

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: P201245

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201245
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-LD4-7-SYMF-UNV-L840-CD1-U
Description: 4 ft. Low Bay Linear, 7000 lm, Frst Sym lens, 4K
Light Source: (392) 4000K CCT, 80 CRI LEDS
2UT217098A8404C
Ballast/Driver: OSRAM
(OTI50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7444.0 lumens
Efficiency: N/A
Efficacy: 149.5 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

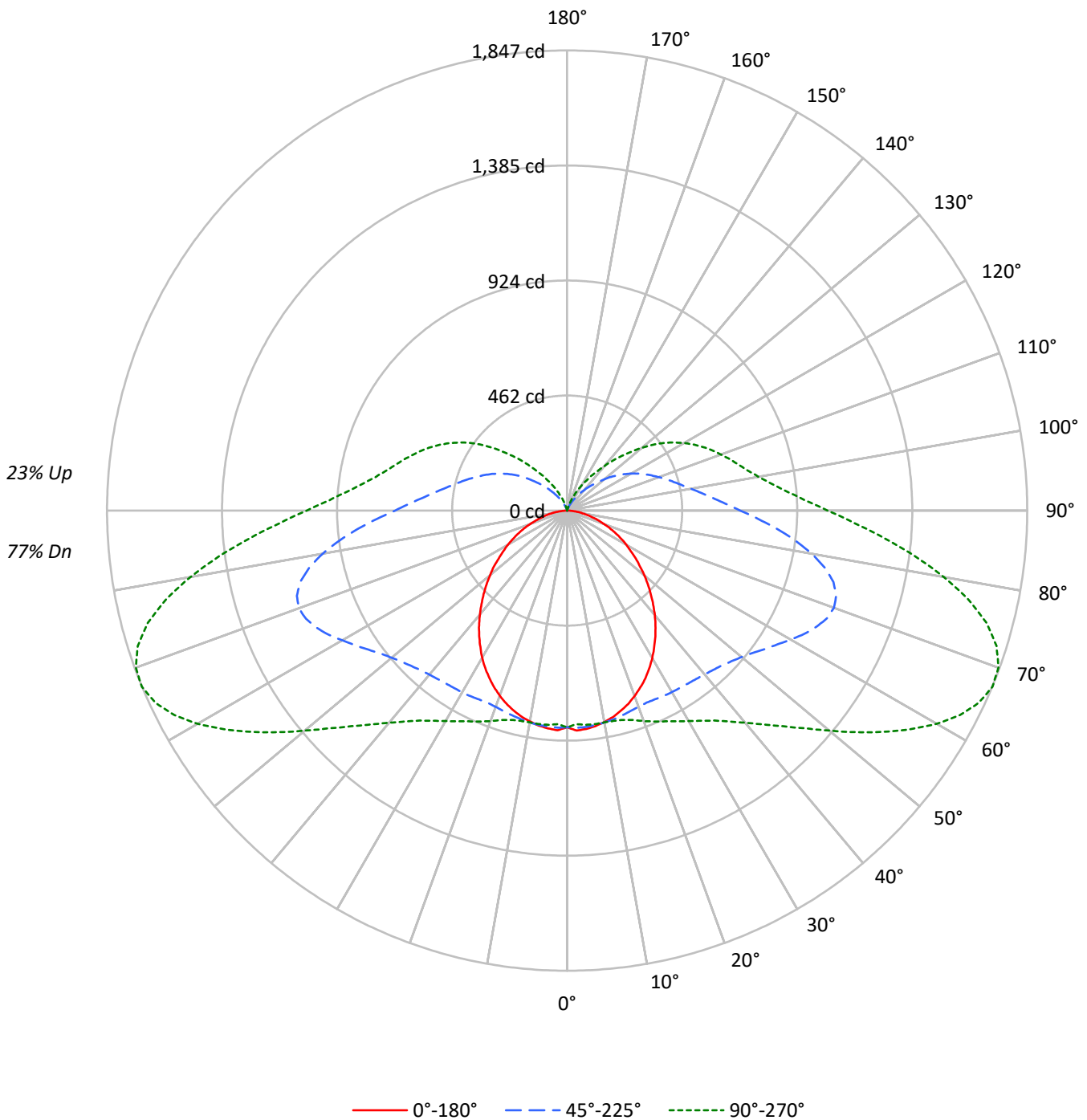
Input Watts (W): 49.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	14014	14014	14014
5°	14166	12593	14136
10°	13968	11583	13937
15°	13685	10878	13664
20°	13327	10605	13307
25°	12903	10499	12847
30°	12341	10555	12331
35°	11709	10811	11684
40°	11031	11428	10981
45°	10296	12417	10268
50°	9548	13864	9518
55°	8792	15655	8776
60°	8110	17477	8127
65°	7351	18945	7372
70°	6538	19629	6538
75°	5569	19207	5537
80°	4486	17674	4436
85°	3073	15522	2934



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.6	1.1
10°-20°	240.2	3.2
20°-30°	386.0	5.2
30°-40°	522.7	7.0
40°-50°	671.5	9.0
50°-60°	863.9	11.6
60°-70°	1056.9	14.2
70°-80°	1068.5	14.4
80°-90°	826.3	11.1
90°-100°	574.1	7.7
100°-110°	428.8	5.8
110°-120°	321.4	4.3
120°-130°	216.4	2.9
130°-140°	118.7	1.6
140°-150°	50.6	0.7
150°-160°	14.5	0.2
160°-170°	1.3	0.0
170°-180°	0.0	0.0
0°-30°	708.7	9.5
0°-40°	1231.4	16.5
0°-60°	2766.8	37.2
0°-90°	5718.4	76.8
90°-120°	1324.2	17.8
90°-150°	1709.9	23.0
90°-180°	1726.0	23.2
0°-180°	7444.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	870	870	870	870	870	
5°	880	872	863	870	878	83
15°	832	851	870	851	830	234
25°	743	836	934	836	740	341
35°	617	847	1029	848	616	386
45°	475	879	1224	883	474	367
55°	336	969	1548	973	336	301
65°	214	1104	1824	1111	215	213
75°	107	1106	1742	1110	106	114
85°	26	846	1279	843	25	29
90°	1	695	1045	691	0	2
95°	1	586	884	583	0	0
105°	1	443	712	443	0	1
115°	1	344	603	344	0	1
125°	1	247	473	246	0	1
135°	1	149	310	147	0	1
145°	1	76	171	73	0	1
155°	1	24	71	23	0	1
165°	1	1	7	3	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°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	883.6	882.9	879.2	873.5	870.9	870.3	869.7	867.1	866.5	867.8	872.8
5°	879.8	879.2	875.4	869.7	867.8	867.1	866.5	864.6	864.6	866.5	871.6
7.5°	872.2	871.6	867.8	863.4	861.5	860.8	860.8	859.6	859.6	862.7	868.4
10°	861.5	860.8	857.7	853.9	852.6	852.6	852.6	852.0	853.2	857.0	863.4
12.5°	848.8	847.6	845.0	841.9	841.9	841.9	842.5	842.5	844.4	850.7	858.3
15°	831.8	832.4	829.9	827.3	828.6	829.2	830.5	831.8	834.9	842.5	851.3
17.5°	814.1	814.1	812.2	810.9	813.4	814.7	816.6	818.5	824.2	833.7	843.8
20°	791.9	792.6	791.9	792.6	795.7	797.6	800.2	804.6	812.2	825.4	837.4
22.5°	767.9	769.2	769.2	771.7	776.8	779.9	783.1	789.4	800.2	817.2	834.3
25°	743.3	742.6	745.8	750.2	755.3	759.7	763.5	773.0	788.8	811.5	835.5
27.5°	713.6	714.8	719.3	725.6	733.2	738.8	744.5	757.8	780.6	810.9	838.7
30°	683.2	685.1	690.8	699.7	710.4	718.0	724.3	745.2	776.1	810.9	841.2
32.5°	650.4	653.5	661.1	672.5	687.7	696.5	706.6	734.4	772.3	809.6	843.8
35°	616.9	620.7	630.8	644.7	662.4	673.1	688.9	726.2	767.3	808.4	846.9
37.5°	582.7	587.2	598.5	616.2	639.0	655.4	674.4	717.4	763.5	808.4	851.3
40°	547.3	552.4	566.9	587.2	616.2	637.7	660.5	708.5	759.7	809.0	858.3
42.5°	511.3	517.0	534.7	558.7	596.6	621.9	647.2	700.9	757.2	812.2	867.1
45°	475.3	482.9	502.5	531.5	578.9	605.5	634.6	694.0	755.9	817.9	879.2
47.5°	439.3	448.1	470.9	505.6	560.6	592.2	622.6	688.3	757.2	825.4	895.0
50°	404.5	414.6	439.9	482.2	543.5	577.7	611.2	684.5	759.7	836.8	913.9
52.5°	369.1	382.4	410.2	461.4	528.4	564.4	601.7	682.0	764.8	852.0	938.6
55°	336.2	350.1	382.4	441.2	513.8	553.0	592.8	681.3	773.6	870.3	968.9
57.5°	302.7	319.8	355.2	421.6	498.7	541.7	585.9	682.6	784.4	889.9	999.9
60°	274.3	289.5	330.6	402.6	485.4	530.9	579.6	683.9	795.7	912.7	1035.9
62.5°	244.0	260.4	309.1	384.3	472.1	521.4	573.3	685.8	807.7	936.0	1072.6
65°	214.3	231.3	287.6	366.6	458.9	511.3	565.7	685.8	817.2	957.5	1104.2
67.5°	185.8	204.1	266.1	347.6	443.7	498.7	556.2	682.6	822.9	972.7	1128.8
70°	158.6	178.9	245.2	327.4	427.3	483.5	542.9	675.6	822.3	978.4	1139.6
72.5°	131.5	154.8	222.5	307.2	409.6	466.4	527.1	662.4	813.4	971.4	1132.6
75°	106.8	132.1	202.3	286.9	389.3	446.2	507.5	642.1	793.8	949.9	1106.1
77.5°	84.1	111.9	180.8	264.8	366.6	422.8	482.9	616.2	762.9	912.0	1059.3
80°	62.6	93.5	160.5	242.7	341.9	396.9	455.1	583.4	722.4	860.8	996.7
82.5°	43.6	76.5	140.9	220.6	316.6	369.1	424.7	544.2	675.6	801.4	924.7
85°	26.5	61.3	121.4	199.1	290.7	340.0	392.5	503.1	624.4	737.0	845.7
87.5°	11.4	47.4	104.3	178.2	264.8	311.6	359.6	463.9	570.1	670.0	766.7
90°	0.6	35.4	89.1	158.6	240.2	283.8	328.7	422.2	520.2	608.6	694.6
92.5°	0.0	30.3	80.3	146.6	223.1	263.6	305.3	391.2	479.7	558.7	635.2
95°	0.6	25.3	72.7	133.4	206.0	244.6	283.2	363.4	443.1	515.7	585.9
97.5°	0.6	20.9	64.5	121.4	190.2	225.6	261.7	336.2	408.3	477.2	542.3
100°	0.6	16.4	56.9	110.0	173.8	206.7	240.8	311.0	378.6	443.1	504.4
102.5°	0.6	12.0	50.6	99.2	158.6	189.6	221.2	287.6	351.4	413.3	471.5
105°	0.6	8.2	44.2	89.1	144.7	173.8	203.5	266.1	326.8	386.2	443.1
107.5°	0.6	5.7	38.6	79.6	129.6	158.6	186.4	245.9	304.0	361.5	417.1
110°	0.6	5.1	33.5	71.4	117.6	144.1	170.6	226.9	282.5	337.5	391.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	4.4	28.4	63.8	105.5	129.6	155.5	208.6	262.9	316.0	367.8
115°	0.6	4.4	23.4	56.9	95.4	116.9	140.9	190.9	242.7	293.9	344.5
117.5°	0.6	4.4	19.0	50.6	86.0	105.5	126.4	174.4	222.5	272.4	321.7
120°	0.6	3.8	15.2	44.2	77.7	95.4	115.0	158.6	202.9	249.7	297.1
122.5°	0.6	3.8	12.6	38.6	69.5	86.0	103.7	142.2	184.6	227.5	271.8
125°	0.6	3.2	10.7	32.2	61.3	77.1	92.9	127.7	166.9	206.7	247.1
127.5°	1.3	3.2	8.8	26.5	53.1	67.0	82.2	113.8	147.9	183.9	222.5
130°	1.3	3.2	7.6	20.2	44.9	57.5	70.8	99.9	131.5	162.4	195.9
132.5°	1.3	2.5	7.0	15.8	37.3	48.7	60.7	86.6	114.4	142.2	171.3
135°	1.3	2.5	5.7	12.6	29.7	39.8	51.2	73.9	98.6	124.5	149.2
137.5°	1.3	1.9	5.1	10.1	22.8	32.2	42.3	62.6	84.1	106.2	128.9
140°	1.3	1.9	4.4	8.2	17.1	24.0	33.5	51.2	70.2	89.7	109.3
142.5°	1.3	1.9	3.8	7.0	13.3	18.3	25.3	41.7	58.1	74.6	91.6
145°	1.3	1.9	3.2	5.7	10.1	13.9	18.3	32.2	46.8	61.3	75.8
147.5°	1.3	1.9	3.2	5.1	8.2	10.7	13.9	23.4	36.7	48.7	61.3
150°	1.3	1.9	2.5	4.4	7.0	8.2	10.1	16.4	26.5	37.3	48.0
152.5°	1.3	1.3	2.5	3.8	5.1	6.3	7.6	12.0	18.3	26.5	36.0
155°	1.3	1.3	1.9	3.2	4.4	5.1	5.7	8.2	12.0	17.1	24.0
157.5°	1.3	1.3	1.9	2.5	3.2	3.8	4.4	5.7	8.2	10.7	14.5
160°	1.3	1.3	1.9	2.5	2.5	3.2	3.2	3.8	5.1	6.3	8.2
162.5°	1.3	1.3	1.9	1.9	1.9	2.5	2.5	2.5	3.2	3.2	3.8
165°	1.3	1.3	1.3	1.9	1.3	1.9	1.3	1.9	1.9	1.3	1.3
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	874.7	870.3	868.4	865.9	864.0	862.7	860.8	859.6	857.7	857.7	858.3
5°	873.5	869.0	867.8	865.3	864.0	863.4	862.1	862.7	862.7	863.4	862.7
7.5°	870.9	867.1	865.9	864.6	863.4	862.7	862.1	863.4	863.4	864.0	864.0
10°	866.5	864.0	864.0	862.7	862.1	861.5	860.2	862.1	862.1	863.4	862.7
12.5°	861.5	860.8	861.5	862.1	862.1	861.5	860.8	863.4	864.6	864.6	865.3
15°	855.8	857.0	860.2	862.1	863.4	863.4	864.6	867.1	869.0	869.7	869.7
17.5°	851.3	854.5	860.2	865.3	867.8	869.0	872.2	877.3	880.4	881.1	881.1
20°	848.2	855.8	865.9	875.4	878.5	881.1	887.4	893.7	898.1	898.8	898.8
22.5°	850.7	863.4	877.3	888.0	892.4	895.6	902.5	910.8	915.8	916.4	916.4
25°	857.0	872.2	888.0	901.3	906.3	910.1	917.7	926.6	931.6	933.5	932.9
27.5°	862.7	881.1	899.4	914.6	920.2	925.3	934.8	944.9	951.2	953.1	951.8
30°	867.8	889.3	910.1	928.5	936.0	941.7	953.1	965.1	973.3	975.2	973.3
32.5°	872.8	898.8	923.4	944.9	952.5	960.7	975.2	989.1	997.3	999.9	998.6
35°	879.8	910.1	939.2	963.8	974.0	983.4	1000.5	1016.9	1027.1	1028.9	1027.1
37.5°	889.3	924.7	956.9	987.9	998.6	1011.9	1032.1	1051.7	1063.7	1066.2	1063.7
40°	901.3	943.0	980.9	1016.9	1031.5	1045.4	1070.0	1093.4	1106.7	1111.1	1109.2
42.5°	917.1	965.7	1010.0	1053.0	1069.4	1087.1	1116.2	1143.3	1158.5	1163.6	1158.5
45°	936.7	994.2	1045.4	1095.3	1114.3	1135.8	1170.5	1201.5	1219.2	1223.6	1219.2
47.5°	962.6	1027.7	1087.1	1144.6	1167.4	1192.6	1233.7	1269.1	1288.1	1293.1	1288.7
50°	990.4	1068.1	1136.4	1202.1	1230.6	1257.1	1305.1	1344.3	1364.6	1374.0	1365.8
52.5°	1025.2	1112.4	1192.6	1266.0	1300.1	1331.7	1384.8	1427.8	1452.4	1460.6	1449.3
55°	1066.9	1165.5	1255.2	1339.9	1374.0	1409.4	1468.2	1513.7	1539.6	1548.5	1540.3
57.5°	1113.0	1221.7	1320.9	1410.1	1449.9	1485.9	1551.6	1599.0	1621.8	1633.2	1623.1
60°	1161.0	1279.9	1387.3	1482.1	1525.7	1563.0	1630.0	1676.8	1700.8	1712.2	1702.7
62.5°	1207.8	1336.1	1449.3	1547.8	1589.6	1630.6	1697.6	1742.5	1767.2	1777.3	1768.4
65°	1248.3	1383.5	1499.8	1601.6	1644.5	1685.0	1748.2	1791.2	1817.1	1824.0	1817.7
67.5°	1278.6	1415.8	1533.3	1633.8	1675.5	1716.0	1776.0	1815.8	1841.1	1847.4	1841.7
70°	1292.5	1428.4	1544.7	1642.7	1683.7	1719.8	1776.6	1814.6	1838.6	1842.4	1838.0
72.5°	1283.7	1415.8	1528.3	1621.8	1661.0	1692.6	1745.0	1781.1	1803.8	1807.0	1803.8
75°	1250.8	1377.2	1483.4	1570.6	1607.3	1633.8	1683.7	1717.2	1740.0	1742.5	1738.7
77.5°	1195.2	1312.7	1410.1	1494.1	1524.5	1550.4	1597.8	1627.5	1645.8	1649.6	1645.2
80°	1120.6	1228.7	1315.9	1391.1	1420.2	1442.3	1488.4	1520.7	1530.8	1535.8	1529.5
82.5°	1035.3	1132.0	1209.7	1278.0	1303.9	1331.1	1360.8	1390.5	1405.0	1409.4	1404.4
85°	943.6	1029.6	1098.5	1159.8	1182.5	1207.2	1233.1	1262.2	1274.8	1279.2	1274.2
87.5°	852.0	927.8	988.5	1042.9	1063.7	1085.8	1116.8	1132.0	1149.0	1154.1	1148.4
90°	769.8	838.1	892.4	941.7	961.3	981.5	1005.6	1024.5	1040.3	1044.7	1039.7
92.5°	703.5	764.8	814.7	858.9	876.0	895.0	918.3	936.7	950.6	955.0	949.9
95°	648.5	704.7	751.5	792.6	809.0	826.7	852.6	867.1	879.8	883.6	879.8
97.5°	601.7	654.8	699.0	738.8	754.6	771.1	796.4	810.9	822.9	826.1	822.9
100°	560.6	612.4	656.0	694.0	709.8	725.6	750.2	764.8	776.1	779.9	776.1
102.5°	526.5	576.4	619.4	657.9	673.1	688.9	712.3	729.4	738.2	742.6	738.8
105°	496.8	545.4	588.4	626.3	642.1	657.3	681.3	697.1	707.2	712.3	707.9
107.5°	469.6	517.6	561.2	597.9	613.7	628.9	653.5	669.3	678.8	684.5	679.4
110°	443.7	491.1	532.8	570.7	586.5	602.3	627.0	642.8	652.3	657.3	652.9



TEST NUMBER: P201245

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	418.4	464.5	507.5	544.2	559.3	575.1	600.4	616.9	625.7	631.4	626.3
115°	393.1	438.6	480.3	515.7	530.9	547.3	572.0	589.1	598.5	603.0	597.9
117.5°	368.5	412.1	451.9	486.7	501.8	517.6	541.7	558.7	568.8	573.3	568.2
120°	343.2	384.9	424.1	455.7	471.5	486.0	510.7	527.1	537.2	541.7	536.6
122.5°	316.0	357.1	394.4	425.4	440.5	454.4	478.4	494.9	504.4	508.8	504.4
125°	288.2	326.8	362.8	393.8	406.4	419.7	443.1	458.9	469.0	472.8	469.0
127.5°	260.4	295.8	329.3	356.5	370.4	383.0	405.1	420.3	429.2	433.6	430.4
130°	232.6	266.1	296.4	321.1	333.1	345.1	365.3	379.2	388.1	391.9	388.7
132.5°	202.9	235.1	264.8	286.3	297.7	307.8	326.1	338.1	345.7	350.1	346.4
135°	176.3	202.9	230.7	252.8	264.2	273.0	289.5	299.6	306.5	310.3	306.5
137.5°	152.3	175.1	197.8	217.4	228.2	237.6	253.4	262.9	269.2	273.0	269.2
140°	130.2	149.8	170.0	185.8	195.3	202.9	217.4	225.6	231.3	234.5	230.7
142.5°	108.7	126.4	143.5	158.0	166.2	172.5	186.4	192.8	197.2	199.1	197.2
145°	90.4	104.9	119.5	132.7	139.0	144.1	158.0	165.0	168.8	170.6	168.8
147.5°	73.3	85.3	97.3	108.1	113.8	120.1	129.6	137.8	140.9	142.2	140.9
150°	57.5	68.3	77.7	86.6	91.0	95.4	103.7	111.9	115.0	116.9	115.0
152.5°	43.6	52.5	60.0	67.0	70.8	74.6	81.5	89.1	92.3	93.5	92.3
155°	31.6	37.9	44.9	49.9	53.1	55.6	60.7	65.7	70.8	70.8	70.8
157.5°	19.6	24.6	30.3	34.8	36.7	39.2	43.0	47.4	51.2	53.1	53.1
160°	10.1	13.3	17.1	20.2	22.1	24.0	26.5	30.3	32.9	34.8	33.5
162.5°	4.4	5.7	7.6	8.8	10.1	10.7	12.6	14.5	15.8	19.0	16.4
165°	1.3	1.3	1.9	2.5	2.5	2.5	3.2	3.8	4.4	7.0	5.1
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: P201245

CATALOG NUMBER: 4LBLELD4-7-SYMF-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	859.6	861.5	864.0	865.3	867.1	868.4	871.6	875.4	872.2	867.8	868.4
5°	862.7	862.1	864.0	865.3	866.5	867.1	870.3	874.1	870.3	865.9	865.9
7.5°	864.0	863.4	864.0	864.6	865.3	865.3	868.4	871.6	867.8	862.1	860.8
10°	862.1	861.5	862.1	863.4	863.4	863.4	865.3	867.8	863.4	856.4	853.9
12.5°	863.4	861.5	861.5	862.1	862.1	860.8	861.5	863.4	857.7	850.1	846.3
15°	867.8	864.6	863.4	863.4	862.1	858.9	857.7	857.7	851.3	841.2	836.2
17.5°	878.5	873.5	869.7	867.8	865.3	859.6	855.1	852.6	844.4	833.0	824.8
20°	895.0	888.0	882.3	878.5	875.4	865.3	856.4	849.5	838.1	824.2	813.4
22.5°	911.4	903.8	895.6	891.8	887.4	876.0	864.0	852.0	834.9	816.0	801.4
25°	927.2	919.6	910.1	906.3	900.6	887.4	872.2	858.3	836.2	810.3	789.4
27.5°	945.5	936.0	925.9	920.2	913.9	898.8	881.7	864.6	840.0	810.3	781.2
30°	966.4	955.0	941.7	935.4	927.8	910.1	889.3	869.0	842.5	810.3	776.8
32.5°	990.4	977.1	961.3	952.5	943.6	922.8	898.1	874.7	844.4	809.6	773.0
35°	1018.2	1003.0	984.1	974.0	963.2	938.6	909.5	881.1	847.6	809.0	767.9
37.5°	1053.0	1035.3	1012.5	999.9	987.2	958.2	924.7	890.5	852.6	809.6	764.1
40°	1094.7	1073.8	1047.3	1031.5	1016.3	982.8	943.0	902.5	859.6	810.9	760.3
42.5°	1144.0	1118.7	1089.0	1070.7	1053.0	1011.3	965.7	917.7	869.0	813.4	758.4
45°	1202.8	1176.2	1138.3	1115.5	1095.9	1047.3	994.8	937.9	882.9	819.7	757.8
47.5°	1270.4	1236.9	1195.8	1169.3	1145.9	1089.6	1028.9	963.2	898.8	828.0	759.1
50°	1346.2	1308.3	1260.9	1233.1	1204.0	1139.6	1069.4	992.9	919.0	840.0	762.2
52.5°	1429.7	1387.9	1336.7	1303.9	1271.6	1197.1	1114.9	1030.8	942.4	855.1	767.9
55°	1516.2	1471.4	1414.5	1378.5	1342.4	1260.3	1168.6	1071.9	973.3	874.1	777.4
57.5°	1600.3	1554.2	1491.6	1454.9	1414.5	1327.3	1226.1	1116.8	1006.8	896.2	788.1
60°	1678.0	1631.9	1568.7	1531.4	1487.2	1393.6	1284.9	1166.1	1041.6	919.6	800.8
62.5°	1743.8	1699.5	1636.3	1598.4	1552.9	1456.2	1341.2	1214.1	1079.5	944.3	812.8
65°	1792.4	1750.7	1689.4	1650.2	1606.6	1506.1	1388.6	1256.5	1111.1	965.7	823.5
67.5°	1817.1	1777.9	1718.5	1681.2	1638.2	1538.4	1420.8	1284.9	1135.1	980.9	830.5
70°	1814.6	1777.3	1721.7	1685.0	1643.9	1547.8	1432.2	1296.3	1145.9	986.6	829.2
72.5°	1781.7	1744.4	1694.5	1659.1	1619.9	1530.2	1416.4	1286.2	1137.7	977.8	819.1
75°	1716.6	1682.5	1631.9	1602.8	1567.4	1484.0	1375.3	1248.9	1109.8	954.4	798.3
77.5°	1623.1	1597.1	1547.8	1520.7	1485.9	1408.8	1306.4	1192.6	1061.2	915.2	766.0
80°	1508.7	1487.2	1439.1	1415.1	1381.0	1314.0	1225.5	1115.5	996.7	862.1	724.3
82.5°	1383.5	1358.9	1320.9	1298.8	1266.6	1206.6	1122.5	1032.7	922.1	801.4	675.6
85°	1254.0	1231.2	1196.4	1177.5	1149.0	1095.3	1020.1	941.1	843.1	734.4	623.2
87.5°	1130.7	1108.6	1075.7	1058.7	1032.7	984.7	919.0	849.5	762.9	670.0	567.6
90°	1023.9	1003.0	972.1	956.3	932.9	889.3	829.9	767.3	690.8	605.5	517.6
92.5°	936.0	917.1	888.0	872.8	852.0	812.2	758.4	701.6	632.7	558.7	477.2
95°	866.5	848.2	822.3	807.7	788.1	747.1	699.7	646.6	583.4	515.7	440.5
97.5°	810.3	795.1	766.7	752.8	737.0	695.2	652.3	599.8	541.0	477.8	407.7
100°	764.8	747.7	721.8	708.5	692.1	652.9	609.3	560.0	503.1	443.1	378.0
102.5°	729.4	711.7	687.7	672.5	656.7	616.9	573.9	525.9	471.5	413.3	350.8
105°	697.8	680.7	656.7	641.5	625.7	586.5	545.4	496.8	443.1	386.8	326.1
107.5°	668.1	652.9	628.9	613.7	597.9	558.7	517.6	469.6	417.1	362.2	303.4
110°	642.8	626.3	601.1	586.5	569.5	532.2	491.1	444.3	391.9	338.1	281.9



TEST NUMBER: P201245

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	617.5	599.8	574.5	560.0	542.9	505.6	465.2	419.0	367.8	316.0	261.7
115°	589.7	572.6	546.1	531.5	514.5	477.8	438.6	393.8	344.5	293.9	241.4
117.5°	560.0	542.9	516.4	502.5	486.0	450.0	412.7	369.1	321.1	272.4	221.2
120°	527.7	511.3	486.0	472.1	456.3	421.6	385.5	341.9	296.4	249.7	202.3
122.5°	494.9	479.1	454.4	440.5	425.4	392.5	357.1	314.8	271.1	227.5	183.9
125°	459.5	443.7	420.3	407.0	391.9	360.3	326.1	286.3	245.9	206.7	165.0
127.5°	418.4	405.8	383.0	369.7	355.8	328.0	295.2	259.1	221.8	183.9	146.6
130°	379.2	365.9	344.5	332.4	320.4	295.2	266.1	231.3	194.7	161.8	128.3
132.5°	338.1	326.1	307.8	297.7	286.9	264.2	234.5	200.4	169.4	140.9	111.2
135°	299.6	289.5	273.0	264.2	253.4	229.4	201.6	173.2	147.3	122.0	95.4
137.5°	263.6	253.4	238.3	228.8	217.4	195.9	173.2	149.8	125.8	104.3	80.9
140°	225.6	217.4	203.5	195.3	185.2	166.9	147.9	125.8	106.8	87.2	67.0
142.5°	193.4	186.4	172.5	165.0	156.1	140.9	123.2	106.2	89.1	72.1	55.0
145°	165.6	158.6	143.5	137.8	129.6	116.3	101.8	86.6	72.7	58.1	44.2
147.5°	138.4	130.2	116.9	111.9	105.5	94.2	82.8	70.8	58.8	46.1	34.1
150°	113.1	103.7	92.9	89.7	83.4	74.6	65.1	55.0	45.5	35.4	24.6
152.5°	89.1	80.9	72.1	68.9	63.8	58.1	49.9	41.7	34.1	24.6	17.1
155°	66.4	60.0	53.1	51.2	47.4	43.0	36.0	29.7	22.8	16.4	12.0
157.5°	46.8	41.7	36.7	35.4	32.9	29.1	23.4	18.3	14.5	10.7	8.2
160°	29.1	25.9	22.1	20.9	19.0	16.4	12.6	10.7	8.8	7.0	5.1
162.5°	13.9	12.0	10.7	10.1	8.8	7.6	7.0	5.7	5.1	4.4	3.8
165°	5.1	5.1	5.1	4.4	4.4	4.4	4.4	3.8	3.2	3.2	2.5
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: P201245

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	869.7	869.7	869.7	869.7	869.7	869.7	869.7	869.7
2.5°	869.0	870.3	870.3	870.9	872.8	876.6	881.7	882.3
5°	866.5	867.1	867.1	867.1	869.0	872.2	877.3	877.9
7.5°	860.8	860.8	860.8	860.8	862.7	865.3	869.7	870.3
10°	853.2	852.6	852.6	852.0	853.2	855.1	860.2	859.6
12.5°	843.8	842.5	841.9	841.9	841.2	843.1	846.3	846.9
15°	833.0	830.5	829.2	828.0	827.3	827.3	831.1	830.5
17.5°	820.4	816.6	814.7	812.8	810.3	810.3	812.8	812.2
20°	805.8	800.8	797.6	795.1	791.3	790.0	791.3	790.7
22.5°	791.3	783.1	779.9	776.1	770.4	767.9	767.3	766.7
25°	774.2	764.1	759.7	755.9	747.7	744.5	741.4	740.1
27.5°	759.1	744.5	738.8	732.5	723.0	718.6	713.6	712.3
30°	745.8	724.3	715.5	709.1	697.1	690.2	683.9	682.6
32.5°	735.7	706.0	694.0	686.4	670.0	660.5	652.3	648.5
35°	726.8	688.9	673.1	661.1	641.5	630.1	618.8	615.6
37.5°	718.6	674.4	653.5	637.1	615.0	598.5	585.9	580.8
40°	710.4	661.1	635.8	615.0	585.9	566.9	551.1	544.8
42.5°	702.8	647.8	620.7	595.4	557.5	534.7	517.6	508.8
45°	695.9	635.8	606.1	578.3	529.6	503.1	482.2	474.0
47.5°	690.8	624.4	591.6	561.2	503.7	470.9	449.4	438.6
50°	687.0	613.7	577.7	544.2	481.0	439.9	415.9	403.2
52.5°	685.1	604.2	565.0	529.0	460.1	410.2	381.7	372.3
55°	685.8	596.6	554.3	515.1	440.5	381.7	350.1	335.6
57.5°	687.0	589.7	543.5	501.2	420.9	353.9	318.5	303.4
60°	689.5	584.0	534.1	487.9	402.6	329.9	289.5	274.9
62.5°	692.1	578.9	524.6	475.3	384.9	307.8	260.4	244.0
65°	692.7	571.4	514.5	462.6	367.2	285.7	230.7	214.9
67.5°	690.2	561.9	501.8	448.1	348.9	264.2	202.9	186.4
70°	682.6	549.2	487.3	431.7	328.7	243.3	176.3	158.6
72.5°	668.7	532.8	470.2	413.3	309.1	221.2	152.3	130.8
75°	649.1	512.6	450.0	392.5	288.2	200.4	130.2	106.2
77.5°	622.6	486.7	426.0	369.1	265.5	178.9	111.2	83.4
80°	588.4	459.5	399.4	343.8	243.3	159.3	92.9	61.9
82.5°	548.0	428.5	371.0	317.9	222.5	139.0	75.8	43.0
85°	506.3	395.0	341.3	290.7	200.4	120.1	61.3	25.3
87.5°	465.2	361.5	312.9	266.1	177.6	103.0	47.4	10.1
90°	424.7	329.3	283.2	239.5	158.0	87.2	35.4	0.0
92.5°	391.2	305.3	263.6	221.8	145.4	79.0	30.3	0.0
95°	361.5	282.5	242.7	204.1	132.1	71.4	25.3	0.0
97.5°	334.3	261.0	224.4	187.7	120.1	63.2	20.9	0.0
100°	308.4	239.5	205.4	172.5	108.7	56.3	15.8	0.0
102.5°	285.7	220.6	188.3	156.1	97.3	49.3	11.4	0.0
105°	263.6	202.3	172.5	141.6	87.2	43.0	7.0	0.0
107.5°	244.0	185.2	156.7	128.3	77.7	37.3	4.4	0.0
110°	225.0	169.4	141.6	115.7	69.5	32.2	3.8	0.0



TEST NUMBER: P201245

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	207.3	154.2	128.3	103.7	62.6	27.2	3.8	0.0
115°	189.0	139.7	115.7	93.5	55.6	22.1	3.2	0.0
117.5°	173.2	125.8	104.3	85.3	48.7	17.7	3.2	0.0
120°	157.4	113.8	94.8	76.5	42.3	13.3	3.2	0.0
122.5°	141.6	103.0	84.7	68.3	36.7	10.7	2.5	0.0
125°	127.0	91.6	75.2	59.4	30.3	9.5	2.5	0.0
127.5°	112.5	80.3	65.1	51.2	24.0	8.2	1.9	0.0
130°	98.0	68.9	55.6	43.0	18.3	7.0	1.9	0.0
132.5°	84.7	58.1	46.8	35.4	14.5	5.7	1.3	0.0
135°	71.4	48.7	38.6	27.8	11.4	5.1	1.3	0.0
137.5°	60.0	39.8	30.3	20.9	9.5	3.8	1.3	0.0
140°	49.3	31.6	22.8	15.8	7.6	3.2	0.6	0.0
142.5°	39.2	23.4	17.1	12.0	6.3	2.5	0.6	0.0
145°	30.3	17.1	12.6	9.5	5.7	1.9	0.6	0.0
147.5°	22.1	13.3	10.1	8.2	4.4	1.9	0.6	0.0
150°	15.8	10.1	8.2	6.3	3.2	1.3	0.6	0.0
152.5°	12.0	7.6	6.3	5.1	2.5	1.3	0.6	0.0
155°	8.8	5.7	5.1	3.8	1.9	1.3	0.6	0.0
157.5°	6.3	4.4	3.8	2.5	1.9	1.3	0.6	0.0
160°	3.8	3.2	2.5	1.9	1.3	0.6	0.6	0.0
162.5°	3.2	1.9	1.9	1.9	1.3	0.6	0.6	0.0
165°	1.9	1.3	1.3	1.3	0.6	0.6	0.6	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)