.4	17.3	10.0	6.4	2.7	1.8	1.8	0.9
150°	23.6	10.9	6.4	4.5	1.8	1.8	1.8	0.9
152.5°	14.5	6.4	3.6	2.7	1.8	1.8	1.8	0.9
155°	7.3	3.6	2.7	1.8	1.8	1.8	1.8	1.8
157.5°	3.6	2.7	1.8	1.8	1.8	1.8	1.8	1.8
160°	1.8	1.8	0.9	0.9	1.8	1.8	1.8	1.8
162.5°	0.9	0.9	0.9	0.9	1.8	1.8	1.8	1.8
165°	0.0	0.9	0.9	0.9	1.8	1.8	1.8	1.8
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)