

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: P201249

Luminaire Tested: **4LBLED-LD4-9-SYMF-UNV-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201249
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28138)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4LBLED-LD4-9-SYMF-UNV-L840-CD1-U
Description: 4 ft. Low Bay Linear, 9000 lm, Frst Sym lens, 4K
Light Source: (392) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
(OTI85W01480CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9629.5 lumens
Efficiency: N/A
Efficacy: 144.6 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

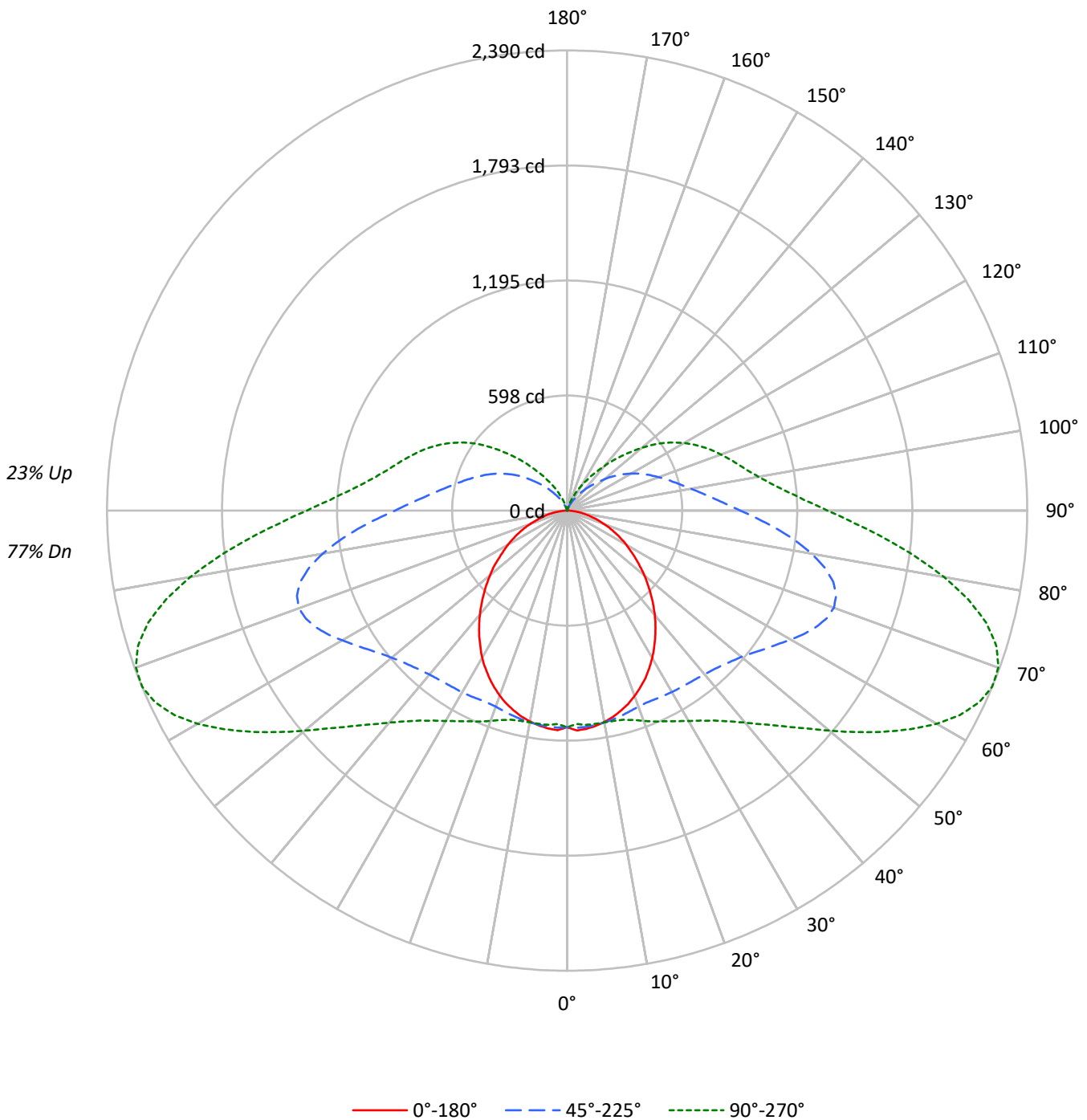
Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	98	91	84	78	92	86	80	75	77	73	68	69	65	62	62	59	56	52
2	86	75	66	59	81	71	63	56	64	57	51	57	51	47	50	46	42	38
3	77	64	54	46	72	61	51	44	54	46	40	48	42	37	43	37	33	29
4	70	55	45	37	65	52	43	36	47	39	32	42	35	30	37	31	27	23
5	63	49	38	31	59	46	37	29	41	33	27	37	30	25	32	27	22	19
6	58	43	33	26	55	41	32	25	37	29	23	33	26	21	29	23	19	16
7	54	39	29	22	50	37	28	21	33	25	20	30	23	18	26	21	16	14
8	50	35	26	19	47	33	25	19	30	22	17	27	20	16	24	18	14	12
9	46	32	23	17	44	30	22	16	27	20	15	25	18	14	22	17	13	10
10	43	29	21	15	41	28	20	15	25	18	14	23	17	12	20	15	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	18128	18128	18128
5°	18326	16289	18285
10°	18068	14983	18028
15°	17703	14071	17675
20°	17240	13717	17213
25°	16690	13582	16619
30°	15965	13654	15951
35°	15146	13985	15114
40°	14270	14783	14206
45°	13318	16064	13283
50°	12353	17935	12313
55°	11376	20251	11352
60°	10489	22608	10516
65°	9509	24508	9536
70°	8459	25392	8459
75°	7206	24846	7164
80°	5797	22863	5740
85°	3977	20080	3792



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.8	1.1
10°-20°	310.7	3.2
20°-30°	499.3	5.2
30°-40°	676.1	7.0
40°-50°	868.6	9.0
50°-60°	1117.5	11.6
60°-70°	1367.2	14.2
70°-80°	1382.2	14.4
80°-90°	1068.9	11.1
90°-100°	742.6	7.7
100°-110°	554.6	5.8
110°-120°	415.7	4.3
120°-130°	279.9	2.9
130°-140°	153.5	1.6
140°-150°	65.4	0.7
150°-160°	18.7	0.2
160°-170°	1.6	0.0
170°-180°	0.0	0.0
0°-30°	916.8	9.5
0°-40°	1593.0	16.5
0°-60°	3579.1	37.2
0°-90°	7397.3	76.8
90°-120°	1713.0	17.8
90°-150°	2211.9	23.0
90°-180°	2232.0	23.2
0°-180°	9629.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1125	1125	1125	1125	1125	
5°	1138	1128	1117	1126	1136	108
15°	1076	1101	1125	1101	1074	303
25°	962	1081	1208	1082	957	442
35°	798	1096	1331	1096	796	499
45°	615	1137	1583	1142	613	474
55°	435	1253	2003	1259	434	390
65°	277	1428	2360	1437	278	275
75°	138	1431	2254	1436	137	148
85°	34	1094	1655	1091	33	38
90°	1	898	1352	894	0	2
95°	1	758	1143	755	0	1
105°	1	573	921	573	0	1
115°	1	446	780	446	0	1
125°	1	320	612	318	0	1
135°	2	193	401	190	0	1
145°	2	98	221	94	0	1
155°	2	31	92	29	0	1
165°	2	2	9	4	0	0
175°	0	0	0	0	0	0
180°	0	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°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1143.0	1142.2	1137.3	1129.9	1126.6	1125.8	1125.0	1121.7	1120.9	1122.6	1129.1
5°	1138.1	1137.3	1132.4	1125.0	1122.6	1121.7	1120.9	1118.5	1118.5	1120.9	1127.5
7.5°	1128.3	1127.5	1122.6	1116.8	1114.4	1113.6	1113.6	1111.9	1111.9	1116.0	1123.4
10°	1114.4	1113.6	1109.5	1104.6	1102.9	1102.9	1102.9	1102.1	1103.7	1108.7	1116.8
12.5°	1098.0	1096.4	1093.1	1089.0	1089.0	1089.0	1089.9	1089.9	1092.3	1100.5	1110.3
15°	1076.0	1076.8	1073.5	1070.2	1071.9	1072.7	1074.3	1076.0	1080.0	1089.9	1101.3
17.5°	1053.1	1053.1	1050.6	1049.0	1052.2	1053.9	1056.3	1058.8	1066.1	1078.4	1091.5
20°	1024.4	1025.3	1024.4	1025.3	1029.3	1031.8	1035.1	1040.8	1050.6	1067.8	1083.3
22.5°	993.4	995.0	995.0	998.3	1004.8	1008.9	1013.0	1021.2	1035.1	1057.1	1079.2
25°	961.5	960.7	964.8	970.5	977.0	982.7	987.7	999.9	1020.4	1049.8	1080.9
27.5°	923.1	924.7	930.4	938.6	948.4	955.8	963.1	980.3	1009.7	1049.0	1084.9
30°	883.8	886.3	893.6	905.1	919.0	928.8	937.0	963.9	1004.0	1049.0	1088.2
32.5°	841.3	845.4	855.2	869.9	889.5	901.0	914.1	950.0	999.1	1047.3	1091.5
35°	798.0	802.9	816.0	833.9	856.8	870.7	891.2	939.4	992.6	1045.7	1095.6
37.5°	753.8	759.5	774.3	797.2	826.6	847.8	872.4	928.0	987.7	1045.7	1101.3
40°	708.0	714.6	733.4	759.5	797.2	825.0	854.4	916.5	982.7	1046.5	1110.3
42.5°	661.4	668.8	691.7	722.8	771.8	804.5	837.2	906.7	979.5	1050.6	1121.7
45°	614.8	624.6	650.0	687.6	748.9	783.3	820.9	897.7	977.8	1058.0	1137.3
47.5°	568.2	579.7	609.1	654.1	725.2	766.1	805.3	890.4	979.5	1067.8	1157.7
50°	523.3	536.3	569.0	623.8	703.1	747.3	790.6	885.5	982.7	1082.5	1182.2
52.5°	477.5	494.6	530.6	596.8	683.5	730.1	778.3	882.2	989.3	1102.1	1214.1
55°	435.0	452.9	494.6	570.7	664.7	715.4	766.9	881.4	1000.7	1125.8	1253.4
57.5°	391.6	413.7	459.5	545.3	645.1	700.7	757.9	883.0	1014.6	1151.2	1293.4
60°	354.8	374.5	427.6	520.8	627.9	686.8	749.7	884.6	1029.3	1180.6	1340.0
62.5°	315.6	336.8	399.8	497.1	610.7	674.5	741.6	887.1	1044.9	1210.9	1387.5
65°	277.2	299.2	372.0	474.2	593.6	661.4	731.7	887.1	1057.1	1238.7	1428.3
67.5°	240.4	264.1	344.2	449.7	573.9	645.1	719.5	883.0	1064.5	1258.3	1460.2
70°	205.2	231.4	317.2	423.5	552.7	625.5	702.3	874.0	1063.7	1265.6	1474.1
72.5°	170.1	200.3	287.8	397.3	529.8	603.4	681.9	856.8	1052.2	1256.6	1465.1
75°	138.2	170.9	261.6	371.2	503.6	577.2	656.5	830.7	1026.9	1228.8	1430.8
77.5°	108.7	144.7	233.8	342.6	474.2	547.0	624.6	797.2	986.8	1179.8	1370.3
80°	80.9	121.0	207.7	314.0	442.3	513.4	588.7	754.6	934.5	1113.6	1289.3
82.5°	56.4	98.9	182.3	285.3	409.6	477.5	549.4	703.9	874.0	1036.7	1196.1
85°	34.3	79.3	157.0	257.5	376.1	439.9	507.7	650.8	807.8	953.3	1093.9
87.5°	14.7	61.3	134.9	230.6	342.6	403.1	465.2	600.1	737.5	866.6	991.7
90°	0.8	45.8	115.3	205.2	310.7	367.1	425.1	546.2	672.9	787.3	898.5
92.5°	0.0	39.2	103.8	189.7	288.6	340.9	394.9	506.1	620.6	722.8	821.7
95°	0.8	32.7	94.0	172.5	266.5	316.4	366.3	470.1	573.1	667.2	757.9
97.5°	0.8	27.0	83.4	157.0	246.1	291.9	338.5	435.0	528.2	617.3	701.5
100°	0.8	21.3	73.6	142.3	224.8	267.4	311.5	402.3	489.7	573.1	652.4
102.5°	0.8	15.5	65.4	128.4	205.2	245.3	286.2	372.0	454.6	534.7	609.9
105°	0.8	10.6	57.2	115.3	187.2	224.8	263.3	344.2	422.7	499.5	573.1
107.5°	0.8	7.4	49.9	103.0	167.6	205.2	241.2	318.0	393.3	467.7	539.6
110°	0.8	6.5	43.3	92.4	152.1	186.4	220.7	293.5	365.5	436.6	506.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	5.7	36.8	82.6	136.5	167.6	201.1	269.8	340.1	408.8	475.8
115°	0.8	5.7	30.3	73.6	123.5	151.3	182.3	246.9	314.0	380.2	445.6
117.5°	0.8	5.7	24.5	65.4	111.2	136.5	163.5	225.7	287.8	352.4	416.2
120°	0.8	4.9	19.6	57.2	100.6	123.5	148.8	205.2	262.4	322.9	384.3
122.5°	0.8	4.9	16.4	49.9	89.9	111.2	134.1	184.0	238.7	294.3	351.6
125°	0.8	4.1	13.9	41.7	79.3	99.7	120.2	165.2	215.8	267.4	319.7
127.5°	1.6	4.1	11.4	34.3	68.7	86.7	106.3	147.2	191.3	237.9	287.8
130°	1.6	4.1	9.8	26.2	58.0	74.4	91.6	129.2	170.1	210.1	253.5
132.5°	1.6	3.3	9.0	20.4	48.2	63.0	78.5	112.0	148.0	184.0	221.6
135°	1.6	3.3	7.4	16.4	38.4	51.5	66.2	95.7	127.5	161.1	193.0
137.5°	1.6	2.5	6.5	13.1	29.4	41.7	54.8	80.9	108.7	137.4	166.8
140°	1.6	2.5	5.7	10.6	22.1	31.1	43.3	66.2	90.8	116.1	141.4
142.5°	1.6	2.5	4.9	9.0	17.2	23.7	32.7	54.0	75.2	96.5	118.6
145°	1.6	2.5	4.1	7.4	13.1	18.0	23.7	41.7	60.5	79.3	98.1
147.5°	1.6	2.5	4.1	6.5	10.6	13.9	18.0	30.3	47.4	63.0	79.3
150°	1.6	2.5	3.3	5.7	9.0	10.6	13.1	21.3	34.3	48.2	62.1
152.5°	1.6	1.6	3.3	4.9	6.5	8.2	9.8	15.5	23.7	34.3	46.6
155°	1.6	1.6	2.5	4.1	5.7	6.5	7.4	10.6	15.5	22.1	31.1
157.5°	1.6	1.6	2.5	3.3	4.1	4.9	5.7	7.4	10.6	13.9	18.8
160°	1.6	1.6	2.5	3.3	3.3	4.1	4.1	4.9	6.5	8.2	10.6
162.5°	1.6	1.6	2.5	2.5	2.5	3.3	3.3	3.3	4.1	4.1	4.9
165°	1.6	1.6	1.6	2.5	1.6	2.5	1.6	2.5	2.5	1.6	1.6
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°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1131.5	1125.8	1123.4	1120.1	1117.6	1116.0	1113.6	1111.9	1109.5	1109.5	1110.3
5°	1129.9	1124.2	1122.6	1119.3	1117.6	1116.8	1115.2	1116.0	1116.0	1116.8	1116.0
7.5°	1126.6	1121.7	1120.1	1118.5	1116.8	1116.0	1115.2	1116.8	1116.8	1117.6	1117.6
10°	1120.9	1117.6	1117.6	1116.0	1115.2	1114.4	1112.7	1115.2	1115.2	1116.8	1116.0
12.5°	1114.4	1113.6	1114.4	1115.2	1115.2	1114.4	1113.6	1116.8	1118.5	1118.5	1119.3
15°	1107.0	1108.7	1112.7	1115.2	1116.8	1116.8	1118.5	1121.7	1124.2	1125.0	1125.0
17.5°	1101.3	1105.4	1112.7	1119.3	1122.6	1124.2	1128.3	1134.8	1138.9	1139.7	1139.7
20°	1097.2	1107.0	1120.1	1132.4	1136.5	1139.7	1147.9	1156.1	1161.8	1162.6	1162.6
22.5°	1100.5	1116.8	1134.8	1148.7	1154.4	1158.5	1167.5	1178.2	1184.7	1185.5	1185.5
25°	1108.7	1128.3	1148.7	1165.9	1172.4	1177.3	1187.1	1198.6	1205.1	1207.6	1206.8
27.5°	1116.0	1139.7	1163.4	1183.1	1190.4	1197.0	1209.2	1222.3	1230.5	1232.9	1231.3
30°	1122.6	1150.4	1177.3	1201.0	1210.9	1218.2	1232.9	1248.5	1259.1	1261.5	1259.1
32.5°	1129.1	1162.6	1194.5	1222.3	1232.1	1242.7	1261.5	1279.5	1290.2	1293.4	1291.8
35°	1138.1	1177.3	1214.9	1246.8	1259.9	1272.2	1294.2	1315.5	1328.6	1331.0	1328.6
37.5°	1150.4	1196.1	1237.8	1277.9	1291.8	1309.0	1335.1	1360.5	1376.0	1379.3	1376.0
40°	1165.9	1219.8	1268.9	1315.5	1334.3	1352.3	1384.2	1414.4	1431.6	1437.3	1434.9
42.5°	1186.3	1249.3	1306.5	1362.1	1383.4	1406.3	1443.9	1479.0	1498.6	1505.2	1498.6
45°	1211.7	1286.1	1352.3	1416.9	1441.4	1469.2	1514.2	1554.2	1577.1	1582.9	1577.1
47.5°	1245.2	1329.4	1406.3	1480.7	1510.1	1542.8	1595.9	1641.7	1666.3	1672.8	1667.1
50°	1281.2	1381.7	1470.0	1555.1	1591.9	1626.2	1688.3	1739.0	1765.2	1777.4	1766.8
52.5°	1326.1	1439.0	1542.8	1637.6	1681.8	1722.7	1791.3	1846.9	1878.8	1889.5	1874.7
55°	1380.1	1507.6	1623.7	1733.3	1777.4	1823.2	1899.3	1958.1	1991.7	2003.1	1992.5
57.5°	1439.8	1580.4	1708.8	1824.0	1875.6	1922.2	2007.2	2068.5	2097.9	2112.7	2099.6
60°	1501.9	1655.6	1794.6	1917.3	1973.7	2021.9	2108.6	2169.1	2200.1	2214.9	2202.6
62.5°	1562.4	1728.4	1874.7	2002.3	2056.2	2109.4	2196.1	2254.1	2286.0	2299.1	2287.6
65°	1614.7	1789.7	1940.1	2071.8	2127.4	2179.7	2261.5	2317.1	2350.6	2359.6	2351.4
67.5°	1654.0	1831.4	1983.5	2113.5	2167.4	2219.8	2297.4	2348.9	2381.6	2389.8	2382.5
70°	1672.0	1847.8	1998.2	2124.9	2178.1	2224.7	2298.3	2347.3	2378.4	2383.3	2377.6
72.5°	1660.5	1831.4	1976.9	2097.9	2148.6	2189.5	2257.4	2304.0	2333.4	2337.5	2333.4
75°	1618.0	1781.5	1918.9	2031.7	2079.1	2113.5	2178.1	2221.4	2250.8	2254.1	2249.2
77.5°	1546.1	1698.1	1824.0	1932.8	1972.0	2005.6	2066.9	2105.3	2129.0	2133.9	2128.2
80°	1449.6	1589.4	1702.2	1799.5	1837.1	1865.7	1925.4	1967.1	1980.2	1986.7	1978.6
82.5°	1339.2	1464.3	1564.9	1653.2	1686.7	1721.8	1760.3	1798.7	1817.5	1823.2	1816.7
85°	1220.7	1331.9	1421.0	1500.3	1529.7	1561.6	1595.1	1632.7	1649.1	1654.8	1648.3
87.5°	1102.1	1200.2	1278.7	1349.0	1376.0	1404.6	1444.7	1464.3	1486.4	1492.9	1485.6
90°	995.8	1084.1	1154.4	1218.2	1243.6	1269.7	1300.8	1325.3	1345.8	1351.5	1344.9
92.5°	910.0	989.3	1053.9	1111.1	1133.2	1157.7	1188.0	1211.7	1229.7	1235.4	1228.8
95°	838.8	911.6	972.1	1025.3	1046.5	1069.4	1102.9	1121.7	1138.1	1143.0	1138.1
97.5°	778.3	847.0	904.3	955.8	976.2	997.5	1030.2	1049.0	1064.5	1068.6	1064.5
100°	725.2	792.2	848.7	897.7	918.2	938.6	970.5	989.3	1004.0	1008.9	1004.0
102.5°	681.1	745.6	801.2	851.1	870.7	891.2	921.4	943.5	954.9	960.7	955.8
105°	642.6	705.6	761.2	810.2	830.7	850.3	881.4	901.8	914.9	921.4	915.7
107.5°	607.5	669.6	726.0	773.4	793.9	813.5	845.4	865.8	878.1	885.5	878.9
110°	573.9	635.3	689.2	738.3	758.7	779.2	811.1	831.5	843.8	850.3	844.6



TEST NUMBER: P201249

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	541.2	600.9	656.5	703.9	723.6	744.0	776.7	798.0	809.4	816.8	810.2
115°	508.5	567.4	621.4	667.2	686.8	708.0	739.9	762.0	774.3	780.0	773.4
117.5°	476.7	533.1	584.6	629.5	649.2	669.6	700.7	722.8	735.8	741.6	735.0
120°	444.0	497.9	548.6	589.5	609.9	628.7	660.6	681.9	695.0	700.7	694.1
122.5°	408.8	461.9	510.2	550.2	569.9	587.8	618.9	640.2	652.4	658.2	652.4
125°	372.8	422.7	469.3	509.4	525.7	542.9	573.1	593.6	606.7	611.6	606.7
127.5°	336.8	382.6	426.0	461.1	479.1	495.5	524.1	543.7	555.1	560.9	556.8
130°	300.9	344.2	383.5	415.3	430.9	446.4	472.6	490.6	502.0	506.9	502.8
132.5°	262.4	304.1	342.6	370.4	385.1	398.2	421.9	437.4	447.2	452.9	448.0
135°	228.1	262.4	298.4	327.0	341.8	353.2	374.5	387.5	396.5	401.4	396.5
137.5°	197.0	226.5	255.9	281.3	295.2	307.4	327.9	340.1	348.3	353.2	348.3
140°	168.4	193.8	219.9	240.4	252.6	262.4	281.3	291.9	299.2	303.3	298.4
142.5°	140.6	163.5	185.6	204.4	215.0	223.2	241.2	249.4	255.1	257.5	255.1
145°	116.9	135.7	154.5	171.7	179.9	186.4	204.4	213.4	218.3	220.7	218.3
147.5°	94.8	110.4	125.9	139.8	147.2	155.3	167.6	178.2	182.3	184.0	182.3
150°	74.4	88.3	100.6	112.0	117.7	123.5	134.1	144.7	148.8	151.3	148.8
152.5°	56.4	67.9	77.7	86.7	91.6	96.5	105.5	115.3	119.4	121.0	119.4
155°	40.9	49.1	58.0	64.6	68.7	71.9	78.5	85.0	91.6	91.6	91.6
157.5°	25.3	31.9	39.2	45.0	47.4	50.7	55.6	61.3	66.2	68.7	68.7
160°	13.1	17.2	22.1	26.2	28.6	31.1	34.3	39.2	42.5	45.0	43.3
162.5°	5.7	7.4	9.8	11.4	13.1	13.9	16.4	18.8	20.4	24.5	21.3
165°	1.6	1.6	2.5	3.3	3.3	3.3	4.1	4.9	5.7	9.0	6.5
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: P201249

CATALOG NUMBER: 4LBLELD4-9-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1111.9	1114.4	1117.6	1119.3	1121.7	1123.4	1127.5	1132.4	1128.3	1122.6	1123.4
5°	1116.0	1115.2	1117.6	1119.3	1120.9	1121.7	1125.8	1130.7	1125.8	1120.1	1120.1
7.5°	1117.6	1116.8	1117.6	1118.5	1119.3	1119.3	1123.4	1127.5	1122.6	1115.2	1113.6
10°	1115.2	1114.4	1115.2	1116.8	1116.8	1116.8	1119.3	1122.6	1116.8	1107.8	1104.6
12.5°	1116.8	1114.4	1114.4	1115.2	1115.2	1113.6	1114.4	1116.8	1109.5	1099.7	1094.8
15°	1122.6	1118.5	1116.8	1116.8	1115.2	1111.1	1109.5	1109.5	1101.3	1088.2	1081.7
17.5°	1136.5	1129.9	1125.0	1122.6	1119.3	1111.9	1106.2	1102.9	1092.3	1077.6	1067.0
20°	1157.7	1148.7	1141.4	1136.5	1132.4	1119.3	1107.8	1098.8	1084.1	1066.1	1052.2
22.5°	1179.0	1169.2	1158.5	1153.6	1147.9	1133.2	1117.6	1102.1	1080.0	1055.5	1036.7
25°	1199.4	1189.6	1177.3	1172.4	1165.1	1147.9	1128.3	1110.3	1081.7	1048.2	1021.2
27.5°	1223.1	1210.9	1197.8	1190.4	1182.2	1162.6	1140.5	1118.5	1086.6	1048.2	1010.5
30°	1250.1	1235.4	1218.2	1210.0	1200.2	1177.3	1150.4	1124.2	1089.9	1048.2	1004.8
32.5°	1281.2	1264.0	1243.6	1232.1	1220.7	1193.7	1161.8	1131.5	1092.3	1047.3	999.9
35°	1317.1	1297.5	1273.0	1259.9	1246.0	1214.1	1176.5	1139.7	1096.4	1046.5	993.4
37.5°	1362.1	1339.2	1309.8	1293.4	1277.1	1239.5	1196.1	1152.0	1102.9	1047.3	988.5
40°	1416.1	1389.1	1354.8	1334.3	1314.7	1271.4	1219.8	1167.5	1111.9	1049.0	983.6
42.5°	1479.8	1447.1	1408.7	1385.0	1362.1	1308.1	1249.3	1187.1	1124.2	1052.2	981.1
45°	1555.9	1521.5	1472.5	1443.1	1417.7	1354.8	1286.9	1213.3	1142.2	1060.4	980.3
47.5°	1643.4	1600.0	1546.9	1512.5	1482.3	1409.5	1331.0	1246.0	1162.6	1071.0	981.9
50°	1741.5	1692.4	1631.1	1595.1	1557.5	1474.1	1383.4	1284.4	1188.8	1086.6	986.0
52.5°	1849.4	1795.4	1729.2	1686.7	1645.0	1548.5	1442.2	1333.5	1219.0	1106.2	993.4
55°	1961.4	1903.4	1829.8	1783.2	1736.6	1630.3	1511.7	1386.6	1259.1	1130.7	1005.6
57.5°	2070.1	2010.5	1929.5	1882.1	1829.8	1716.9	1586.1	1444.7	1302.4	1159.3	1019.5
60°	2170.7	2111.0	2029.3	1981.0	1923.8	1802.8	1662.2	1508.5	1347.4	1189.6	1035.9
62.5°	2255.7	2198.5	2116.7	2067.7	2008.8	1883.7	1734.9	1570.6	1396.4	1221.5	1051.4
65°	2318.7	2264.7	2185.4	2134.7	2078.3	1948.3	1796.3	1625.4	1437.3	1249.3	1065.3
67.5°	2350.6	2299.9	2223.0	2174.8	2119.2	1990.0	1837.9	1662.2	1468.4	1268.9	1074.3
70°	2347.3	2299.1	2227.1	2179.7	2126.6	2002.3	1852.7	1676.9	1482.3	1276.3	1072.7
72.5°	2304.8	2256.6	2192.0	2146.2	2095.5	1979.4	1832.2	1663.8	1471.7	1264.8	1059.6
75°	2220.6	2176.4	2111.0	2073.4	2027.6	1919.7	1779.1	1615.6	1435.7	1234.6	1032.6
77.5°	2099.6	2066.1	2002.3	1967.1	1922.2	1822.4	1690.0	1542.8	1372.7	1183.9	990.9
80°	1951.6	1923.8	1861.7	1830.6	1786.4	1699.8	1585.3	1443.1	1289.3	1115.2	937.0
82.5°	1789.7	1757.8	1708.8	1680.2	1638.5	1560.8	1452.0	1335.9	1192.9	1036.7	874.0
85°	1622.1	1592.7	1547.7	1523.2	1486.4	1416.9	1319.6	1217.4	1090.7	950.0	806.1
87.5°	1462.7	1434.1	1391.5	1369.5	1335.9	1273.8	1188.8	1098.8	986.8	866.6	734.2
90°	1324.5	1297.5	1257.5	1237.0	1206.8	1150.4	1073.5	992.6	893.6	783.3	669.6
92.5°	1210.9	1186.3	1148.7	1129.1	1102.1	1050.6	981.1	907.5	818.4	722.8	617.3
95°	1120.9	1097.2	1063.7	1044.9	1019.5	966.4	905.1	836.4	754.6	667.2	569.9
97.5°	1048.2	1028.5	991.7	973.8	953.3	899.4	843.8	775.9	699.9	618.1	527.3
100°	989.3	967.2	933.7	916.5	895.3	844.6	788.2	724.4	650.8	573.1	488.9
102.5°	943.5	920.6	889.5	869.9	849.5	798.0	742.4	680.2	609.9	534.7	453.8
105°	902.6	880.5	849.5	829.9	809.4	758.7	705.6	642.6	573.1	500.4	421.9
107.5°	864.2	844.6	813.5	793.9	773.4	722.8	669.6	607.5	539.6	468.5	392.4
110°	831.5	810.2	777.5	758.7	736.7	688.4	635.3	574.8	506.9	437.4	364.6



TEST NUMBER: P201249

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	798.8	775.9	743.2	724.4	702.3	654.1	601.7	542.1	475.8	408.8	338.5
115°	762.8	740.7	706.4	687.6	665.5	618.1	567.4	509.4	445.6	380.2	312.3
117.5°	724.4	702.3	668.0	650.0	628.7	582.1	533.9	477.5	415.3	352.4	286.2
120°	682.7	661.4	628.7	610.7	590.3	545.3	498.7	442.3	383.5	322.9	261.6
122.5°	640.2	619.7	587.8	569.9	550.2	507.7	461.9	407.2	350.7	294.3	237.9
125°	594.4	573.9	543.7	526.5	506.9	466.0	421.9	370.4	318.0	267.4	213.4
127.5°	541.2	524.9	495.5	478.3	460.3	424.3	381.8	335.2	287.0	237.9	189.7
130°	490.6	473.4	445.6	430.1	414.5	381.8	344.2	299.2	251.8	209.3	166.0
132.5°	437.4	421.9	398.2	385.1	371.2	341.8	303.3	259.2	219.1	182.3	143.9
135°	387.5	374.5	353.2	341.8	327.9	296.8	260.8	224.0	190.5	157.8	123.5
137.5°	340.9	327.9	308.2	296.0	281.3	253.5	224.0	193.8	162.7	134.9	104.7
140°	291.9	281.3	263.3	252.6	239.6	215.8	191.3	162.7	138.2	112.8	86.7
142.5°	250.2	241.2	223.2	213.4	201.9	182.3	159.4	137.4	115.3	93.2	71.1
145°	214.2	205.2	185.6	178.2	167.6	150.4	131.6	112.0	94.0	75.2	57.2
147.5°	179.1	168.4	151.3	144.7	136.5	121.8	107.1	91.6	76.0	59.7	44.1
150°	146.3	134.1	120.2	116.1	107.9	96.5	84.2	71.1	58.9	45.8	31.9
152.5°	115.3	104.7	93.2	89.1	82.6	75.2	64.6	54.0	44.1	31.9	22.1
155°	85.8	77.7	68.7	66.2	61.3	55.6	46.6	38.4	29.4	21.3	15.5
157.5°	60.5	54.0	47.4	45.8	42.5	37.6	30.3	23.7	18.8	13.9	10.6
160°	37.6	33.5	28.6	27.0	24.5	21.3	16.4	13.9	11.4	9.0	6.5
162.5°	18.0	15.5	13.9	13.1	11.4	9.8	9.0	7.4	6.5	5.7	4.9
165°	6.5	6.5	6.5	5.7	5.7	5.7	5.7	4.9	4.1	4.1	3.3
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: P201249

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1124.2	1125.8	1125.8	1126.6	1129.1	1134.0	1140.5	1141.4
5°	1120.9	1121.7	1121.7	1121.7	1124.2	1128.3	1134.8	1135.6
7.5°	1113.6	1113.6	1113.6	1113.6	1116.0	1119.3	1125.0	1125.8
10°	1103.7	1102.9	1102.9	1102.1	1103.7	1106.2	1112.7	1111.9
12.5°	1091.5	1089.9	1089.0	1089.0	1088.2	1090.7	1094.8	1095.6
15°	1077.6	1074.3	1072.7	1071.0	1070.2	1070.2	1075.1	1074.3
17.5°	1061.2	1056.3	1053.9	1051.4	1048.2	1048.2	1051.4	1050.6
20°	1042.4	1035.9	1031.8	1028.5	1023.6	1022.0	1023.6	1022.8
22.5°	1023.6	1013.0	1008.9	1004.0	996.6	993.4	992.6	991.7
25°	1001.6	988.5	982.7	977.8	967.2	963.1	959.0	957.4
27.5°	981.9	963.1	955.8	947.6	935.3	929.6	923.1	921.4
30°	964.8	937.0	925.5	917.3	901.8	892.8	884.6	883.0
32.5°	951.7	913.3	897.7	887.9	866.6	854.4	843.8	838.8
35°	940.2	891.2	870.7	855.2	829.9	815.1	800.4	796.3
37.5°	929.6	872.4	845.4	824.1	795.5	774.3	757.9	751.4
40°	919.0	855.2	822.5	795.5	757.9	733.4	712.9	704.8
42.5°	909.2	838.0	802.9	770.2	721.1	691.7	669.6	658.2
45°	900.2	822.5	784.1	748.1	685.1	650.8	623.8	613.2
47.5°	893.6	807.8	765.3	726.0	651.6	609.1	581.3	567.4
50°	888.7	793.9	747.3	703.9	622.2	569.0	538.0	521.6
52.5°	886.3	781.6	730.9	684.3	595.2	530.6	493.8	481.6
55°	887.1	771.8	717.0	666.3	569.9	493.8	452.9	434.1
57.5°	888.7	762.8	703.1	648.4	544.5	457.9	412.1	392.4
60°	892.0	755.5	690.9	631.2	520.8	426.8	374.5	355.7
62.5°	895.3	748.9	678.6	614.8	497.9	398.2	336.8	315.6
65°	896.1	739.1	665.5	598.5	475.0	369.6	298.4	278.0
67.5°	892.8	726.8	649.2	579.7	451.3	341.8	262.4	241.2
70°	883.0	710.5	630.4	558.4	425.1	314.8	228.1	205.2
72.5°	865.0	689.2	608.3	534.7	399.8	286.2	197.0	169.2
75°	839.7	663.1	582.1	507.7	372.8	259.2	168.4	137.4
77.5°	805.3	629.5	551.1	477.5	343.4	231.4	143.9	107.9
80°	761.2	594.4	516.7	444.8	314.8	206.0	120.2	80.1
82.5°	708.9	554.3	479.9	411.2	287.8	179.9	98.1	55.6
85°	654.9	511.0	441.5	376.1	259.2	155.3	79.3	32.7
87.5°	601.7	467.7	404.7	344.2	229.7	133.3	61.3	13.1
90°	549.4	426.0	366.3	309.9	204.4	112.8	45.8	0.0
92.5°	506.1	394.9	340.9	287.0	188.0	102.2	39.2	0.0
95°	467.7	365.5	314.0	264.1	170.9	92.4	32.7	0.0
97.5°	432.5	337.7	290.2	242.8	155.3	81.8	27.0	0.0
100°	399.0	309.9	265.7	223.2	140.6	72.8	20.4	0.0
102.5°	369.6	285.3	243.6	201.9	125.9	63.8	14.7	0.0
105°	340.9	261.6	223.2	183.1	112.8	55.6	9.0	0.0
107.5°	315.6	239.6	202.8	166.0	100.6	48.2	5.7	0.0
110°	291.1	219.1	183.1	149.6	89.9	41.7	4.9	0.0



TEST NUMBER: P201249

CATALOG NUMBER: 4LBLED-LD4-9-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	268.2	199.5	166.0	134.1	80.9	35.2	4.9	0.0
115°	244.5	180.7	149.6	121.0	71.9	28.6	4.1	0.0
117.5°	224.0	162.7	134.9	110.4	63.0	22.9	4.1	0.0
120°	203.6	147.2	122.6	98.9	54.8	17.2	4.1	0.0
122.5°	183.1	133.3	109.6	88.3	47.4	13.9	3.3	0.0
125°	164.3	118.6	97.3	76.9	39.2	12.3	3.3	0.0
127.5°	145.5	103.8	84.2	66.2	31.1	10.6	2.5	0.0
130°	126.7	89.1	71.9	55.6	23.7	9.0	2.5	0.0
132.5°	109.6	75.2	60.5	45.8	18.8	7.4	1.6	0.0
135°	92.4	63.0	49.9	36.0	14.7	6.5	1.6	0.0
137.5°	77.7	51.5	39.2	27.0	12.3	4.9	1.6	0.0
140°	63.8	40.9	29.4	20.4	9.8	4.1	0.8	0.0
142.5°	50.7	30.3	22.1	15.5	8.2	3.3	0.8	0.0
145°	39.2	22.1	16.4	12.3	7.4	2.5	0.8	0.0
147.5°	28.6	17.2	13.1	10.6	5.7	2.5	0.8	0.0
150°	20.4	13.1	10.6	8.2	4.1	1.6	0.8	0.0
152.5°	15.5	9.8	8.2	6.5	3.3	1.6	0.8	0.0
155°	11.4	7.4	6.5	4.9	2.5	1.6	0.8	0.0
157.5°	8.2	5.7	4.9	3.3	2.5	1.6	0.8	0.0
160°	4.9	4.1	3.3	2.5	1.6	0.8	0.8	0.0
162.5°	4.1	2.5	2.5	2.5	1.6	0.8	0.8	0.0
165°	2.5	1.6	1.6	1.6	0.8	0.8	0.8	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)