

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: P201305

Luminaire Tested: **8LBLED-LD4-10-SYMW-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201305  
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: 8LBLEDD4-10-SYMW-UNV-L840-CD1-U  
Description: 8 ft. Low Bay Linear, 10000 lm, Wht Sym lens, 4K  
Light Source: (784) 4000K CCT, 80 CRI LEDS  
2UT217098A8404C  
Ballast/Driver: OSRAM  
(OTI85W01600CC)

**Summary**

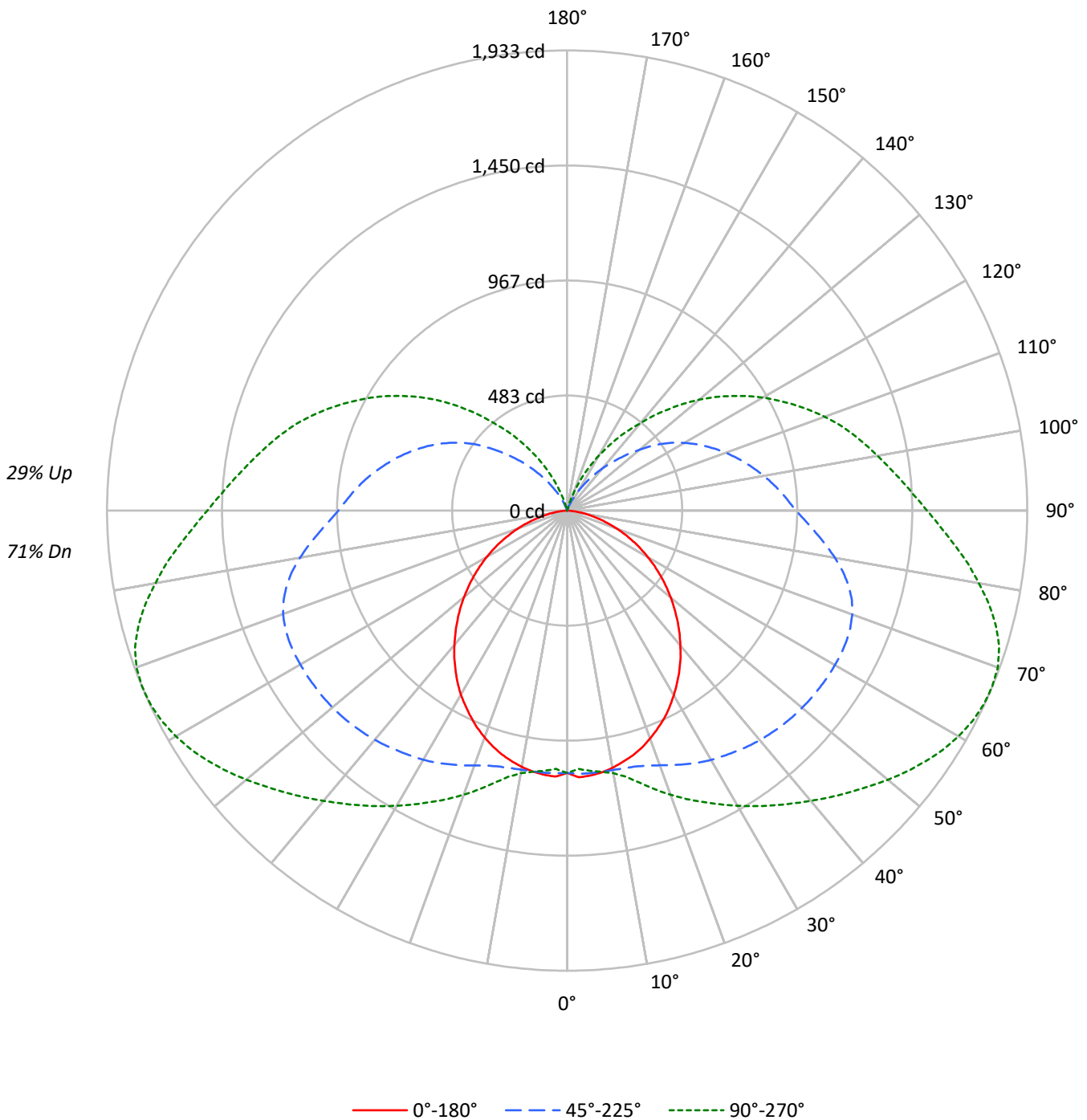
Lumens per Lamp: N/A  
Luminaire Lumens: 10232.0 lumens  
Efficiency: N/A  
Efficacy: 142.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 2.12 / 1.93  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 8' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 71.96  
Input Voltage (V): NR  
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°	8878	8878	8878
5°	9017	8003	8988
10°	8936	7514	8906
15°	8823	7408	8784
20°	8656	7492	8609
25°	8467	7597	8403
30°	8212	7748	8187
35°	7936	7942	7901
40°	7615	8186	7586
45°	7276	8496	7236
50°	6904	8874	6871
55°	6497	9286	6460
60°	6051	9685	6007
65°	5526	10022	5477
70°	4890	10256	4828
75°	4069	10276	3910
80°	3122	10105	2899
85°	1767	9902	1575



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.2	1.0
10°-20°	316.9	3.1
20°-30°	536.5	5.2
30°-40°	750.2	7.3
40°-50°	945.2	9.2
50°-60°	1109.9	10.8
60°-70°	1213.6	11.9
70°-80°	1199.0	11.7
80°-90°	1053.3	10.3
90°-100°	896.6	8.8
100°-110°	747.7	7.3
110°-120°	579.1	5.7
120°-130°	403.1	3.9
130°-140°	235.3	2.3
140°-150°	107.3	1.0
150°-160°	30.6	0.3
160°-170°	2.2	0.0
170°-180°	0.0	0.0
0°-30°	958.7	9.4
0°-40°	1708.9	16.7
0°-60°	3764.0	36.8
0°-90°	7229.9	70.7
90°-120°	2223.5	21.7
90°-150°	2969.2	29.0
90°-180°	3002.0	29.3
0°-180°	10232.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1102	1102	1102	1102	1102	
5°	1118	1107	1097	1106	1114	106
15°	1065	1113	1185	1113	1060	300
25°	964	1175	1351	1175	957	443
35°	822	1235	1512	1233	818	513
45°	655	1276	1674	1275	652	505
55°	480	1296	1837	1292	477	429
65°	306	1295	1930	1290	303	303
75°	143	1225	1865	1220	138	154
85°	25	1048	1632	1045	22	31
90°	0	961	1512	961	0	1
95°	0	901	1412	902	0	0
105°	1	775	1242	778	0	1
115°	1	640	1052	642	1	1
125°	2	490	839	490	1	2
135°	2	311	602	311	1	1
145°	3	159	373	157	2	1
155°	3	45	165	42	2	1
165°	3	5	12	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°	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9
2.5°	1121.2	1120.2	1115.6	1108.3	1105.5	1103.7	1102.8	1100.0	1099.1	1100.9	1106.5
5°	1117.5	1115.6	1112.0	1105.5	1102.8	1101.9	1100.9	1098.2	1097.3	1100.0	1107.4
7.5°	1109.2	1108.3	1104.6	1098.2	1097.3	1095.4	1095.4	1093.6	1093.6	1098.2	1106.5
10°	1097.3	1096.3	1092.7	1088.1	1087.2	1087.2	1087.2	1087.2	1089.0	1096.3	1106.5
12.5°	1081.6	1081.6	1078.9	1075.2	1076.1	1076.1	1077.0	1078.9	1084.4	1095.4	1108.3
15°	1065.1	1064.2	1061.4	1060.5	1063.3	1064.2	1066.9	1071.5	1080.7	1096.3	1112.9
17.5°	1044.0	1044.0	1041.2	1042.1	1047.6	1050.4	1055.0	1063.3	1078.0	1099.1	1123.0
20°	1019.1	1020.1	1019.1	1021.9	1031.1	1036.6	1042.1	1055.9	1077.0	1106.5	1138.6
22.5°	991.6	993.4	993.4	1000.8	1012.7	1021.0	1029.3	1048.6	1078.9	1119.3	1157.0
25°	964.0	964.0	966.8	976.9	993.4	1003.5	1016.4	1044.0	1085.3	1133.1	1175.4
27.5°	930.9	933.7	938.3	952.1	975.0	988.8	1004.4	1044.0	1092.7	1146.9	1193.8
30°	896.0	898.8	906.1	925.4	954.8	972.3	994.3	1044.0	1099.1	1157.9	1209.4
32.5°	859.2	863.8	873.9	898.8	934.6	958.5	987.0	1043.0	1104.6	1167.1	1222.2
35°	821.6	826.2	841.8	871.2	918.1	945.6	978.7	1040.3	1107.4	1175.4	1235.1
37.5°	782.1	790.3	807.8	844.5	901.5	934.6	969.5	1037.5	1110.1	1181.8	1248.0
40°	739.8	748.0	772.9	817.0	885.0	919.9	958.5	1033.9	1112.0	1188.2	1259.0
42.5°	698.4	709.5	737.9	791.2	868.4	907.0	947.5	1028.3	1111.0	1192.8	1268.2
45°	655.2	668.1	703.0	766.4	850.1	891.4	934.6	1021.0	1109.2	1195.6	1276.5
47.5°	611.1	626.7	668.1	741.6	831.7	874.9	921.7	1013.6	1106.5	1197.4	1283.8
50°	567.9	586.3	633.2	716.8	811.5	857.4	906.1	1005.4	1101.9	1198.3	1288.4
52.5°	524.7	545.0	600.1	692.0	790.3	839.0	890.5	995.3	1096.3	1197.4	1293.0
55°	479.7	501.8	567.0	665.3	768.3	818.8	873.0	982.4	1088.1	1193.8	1295.8
57.5°	436.5	461.3	535.8	639.6	745.3	798.6	856.5	968.6	1078.9	1191.0	1298.5
60°	392.4	420.9	503.6	610.2	721.4	776.5	836.3	953.0	1067.9	1184.6	1298.5
62.5°	349.2	381.4	472.4	583.6	697.5	754.5	816.1	935.5	1055.9	1178.1	1298.5
65°	306.0	342.8	440.2	554.1	670.9	730.6	793.1	917.1	1041.2	1168.9	1294.8
67.5°	263.7	306.0	407.1	523.8	643.3	704.9	769.2	896.0	1024.7	1157.0	1287.5
70°	222.4	269.3	374.0	491.7	614.8	675.4	742.5	873.0	1005.4	1141.4	1274.6
72.5°	181.0	234.3	339.1	459.5	584.5	647.0	715.0	846.4	981.5	1120.2	1254.4
75°	143.4	199.4	306.0	426.4	553.2	616.6	684.6	817.0	953.0	1092.7	1225.0
77.5°	109.4	167.3	273.9	394.2	520.1	586.3	653.4	784.8	919.9	1057.7	1186.4
80°	77.2	136.0	241.7	361.2	487.1	552.3	618.5	749.9	885.0	1016.4	1142.3
82.5°	47.8	107.5	209.5	329.0	454.9	519.2	584.5	715.0	845.5	973.2	1094.5
85°	24.8	80.9	179.2	298.7	423.6	487.1	551.4	679.1	805.0	929.1	1047.6
87.5°	8.3	58.8	154.4	272.0	395.2	458.6	521.1	645.1	767.3	885.9	1001.7
90°	0.0	44.1	136.0	250.9	371.3	432.8	495.3	614.8	734.3	851.0	961.3
92.5°	0.0	37.7	124.1	236.2	354.7	415.4	476.0	594.6	709.5	822.5	930.0
95°	0.0	30.3	114.0	221.5	337.3	397.0	456.7	572.5	685.6	795.8	900.6
97.5°	0.0	23.9	102.9	207.7	319.8	377.7	435.6	550.5	660.7	769.2	870.3
100°	0.9	18.4	91.0	190.2	301.4	358.4	414.5	526.6	634.1	738.9	839.0
102.5°	0.9	12.9	80.0	175.5	282.1	337.3	392.4	501.8	607.4	711.3	806.9
105°	0.9	9.2	68.9	159.9	263.7	317.0	371.3	477.9	580.8	681.0	774.7
107.5°	0.9	6.4	58.8	145.2	245.4	295.9	348.3	452.1	553.2	650.6	742.5
110°	0.9	4.6	49.6	129.6	225.1	275.7	326.2	426.4	524.7	619.4	709.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.7	40.4	114.9	204.9	254.6	303.3	400.7	496.2	588.1	675.4
115°	0.9	3.7	32.2	101.1	184.7	232.5	279.4	374.9	465.9	556.0	640.5
117.5°	0.9	2.8	24.8	87.3	166.3	210.4	255.5	346.5	436.5	523.8	605.6
120°	0.9	2.8	18.4	73.5	147.0	188.4	232.5	318.9	405.3	489.8	567.9
122.5°	1.8	2.8	13.8	61.6	129.6	167.3	209.5	291.3	372.2	454.0	531.2
125°	1.8	1.8	11.0	49.6	111.2	146.1	183.8	262.8	336.3	414.5	489.8
127.5°	1.8	1.8	8.3	37.7	92.8	125.0	159.0	232.5	304.2	374.0	445.7
130°	1.8	1.8	7.4	27.6	75.4	103.8	135.1	201.3	268.3	332.7	397.9
132.5°	1.8	1.8	5.5	20.2	59.7	85.5	113.0	171.8	233.4	295.9	354.7
135°	1.8	1.8	4.6	14.7	45.0	68.0	91.9	144.3	200.3	259.2	310.6
137.5°	1.8	1.8	4.6	11.0	33.1	51.5	72.6	120.4	170.0	222.4	269.3
140°	1.8	1.8	3.7	9.2	23.0	37.7	55.1	96.5	138.8	187.5	232.5
142.5°	1.8	1.8	2.8	7.4	16.5	26.7	39.5	74.4	112.1	154.4	193.9
145°	2.8	1.8	2.8	6.4	11.9	18.4	27.6	56.1	86.4	124.1	159.0
147.5°	1.8	1.8	1.8	4.6	9.2	12.9	18.4	38.6	65.2	96.5	125.9
150°	2.8	1.8	1.8	3.7	7.4	9.2	12.9	25.7	45.0	70.8	96.5
152.5°	2.8	1.8	1.8	3.7	5.5	7.4	9.2	16.5	29.4	47.8	68.9
155°	2.8	1.8	1.8	2.8	4.6	5.5	7.4	11.0	17.5	29.4	45.0
157.5°	2.8	2.8	2.8	2.8	3.7	4.6	5.5	8.3	10.1	16.5	25.7
160°	2.8	2.8	1.8	1.8	2.8	2.8	3.7	5.5	7.4	9.2	12.9
162.5°	2.8	2.8	2.8	1.8	1.8	1.8	2.8	3.7	4.6	6.4	8.3
165°	2.8	2.8	1.8	1.8	1.8	1.8	1.8	1.8	2.8	3.7	4.6
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°	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9
2.5°	1108.3	1103.7	1101.9	1098.2	1095.4	1093.6	1090.8	1089.0	1087.2	1086.2	1086.2
5°	1109.2	1104.6	1102.8	1100.0	1099.1	1097.3	1095.4	1097.3	1096.3	1097.3	1096.3
7.5°	1110.1	1106.5	1106.5	1105.5	1104.6	1104.6	1102.8	1104.6	1105.5	1106.5	1105.5
10°	1112.9	1112.0	1113.8	1114.7	1114.7	1114.7	1114.7	1116.6	1120.2	1120.2	1119.3
12.5°	1117.5	1120.2	1125.7	1130.3	1132.2	1132.2	1135.9	1139.5	1144.1	1145.0	1144.1
15°	1126.7	1134.9	1146.9	1157.0	1161.6	1164.3	1171.7	1178.1	1182.7	1184.6	1182.7
17.5°	1143.2	1158.8	1177.2	1191.9	1197.4	1201.1	1211.2	1217.6	1223.2	1227.8	1225.9
20°	1165.3	1186.4	1208.5	1225.9	1233.3	1237.9	1248.9	1260.8	1266.4	1270.0	1269.1
22.5°	1189.2	1214.0	1238.8	1259.9	1268.2	1273.7	1287.5	1298.5	1306.8	1311.4	1310.5
25°	1212.1	1240.6	1270.9	1293.9	1304.0	1310.5	1325.2	1338.0	1347.2	1350.9	1350.0
27.5°	1235.1	1268.2	1301.3	1327.9	1338.0	1346.3	1363.8	1377.5	1388.6	1391.3	1391.3
30°	1253.5	1292.1	1327.9	1358.3	1369.3	1380.3	1399.6	1418.0	1428.1	1431.8	1430.9
32.5°	1270.9	1314.1	1354.6	1388.6	1402.4	1413.4	1436.4	1456.6	1468.5	1472.2	1468.5
35°	1288.4	1336.2	1381.2	1418.0	1432.7	1446.5	1472.2	1495.2	1508.0	1511.7	1509.9
37.5°	1305.0	1358.3	1407.0	1447.4	1464.9	1479.6	1506.2	1533.8	1547.6	1551.2	1547.6
40°	1320.6	1378.5	1431.8	1475.9	1495.2	1512.6	1543.9	1571.5	1587.1	1591.7	1589.8
42.5°	1335.3	1398.7	1456.6	1505.3	1527.3	1545.7	1580.6	1611.0	1627.5	1633.0	1628.4
45°	1348.1	1418.9	1481.4	1533.8	1557.7	1578.8	1618.3	1651.4	1667.9	1674.4	1668.9
47.5°	1361.0	1437.3	1504.4	1562.3	1589.8	1611.9	1656.0	1690.9	1710.2	1715.7	1710.2
50°	1373.0	1455.7	1529.2	1591.7	1621.1	1645.9	1693.7	1731.4	1750.7	1758.9	1751.6
52.5°	1384.0	1473.1	1552.2	1619.2	1651.4	1679.0	1730.4	1770.9	1793.8	1799.4	1792.0
55°	1395.0	1489.7	1572.4	1645.0	1679.9	1709.3	1765.4	1807.6	1830.6	1837.0	1829.7
57.5°	1404.2	1504.4	1591.7	1669.8	1705.6	1739.6	1795.7	1839.8	1863.7	1871.0	1863.7
60°	1410.6	1516.3	1609.1	1690.0	1727.7	1762.6	1822.3	1866.4	1890.3	1897.7	1890.3
62.5°	1415.2	1525.5	1621.1	1705.6	1746.1	1781.9	1842.6	1885.7	1910.6	1917.9	1910.6
65°	1416.1	1529.2	1627.5	1715.7	1757.1	1792.9	1854.5	1897.7	1923.4	1929.9	1922.5
67.5°	1410.6	1525.5	1627.5	1717.6	1758.9	1795.7	1857.3	1900.4	1925.3	1932.6	1925.3
70°	1399.6	1514.5	1618.3	1710.2	1751.6	1788.3	1849.0	1893.1	1917.9	1925.3	1917.0
72.5°	1378.5	1495.2	1599.0	1692.8	1732.3	1768.1	1827.8	1871.0	1894.9	1903.2	1894.0
75°	1348.1	1464.9	1568.7	1658.8	1700.1	1733.2	1792.9	1835.2	1857.3	1864.6	1856.3
77.5°	1308.6	1426.3	1526.4	1615.6	1656.9	1687.2	1745.1	1786.5	1808.6	1815.0	1806.7
80°	1262.7	1379.4	1475.9	1564.1	1602.7	1631.2	1689.1	1728.6	1749.7	1756.2	1751.6
82.5°	1212.1	1326.1	1419.8	1506.2	1543.0	1571.5	1628.4	1667.0	1688.2	1697.4	1690.0
85°	1160.7	1270.0	1361.9	1445.6	1482.3	1512.6	1565.0	1603.6	1624.8	1632.1	1627.5
87.5°	1109.2	1214.9	1304.0	1384.9	1418.9	1450.1	1502.5	1541.1	1562.3	1569.6	1564.1
90°	1066.0	1167.1	1252.6	1332.5	1367.4	1395.9	1446.5	1483.2	1504.4	1511.7	1507.1
92.5°	1031.1	1127.6	1210.3	1283.8	1316.9	1347.2	1395.9	1431.8	1452.9	1459.3	1454.7
95°	998.0	1091.7	1171.7	1243.4	1275.5	1305.0	1350.9	1385.8	1406.0	1412.5	1408.8
97.5°	966.8	1056.8	1134.0	1203.9	1236.9	1263.6	1307.7	1340.8	1361.0	1366.5	1361.0
100°	931.8	1022.8	1098.2	1167.1	1195.6	1222.2	1266.4	1299.4	1316.9	1324.2	1319.7
102.5°	898.8	986.1	1060.5	1128.5	1158.8	1185.5	1225.9	1258.1	1278.3	1282.9	1278.3
105°	864.8	949.3	1021.9	1089.0	1119.3	1145.0	1185.5	1216.7	1236.0	1241.5	1236.9
107.5°	829.8	911.6	984.2	1047.6	1077.0	1100.9	1142.3	1172.6	1189.2	1199.3	1191.9
110°	792.2	873.0	942.9	1004.4	1032.9	1055.9	1096.3	1126.7	1142.3	1151.5	1145.0





TEST NUMBER: P201305

CATALOG NUMBER: 8LBLED-LD4-10-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	757.2	833.5	900.6	960.3	987.0	1010.0	1049.5	1078.9	1093.6	1102.8	1096.3
115°	720.5	791.2	857.4	914.4	941.0	962.2	1001.7	1029.3	1044.0	1052.2	1046.7
117.5°	681.0	749.9	812.4	868.4	893.2	914.4	952.1	979.6	993.4	999.8	994.3
120°	642.4	709.5	768.3	821.6	846.4	866.6	903.4	929.1	942.0	949.3	943.8
122.5°	601.9	667.2	720.5	773.8	796.8	816.1	849.1	876.7	888.7	895.1	891.4
125°	558.7	623.1	674.5	723.2	745.3	763.7	795.8	818.8	832.6	839.0	835.4
127.5°	513.7	575.3	627.7	672.7	693.8	714.0	740.7	766.4	775.6	783.0	779.3
130°	463.2	524.7	573.4	619.4	639.6	656.2	685.6	706.7	718.6	725.1	722.3
132.5°	413.5	470.5	522.0	563.3	582.6	600.1	626.7	647.0	663.5	664.4	660.7
135°	365.8	415.4	462.2	506.4	525.7	543.1	567.0	585.4	601.0	601.9	597.3
137.5°	319.8	365.8	406.2	447.5	467.8	486.1	508.2	525.7	540.4	543.1	536.7
140°	275.7	318.0	354.7	391.5	410.8	428.2	452.1	466.8	478.8	479.7	476.0
142.5°	233.4	272.0	304.2	338.2	355.6	371.3	397.9	412.6	423.6	426.4	420.9
145°	193.9	227.9	258.2	287.6	302.3	317.0	343.7	361.2	370.3	373.1	367.6
147.5°	156.2	184.7	211.4	238.0	250.9	264.7	286.7	308.8	317.0	318.9	314.3
150°	121.3	145.2	169.1	191.1	202.2	214.1	233.4	253.6	264.7	266.5	262.8
152.5°	89.1	109.4	128.7	147.0	156.2	165.4	182.0	201.3	215.0	216.0	212.3
155°	60.7	77.2	92.8	106.6	114.9	122.2	135.1	149.8	164.5	165.4	162.7
157.5°	36.8	47.8	60.7	71.7	77.2	83.6	92.8	103.8	116.7	119.5	116.7
160°	18.4	24.8	32.2	39.5	44.1	48.7	53.3	62.5	69.8	76.3	72.6
162.5°	9.2	11.0	12.9	16.5	18.4	21.1	24.8	28.5	32.2	38.6	34.0
165°	5.5	6.4	7.4	7.4	8.3	8.3	8.3	8.3	8.3	11.9	8.3
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



TEST NUMBER: P201305

CATALOG NUMBER: 8LBLELD4-10-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9
2.5°	1089.0	1090.8	1094.5	1096.3	1098.2	1100.0	1103.7	1109.2	1104.6	1100.0	1100.9
5°	1096.3	1096.3	1097.3	1100.0	1100.0	1100.9	1104.6	1110.1	1105.5	1099.1	1099.1
7.5°	1105.5	1104.6	1105.5	1106.5	1105.5	1105.5	1107.4	1110.1	1104.6	1097.3	1095.4
10°	1118.4	1115.6	1114.7	1115.6	1114.7	1112.0	1112.9	1112.9	1105.5	1094.5	1089.9
12.5°	1141.4	1136.8	1133.1	1132.2	1129.4	1124.8	1122.1	1118.4	1107.4	1094.5	1085.3
15°	1179.1	1171.7	1164.3	1161.6	1157.0	1146.0	1136.8	1128.5	1112.9	1094.5	1081.6
17.5°	1221.3	1212.1	1202.0	1198.3	1191.9	1176.3	1160.7	1145.0	1123.0	1097.3	1078.9
20°	1261.8	1250.7	1238.8	1232.4	1225.9	1206.6	1188.2	1168.0	1139.5	1105.5	1078.0
22.5°	1302.2	1289.3	1272.8	1267.3	1259.0	1236.9	1214.9	1191.9	1157.9	1117.5	1079.8
25°	1341.7	1327.0	1311.4	1302.2	1293.0	1268.2	1241.5	1214.0	1175.4	1131.3	1086.2
27.5°	1381.2	1364.7	1345.4	1335.3	1326.1	1298.5	1268.2	1236.9	1193.8	1144.1	1094.5
30°	1419.8	1401.4	1378.5	1367.4	1356.4	1325.2	1290.2	1255.3	1208.5	1155.2	1100.0
32.5°	1458.4	1438.2	1412.5	1399.6	1386.7	1350.9	1312.3	1272.8	1221.3	1165.3	1104.6
35°	1496.1	1474.0	1445.6	1429.9	1416.1	1377.5	1334.4	1290.2	1233.3	1173.5	1107.4
37.5°	1534.7	1509.9	1478.6	1461.2	1445.6	1403.3	1355.5	1305.9	1246.1	1180.0	1110.1
40°	1573.3	1546.6	1511.7	1493.3	1474.0	1428.1	1376.6	1321.5	1257.2	1186.4	1111.0
42.5°	1612.8	1583.4	1544.8	1524.6	1504.4	1452.9	1395.9	1335.3	1266.4	1191.0	1110.1
45°	1652.3	1619.2	1577.9	1554.9	1532.9	1476.8	1415.2	1347.2	1274.6	1193.8	1108.3
47.5°	1691.8	1656.9	1611.9	1587.1	1560.4	1500.7	1433.6	1360.1	1282.0	1194.7	1106.5
50°	1732.3	1694.6	1645.9	1618.3	1590.8	1523.7	1452.0	1371.1	1286.6	1195.6	1101.9
52.5°	1771.8	1731.4	1679.0	1649.6	1617.4	1546.6	1469.4	1382.1	1290.2	1194.7	1095.4
55°	1807.6	1765.4	1710.2	1679.0	1643.1	1567.8	1485.1	1391.3	1292.1	1191.9	1087.2
57.5°	1840.7	1797.5	1739.6	1704.7	1669.8	1588.0	1499.8	1401.4	1293.9	1187.3	1078.0
60°	1866.4	1823.3	1762.6	1727.7	1690.0	1604.5	1511.7	1407.0	1293.9	1180.9	1066.0
62.5°	1885.7	1842.6	1781.9	1745.1	1705.6	1618.3	1520.9	1412.5	1293.9	1174.5	1054.1
65°	1897.7	1855.4	1792.9	1756.2	1715.7	1624.8	1525.5	1413.4	1290.2	1165.3	1039.4
67.5°	1899.5	1857.3	1794.8	1758.9	1717.6	1624.8	1522.7	1408.8	1282.9	1153.3	1022.8
70°	1891.3	1849.0	1787.4	1750.7	1710.2	1616.5	1512.6	1397.8	1270.0	1137.7	1003.5
72.5°	1870.1	1826.9	1767.2	1729.5	1690.0	1597.2	1491.5	1377.5	1248.9	1115.6	980.6
75°	1833.4	1791.1	1732.3	1697.4	1656.9	1565.9	1459.3	1348.1	1219.5	1088.1	952.1
77.5°	1784.7	1743.3	1685.4	1650.5	1612.8	1523.7	1418.9	1308.6	1183.6	1054.1	919.0
80°	1726.8	1687.2	1630.3	1596.3	1559.5	1473.1	1370.2	1262.7	1139.5	1013.6	882.2
82.5°	1665.2	1626.6	1571.5	1536.5	1501.6	1418.0	1319.7	1213.1	1092.7	970.4	842.7
85°	1605.5	1564.1	1509.0	1476.8	1441.9	1360.1	1267.3	1161.6	1044.9	926.3	804.1
87.5°	1543.0	1502.5	1448.3	1418.0	1384.9	1302.2	1214.0	1111.0	999.8	886.8	766.4
90°	1486.0	1446.5	1394.1	1363.8	1332.5	1252.6	1166.2	1068.8	961.3	851.9	735.2
92.5°	1433.6	1396.8	1347.2	1317.8	1287.5	1211.2	1128.5	1033.9	930.0	824.3	710.4
95°	1388.6	1352.7	1306.8	1278.3	1247.1	1174.5	1093.6	1000.8	901.5	798.6	687.4
97.5°	1343.5	1309.5	1264.5	1236.9	1207.5	1136.8	1058.7	969.5	872.1	770.1	662.6
100°	1302.2	1269.1	1223.2	1198.3	1169.9	1101.9	1024.7	937.4	841.8	741.6	635.9
102.5°	1261.8	1228.7	1184.6	1159.8	1132.2	1064.2	988.8	902.4	809.6	713.1	610.2
105°	1220.4	1188.2	1144.1	1119.3	1091.7	1025.6	952.1	868.4	777.5	683.7	583.6
107.5°	1175.4	1144.1	1101.9	1077.0	1051.3	985.1	914.4	832.6	745.3	653.4	556.0
110°	1129.4	1098.2	1059.6	1032.9	1008.1	943.8	874.9	796.8	711.3	622.1	527.5



TEST NUMBER: P201305

CATALOG NUMBER: 8LBLED-LD4-10-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	1081.6	1051.3	1013.6	988.8	963.1	901.5	835.4	760.0	677.3	590.0	498.1
115°	1032.9	1002.6	964.9	940.1	917.1	858.3	794.0	722.3	642.4	557.8	468.7
117.5°	979.6	953.0	917.1	895.1	871.2	812.4	752.6	683.7	607.4	523.8	438.4
120°	930.0	904.3	869.4	845.5	824.3	768.3	711.3	644.2	568.8	490.7	407.1
122.5°	877.6	850.1	817.9	797.7	774.7	723.2	668.1	603.8	530.3	453.1	373.1
125°	822.5	796.8	765.5	746.2	725.1	676.4	624.0	559.7	489.8	415.4	338.2
127.5°	766.4	742.5	712.2	694.7	674.5	626.7	576.2	513.7	443.9	374.0	302.3
130°	709.5	685.6	658.0	639.6	620.3	575.3	525.7	464.1	397.9	332.7	267.4
132.5°	649.7	626.7	599.2	582.6	565.2	522.0	471.4	411.7	352.9	294.1	233.4
135°	588.1	567.0	542.2	526.6	509.1	465.0	417.2	363.0	310.6	256.4	200.3
137.5°	528.4	509.1	485.2	469.6	450.3	408.9	366.7	318.0	270.2	219.6	167.3
140°	469.6	452.1	429.2	411.7	395.2	356.6	318.0	273.9	230.7	184.7	137.8
142.5°	414.5	398.8	373.1	356.6	340.9	306.9	272.9	231.6	193.0	151.6	111.2
145°	360.2	346.5	318.0	303.3	290.4	260.1	226.1	192.1	157.1	121.3	86.4
147.5°	307.9	291.3	264.7	251.8	239.9	213.2	184.7	153.5	125.0	93.7	63.4
150°	257.3	237.1	214.1	203.1	193.0	170.0	145.2	119.5	94.7	68.0	44.1
152.5°	204.9	183.8	168.2	157.1	148.0	129.6	109.4	87.3	67.1	45.9	27.6
155°	151.6	136.9	122.2	116.7	108.4	92.8	76.3	58.8	42.3	27.6	15.6
157.5°	104.8	93.7	84.5	79.0	72.6	60.7	46.9	34.0	23.9	14.7	7.4
160°	63.4	56.1	49.6	45.0	40.4	32.2	23.0	15.6	10.1	4.6	2.8
162.5°	28.5	23.9	21.1	18.4	15.6	11.9	7.4	3.7	1.8	0.9	0.9
165°	5.5	3.7	2.8	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: P201305

CATALOG NUMBER: 8LBLED-LD4-10-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9	1101.9
2.5°	1101.9	1102.8	1103.7	1103.7	1106.5	1111.0	1117.5	1118.4
5°	1099.1	1100.0	1100.0	1100.9	1103.7	1107.4	1112.9	1113.8
7.5°	1094.5	1094.5	1094.5	1094.5	1096.3	1100.0	1104.6	1105.5
10°	1088.1	1086.2	1085.3	1084.4	1085.3	1089.0	1092.7	1093.6
12.5°	1080.7	1076.1	1074.3	1073.4	1073.4	1074.3	1078.0	1078.0
15°	1072.4	1065.1	1062.3	1060.5	1056.8	1056.8	1060.5	1060.5
17.5°	1064.2	1054.1	1048.6	1044.9	1039.4	1038.4	1040.3	1038.4
20°	1056.8	1041.2	1033.9	1027.4	1019.1	1016.4	1016.4	1013.6
22.5°	1049.5	1028.3	1018.2	1009.0	996.2	991.6	988.8	987.0
25°	1044.9	1014.6	1001.7	990.7	973.2	963.1	960.3	956.7
27.5°	1044.0	1003.5	986.1	972.3	948.4	936.4	929.1	924.5
30°	1044.0	992.5	969.5	950.2	920.8	902.4	895.1	893.2
32.5°	1043.0	984.2	956.7	931.8	894.2	870.3	859.2	856.5
35°	1040.3	976.0	943.8	913.5	867.5	837.2	821.6	817.9
37.5°	1036.6	965.8	931.8	896.9	839.9	803.2	783.9	778.4
40°	1032.9	955.7	917.1	879.5	812.4	768.3	743.5	737.0
42.5°	1026.5	944.7	904.3	862.9	786.6	733.3	704.9	694.7
45°	1020.1	931.8	888.7	844.5	760.9	697.5	661.7	651.6
47.5°	1011.8	918.1	873.0	824.3	737.0	662.6	622.1	609.3
50°	1002.6	904.3	855.6	805.0	711.3	628.6	579.0	565.2
52.5°	992.5	888.7	838.1	784.8	685.6	596.4	538.5	521.1
55°	979.6	871.2	817.9	761.8	658.9	563.3	497.2	477.0
57.5°	965.8	853.7	798.6	740.7	632.3	532.1	456.7	433.8
60°	949.3	833.5	774.7	716.8	604.7	499.9	416.3	389.6
62.5°	931.8	813.3	753.6	692.0	577.1	468.7	376.8	346.5
65°	913.5	790.3	729.7	666.3	547.7	435.6	338.2	303.3
67.5°	891.4	765.5	703.0	638.7	517.4	402.5	300.5	261.0
70°	869.4	738.9	673.6	609.3	486.1	369.4	264.7	219.6
72.5°	842.7	710.4	644.2	579.0	454.0	337.3	229.7	178.3
75°	813.3	681.0	613.9	547.7	420.9	303.3	194.8	137.8
77.5°	782.1	648.8	582.6	515.5	389.6	271.1	162.7	103.8
80°	749.0	614.8	549.5	482.5	356.6	238.9	131.4	71.7
82.5°	712.2	581.7	516.5	449.4	325.3	207.7	102.9	44.1
85°	677.3	548.6	485.2	419.1	295.0	176.4	77.2	22.1
87.5°	643.3	518.3	456.7	391.5	269.3	152.6	56.1	6.4
90°	615.7	493.5	432.8	369.4	249.0	135.1	42.3	0.0
92.5°	593.7	474.2	414.5	352.9	234.3	123.1	35.8	0.0
95°	572.5	454.0	397.0	335.4	219.6	113.0	28.5	0.0
97.5°	549.5	434.7	377.7	318.0	204.9	102.0	23.0	0.0
100°	526.6	413.5	358.4	300.5	188.4	91.0	16.5	0.0
102.5°	501.8	391.5	337.3	281.2	173.7	79.0	11.0	0.0
105°	477.9	369.4	317.0	261.9	158.1	68.9	7.4	0.0
107.5°	452.1	347.4	295.9	243.5	142.4	57.9	4.6	0.0
110°	426.4	325.3	274.8	224.2	127.7	47.8	3.7	0.0



TEST NUMBER: P201305

CATALOG NUMBER: 8LBLED-LD4-10-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	400.7	302.3	253.6	204.0	113.0	38.6	2.8	0.9
115°	373.1	278.5	231.6	183.8	98.3	30.3	2.8	0.9
117.5°	345.5	253.6	210.4	164.5	84.5	23.0	1.8	0.9
120°	317.0	231.6	187.5	146.1	71.7	16.5	1.8	0.9
122.5°	289.5	208.6	166.3	126.8	58.8	12.9	1.8	0.9
125°	261.0	182.0	145.2	109.4	46.9	10.1	1.8	0.9
127.5°	230.7	157.1	123.1	90.1	35.8	7.4	1.8	0.9
130°	199.4	132.3	102.0	73.5	25.7	5.5	1.8	0.9
132.5°	170.0	111.2	82.7	57.9	18.4	4.6	1.8	0.9
135°	143.4	90.1	65.2	43.2	12.9	3.7	0.9	0.9
137.5°	117.6	71.7	49.6	31.2	9.2	2.8	1.8	0.9
140°	94.7	54.2	35.8	22.1	6.4	1.8	1.8	0.9
142.5°	73.5	38.6	24.8	14.7	4.6	1.8	0.9	0.9
145°	54.2	25.7	16.5	9.2	3.7	1.8	1.8	1.8
147.5°	36.8	17.5	10.1	6.4	2.8	1.8	1.8	0.9
150°	23.9	11.0	6.4	4.6	1.8	1.8	1.8	0.9
152.5°	14.7	6.4	3.7	2.8	1.8	1.8	1.8	0.9
155°	7.4	3.7	2.8	1.8	1.8	1.8	1.8	1.8
157.5°	3.7	2.8	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)