

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: P201293

Luminaire Tested: **4LBLED-LD4-7-SYMW-UNV-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201293
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-LD4-7-SYMW-UNV-L840-CD1-U
Description: 4 ft. Low Bay Linear, 7000 lm, Wht Sym lens, 4K
Light Source: (392) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
(OTI50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7037.0 lumens
Efficiency: N/A
Efficacy: 141.3 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

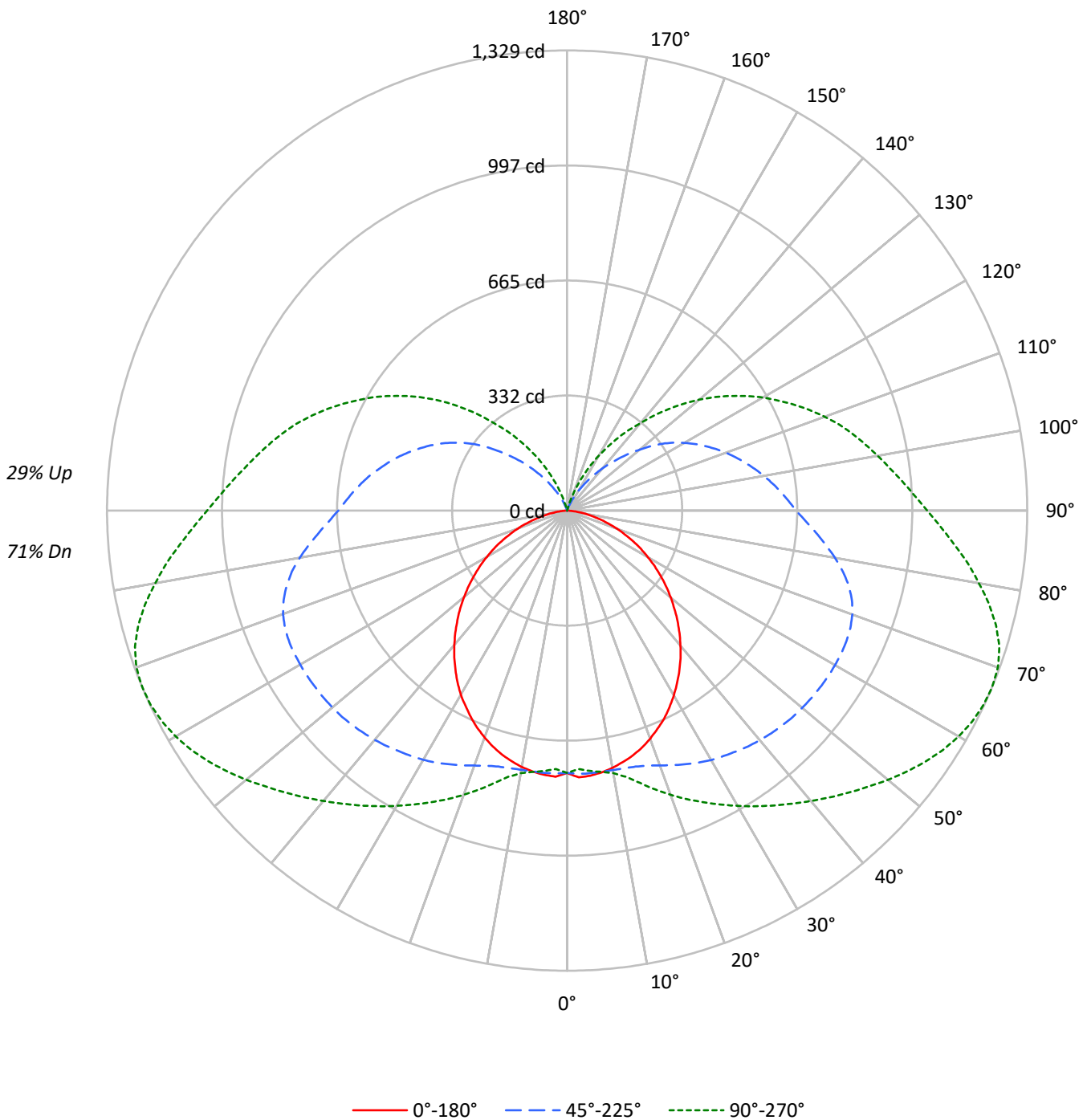
Input Watts (W): 49.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12211	12211	12211
5°	12374	11006	12334
10°	12235	10336	12194
15°	12052	10190	12001
20°	11796	10306	11732
25°	11509	10450	11420
30°	11131	10658	11097
35°	10724	10925	10676
40°	10255	11259	10217
45°	9761	11686	9707
50°	9220	12207	9175
55°	8627	12773	8578
60°	7979	13322	7923
65°	7221	13785	7156
70°	6303	14107	6229
75°	5141	14135	4943
80°	3805	13899	3533
85°	1983	13621	1763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.4	1.0
10°-20°	218.0	3.1
20°-30°	369.0	5.2
30°-40°	516.0	7.3
40°-50°	650.1	9.2
50°-60°	763.3	10.8
60°-70°	834.6	11.9
70°-80°	824.6	11.7
80°-90°	724.4	10.3
90°-100°	616.6	8.8
100°-110°	514.3	7.3
110°-120°	398.3	5.7
120°-130°	277.2	3.9
130°-140°	161.8	2.3
140°-150°	73.8	1.0
150°-160°	21.1	0.3
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	659.3	9.4
0°-40°	1175.3	16.7
0°-60°	2588.7	36.8
0°-90°	4972.3	70.7
90°-120°	1529.2	21.7
90°-150°	2042.1	29.0
90°-180°	2065.0	29.3
0°-180°	7037.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	758	758	758	758	758	
5°	768	762	755	760	766	73
15°	732	765	815	765	729	206
25°	663	808	929	808	658	305
35°	565	849	1040	848	562	353
45°	451	878	1152	877	448	347
55°	330	891	1263	889	328	295
65°	210	890	1327	887	209	209
75°	99	842	1282	839	95	106
85°	17	720	1122	719	15	22
90°	0	661	1040	661	0	1
95°	0	619	971	620	0	0
105°	1	533	854	535	0	1
115°	1	440	724	442	1	1
125°	1	337	577	337	1	1
135°	1	214	414	214	1	1
145°	2	109	257	108	1	1
155°	2	31	114	29	1	1
165°	2	3	8	0	1	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°	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8
2.5°	771.1	770.4	767.3	762.2	760.3	759.1	758.4	756.5	755.9	757.2	761.0
5°	768.5	767.3	764.7	760.3	758.4	757.8	757.2	755.3	754.6	756.5	761.6
7.5°	762.9	762.2	759.7	755.3	754.6	753.4	753.4	752.1	752.1	755.3	761.0
10°	754.6	754.0	751.5	748.3	747.7	747.7	747.7	747.7	748.9	754.0	761.0
12.5°	743.9	743.9	742.0	739.5	740.1	740.1	740.7	742.0	745.8	753.4	762.2
15°	732.5	731.9	730.0	729.4	731.3	731.9	733.8	736.9	743.3	754.0	765.4
17.5°	718.0	718.0	716.1	716.7	720.5	722.4	725.6	731.3	741.4	755.9	772.3
20°	700.9	701.5	700.9	702.8	709.1	712.9	716.7	726.2	740.7	761.0	783.1
22.5°	682.0	683.2	683.2	688.3	696.5	702.2	707.9	721.1	742.0	769.8	795.7
25°	663.0	663.0	664.9	671.8	683.2	690.2	699.0	718.0	746.4	779.3	808.4
27.5°	640.2	642.1	645.3	654.8	670.6	680.1	690.8	718.0	751.5	788.8	821.0
30°	616.2	618.1	623.2	636.4	656.7	668.7	683.8	718.0	755.9	796.3	831.7
32.5°	590.9	594.1	601.1	618.1	642.8	659.2	678.8	717.3	759.7	802.7	840.6
35°	565.0	568.2	578.9	599.2	631.4	650.4	673.1	715.4	761.6	808.4	849.4
37.5°	537.9	543.5	555.5	580.8	620.0	642.8	666.8	713.6	763.5	812.8	858.3
40°	508.8	514.5	531.5	561.9	608.6	632.7	659.2	711.0	764.7	817.2	865.9
42.5°	480.3	487.9	507.5	544.2	597.3	623.8	651.6	707.2	764.1	820.4	872.2
45°	450.6	459.5	483.5	527.1	584.6	613.1	642.8	702.2	762.9	822.3	877.9
47.5°	420.3	431.0	459.5	510.0	572.0	601.7	633.9	697.1	761.0	823.5	882.9
50°	390.6	403.2	435.5	493.0	558.1	589.7	623.2	691.4	757.8	824.2	886.1
52.5°	360.9	374.8	412.7	475.9	543.5	577.0	612.4	684.5	754.0	823.5	889.3
55°	329.9	345.1	390.0	457.6	528.4	563.1	600.4	675.6	748.3	821.0	891.2
57.5°	300.2	317.3	368.5	439.9	512.6	549.2	589.0	666.2	742.0	819.1	893.0
60°	269.9	289.5	346.3	419.7	496.1	534.1	575.1	655.4	734.4	814.7	893.0
62.5°	240.2	262.3	324.9	401.3	479.7	518.9	561.2	643.4	726.2	810.3	893.0
65°	210.5	235.7	302.7	381.1	461.4	502.5	545.4	630.8	716.1	803.9	890.5
67.5°	181.4	210.5	280.0	360.3	442.4	484.8	529.0	616.2	704.7	795.7	885.5
70°	152.9	185.2	257.2	338.1	422.8	464.5	510.7	600.4	691.4	785.0	876.6
72.5°	124.5	161.2	233.2	316.0	402.0	444.9	491.7	582.1	675.0	770.4	862.7
75°	98.6	137.1	210.5	293.3	380.5	424.1	470.9	561.9	655.4	751.5	842.5
77.5°	75.2	115.0	188.3	271.1	357.7	403.2	449.4	539.7	632.7	727.5	815.9
80°	53.1	93.5	166.2	248.4	335.0	379.8	425.4	515.7	608.6	699.0	785.6
82.5°	32.9	73.9	144.1	226.3	312.9	357.1	402.0	491.7	581.5	669.3	752.7
85°	17.1	55.6	123.2	205.4	291.4	335.0	379.2	467.1	553.7	639.0	720.5
87.5°	5.7	40.4	106.2	187.1	271.8	315.4	358.4	443.7	527.7	609.3	688.9
90°	0.0	30.3	93.5	172.5	255.3	297.7	340.7	422.8	505.0	585.3	661.1
92.5°	0.0	25.9	85.3	162.4	244.0	285.7	327.4	408.9	487.9	565.7	639.6
95°	0.0	20.9	78.4	152.3	232.0	273.0	314.1	393.8	471.5	547.3	619.4
97.5°	0.0	16.4	70.8	142.8	219.9	259.8	299.6	378.6	454.4	529.0	598.5
100°	0.6	12.6	62.6	130.8	207.3	246.5	285.0	362.1	436.1	508.1	577.0
102.5°	0.6	8.8	55.0	120.7	194.0	232.0	269.9	345.1	417.8	489.2	554.9
105°	0.6	6.3	47.4	110.0	181.4	218.0	255.3	328.7	399.4	468.3	532.8
107.5°	0.6	4.4	40.4	99.9	168.8	203.5	239.5	311.0	380.5	447.5	510.7
110°	0.6	3.2	34.1	89.1	154.8	189.6	224.4	293.3	360.9	426.0	487.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.5	27.8	79.0	140.9	175.1	208.6	275.6	341.3	404.5	464.5
115°	0.6	2.5	22.1	69.5	127.0	159.9	192.1	257.9	320.4	382.4	440.5
117.5°	0.6	1.9	17.1	60.0	114.4	144.7	175.7	238.3	300.2	360.3	416.5
120°	0.6	1.9	12.6	50.6	101.1	129.6	159.9	219.3	278.7	336.9	390.6
122.5°	1.3	1.9	9.5	42.3	89.1	115.0	144.1	200.4	256.0	312.2	365.3
125°	1.3	1.3	7.6	34.1	76.5	100.5	126.4	180.8	231.3	285.0	336.9
127.5°	1.3	1.3	5.7	25.9	63.8	86.0	109.3	159.9	209.2	257.2	306.5
130°	1.3	1.3	5.1	19.0	51.8	71.4	92.9	138.4	184.6	228.8	273.7
132.5°	1.3	1.3	3.8	13.9	41.1	58.8	77.7	118.2	160.5	203.5	244.0
135°	1.3	1.3	3.2	10.1	31.0	46.8	63.2	99.2	137.8	178.2	213.6
137.5°	1.3	1.3	3.2	7.6	22.8	35.4	49.9	82.8	116.9	152.9	185.2
140°	1.3	1.3	2.5	6.3	15.8	25.9	37.9	66.4	95.4	128.9	159.9
142.5°	1.3	1.3	1.9	5.1	11.4	18.3	27.2	51.2	77.1	106.2	133.4
145°	1.9	1.3	1.9	4.4	8.2	12.6	19.0	38.6	59.4	85.3	109.3
147.5°	1.3	1.3	1.3	3.2	6.3	8.8	12.6	26.5	44.9	66.4	86.6
150°	1.9	1.3	1.3	2.5	5.1	6.3	8.8	17.7	31.0	48.7	66.4
152.5°	1.9	1.3	1.3	2.5	3.8	5.1	6.3	11.4	20.2	32.9	47.4
155°	1.9	1.3	1.3	1.9	3.2	3.8	5.1	7.6	12.0	20.2	31.0
157.5°	1.9	1.9	1.9	1.9	2.5	3.2	3.8	5.7	7.0	11.4	17.7
160°	1.9	1.9	1.3	1.3	1.9	1.9	2.5	3.8	5.1	6.3	8.8
162.5°	1.9	1.9	1.9	1.3	1.3	1.3	1.9	2.5	3.2	4.4	5.7
165°	1.9	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.9	2.5	3.2
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8
2.5°	762.2	759.1	757.8	755.3	753.4	752.1	750.2	748.9	747.7	747.1	747.1
5°	762.9	759.7	758.4	756.5	755.9	754.6	753.4	754.6	754.0	754.6	754.0
7.5°	763.5	761.0	761.0	760.3	759.7	759.7	758.4	759.7	760.3	761.0	760.3
10°	765.4	764.7	766.0	766.6	766.6	766.6	766.6	767.9	770.4	770.4	769.8
12.5°	768.5	770.4	774.2	777.4	778.7	778.7	781.2	783.7	786.9	787.5	786.9
15°	774.9	780.5	788.8	795.7	798.9	800.8	805.8	810.3	813.4	814.7	813.4
17.5°	786.2	797.0	809.6	819.7	823.5	826.1	833.0	837.4	841.2	844.4	843.1
20°	801.4	815.9	831.1	843.1	848.2	851.3	858.9	867.1	870.9	873.5	872.8
22.5°	817.8	834.9	852.0	866.5	872.2	876.0	885.5	893.0	898.7	901.9	901.3
25°	833.6	853.2	874.1	889.9	896.8	901.3	911.4	920.2	926.5	929.1	928.4
27.5°	849.4	872.2	894.9	913.3	920.2	925.9	937.9	947.4	955.0	956.9	956.9
30°	862.1	888.6	913.3	934.1	941.7	949.3	962.6	975.2	982.2	984.7	984.1
32.5°	874.1	903.8	931.6	955.0	964.5	972.1	987.9	1001.8	1010.0	1012.5	1010.0
35°	886.1	919.0	949.9	975.2	985.3	994.8	1012.5	1028.3	1037.1	1039.7	1038.4
37.5°	897.5	934.1	967.6	995.4	1007.4	1017.6	1035.9	1054.8	1064.3	1066.9	1064.3
40°	908.2	948.0	984.7	1015.0	1028.3	1040.3	1061.8	1080.8	1091.5	1094.7	1093.4
42.5°	918.3	961.9	1001.8	1035.3	1050.4	1063.1	1087.1	1107.9	1119.3	1123.1	1119.9
45°	927.2	975.8	1018.8	1054.8	1071.3	1085.8	1113.0	1135.7	1147.1	1151.5	1147.8
47.5°	936.0	988.5	1034.6	1074.4	1093.4	1108.6	1138.9	1162.9	1176.2	1180.0	1176.2
50°	944.2	1001.1	1051.7	1094.7	1114.9	1132.0	1164.8	1190.7	1204.0	1209.7	1204.6
52.5°	951.8	1013.1	1067.5	1113.6	1135.7	1154.7	1190.1	1217.9	1233.7	1237.5	1232.4
55°	959.4	1024.5	1081.4	1131.3	1155.3	1175.6	1214.1	1243.2	1259.0	1263.4	1258.4
57.5°	965.7	1034.6	1094.7	1148.4	1173.0	1196.4	1235.0	1265.3	1281.7	1286.8	1281.7
60°	970.2	1042.8	1106.7	1162.3	1188.2	1212.2	1253.3	1283.6	1300.1	1305.1	1300.1
62.5°	973.3	1049.2	1114.9	1173.0	1200.8	1225.5	1267.2	1296.9	1314.0	1319.0	1314.0
65°	973.9	1051.7	1119.3	1180.0	1208.4	1233.1	1275.4	1305.1	1322.8	1327.2	1322.2
67.5°	970.2	1049.2	1119.3	1181.3	1209.7	1235.0	1277.3	1307.0	1324.1	1329.1	1324.1
70°	962.6	1041.6	1113.0	1176.2	1204.6	1229.9	1271.6	1302.0	1319.0	1324.1	1318.4
72.5°	948.0	1028.3	1099.7	1164.2	1191.4	1216.0	1257.1	1286.8	1303.2	1308.9	1302.6
75°	927.2	1007.4	1078.9	1140.8	1169.2	1192.0	1233.1	1262.1	1277.3	1282.4	1276.7
77.5°	900.0	980.9	1049.8	1111.1	1139.5	1160.4	1200.2	1228.7	1243.8	1248.2	1242.6
80°	868.4	948.7	1015.0	1075.7	1102.2	1121.8	1161.7	1188.8	1203.4	1207.8	1204.6
82.5°	833.6	912.0	976.5	1035.9	1061.2	1080.8	1119.9	1146.5	1161.0	1167.3	1162.3
85°	798.2	873.5	936.7	994.2	1019.5	1040.3	1076.3	1102.9	1117.4	1122.5	1119.3
87.5°	762.9	835.5	896.8	952.5	975.8	997.3	1033.4	1059.9	1074.4	1079.5	1075.7
90°	733.1	802.7	861.4	916.4	940.4	960.0	994.8	1020.1	1034.6	1039.7	1036.5
92.5°	709.1	775.5	832.4	882.9	905.7	926.5	960.0	984.7	999.2	1003.7	1000.5
95°	686.4	750.8	805.8	855.1	877.2	897.5	929.1	953.1	967.0	971.4	968.9
97.5°	664.9	726.8	779.9	827.9	850.7	869.0	899.4	922.1	936.0	939.8	936.0
100°	640.9	703.4	755.3	802.7	822.3	840.6	870.9	893.7	905.7	910.7	907.6
102.5°	618.1	678.2	729.4	776.1	797.0	815.3	843.1	865.2	879.1	882.3	879.1
105°	594.7	652.9	702.8	748.9	769.8	787.5	815.3	836.8	850.1	853.9	850.7
107.5°	570.7	627.0	676.9	720.5	740.7	757.2	785.6	806.5	817.8	824.8	819.7
110°	544.8	600.4	648.5	690.8	710.4	726.2	754.0	774.9	785.6	791.9	787.5



TEST NUMBER: P201293

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	520.8	573.2	619.4	660.5	678.8	694.6	721.8	742.0	752.1	758.4	754.0
115°	495.5	544.2	589.7	628.9	647.2	661.7	688.9	707.9	718.0	723.7	719.9
117.5°	468.3	515.7	558.7	597.3	614.3	628.9	654.8	673.7	683.2	687.6	683.8
120°	441.8	487.9	528.4	565.0	582.1	596.0	621.3	639.0	647.8	652.9	649.1
122.5°	414.0	458.8	495.5	532.2	548.0	561.2	584.0	602.9	611.2	615.6	613.1
125°	384.3	428.5	463.9	497.4	512.6	525.2	547.3	563.1	572.6	577.0	574.5
127.5°	353.3	395.6	431.7	462.6	477.2	491.1	509.4	527.1	533.4	538.5	536.0
130°	318.5	360.9	394.4	426.0	439.9	451.3	471.5	486.0	494.2	498.7	496.8
132.5°	284.4	323.6	359.0	387.4	400.7	412.7	431.0	444.9	456.3	457.0	454.4
135°	251.5	285.7	317.9	348.2	361.5	373.5	390.0	402.6	413.3	414.0	410.8
137.5°	219.9	251.5	279.4	307.8	321.7	334.3	349.5	361.5	371.6	373.5	369.1
140°	189.6	218.7	244.0	269.2	282.5	294.5	311.0	321.1	329.3	329.9	327.4
142.5°	160.5	187.1	209.2	232.6	244.6	255.3	273.7	283.8	291.4	293.3	289.5
145°	133.4	156.7	177.6	197.8	207.9	218.0	236.4	248.4	254.7	256.6	252.8
147.5°	107.4	127.0	145.4	163.7	172.5	182.0	197.2	212.4	218.0	219.3	216.2
150°	83.4	99.9	116.3	131.5	139.0	147.3	160.5	174.4	182.0	183.3	180.8
152.5°	61.3	75.2	88.5	101.1	107.4	113.8	125.1	138.4	147.9	148.5	146.0
155°	41.7	53.1	63.8	73.3	79.0	84.1	92.9	103.0	113.1	113.8	111.9
157.5°	25.3	32.9	41.7	49.3	53.1	57.5	63.8	71.4	80.3	82.2	80.3
160°	12.6	17.1	22.1	27.2	30.3	33.5	36.7	43.0	48.0	52.5	49.9
162.5°	6.3	7.6	8.8	11.4	12.6	14.5	17.1	19.6	22.1	26.5	23.4
165°	3.8	4.4	5.1	5.1	5.7	5.7	5.7	5.7	5.7	8.2	5.7
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201293

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8
2.5°	748.9	750.2	752.7	754.0	755.3	756.5	759.1	762.9	759.7	756.5	757.2
5°	754.0	754.0	754.6	756.5	756.5	757.2	759.7	763.5	760.3	755.9	755.9
7.5°	760.3	759.7	760.3	761.0	760.3	760.3	761.6	763.5	759.7	754.6	753.4
10°	769.2	767.3	766.6	767.3	766.6	764.7	765.4	765.4	760.3	752.7	749.6
12.5°	785.0	781.8	779.3	778.7	776.8	773.6	771.7	769.2	761.6	752.7	746.4
15°	810.9	805.8	800.8	798.9	795.7	788.1	781.8	776.1	765.4	752.7	743.9
17.5°	840.0	833.6	826.7	824.2	819.7	809.0	798.2	787.5	772.3	754.6	742.0
20°	867.8	860.2	852.0	847.5	843.1	829.8	817.2	803.3	783.7	760.3	741.4
22.5°	895.6	886.7	875.4	871.6	865.9	850.7	835.5	819.7	796.3	768.5	742.6
25°	922.8	912.6	901.9	895.6	889.3	872.2	853.9	834.9	808.4	778.0	747.1
27.5°	949.9	938.6	925.3	918.3	912.0	893.0	872.2	850.7	821.0	786.9	752.7
30°	976.5	963.8	948.0	940.4	932.9	911.4	887.4	863.3	831.1	794.5	756.5
32.5°	1003.0	989.1	971.4	962.6	953.7	929.1	902.5	875.4	840.0	801.4	759.7
35°	1028.9	1013.8	994.2	983.4	973.9	947.4	917.7	887.4	848.2	807.1	761.6
37.5°	1055.5	1038.4	1016.9	1004.9	994.2	965.1	932.2	898.1	857.0	811.5	763.5
40°	1082.0	1063.7	1039.7	1027.0	1013.8	982.2	946.8	908.8	864.6	815.9	764.1
42.5°	1109.2	1089.0	1062.4	1048.5	1034.6	999.2	960.0	918.3	870.9	819.1	763.5
45°	1136.4	1113.6	1085.2	1069.4	1054.2	1015.7	973.3	926.5	876.6	821.0	762.2
47.5°	1163.6	1139.5	1108.6	1091.5	1073.2	1032.1	986.0	935.4	881.7	821.6	761.0
50°	1191.4	1165.4	1132.0	1113.0	1094.0	1047.9	998.6	943.0	884.8	822.3	757.8
52.5°	1218.5	1190.7	1154.7	1134.5	1112.4	1063.7	1010.6	950.6	887.4	821.6	753.4
55°	1243.2	1214.1	1176.2	1154.7	1130.1	1078.2	1021.3	956.9	888.6	819.7	747.7
57.5°	1265.9	1236.2	1196.4	1172.4	1148.4	1092.1	1031.5	963.8	889.9	816.6	741.4
60°	1283.6	1253.9	1212.2	1188.2	1162.3	1103.5	1039.7	967.6	889.9	812.1	733.1
62.5°	1296.9	1267.2	1225.5	1200.2	1173.0	1113.0	1046.0	971.4	889.9	807.7	724.9
65°	1305.1	1276.1	1233.1	1207.8	1180.0	1117.4	1049.2	972.1	887.4	801.4	714.8
67.5°	1306.4	1277.3	1234.3	1209.7	1181.3	1117.4	1047.3	968.9	882.3	793.2	703.4
70°	1300.7	1271.6	1229.3	1204.0	1176.2	1111.7	1040.3	961.3	873.5	782.4	690.2
72.5°	1286.2	1256.5	1215.4	1189.5	1162.3	1098.5	1025.8	947.4	858.9	767.3	674.4
75°	1260.9	1231.8	1191.4	1167.3	1139.5	1077.0	1003.7	927.2	838.7	748.3	654.8
77.5°	1227.4	1198.9	1159.1	1135.1	1109.2	1047.9	975.8	900.0	814.0	724.9	632.0
80°	1187.6	1160.4	1121.2	1097.8	1072.5	1013.1	942.3	868.4	783.7	697.1	606.7
82.5°	1145.2	1118.7	1080.8	1056.7	1032.7	975.2	907.6	834.3	751.5	667.4	579.6
85°	1104.1	1075.7	1037.8	1015.7	991.6	935.4	871.6	798.9	718.6	637.1	553.0
87.5°	1061.2	1033.4	996.1	975.2	952.5	895.6	834.9	764.1	687.6	609.9	527.1
90°	1022.0	994.8	958.8	937.9	916.4	861.4	802.0	735.0	661.1	585.9	505.6
92.5°	986.0	960.7	926.5	906.3	885.5	833.0	776.1	711.0	639.6	566.9	488.6
95°	955.0	930.3	898.7	879.1	857.7	807.7	752.1	688.3	620.0	549.2	472.8
97.5°	924.0	900.6	869.7	850.7	830.5	781.8	728.1	666.8	599.8	529.6	455.7
100°	895.6	872.8	841.2	824.2	804.6	757.8	704.7	644.7	578.9	510.0	437.4
102.5°	867.8	845.0	814.7	797.6	778.7	731.9	680.1	620.6	556.8	490.4	419.7
105°	839.3	817.2	786.9	769.8	750.8	705.3	654.8	597.3	534.7	470.2	401.3
107.5°	808.4	786.9	757.8	740.7	723.0	677.5	628.9	572.6	512.6	449.4	382.4
110°	776.8	755.3	728.7	710.4	693.3	649.1	601.7	548.0	489.2	427.9	362.8



TEST NUMBER: P201293

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	743.9	723.0	697.1	680.1	662.4	620.0	574.5	522.7	465.8	405.8	342.6
115°	710.4	689.5	663.6	646.6	630.8	590.3	546.1	496.8	441.8	383.6	322.3
117.5°	673.7	655.4	630.8	615.6	599.2	558.7	517.6	470.2	417.8	360.3	301.5
120°	639.6	621.9	597.9	581.5	566.9	528.4	489.2	443.0	391.2	337.5	280.0
122.5°	603.6	584.6	562.5	548.6	532.8	497.4	459.5	415.2	364.7	311.6	256.6
125°	565.7	548.0	526.5	513.2	498.7	465.2	429.1	384.9	336.9	285.7	232.6
127.5°	527.1	510.7	489.8	477.8	463.9	431.0	396.3	353.3	305.3	257.2	207.9
130°	487.9	471.5	452.5	439.9	426.6	395.6	361.5	319.2	273.7	228.8	183.9
132.5°	446.8	431.0	412.1	400.7	388.7	359.0	324.2	283.1	242.7	202.2	160.5
135°	404.5	390.0	372.9	362.1	350.1	319.8	286.9	249.6	213.6	176.3	137.8
137.5°	363.4	350.1	333.7	323.0	309.7	281.3	252.2	218.7	185.8	151.1	115.0
140°	323.0	311.0	295.2	283.1	271.8	245.2	218.7	188.3	158.6	127.0	94.8
142.5°	285.0	274.3	256.6	245.2	234.5	211.1	187.7	159.3	132.7	104.3	76.5
145°	247.8	238.3	218.7	208.6	199.7	178.9	155.5	132.1	108.1	83.4	59.4
147.5°	211.7	200.4	182.0	173.2	165.0	146.6	127.0	105.5	86.0	64.5	43.6
150°	177.0	163.1	147.3	139.7	132.7	116.9	99.9	82.2	65.1	46.8	30.3
152.5°	140.9	126.4	115.7	108.1	101.8	89.1	75.2	60.0	46.1	31.6	19.0
155°	104.3	94.2	84.1	80.3	74.6	63.8	52.5	40.4	29.1	19.0	10.7
157.5°	72.1	64.5	58.1	54.4	49.9	41.7	32.2	23.4	16.4	10.1	5.1
160°	43.6	38.6	34.1	31.0	27.8	22.1	15.8	10.7	7.0	3.2	1.9
162.5°	19.6	16.4	14.5	12.6	10.7	8.2	5.1	2.5	1.3	0.6	0.6
165°	3.8	2.5	1.9	1.3	0.6	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: P201293

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	757.8	757.8	757.8	757.8	757.8	757.8	757.8	757.8
2.5°	757.8	758.4	759.1	759.1	761.0	764.1	768.5	769.2
5°	755.9	756.5	756.5	757.2	759.1	761.6	765.4	766.0
7.5°	752.7	752.7	752.7	752.7	754.0	756.5	759.7	760.3
10°	748.3	747.1	746.4	745.8	746.4	748.9	751.5	752.1
12.5°	743.3	740.1	738.8	738.2	738.2	738.8	741.4	741.4
15°	737.6	732.5	730.6	729.4	726.8	726.8	729.4	729.4
17.5°	731.9	724.9	721.1	718.6	714.8	714.2	715.4	714.2
20°	726.8	716.1	711.0	706.6	700.9	699.0	699.0	697.1
22.5°	721.8	707.2	700.3	694.0	685.1	682.0	680.1	678.8
25°	718.6	697.8	688.9	681.3	669.3	662.4	660.5	657.9
27.5°	718.0	690.2	678.2	668.7	652.2	644.0	639.0	635.8
30°	718.0	682.6	666.8	653.5	633.3	620.6	615.6	614.3
32.5°	717.3	676.9	657.9	640.9	615.0	598.5	590.9	589.0
35°	715.4	671.2	649.1	628.2	596.6	575.8	565.0	562.5
37.5°	712.9	664.3	640.9	616.9	577.7	552.4	539.1	535.3
40°	710.4	657.3	630.8	604.8	558.7	528.4	511.3	506.9
42.5°	706.0	649.7	621.9	593.5	541.0	504.4	484.8	477.8
45°	701.5	640.9	611.2	580.8	523.3	479.7	455.1	448.1
47.5°	695.9	631.4	600.4	566.9	506.9	455.7	427.9	419.0
50°	689.5	621.9	588.4	553.7	489.2	432.3	398.2	388.7
52.5°	682.6	611.2	576.4	539.7	471.5	410.2	370.4	358.4
55°	673.7	599.2	562.5	523.9	453.2	387.4	341.9	328.0
57.5°	664.3	587.1	549.2	509.4	434.8	365.9	314.1	298.3
60°	652.9	573.2	532.8	493.0	415.9	343.8	286.3	268.0
62.5°	640.9	559.3	518.3	475.9	396.9	322.3	259.1	238.3
65°	628.2	543.5	501.8	458.2	376.7	299.6	232.6	208.6
67.5°	613.1	526.5	483.5	439.3	355.8	276.8	206.7	179.5
70°	597.9	508.1	463.3	419.0	334.3	254.1	182.0	151.1
72.5°	579.6	488.6	443.0	398.2	312.2	232.0	158.0	122.6
75°	559.3	468.3	422.2	376.7	289.5	208.6	134.0	94.8
77.5°	537.9	446.2	400.7	354.6	268.0	186.4	111.9	71.4
80°	515.1	422.8	377.9	331.8	245.2	164.3	90.4	49.3
82.5°	489.8	400.1	355.2	309.1	223.7	142.8	70.8	30.3
85°	465.8	377.3	333.7	288.2	202.9	121.3	53.1	15.2
87.5°	442.4	356.5	314.1	269.2	185.2	104.9	38.6	4.4
90°	423.5	339.4	297.7	254.1	171.3	92.9	29.1	0.0
92.5°	408.3	326.1	285.0	242.7	161.2	84.7	24.6	0.0
95°	393.8	312.2	273.0	230.7	151.1	77.7	19.6	0.0
97.5°	377.9	298.9	259.8	218.7	140.9	70.2	15.8	0.0
100°	362.1	284.4	246.5	206.7	129.6	62.6	11.4	0.0
102.5°	345.1	269.2	232.0	193.4	119.5	54.4	7.6	0.0
105°	328.7	254.1	218.0	180.1	108.7	47.4	5.1	0.0
107.5°	311.0	238.9	203.5	167.5	98.0	39.8	3.2	0.0
110°	293.3	223.7	189.0	154.2	87.9	32.9	2.5	0.0



TEST NUMBER: P201293

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	275.6	207.9	174.4	140.3	77.7	26.5	1.9	0.6
115°	256.6	191.5	159.3	126.4	67.6	20.9	1.9	0.6
117.5°	237.6	174.4	144.7	113.1	58.1	15.8	1.3	0.6
120°	218.0	159.3	128.9	100.5	49.3	11.4	1.3	0.6
122.5°	199.1	143.5	114.4	87.2	40.4	8.8	1.3	0.6
125°	179.5	125.1	99.9	75.2	32.2	7.0	1.3	0.6
127.5°	158.6	108.1	84.7	61.9	24.6	5.1	1.3	0.6
130°	137.1	91.0	70.2	50.6	17.7	3.8	1.3	0.6
132.5°	116.9	76.5	56.9	39.8	12.6	3.2	1.3	0.6
135°	98.6	61.9	44.9	29.7	8.8	2.5	0.6	0.6
137.5°	80.9	49.3	34.1	21.5	6.3	1.9	1.3	0.6
140°	65.1	37.3	24.6	15.2	4.4	1.3	1.3	0.6
142.5°	50.6	26.5	17.1	10.1	3.2	1.3	0.6	0.6
145°	37.3	17.7	11.4	6.3	2.5	1.3	1.3	1.3
147.5°	25.3	12.0	7.0	4.4	1.9	1.3	1.3	0.6
150°	16.4	7.6	4.4	3.2	1.3	1.3	1.3	0.6
152.5°	10.1	4.4	2.5	1.9	1.3	1.3	1.3	0.6
155°	5.1	2.5	1.9	1.3	1.3	1.3	1.3	1.3
157.5°	2.5	1.9	1.3	1.3	1.3	1.3	1.3	1.3
160°	1.3	1.3	0.6	0.6	1.3	1.3	1.3	1.3
162.5°	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
165°	0.0	0.6	0.6	0.6	1.3	1.3	1.3	1.3
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)