

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: P201295

Luminaire Tested: **4LBLED-LD4-8-SYMW-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201295  
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-L840-CD1-U  
Description: 4 ft. Low Bay Linear, 8000 lm, Wht Sym lens, 4K  
Light Source: (392) 4000K CCT, 80 CRI LEDS  
2UT217098A8404C  
Ballast/Driver: OSRAM  
(OTi85W01280CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7977.0 lumens  
Efficiency: N/A  
Efficacy: 139.5 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

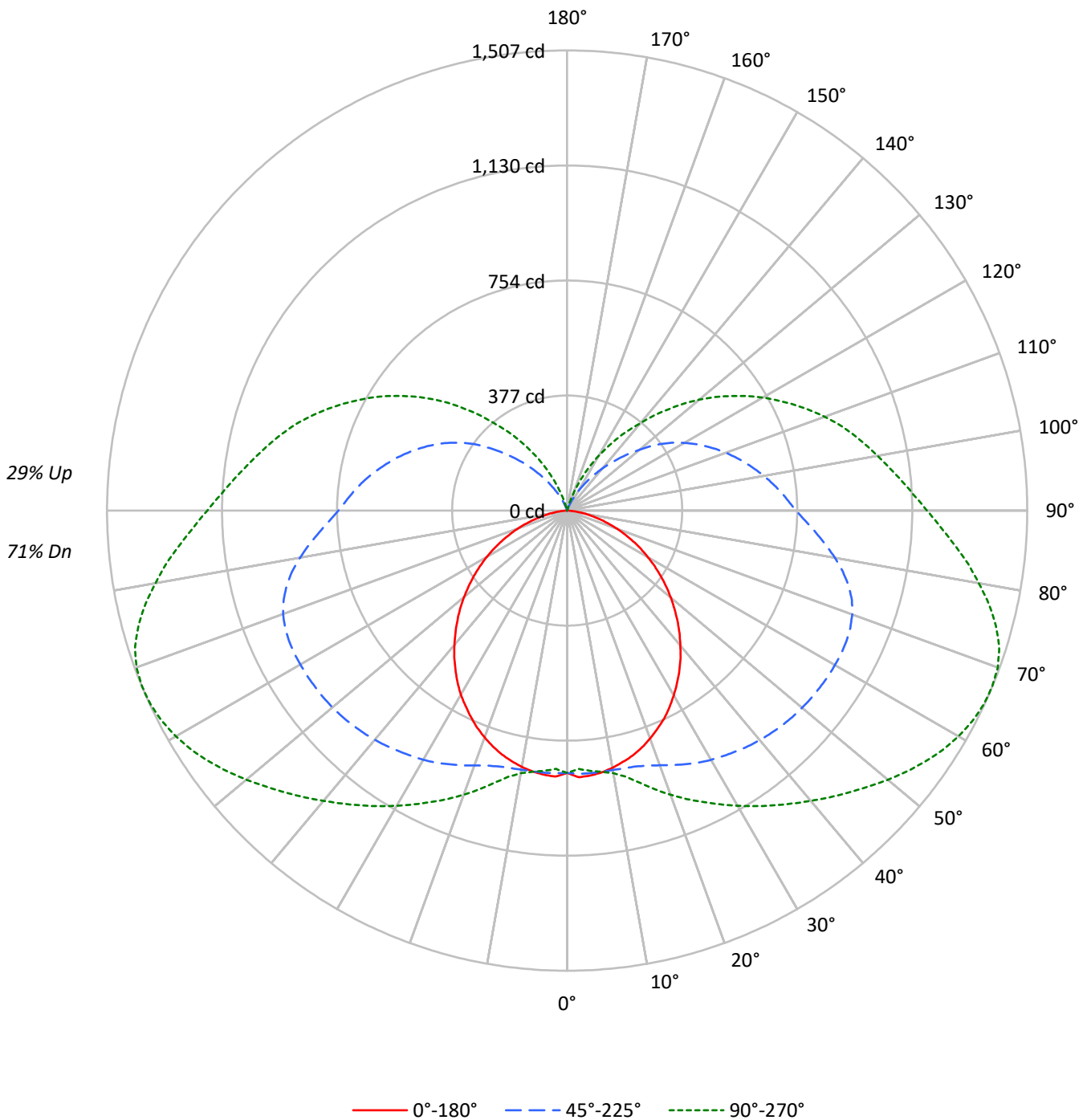
Input Watts (W): 57.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	13842	13842	13842
5°	14028	12477	13981
10°	13869	11717	13824
15°	13662	11551	13603
20°	13371	11682	13298
25°	13047	11846	12946
30°	12618	12081	12580
35°	12157	12384	12102
40°	11624	12763	11581
45°	11065	13248	11004
50°	10453	13837	10401
55°	9781	14479	9723
60°	9044	15102	8982
65°	8185	15626	8109
70°	7148	15992	7057
75°	5829	16023	5605
80°	4314	15755	4006
85°	2238	15440	1995



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.0	1.0
10°-20°	247.1	3.1
20°-30°	418.3	5.2
30°-40°	584.9	7.3
40°-50°	736.9	9.2
50°-60°	865.3	10.8
60°-70°	946.1	11.9
70°-80°	934.8	11.7
80°-90°	821.2	10.3
90°-100°	699.0	8.8
100°-110°	582.9	7.3
110°-120°	451.5	5.7
120°-130°	314.3	3.9
130°-140°	183.4	2.3
140°-150°	83.7	1.0
150°-160°	23.9	0.3
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	747.4	9.4
0°-40°	1332.3	16.7
0°-60°	2934.4	36.8
0°-90°	5636.6	70.7
90°-120°	1733.4	21.7
90°-150°	2314.8	29.0
90°-180°	2340.0	29.3
0°-180°	7977.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	859	859	859	859	859	
5°	871	863	855	862	868	83
15°	830	868	924	868	827	234
25°	752	916	1053	916	746	345
35°	640	963	1179	962	638	400
45°	511	995	1305	994	508	394
55°	374	1010	1432	1007	372	335
65°	239	1010	1504	1006	236	236
75°	112	955	1454	951	108	120
85°	19	817	1272	815	17	24
90°	0	749	1179	749	0	1
95°	0	702	1101	703	0	0
105°	1	604	968	606	0	1
115°	1	499	820	501	1	1
125°	1	382	654	382	1	1
135°	1	242	469	242	1	1
145°	2	124	291	122	1	1
155°	2	35	129	33	1	1
165°	2	4	9	0	1	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°	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0
2.5°	874.1	873.4	869.8	864.0	861.9	860.5	859.7	857.6	856.9	858.3	862.6
5°	871.2	869.8	866.9	861.9	859.7	859.0	858.3	856.2	855.4	857.6	863.3
7.5°	864.8	864.0	861.2	856.2	855.4	854.0	854.0	852.6	852.6	856.2	862.6
10°	855.4	854.7	851.9	848.3	847.6	847.6	847.6	847.6	849.0	854.7	862.6
12.5°	843.3	843.3	841.1	838.2	839.0	839.0	839.7	841.1	845.4	854.0	864.0
15°	830.4	829.6	827.5	826.8	828.9	829.6	831.8	835.4	842.5	854.7	867.6
17.5°	813.9	813.9	811.7	812.5	816.8	818.9	822.5	828.9	840.4	856.9	875.5
20°	794.5	795.3	794.5	796.7	803.9	808.2	812.5	823.2	839.7	862.6	887.7
22.5°	773.0	774.5	774.5	780.2	789.5	796.0	802.4	817.5	841.1	872.6	902.0
25°	751.6	751.6	753.7	761.6	774.5	782.4	792.4	813.9	846.1	883.4	916.3
27.5°	725.8	727.9	731.5	742.2	760.2	770.9	783.1	813.9	851.9	894.1	930.7
30°	698.5	700.7	706.4	721.5	744.4	758.0	775.2	813.9	856.9	902.7	942.8
32.5°	669.9	673.5	681.3	700.7	728.6	747.3	769.5	813.2	861.2	909.9	952.9
35°	640.5	644.1	656.3	679.2	715.7	737.2	763.0	811.0	863.3	916.3	962.9
37.5°	609.7	616.1	629.8	658.4	702.8	728.6	755.9	808.9	865.5	921.4	972.9
40°	576.7	583.2	602.5	636.9	689.9	717.2	747.3	806.0	866.9	926.4	981.5
42.5°	544.5	553.1	575.3	616.9	677.0	707.1	738.7	801.7	866.2	929.9	988.7
45°	510.8	520.9	548.1	597.5	662.7	695.0	728.6	796.0	864.8	932.1	995.1
47.5°	476.4	488.6	520.9	578.2	648.4	682.1	718.6	790.2	862.6	933.5	1000.9
50°	442.8	457.1	493.6	558.8	632.6	668.4	706.4	783.8	859.0	934.2	1004.5
52.5°	409.1	424.9	467.8	539.5	616.1	654.1	694.2	775.9	854.7	933.5	1008.0
55°	374.0	391.2	442.0	518.7	599.0	638.4	680.6	765.9	848.3	930.7	1010.2
57.5°	340.3	359.7	417.7	498.6	581.0	622.6	667.7	755.1	841.1	928.5	1012.3
60°	305.9	328.1	392.6	475.7	562.4	605.4	652.0	743.0	832.5	923.5	1012.3
62.5°	272.3	297.3	368.3	454.9	543.8	588.2	636.2	729.3	823.2	918.5	1012.3
65°	238.6	267.2	343.2	432.0	523.0	569.6	618.3	715.0	811.7	911.3	1009.5
67.5°	205.6	238.6	317.4	408.4	501.5	549.5	599.7	698.5	798.8	902.0	1003.7
70°	173.4	209.9	291.6	383.3	479.3	526.6	578.9	680.6	783.8	889.8	993.7
72.5°	141.1	182.7	264.4	358.2	455.7	504.4	557.4	659.8	765.2	873.4	978.0
75°	111.8	155.5	238.6	332.4	431.3	480.7	533.8	636.9	743.0	851.9	955.0
77.5°	85.3	130.4	213.5	307.4	405.5	457.1	509.4	611.8	717.2	824.6	924.9
80°	60.2	106.0	188.4	281.6	379.7	430.6	482.2	584.6	689.9	792.4	890.5
82.5°	37.3	83.8	163.4	256.5	354.6	404.8	455.7	557.4	659.1	758.7	853.3
85°	19.3	63.0	139.7	232.8	330.3	379.7	429.9	529.5	627.6	724.3	816.8
87.5°	6.4	45.9	120.4	212.1	308.1	357.5	406.2	502.9	598.2	690.7	780.9
90°	0.0	34.4	106.0	195.6	289.4	337.4	386.2	479.3	572.4	663.4	749.4
92.5°	0.0	29.4	96.7	184.1	276.5	323.8	371.1	463.5	553.1	641.2	725.0
95°	0.0	23.6	88.8	172.7	262.9	309.5	356.1	446.3	534.5	620.4	702.1
97.5°	0.0	18.6	80.2	161.9	249.3	294.5	339.6	429.2	515.1	599.7	678.5
100°	0.7	14.3	70.9	148.3	235.0	279.4	323.1	410.5	494.3	576.0	654.1
102.5°	0.7	10.0	62.3	136.8	219.9	262.9	305.9	391.2	473.6	554.5	629.0
105°	0.7	7.2	53.7	124.7	205.6	247.2	289.4	372.6	452.8	530.9	604.0
107.5°	0.7	5.0	45.9	113.2	191.3	230.7	271.5	352.5	431.3	507.2	578.9
110°	0.7	3.6	38.7	101.0	175.5	214.9	254.3	332.4	409.1	482.9	553.1



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CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	2.9	31.5	89.6	159.8	198.5	236.4	312.4	386.9	458.5	526.6
115°	0.7	2.9	25.1	78.8	144.0	181.3	217.8	292.3	363.2	433.5	499.4
117.5°	0.7	2.1	19.3	68.1	129.7	164.1	199.2	270.1	340.3	408.4	472.1
120°	0.7	2.1	14.3	57.3	114.6	146.9	181.3	248.6	316.0	381.9	442.8
122.5°	1.4	2.1	10.7	48.0	101.0	130.4	163.4	227.1	290.2	353.9	414.1
125°	1.4	1.4	8.6	38.7	86.7	113.9	143.3	204.9	262.2	323.1	381.9
127.5°	1.4	1.4	6.4	29.4	72.4	97.4	123.9	181.3	237.1	291.6	347.5
130°	1.4	1.4	5.7	21.5	58.7	81.0	105.3	156.9	209.2	259.4	310.2
132.5°	1.4	1.4	4.3	15.8	46.6	66.6	88.1	134.0	182.0	230.7	276.5
135°	1.4	1.4	3.6	11.5	35.1	53.0	71.6	112.5	156.2	202.0	242.2
137.5°	1.4	1.4	3.6	8.6	25.8	40.1	56.6	93.9	132.5	173.4	209.9
140°	1.4	1.4	2.9	7.2	17.9	29.4	43.0	75.2	108.2	146.2	181.3
142.5°	1.4	1.4	2.1	5.7	12.9	20.8	30.8	58.0	87.4	120.4	151.2
145°	2.1	1.4	2.1	5.0	9.3	14.3	21.5	43.7	67.3	96.7	123.9
147.5°	1.4	1.4	1.4	3.6	7.2	10.0	14.3	30.1	50.9	75.2	98.2
150°	2.1	1.4	1.4	2.9	5.7	7.2	10.0	20.1	35.1	55.2	75.2
152.5°	2.1	1.4	1.4	2.9	4.3	5.7	7.2	12.9	22.9	37.3	53.7
155°	2.1	1.4	1.4	2.1	3.6	4.3	5.7	8.6	13.6	22.9	35.1
157.5°	2.1	2.1	2.1	2.1	2.9	3.6	4.3	6.4	7.9	12.9	20.1
160°	2.1	2.1	1.4	1.4	2.1	2.1	2.9	4.3	5.7	7.2	10.0
162.5°	2.1	2.1	2.1	1.4	1.4	1.4	2.1	2.9	3.6	5.0	6.4
165°	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	2.1	2.9	3.6
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°	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0
2.5°	864.0	860.5	859.0	856.2	854.0	852.6	850.4	849.0	847.6	846.8	846.8
5°	864.8	861.2	859.7	857.6	856.9	855.4	854.0	855.4	854.7	855.4	854.7
7.5°	865.5	862.6	862.6	861.9	861.2	861.2	859.7	861.2	861.9	862.6	861.9
10°	867.6	866.9	868.3	869.1	869.1	869.1	869.1	870.5	873.4	873.4	872.6
12.5°	871.2	873.4	877.6	881.2	882.7	882.7	885.5	888.4	892.0	892.7	892.0
15°	878.4	884.8	894.1	902.0	905.6	907.7	913.5	918.5	922.1	923.5	922.1
17.5°	891.3	903.4	917.8	929.2	933.5	936.4	944.3	949.3	953.6	957.2	955.7
20°	908.5	924.9	942.1	955.7	961.5	965.1	973.7	983.0	987.3	990.1	989.4
22.5°	927.1	946.4	965.8	982.3	988.7	993.0	1003.7	1012.3	1018.8	1022.4	1021.7
25°	945.0	967.2	990.8	1008.8	1016.6	1021.7	1033.1	1043.1	1050.3	1053.2	1052.5
27.5°	962.9	988.7	1014.5	1035.3	1043.1	1049.6	1063.2	1074.0	1082.6	1084.7	1084.7
30°	977.2	1007.3	1035.3	1058.9	1067.5	1076.1	1091.2	1105.5	1113.4	1116.2	1115.5
32.5°	990.8	1024.5	1056.0	1082.6	1093.3	1101.9	1119.8	1135.6	1144.9	1147.7	1144.9
35°	1004.5	1041.7	1076.8	1105.5	1116.9	1127.7	1147.7	1165.7	1175.7	1178.6	1177.1
37.5°	1017.4	1058.9	1096.9	1128.4	1142.0	1153.5	1174.3	1195.8	1206.5	1209.4	1206.5
40°	1029.5	1074.7	1116.2	1150.6	1165.7	1179.3	1203.6	1225.1	1237.3	1240.9	1239.5
42.5°	1041.0	1090.4	1135.6	1173.5	1190.7	1205.1	1232.3	1255.9	1268.8	1273.1	1269.5
45°	1051.0	1106.2	1154.9	1195.8	1214.4	1230.9	1261.7	1287.5	1300.4	1305.4	1301.1
47.5°	1061.1	1120.5	1172.8	1218.0	1239.5	1256.6	1291.0	1318.3	1333.3	1337.6	1333.3
50°	1070.4	1134.9	1192.2	1240.9	1263.8	1283.2	1320.4	1349.8	1364.8	1371.3	1365.5
52.5°	1079.0	1148.5	1210.1	1262.4	1287.5	1309.0	1349.1	1380.6	1398.5	1402.8	1397.1
55°	1087.6	1161.4	1225.8	1282.4	1309.7	1332.6	1376.3	1409.3	1427.2	1432.2	1426.4
57.5°	1094.7	1172.8	1240.9	1301.8	1329.7	1356.2	1399.9	1434.3	1453.0	1458.7	1453.0
60°	1099.7	1182.1	1254.5	1317.5	1346.9	1374.1	1420.7	1455.1	1473.7	1479.5	1473.7
62.5°	1103.3	1189.3	1263.8	1329.7	1361.3	1389.2	1436.5	1470.2	1489.5	1495.2	1489.5
65°	1104.0	1192.2	1268.8	1337.6	1369.8	1397.8	1445.8	1479.5	1499.5	1504.5	1498.8
67.5°	1099.7	1189.3	1268.8	1339.0	1371.3	1399.9	1447.9	1481.6	1501.0	1506.7	1501.0
70°	1091.2	1180.7	1261.7	1333.3	1365.5	1394.2	1441.5	1475.9	1495.2	1501.0	1494.5
72.5°	1074.7	1165.7	1246.6	1319.7	1350.5	1378.4	1425.0	1458.7	1477.3	1483.8	1476.6
75°	1051.0	1142.0	1223.0	1293.2	1325.4	1351.2	1397.8	1430.7	1447.9	1453.7	1447.2
77.5°	1020.2	1111.9	1190.0	1259.5	1291.8	1315.4	1360.5	1392.8	1410.0	1415.0	1408.5
80°	984.4	1075.4	1150.6	1219.4	1249.5	1271.7	1316.8	1347.6	1364.1	1369.1	1365.5
82.5°	945.0	1033.8	1106.9	1174.3	1202.9	1225.1	1269.5	1299.6	1316.1	1323.3	1317.5
85°	904.9	990.1	1061.8	1127.0	1155.6	1179.3	1220.1	1250.2	1266.7	1272.4	1268.8
87.5°	864.8	947.1	1016.6	1079.7	1106.2	1130.6	1171.4	1201.5	1218.0	1223.7	1219.4
90°	831.1	909.9	976.5	1038.8	1066.1	1088.3	1127.7	1156.3	1172.8	1178.6	1175.0
92.5°	803.9	879.1	943.6	1000.9	1026.7	1050.3	1088.3	1116.2	1132.7	1137.7	1134.1
95°	778.1	851.1	913.5	969.4	994.4	1017.4	1053.2	1080.4	1096.2	1101.2	1098.3
97.5°	753.7	823.9	884.1	938.5	964.3	985.1	1019.5	1045.3	1061.1	1065.4	1061.1
100°	726.5	797.4	856.2	909.9	932.1	952.9	987.3	1013.1	1026.7	1032.4	1028.8
102.5°	700.7	768.7	826.8	879.8	903.4	924.2	955.7	980.8	996.6	1000.2	996.6
105°	674.2	740.1	796.7	849.0	872.6	892.7	924.2	948.6	963.6	967.9	964.3
107.5°	647.0	710.7	767.3	816.8	839.7	858.3	890.5	914.2	927.1	935.0	929.2
110°	617.6	680.6	735.1	783.1	805.3	823.2	854.7	878.4	890.5	897.7	892.7





TEST NUMBER: P201295

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	590.4	649.8	702.1	748.7	769.5	787.4	818.2	841.1	852.6	859.7	854.7
115°	561.7	616.9	668.4	712.9	733.6	750.1	780.9	802.4	813.9	820.3	816.0
117.5°	530.9	584.6	633.3	677.0	696.4	712.9	742.2	763.7	774.5	779.5	775.2
120°	500.8	553.1	599.0	640.5	659.8	675.6	704.3	724.3	734.4	740.1	735.8
122.5°	469.3	520.1	561.7	603.2	621.2	636.2	662.0	683.5	692.8	697.8	695.0
125°	435.6	485.8	525.9	563.8	581.0	595.4	620.4	638.4	649.1	654.1	651.3
127.5°	400.5	448.5	489.3	524.4	540.9	556.7	577.5	597.5	604.7	610.4	607.5
130°	361.1	409.1	447.1	482.9	498.6	511.5	534.5	550.9	560.3	565.3	563.1
132.5°	322.4	366.8	406.9	439.2	454.2	467.8	488.6	504.4	517.3	518.0	515.1
135°	285.1	323.8	360.4	394.8	409.8	423.4	442.0	456.4	468.6	469.3	465.7
137.5°	249.3	285.1	316.7	348.9	364.7	379.0	396.2	409.8	421.3	423.4	418.4
140°	214.9	247.9	276.5	305.2	320.3	333.9	352.5	364.0	373.3	374.0	371.1
142.5°	182.0	212.1	237.1	263.7	277.3	289.4	310.2	321.7	330.3	332.4	328.1
145°	151.2	177.7	201.3	224.2	235.7	247.2	268.0	281.6	288.7	290.9	286.6
147.5°	121.8	144.0	164.8	185.6	195.6	206.3	223.5	240.7	247.2	248.6	245.0
150°	94.6	113.2	131.8	149.0	157.6	166.9	182.0	197.7	206.3	207.8	204.9
152.5°	69.5	85.3	100.3	114.6	121.8	129.0	141.9	156.9	167.6	168.4	165.5
155°	47.3	60.2	72.4	83.1	89.6	95.3	105.3	116.8	128.2	129.0	126.8
157.5°	28.7	37.3	47.3	55.9	60.2	65.2	72.4	81.0	91.0	93.1	91.0
160°	14.3	19.3	25.1	30.8	34.4	38.0	41.6	48.7	54.5	59.5	56.6
162.5°	7.2	8.6	10.0	12.9	14.3	16.5	19.3	22.2	25.1	30.1	26.5
165°	4.3	5.0	5.7	5.7	6.4	6.4	6.4	6.4	6.4	9.3	6.4
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: P201295

CATALOG NUMBER: 4LBLELD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0
2.5°	849.0	850.4	853.3	854.7	856.2	857.6	860.5	864.8	861.2	857.6	858.3
5°	854.7	854.7	855.4	857.6	857.6	858.3	861.2	865.5	861.9	856.9	856.9
7.5°	861.9	861.2	861.9	862.6	861.9	861.9	863.3	865.5	861.2	855.4	854.0
10°	871.9	869.8	869.1	869.8	869.1	866.9	867.6	867.6	861.9	853.3	849.7
12.5°	889.8	886.2	883.4	882.7	880.5	876.9	874.8	871.9	863.3	853.3	846.1
15°	919.2	913.5	907.7	905.6	902.0	893.4	886.2	879.8	867.6	853.3	843.3
17.5°	952.2	945.0	937.1	934.2	929.2	917.1	904.9	892.7	875.5	855.4	841.1
20°	983.7	975.1	965.8	960.8	955.7	940.7	926.4	910.6	888.4	861.9	840.4
22.5°	1015.2	1005.2	992.3	988.0	981.5	964.3	947.1	929.2	902.7	871.2	841.8
25°	1046.0	1034.6	1022.4	1015.2	1008.0	988.7	967.9	946.4	916.3	881.9	846.8
27.5°	1076.8	1063.9	1048.9	1041.0	1033.8	1012.3	988.7	964.3	930.7	892.0	853.3
30°	1106.9	1092.6	1074.7	1066.1	1057.5	1033.1	1005.9	978.7	942.1	900.6	857.6
32.5°	1137.0	1121.2	1101.2	1091.2	1081.1	1053.2	1023.1	992.3	952.2	908.5	861.2
35°	1166.4	1149.2	1127.0	1114.8	1104.0	1074.0	1040.3	1005.9	961.5	914.9	863.3
37.5°	1196.5	1177.1	1152.8	1139.2	1127.0	1094.0	1056.8	1018.1	971.5	919.9	865.5
40°	1226.6	1205.8	1178.6	1164.2	1149.2	1113.4	1073.2	1030.3	980.1	924.9	866.2
42.5°	1257.4	1234.4	1204.3	1188.6	1172.8	1132.7	1088.3	1041.0	987.3	928.5	865.5
45°	1288.2	1262.4	1230.1	1212.2	1195.0	1151.3	1103.3	1050.3	993.7	930.7	864.0
47.5°	1319.0	1291.8	1256.6	1237.3	1216.5	1170.0	1117.7	1060.3	999.4	931.4	862.6
50°	1350.5	1321.1	1283.2	1261.7	1240.2	1187.9	1132.0	1068.9	1003.0	932.1	859.0
52.5°	1381.3	1349.8	1309.0	1286.0	1260.9	1205.8	1145.6	1077.5	1005.9	931.4	854.0
55°	1409.3	1376.3	1333.3	1309.0	1281.0	1222.3	1157.8	1084.7	1007.3	929.2	847.6
57.5°	1435.0	1401.4	1356.2	1329.0	1301.8	1238.0	1169.2	1092.6	1008.8	925.7	840.4
60°	1455.1	1421.4	1374.1	1346.9	1317.5	1250.9	1178.6	1096.9	1008.8	920.6	831.1
62.5°	1470.2	1436.5	1389.2	1360.5	1329.7	1261.7	1185.7	1101.2	1008.8	915.6	821.8
65°	1479.5	1446.5	1397.8	1369.1	1337.6	1266.7	1189.3	1101.9	1005.9	908.5	810.3
67.5°	1480.9	1447.9	1399.2	1371.3	1339.0	1266.7	1187.2	1098.3	1000.2	899.1	797.4
70°	1474.4	1441.5	1393.5	1364.8	1333.3	1260.2	1179.3	1089.7	990.1	887.0	782.4
72.5°	1458.0	1424.3	1377.7	1348.4	1317.5	1245.2	1162.8	1074.0	973.7	869.8	764.4
75°	1429.3	1396.4	1350.5	1323.3	1291.8	1220.8	1137.7	1051.0	950.7	848.3	742.2
77.5°	1391.3	1359.1	1314.0	1286.7	1257.4	1187.9	1106.2	1020.2	922.8	821.8	716.4
80°	1346.2	1315.4	1271.0	1244.5	1215.8	1148.5	1068.2	984.4	888.4	790.2	687.8
82.5°	1298.2	1268.1	1225.1	1197.9	1170.7	1105.5	1028.8	945.7	851.9	756.6	657.0
85°	1251.6	1219.4	1176.4	1151.3	1124.1	1060.3	988.0	905.6	814.6	722.2	626.9
87.5°	1202.9	1171.4	1129.1	1105.5	1079.7	1015.2	946.4	866.2	779.5	691.4	597.5
90°	1158.5	1127.7	1086.9	1063.2	1038.8	976.5	909.2	833.2	749.4	664.1	573.2
92.5°	1117.7	1089.0	1050.3	1027.4	1003.7	944.3	879.8	806.0	725.0	642.7	553.8
95°	1082.6	1054.6	1018.8	996.6	972.2	915.6	852.6	780.2	702.8	622.6	535.9
97.5°	1047.4	1020.9	985.8	964.3	941.4	886.2	825.3	755.9	679.9	600.4	516.6
100°	1015.2	989.4	953.6	934.2	912.0	859.0	798.8	730.8	656.3	578.2	495.8
102.5°	983.7	957.9	923.5	904.2	882.7	829.6	770.9	703.6	631.2	556.0	475.7
105°	951.4	926.4	892.0	872.6	851.1	799.6	742.2	677.0	606.1	533.0	454.9
107.5°	916.3	892.0	859.0	839.7	819.6	768.0	712.9	649.1	581.0	509.4	433.5
110°	880.5	856.2	826.1	805.3	785.9	735.8	682.1	621.2	554.5	485.0	411.2



TEST NUMBER: P201295

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	843.3	819.6	790.2	770.9	750.8	702.8	651.3	592.5	528.0	460.0	388.3
115°	805.3	781.6	752.3	732.9	715.0	669.2	619.0	563.1	500.8	434.9	365.4
117.5°	763.7	743.0	715.0	697.8	679.2	633.3	586.8	533.0	473.6	408.4	341.7
120°	725.0	705.0	677.8	659.1	642.7	599.0	554.5	502.2	443.5	382.6	317.4
122.5°	684.2	662.7	637.6	621.9	604.0	563.8	520.9	470.7	413.4	353.2	290.9
125°	641.2	621.2	596.8	581.8	565.3	527.3	486.5	436.3	381.9	323.8	263.7
127.5°	597.5	578.9	555.2	541.6	525.9	488.6	449.2	400.5	346.0	291.6	235.7
130°	553.1	534.5	513.0	498.6	483.6	448.5	409.8	361.8	310.2	259.4	208.5
132.5°	506.5	488.6	467.1	454.2	440.6	406.9	367.5	321.0	275.1	229.3	182.0
135°	458.5	442.0	422.7	410.5	396.9	362.5	325.3	283.0	242.2	199.9	156.2
137.5°	412.0	396.9	378.3	366.1	351.1	318.8	285.9	247.9	210.6	171.2	130.4
140°	366.1	352.5	334.6	321.0	308.1	278.0	247.9	213.5	179.8	144.0	107.5
142.5°	323.1	310.9	290.9	278.0	265.8	239.3	212.8	180.5	150.5	118.2	86.7
145°	280.8	270.1	247.9	236.4	226.4	202.8	176.2	149.7	122.5	94.6	67.3
147.5°	240.0	227.1	206.3	196.3	187.0	166.2	144.0	119.6	97.4	73.1	49.4
150°	200.6	184.8	166.9	158.3	150.5	132.5	113.2	93.1	73.8	53.0	34.4
152.5°	159.8	143.3	131.1	122.5	115.3	101.0	85.3	68.1	52.3	35.8	21.5
155°	118.2	106.8	95.3	91.0	84.5	72.4	59.5	45.9	33.0	21.5	12.2
157.5°	81.7	73.1	65.9	61.6	56.6	47.3	36.5	26.5	18.6	11.5	5.7
160°	49.4	43.7	38.7	35.1	31.5	25.1	17.9	12.2	7.9	3.6	2.1
162.5°	22.2	18.6	16.5	14.3	12.2	9.3	5.7	2.9	1.4	0.7	0.7
165°	4.3	2.9	2.1	1.4	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: P201295

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	859.0	859.0	859.0	859.0	859.0	859.0	859.0	859.0
2.5°	859.0	859.7	860.5	860.5	862.6	866.2	871.2	871.9
5°	856.9	857.6	857.6	858.3	860.5	863.3	867.6	868.3
7.5°	853.3	853.3	853.3	853.3	854.7	857.6	861.2	861.9
10°	848.3	846.8	846.1	845.4	846.1	849.0	851.9	852.6
12.5°	842.5	839.0	837.5	836.8	836.8	837.5	840.4	840.4
15°	836.1	830.4	828.2	826.8	823.9	823.9	826.8	826.8
17.5°	829.6	821.8	817.5	814.6	810.3	809.6	811.0	809.6
20°	823.9	811.7	806.0	801.0	794.5	792.4	792.4	790.2
22.5°	818.2	801.7	793.8	786.7	776.6	773.0	770.9	769.5
25°	814.6	791.0	780.9	772.3	758.7	750.8	748.7	745.8
27.5°	813.9	782.4	768.7	758.0	739.4	730.1	724.3	720.7
30°	813.9	773.8	755.9	740.8	717.9	703.6	697.8	696.4
32.5°	813.2	767.3	745.8	726.5	697.1	678.5	669.9	667.7
35°	811.0	760.9	735.8	712.1	676.3	652.7	640.5	637.6
37.5°	808.2	753.0	726.5	699.3	654.8	626.2	611.1	606.8
40°	805.3	745.1	715.0	685.6	633.3	599.0	579.6	574.6
42.5°	800.3	736.5	705.0	672.7	613.3	571.7	549.5	541.6
45°	795.3	726.5	692.8	658.4	593.2	543.8	515.8	508.0
47.5°	788.8	715.7	680.6	642.7	574.6	516.6	485.0	475.0
50°	781.6	705.0	667.0	627.6	554.5	490.1	451.4	440.6
52.5°	773.8	692.8	653.4	611.8	534.5	465.0	419.8	406.2
55°	763.7	679.2	637.6	593.9	513.7	439.2	387.6	371.8
57.5°	753.0	665.6	622.6	577.5	492.9	414.8	356.1	338.2
60°	740.1	649.8	604.0	558.8	471.4	389.7	324.6	303.8
62.5°	726.5	634.1	587.5	539.5	449.9	365.4	293.7	270.1
65°	712.1	616.1	568.9	519.4	427.0	339.6	263.7	236.4
67.5°	695.0	596.8	548.1	497.9	403.4	313.8	234.3	203.5
70°	677.8	576.0	525.2	475.0	379.0	288.0	206.3	171.2
72.5°	657.0	553.8	502.2	451.4	353.9	262.9	179.1	139.0
75°	634.1	530.9	478.6	427.0	328.1	236.4	151.9	107.5
77.5°	609.7	505.8	454.2	401.9	303.8	211.4	126.8	81.0
80°	583.9	479.3	428.4	376.1	278.0	186.3	102.5	55.9
82.5°	555.2	453.5	402.6	350.3	253.6	161.9	80.2	34.4
85°	528.0	427.7	378.3	326.7	230.0	137.6	60.2	17.2
87.5°	501.5	404.1	356.1	305.2	209.9	118.9	43.7	5.0
90°	480.0	384.7	337.4	288.0	194.2	105.3	33.0	0.0
92.5°	462.8	369.7	323.1	275.1	182.7	96.0	27.9	0.0
95°	446.3	353.9	309.5	261.5	171.2	88.1	22.2	0.0
97.5°	428.4	338.9	294.5	247.9	159.8	79.5	17.9	0.0
100°	410.5	322.4	279.4	234.3	146.9	70.9	12.9	0.0
102.5°	391.2	305.2	262.9	219.2	135.4	61.6	8.6	0.0
105°	372.6	288.0	247.2	204.2	123.2	53.7	5.7	0.0
107.5°	352.5	270.8	230.7	189.9	111.0	45.1	3.6	0.0
110°	332.4	253.6	214.2	174.8	99.6	37.3	2.9	0.0



TEST NUMBER: P201295

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	312.4	235.7	197.7	159.1	88.1	30.1	2.1	0.7
115°	290.9	217.1	180.5	143.3	76.7	23.6	2.1	0.7
117.5°	269.4	197.7	164.1	128.2	65.9	17.9	1.4	0.7
120°	247.2	180.5	146.2	113.9	55.9	12.9	1.4	0.7
122.5°	225.7	162.6	129.7	98.9	45.9	10.0	1.4	0.7
125°	203.5	141.9	113.2	85.3	36.5	7.9	1.4	0.7
127.5°	179.8	122.5	96.0	70.2	27.9	5.7	1.4	0.7
130°	155.5	103.2	79.5	57.3	20.1	4.3	1.4	0.7
132.5°	132.5	86.7	64.5	45.1	14.3	3.6	1.4	0.7
135°	111.8	70.2	50.9	33.7	10.0	2.9	0.7	0.7
137.5°	91.7	55.9	38.7	24.4	7.2	2.1	1.4	0.7
140°	73.8	42.3	27.9	17.2	5.0	1.4	1.4	0.7
142.5°	57.3	30.1	19.3	11.5	3.6	1.4	0.7	0.7
145°	42.3	20.1	12.9	7.2	2.9	1.4	1.4	1.4
147.5°	28.7	13.6	7.9	5.0	2.1	1.4	1.4	0.7
150°	18.6	8.6	5.0	3.6	1.4	1.4	1.4	0.7
152.5°	11.5	5.0	2.9	2.1	1.4	1.4	1.4	0.7
155°	5.7	2.9	2.1	1.4	1.4	1.4	1.4	1.4
157.5°	2.9	2.1	1.4	1.4	1.4	1.4	1.4	1.4
160°	1.4	1.4	0.7	0.7	1.4	1.4	1.4	1.4
162.5°	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4
165°	0.0	0.7	0.7	0.7	1.4	1.4	1.4	1.4
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)