

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: P201246

Luminaire Tested: **4LBLED-LD4-7-SYMF-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201246
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-L850-CD1-U
Description: 4 ft. Low Bay Linear, 7000 lm, Frst Sym lens, 5K
Light Source: (392) 5000K CCT, 80 CRI LEDS
2UT217098A8504C
Ballast/Driver: OSRAM
(OTI50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7764.7 lumens
Efficiency: N/A
Efficacy: 155.9 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

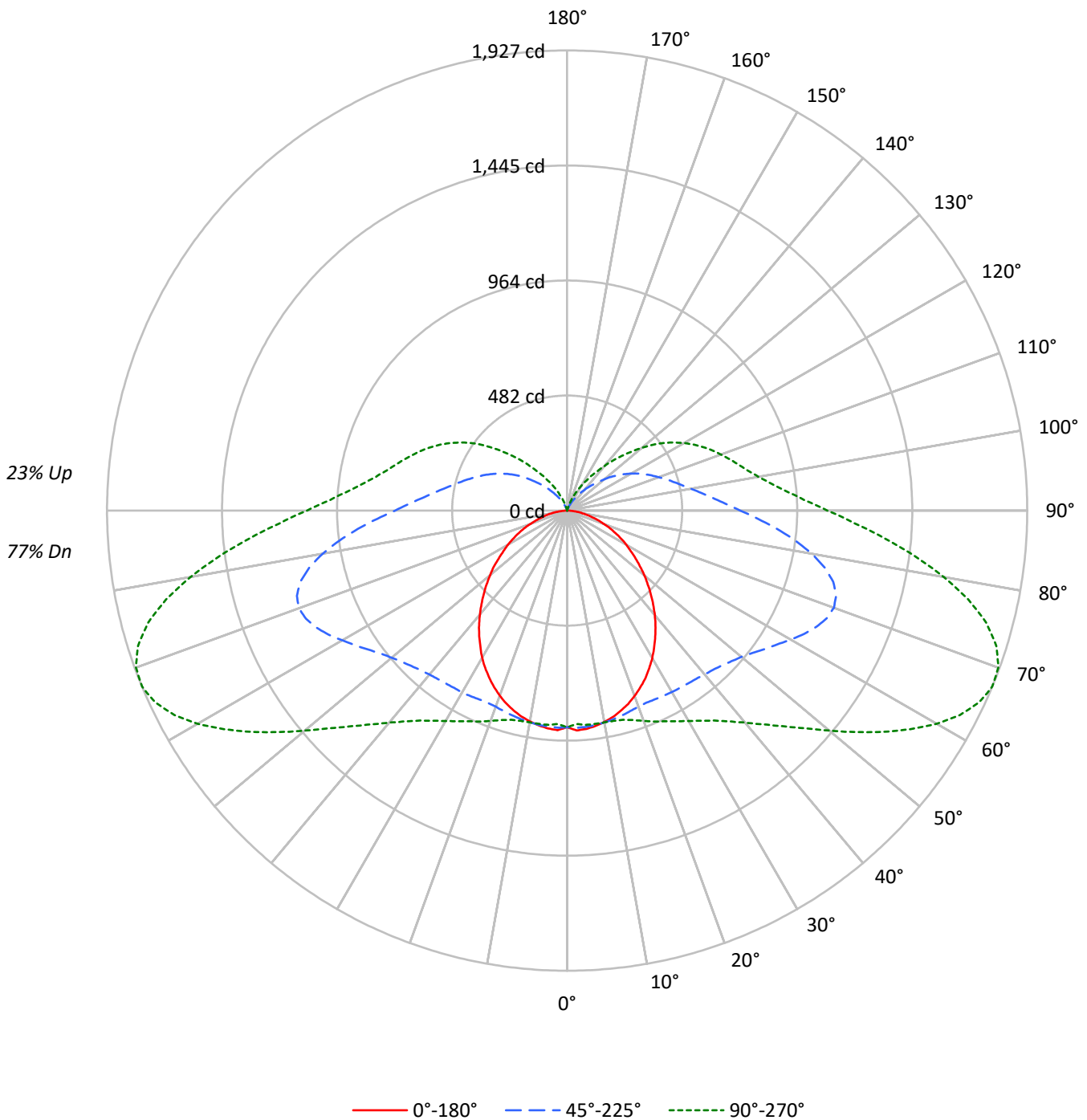
Input Watts (W): 49.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	14617	14617	14617
5°	14777	13136	14745
10°	14570	12082	14537
15°	14274	11346	14253
20°	13903	11062	13879
25°	13458	10951	13401
30°	12874	11010	12862
35°	12212	11278	12187
40°	11507	11921	11454
45°	10740	12952	10710
50°	9959	14462	9928
55°	9171	16330	9156
60°	8458	18229	8479
65°	7667	19761	7687
70°	6823	20474	6823
75°	5808	20034	5777
80°	4679	18436	4629
85°	3212	16191	3061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	1.1
10°-20°	250.5	3.2
20°-30°	402.6	5.2
30°-40°	545.2	7.0
40°-50°	700.4	9.0
50°-60°	901.1	11.6
60°-70°	1102.4	14.2
70°-80°	1114.5	14.4
80°-90°	861.9	11.1
90°-100°	598.8	7.7
100°-110°	447.2	5.8
110°-120°	335.2	4.3
120°-130°	225.7	2.9
130°-140°	123.8	1.6
140°-150°	52.8	0.7
150°-160°	15.1	0.2
160°-170°	1.3	0.0
170°-180°	0.0	0.0
0°-30°	739.3	9.5
0°-40°	1284.5	16.5
0°-60°	2886.0	37.2
0°-90°	5964.8	76.8
90°-120°	1381.2	17.8
90°-150°	1783.5	23.0
90°-180°	1800.0	23.2
0°-180°	7764.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	907	907	907	907	907	
5°	918	909	901	908	916	87
15°	868	888	907	888	866	244
25°	775	872	974	872	772	356
35°	643	883	1073	884	642	402
45°	496	917	1276	921	494	382
55°	351	1011	1615	1015	350	314
65°	224	1152	1903	1159	224	222
75°	111	1154	1818	1158	111	119
85°	28	882	1334	880	26	30
90°	1	724	1090	721	0	2
95°	1	611	922	608	0	0
105°	1	462	743	462	0	1
115°	1	359	629	359	0	1
125°	1	258	493	256	0	1
135°	1	156	324	154	0	1
145°	1	79	178	76	0	1
155°	1	25	74	24	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°	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1
2.5°	921.6	921.0	917.0	911.1	908.5	907.8	907.1	904.5	903.8	905.2	910.4
5°	917.7	917.0	913.1	907.1	905.2	904.5	903.8	901.9	901.9	903.8	909.1
7.5°	909.8	909.1	905.2	900.6	898.6	897.9	897.9	896.6	896.6	899.9	905.8
10°	898.6	897.9	894.6	890.7	889.3	889.3	889.3	888.7	890.0	894.0	900.6
12.5°	885.4	884.1	881.4	878.1	878.1	878.1	878.8	878.8	880.8	887.4	895.3
15°	867.6	868.2	865.6	863.0	864.3	865.0	866.3	867.6	870.9	878.8	888.0
17.5°	849.1	849.1	847.2	845.8	848.5	849.8	851.8	853.7	859.7	869.6	880.1
20°	826.1	826.7	826.1	826.7	830.0	832.0	834.6	839.2	847.2	861.0	873.5
22.5°	801.0	802.3	802.3	805.0	810.2	813.5	816.8	823.4	834.6	852.4	870.2
25°	775.3	774.6	777.9	782.5	787.8	792.4	796.4	806.3	822.8	846.5	871.5
27.5°	744.3	745.6	750.2	756.8	764.7	770.7	776.6	790.5	814.2	845.8	874.8
30°	712.7	714.6	720.6	729.8	741.0	748.9	755.5	777.3	809.6	845.8	877.5
32.5°	678.4	681.7	689.6	701.5	717.3	726.5	737.1	766.1	805.6	844.5	880.1
35°	643.4	647.4	657.9	672.4	690.9	702.1	718.6	757.5	800.3	843.2	883.4
37.5°	607.8	612.5	624.3	642.8	666.5	683.7	703.4	748.3	796.4	843.2	888.0
40°	570.9	576.2	591.4	612.5	642.8	665.2	688.9	739.0	792.4	843.9	895.3
42.5°	533.3	539.3	557.7	582.8	622.3	648.7	675.1	731.1	789.8	847.2	904.5
45°	495.8	503.7	524.1	554.4	603.9	631.6	661.9	723.9	788.5	853.1	917.0
47.5°	458.2	467.4	491.1	527.4	584.8	617.7	649.4	717.9	789.8	861.0	933.5
50°	421.9	432.5	458.8	503.0	567.0	602.6	637.5	714.0	792.4	872.9	953.3
52.5°	385.0	398.9	427.9	481.3	551.1	588.7	627.6	711.3	797.7	888.7	979.0
55°	350.7	365.2	398.9	460.2	536.0	576.9	618.4	710.7	806.9	907.8	1010.6
57.5°	315.8	333.6	370.5	439.7	520.2	565.0	611.1	712.0	818.1	928.2	1043.0
60°	286.1	301.9	344.8	419.9	506.3	553.8	604.5	713.3	830.0	952.0	1080.5
62.5°	254.5	271.6	322.4	400.8	492.5	543.9	598.0	715.3	842.5	976.4	1118.8
65°	223.5	241.3	300.0	382.4	478.6	533.3	590.0	715.3	852.4	998.8	1151.7
67.5°	193.8	212.9	277.5	362.6	462.8	520.2	580.2	712.0	858.4	1014.6	1177.4
70°	165.5	186.6	255.8	341.5	445.7	504.3	566.3	704.8	857.7	1020.5	1188.6
72.5°	137.1	161.5	232.1	320.4	427.2	486.5	549.8	690.9	848.5	1013.3	1181.4
75°	111.4	137.8	211.0	299.3	406.1	465.4	529.4	669.8	828.0	990.9	1153.7
77.5°	87.7	116.7	188.5	276.2	382.4	441.0	503.7	642.8	795.7	951.3	1104.9
80°	65.3	97.6	167.5	253.2	356.7	414.0	474.7	608.5	753.5	897.9	1039.7
82.5°	45.5	79.8	147.0	230.1	330.3	385.0	443.0	567.6	704.8	835.9	964.5
85°	27.7	63.9	126.6	207.7	303.3	354.7	409.4	524.8	651.4	768.7	882.1
87.5°	11.9	49.4	108.8	185.9	276.2	325.0	375.1	483.9	594.7	698.8	799.7
90°	0.7	36.9	93.0	165.5	250.5	296.0	342.8	440.4	542.6	634.9	724.5
92.5°	0.0	31.6	83.7	152.9	232.7	274.9	318.4	408.1	500.4	582.8	662.6
95°	0.7	26.4	75.8	139.1	214.9	255.1	295.3	379.1	462.1	538.0	611.1
97.5°	0.7	21.8	67.2	126.6	198.4	235.4	272.9	350.7	425.9	497.7	565.6
100°	0.7	17.1	59.3	114.7	181.3	215.6	251.2	324.4	394.9	462.1	526.1
102.5°	0.7	12.5	52.7	103.5	165.5	197.8	230.7	300.0	366.5	431.2	491.8
105°	0.7	8.6	46.1	93.0	151.0	181.3	212.3	277.5	340.8	402.8	462.1
107.5°	0.7	5.9	40.2	83.1	135.1	165.5	194.5	256.5	317.1	377.1	435.1
110°	0.7	5.3	34.9	74.5	122.6	150.3	178.0	236.7	294.7	352.0	408.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	4.6	29.7	66.6	110.1	135.1	162.2	217.6	274.3	329.6	383.7
115°	0.7	4.6	24.4	59.3	99.5	122.0	147.0	199.1	253.2	306.6	359.3
117.5°	0.7	4.6	19.8	52.7	89.7	110.1	131.9	182.0	232.1	284.1	335.6
120°	0.7	4.0	15.8	46.1	81.1	99.5	120.0	165.5	211.6	260.4	309.9
122.5°	0.7	4.0	13.2	40.2	72.5	89.7	108.1	148.3	192.5	237.3	283.5
125°	0.7	3.3	11.2	33.6	63.9	80.4	96.9	133.2	174.0	215.6	257.8
127.5°	1.3	3.3	9.2	27.7	55.4	69.9	85.7	118.7	154.3	191.8	232.1
130°	1.3	3.3	7.9	21.1	46.8	60.0	73.8	104.2	137.1	169.4	204.4
132.5°	1.3	2.6	7.3	16.5	38.9	50.8	63.3	90.3	119.3	148.3	178.7
135°	1.3	2.6	5.9	13.2	31.0	41.5	53.4	77.1	102.8	129.9	155.6
137.5°	1.3	2.0	5.3	10.5	23.7	33.6	44.2	65.3	87.7	110.8	134.5
140°	1.3	2.0	4.6	8.6	17.8	25.1	34.9	53.4	73.2	93.6	114.1
142.5°	1.3	2.0	4.0	7.3	13.8	19.1	26.4	43.5	60.7	77.8	95.6
145°	1.3	2.0	3.3	5.9	10.5	14.5	19.1	33.6	48.8	63.9	79.1
147.5°	1.3	2.0	3.3	5.3	8.6	11.2	14.5	24.4	38.2	50.8	63.9
150°	1.3	2.0	2.6	4.6	7.3	8.6	10.5	17.1	27.7	38.9	50.1
152.5°	1.3	1.3	2.6	4.0	5.3	6.6	7.9	12.5	19.1	27.7	37.6
155°	1.3	1.3	2.0	3.3	4.6	5.3	5.9	8.6	12.5	17.8	25.1
157.5°	1.3	1.3	2.0	2.6	3.3	4.0	4.6	5.9	8.6	11.2	15.2
160°	1.3	1.3	2.0	2.6	2.6	3.3	3.3	4.0	5.3	6.6	8.6
162.5°	1.3	1.3	2.0	2.0	2.0	2.6	2.6	2.6	3.3	3.3	4.0
165°	1.3	1.3	1.3	2.0	1.3	2.0	1.3	2.0	2.0	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°	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1
2.5°	912.4	907.8	905.8	903.2	901.2	899.9	897.9	896.6	894.6	894.6	895.3
5°	911.1	906.5	905.2	902.5	901.2	900.6	899.2	899.9	899.9	899.9	899.9
7.5°	908.5	904.5	903.2	901.9	900.6	899.9	899.2	900.6	900.6	901.2	901.2
10°	903.8	901.2	901.2	899.9	899.2	898.6	897.3	899.2	899.2	900.6	899.9
12.5°	898.6	897.9	898.6	899.2	899.2	898.6	897.9	900.6	901.9	901.9	902.5
15°	892.6	894.0	897.3	899.2	900.6	900.6	901.9	904.5	906.5	907.1	907.1
17.5°	888.0	891.3	897.3	902.5	905.2	906.5	909.8	915.1	918.4	919.0	919.0
20°	884.7	892.6	903.2	913.1	916.4	919.0	925.6	932.2	936.8	937.5	937.5
22.5°	887.4	900.6	915.1	926.3	930.9	934.2	941.4	950.0	955.3	955.9	955.9
25°	894.0	909.8	926.3	940.1	945.4	949.3	957.2	966.5	971.8	973.7	973.1
27.5°	899.9	919.0	938.1	954.0	959.9	965.2	975.0	985.6	992.2	994.2	992.8
30°	905.2	927.6	949.3	968.5	976.4	982.3	994.2	1006.7	1015.3	1017.2	1015.3
32.5°	910.4	937.5	963.2	985.6	993.5	1002.1	1017.2	1031.7	1040.3	1043.0	1041.6
35°	917.7	949.3	979.7	1005.4	1015.9	1025.8	1043.6	1060.8	1071.3	1073.3	1071.3
37.5°	927.6	964.5	998.1	1030.4	1041.6	1055.5	1076.6	1097.0	1109.5	1112.2	1109.5
40°	940.1	983.6	1023.2	1060.8	1075.9	1090.4	1116.1	1140.5	1154.4	1159.0	1157.0
42.5°	956.6	1007.4	1053.5	1098.3	1115.5	1133.9	1164.3	1192.6	1208.4	1213.7	1208.4
45°	977.0	1037.0	1090.4	1142.5	1162.3	1184.7	1221.0	1253.3	1271.7	1276.3	1271.7
47.5°	1004.1	1072.0	1133.9	1193.9	1217.7	1244.0	1286.9	1323.8	1343.6	1348.8	1344.2
50°	1033.1	1114.2	1185.4	1253.9	1283.6	1311.3	1361.4	1402.2	1423.3	1433.2	1424.7
52.5°	1069.3	1160.3	1244.0	1320.5	1356.1	1389.1	1444.4	1489.3	1515.0	1523.6	1511.7
55°	1112.8	1215.7	1309.3	1397.6	1433.2	1470.2	1531.5	1578.9	1606.0	1615.2	1606.6
57.5°	1161.0	1274.4	1377.9	1470.8	1512.3	1549.9	1618.5	1667.9	1691.7	1703.5	1693.0
60°	1211.1	1335.0	1447.1	1546.0	1591.5	1630.4	1700.2	1749.0	1774.1	1785.9	1776.1
62.5°	1259.8	1393.7	1511.7	1614.5	1658.0	1700.9	1770.8	1817.6	1843.3	1853.8	1844.6
65°	1302.0	1443.1	1564.4	1670.6	1715.4	1757.6	1823.5	1868.3	1895.4	1902.6	1896.0
67.5°	1333.7	1476.7	1599.4	1704.2	1747.7	1789.9	1852.5	1894.1	1920.4	1927.0	1921.1
70°	1348.2	1489.9	1611.2	1713.4	1756.3	1793.9	1853.2	1892.7	1917.8	1921.7	1917.1
72.5°	1339.0	1476.7	1594.1	1691.7	1732.5	1765.5	1820.2	1857.8	1881.5	1884.8	1881.5
75°	1304.7	1436.5	1547.3	1638.3	1676.5	1704.2	1756.3	1791.2	1814.9	1817.6	1813.6
77.5°	1246.7	1369.3	1470.8	1558.5	1590.1	1617.2	1666.6	1697.6	1716.7	1720.7	1716.1
80°	1168.9	1281.6	1372.6	1451.0	1481.4	1504.4	1552.6	1586.2	1596.7	1602.0	1595.4
82.5°	1079.9	1180.7	1261.8	1333.0	1360.1	1388.4	1419.4	1450.4	1465.5	1470.2	1464.9
85°	984.3	1073.9	1145.8	1209.7	1233.5	1259.2	1286.2	1316.5	1329.7	1334.3	1329.1
87.5°	888.7	967.8	1031.1	1087.8	1109.5	1132.6	1164.9	1180.7	1198.5	1203.8	1197.9
90°	803.0	874.2	930.9	982.3	1002.7	1023.8	1048.9	1068.7	1085.1	1089.8	1084.5
92.5°	733.8	797.7	849.8	895.9	913.7	933.5	957.9	977.0	991.5	996.1	990.9
95°	676.4	735.1	783.9	826.7	843.9	862.3	889.3	904.5	917.7	921.6	917.7
97.5°	627.6	683.0	729.1	770.7	787.2	804.3	830.7	845.8	858.4	861.7	858.4
100°	584.8	638.8	684.3	723.9	740.4	756.8	782.5	797.7	809.6	813.5	809.6
102.5°	549.2	601.2	646.1	686.3	702.1	718.6	743.0	760.8	770.0	774.6	770.7
105°	518.2	568.9	613.8	653.3	669.8	685.6	710.7	727.2	737.7	743.0	738.4
107.5°	489.8	539.9	585.4	623.7	640.1	656.0	681.7	698.2	708.0	714.0	708.7
110°	462.8	512.2	555.8	595.3	611.8	628.3	654.0	670.5	680.4	685.6	681.0



TEST NUMBER: P201246

CATALOG NUMBER: 4LBLED-LD4-7-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	436.4	484.6	529.4	567.6	583.4	599.9	626.3	643.4	652.7	658.6	653.3
115°	410.1	457.5	501.0	538.0	553.8	570.9	596.6	614.4	624.3	628.9	623.7
117.5°	384.3	429.8	471.4	507.6	523.5	539.9	565.0	582.8	593.3	598.0	592.7
120°	358.0	401.5	442.4	475.3	491.8	507.0	532.7	549.8	560.4	565.0	559.7
122.5°	329.6	372.5	411.4	443.7	459.5	474.0	499.1	516.2	526.1	530.7	526.1
125°	300.6	340.8	378.4	410.7	423.9	437.7	462.1	478.6	489.2	493.1	489.2
127.5°	271.6	308.5	343.5	371.8	386.3	399.5	422.6	438.4	447.6	452.3	449.0
130°	242.6	277.5	309.2	334.9	347.4	360.0	381.1	395.6	404.8	408.7	405.4
132.5°	211.6	245.2	276.2	298.6	310.5	321.1	340.2	352.7	360.6	365.2	361.3
135°	183.9	211.6	240.6	263.7	275.6	284.8	301.9	312.5	319.7	323.7	319.7
137.5°	158.9	182.6	206.3	226.8	238.0	247.9	264.4	274.3	280.8	284.8	280.8
140°	135.8	156.2	177.3	193.8	203.7	211.6	226.8	235.4	241.3	244.6	240.6
142.5°	113.4	131.9	149.7	164.8	173.4	180.0	194.5	201.1	205.7	207.7	205.7
145°	94.3	109.4	124.6	138.4	145.0	150.3	164.8	172.1	176.0	178.0	176.0
147.5°	76.5	89.0	101.5	112.7	118.7	125.3	135.1	143.7	147.0	148.3	147.0
150°	60.0	71.2	81.1	90.3	94.9	99.5	108.1	116.7	120.0	122.0	120.0
152.5°	45.5	54.7	62.6	69.9	73.8	77.8	85.0	93.0	96.3	97.6	96.3
155°	33.0	39.6	46.8	52.1	55.4	58.0	63.3	68.6	73.8	73.8	73.8
157.5°	20.4	25.7	31.6	36.3	38.2	40.9	44.8	49.4	53.4	55.4	55.4
160°	10.5	13.8	17.8	21.1	23.1	25.1	27.7	31.6	34.3	36.3	34.9
162.5°	4.6	5.9	7.9	9.2	10.5	11.2	13.2	15.2	16.5	19.8	17.1
165°	1.3	1.3	2.0	2.6	2.6	2.6	3.3	4.0	4.6	7.3	5.3
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: P201246

CATALOG NUMBER: 4LBLED-LD4-7-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1
2.5°	896.6	898.6	901.2	902.5	904.5	905.8	909.1	913.1	909.8	905.2	905.8
5°	899.9	899.2	901.2	902.5	903.8	904.5	907.8	911.8	907.8	903.2	903.2
7.5°	901.2	900.6	901.2	901.9	902.5	902.5	905.8	909.1	905.2	899.2	897.9
10°	899.2	898.6	899.2	900.6	900.6	900.6	902.5	905.2	900.6	893.3	890.7
12.5°	900.6	898.6	898.6	899.2	899.2	897.9	898.6	900.6	894.6	886.7	882.8
15°	905.2	901.9	900.6	900.6	899.2	895.9	894.6	894.6	888.0	877.5	872.2
17.5°	916.4	911.1	907.1	905.2	902.5	896.6	892.0	889.3	880.8	868.9	860.3
20°	933.5	926.3	920.3	916.4	913.1	902.5	893.3	886.0	874.2	859.7	848.5
22.5°	950.7	942.7	934.2	930.2	925.6	913.7	901.2	888.7	870.9	851.1	835.9
25°	967.1	959.2	949.3	945.4	939.4	925.6	909.8	895.3	872.2	845.2	823.4
27.5°	986.3	976.4	965.8	959.9	953.3	937.5	919.7	901.9	876.2	845.2	814.8
30°	1008.0	996.1	982.3	975.7	967.8	949.3	927.6	906.5	878.8	845.2	810.2
32.5°	1033.1	1019.2	1002.7	993.5	984.3	962.5	936.8	912.4	880.8	844.5	806.3
35°	1062.1	1046.2	1026.5	1015.9	1004.7	979.0	948.7	919.0	884.1	843.9	801.0
37.5°	1098.3	1079.9	1056.1	1043.0	1029.8	999.4	964.5	928.9	889.3	844.5	797.0
40°	1141.8	1120.1	1092.4	1075.9	1060.1	1025.2	983.6	941.4	896.6	845.8	793.1
42.5°	1193.3	1166.9	1135.9	1116.8	1098.3	1054.8	1007.4	957.2	906.5	848.5	791.1
45°	1254.6	1226.9	1187.3	1163.6	1143.2	1092.4	1037.7	978.3	921.0	855.1	790.5
47.5°	1325.1	1290.2	1247.3	1219.6	1195.2	1136.6	1073.3	1004.7	937.5	863.6	791.8
50°	1404.2	1364.7	1315.2	1286.2	1255.9	1188.6	1115.5	1035.7	958.6	876.2	795.1
52.5°	1491.2	1447.7	1394.3	1360.1	1326.4	1248.6	1162.9	1075.3	983.0	892.0	801.0
55°	1581.6	1534.8	1475.4	1437.8	1400.3	1314.6	1219.0	1118.1	1015.3	911.8	810.9
57.5°	1669.3	1621.1	1555.9	1517.6	1475.4	1384.4	1279.0	1164.9	1050.2	934.8	822.1
60°	1750.3	1702.2	1636.3	1597.4	1551.2	1453.7	1340.3	1216.3	1086.5	959.2	835.3
62.5°	1818.9	1772.8	1706.8	1667.3	1619.8	1518.9	1399.0	1266.4	1126.0	984.9	847.8
65°	1869.7	1826.2	1762.2	1721.3	1675.8	1571.0	1448.4	1310.6	1159.0	1007.4	859.0
67.5°	1895.4	1854.5	1792.5	1753.6	1708.8	1604.6	1482.0	1340.3	1184.0	1023.2	866.3
70°	1892.7	1853.8	1795.8	1757.6	1714.7	1614.5	1493.9	1352.1	1195.2	1029.1	865.0
72.5°	1858.5	1819.6	1767.5	1730.6	1689.7	1596.1	1477.4	1341.6	1186.7	1019.9	854.4
75°	1790.6	1755.0	1702.2	1671.9	1635.0	1547.9	1434.6	1302.7	1157.7	995.5	832.6
77.5°	1693.0	1666.0	1614.5	1586.2	1549.9	1469.5	1362.7	1244.0	1106.9	954.6	799.0
80°	1573.7	1551.2	1501.1	1476.1	1440.5	1370.6	1278.3	1163.6	1039.7	899.2	755.5
82.5°	1443.1	1417.4	1377.9	1354.8	1321.2	1258.5	1170.8	1077.2	961.9	835.9	704.8
85°	1308.0	1284.2	1248.0	1228.2	1198.5	1142.5	1064.0	981.6	879.5	766.1	650.0
87.5°	1179.4	1156.3	1122.1	1104.3	1077.2	1027.1	958.6	886.0	795.7	698.8	592.0
90°	1068.0	1046.2	1013.9	997.5	973.1	927.6	865.6	800.3	720.6	631.6	539.9
92.5°	976.4	956.6	926.3	910.4	888.7	847.2	791.1	731.8	659.9	582.8	497.7
95°	903.8	884.7	857.7	842.5	822.1	779.2	729.8	674.4	608.5	538.0	459.5
97.5°	845.2	829.4	799.7	785.2	768.7	725.2	680.4	625.6	564.3	498.4	425.2
100°	797.7	779.9	752.9	739.0	721.9	681.0	635.5	584.1	524.8	462.1	394.2
102.5°	760.8	742.3	717.3	701.5	685.0	643.4	598.6	548.5	491.8	431.2	365.9
105°	727.8	710.0	685.0	669.2	652.7	611.8	568.9	518.2	462.1	403.5	340.2
107.5°	696.8	681.0	656.0	640.1	623.7	582.8	539.9	489.8	435.1	377.8	316.4
110°	670.5	653.3	627.0	611.8	594.0	555.1	512.2	463.5	408.7	352.7	294.0



TEST NUMBER: P201246

CATALOG NUMBER: 4LBLED-LD4-7-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	644.1	625.6	599.3	584.1	566.3	527.4	485.2	437.1	383.7	329.6	272.9
115°	615.1	597.3	569.6	554.4	536.6	498.4	457.5	410.7	359.3	306.6	251.8
117.5°	584.1	566.3	538.6	524.1	507.0	469.4	430.5	385.0	334.9	284.1	230.7
120°	550.5	533.3	507.0	492.5	476.0	439.7	402.1	356.7	309.2	260.4	211.0
122.5°	516.2	499.7	474.0	459.5	443.7	409.4	372.5	328.3	282.8	237.3	191.8
125°	479.3	462.8	438.4	424.6	408.7	375.8	340.2	298.6	256.5	215.6	172.1
127.5°	436.4	423.2	399.5	385.7	371.2	342.2	307.9	270.3	231.4	191.8	152.9
130°	395.6	381.7	359.3	346.8	334.2	307.9	277.5	241.3	203.1	168.8	133.8
132.5°	352.7	340.2	321.1	310.5	299.3	275.6	244.6	209.0	176.7	147.0	116.0
135°	312.5	301.9	284.8	275.6	264.4	239.3	210.3	180.6	153.6	127.2	99.5
137.5°	274.9	264.4	248.5	238.7	226.8	204.4	180.6	156.2	131.2	108.8	84.4
140°	235.4	226.8	212.3	203.7	193.2	174.0	154.3	131.2	111.4	91.0	69.9
142.5°	201.7	194.5	180.0	172.1	162.8	147.0	128.6	110.8	93.0	75.2	57.4
145°	172.7	165.5	149.7	143.7	135.1	121.3	106.1	90.3	75.8	60.7	46.1
147.5°	144.4	135.8	122.0	116.7	110.1	98.2	86.4	73.8	61.3	48.1	35.6
150°	118.0	108.1	96.9	93.6	87.0	77.8	67.9	57.4	47.5	36.9	25.7
152.5°	93.0	84.4	75.2	71.9	66.6	60.7	52.1	43.5	35.6	25.7	17.8
155°	69.2	62.6	55.4	53.4	49.4	44.8	37.6	31.0	23.7	17.1	12.5
157.5°	48.8	43.5	38.2	36.9	34.3	30.3	24.4	19.1	15.2	11.2	8.6
160°	30.3	27.0	23.1	21.8	19.8	17.1	13.2	11.2	9.2	7.3	5.3
162.5°	14.5	12.5	11.2	10.5	9.2	7.9	7.3	5.9	5.3	4.6	4.0
165°	5.3	5.3	5.3	4.6	4.6	4.6	4.6	4.0	3.3	3.3	2.6
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



TEST NUMBER: P201246

CATALOG NUMBER: 4LBLED-LD4-7-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	907.1	907.1	907.1	907.1	907.1	907.1	907.1	907.1
2.5°	906.5	907.8	907.8	908.5	910.4	914.4	919.7	920.3
5°	903.8	904.5	904.5	904.5	906.5	909.8	915.1	915.7
7.5°	897.9	897.9	897.9	897.9	899.9	902.5	907.1	907.8
10°	890.0	889.3	889.3	888.7	890.0	892.0	897.3	896.6
12.5°	880.1	878.8	878.1	878.1	877.5	879.5	882.8	883.4
15°	868.9	866.3	865.0	863.6	863.0	863.0	866.9	866.3
17.5°	855.7	851.8	849.8	847.8	845.2	845.2	847.8	847.2
20°	840.6	835.3	832.0	829.4	825.4	824.1	825.4	824.7
22.5°	825.4	816.8	813.5	809.6	803.6	801.0	800.3	799.7
25°	807.6	797.0	792.4	788.5	779.9	776.6	773.3	772.0
27.5°	791.8	776.6	770.7	764.1	754.2	749.6	744.3	743.0
30°	777.9	755.5	746.3	739.7	727.2	719.9	713.3	712.0
32.5°	767.4	736.4	723.9	716.0	698.8	688.9	680.4	676.4
35°	758.2	718.6	702.1	689.6	669.2	657.3	645.4	642.1
37.5°	749.6	703.4	681.7	664.5	641.5	624.3	611.1	605.9
40°	741.0	689.6	663.2	641.5	611.1	591.4	574.9	568.3
42.5°	733.1	675.7	647.4	621.0	581.5	557.7	539.9	530.7
45°	725.8	663.2	632.2	603.2	552.5	524.8	503.0	494.4
47.5°	720.6	651.4	617.1	585.4	525.4	491.1	468.7	457.5
50°	716.6	640.1	602.6	567.6	501.7	458.8	433.8	420.6
52.5°	714.6	630.3	589.4	551.8	479.9	427.9	398.2	388.3
55°	715.3	622.3	578.2	537.3	459.5	398.2	365.2	350.1
57.5°	716.6	615.1	567.0	522.8	439.1	369.2	332.3	316.4
60°	719.3	609.2	557.1	508.9	419.9	344.1	301.9	286.8
62.5°	721.9	603.9	547.2	495.8	401.5	321.1	271.6	254.5
65°	722.6	596.0	536.6	482.6	383.0	298.0	240.6	224.1
67.5°	719.9	586.1	523.5	467.4	363.9	275.6	211.6	194.5
70°	712.0	572.9	508.3	450.3	342.8	253.8	183.9	165.5
72.5°	697.5	555.8	490.5	431.2	322.4	230.7	158.9	136.5
75°	677.1	534.7	469.4	409.4	300.6	209.0	135.8	110.8
77.5°	649.4	507.6	444.3	385.0	276.9	186.6	116.0	87.0
80°	613.8	479.3	416.7	358.6	253.8	166.1	96.9	64.6
82.5°	571.6	447.0	387.0	331.6	232.1	145.0	79.1	44.8
85°	528.1	412.0	356.0	303.3	209.0	125.3	63.9	26.4
87.5°	485.2	377.1	326.3	277.5	185.3	107.5	49.4	10.5
90°	443.0	343.5	295.3	249.9	164.8	91.0	36.9	0.0
92.5°	408.1	318.4	274.9	231.4	151.6	82.4	31.6	0.0
95°	377.1	294.7	253.2	212.9	137.8	74.5	26.4	0.0
97.5°	348.7	272.3	234.0	195.8	125.3	65.9	21.8	0.0
100°	321.7	249.9	214.3	180.0	113.4	58.7	16.5	0.0
102.5°	298.0	230.1	196.5	162.8	101.5	51.4	11.9	0.0
105°	274.9	211.0	180.0	147.7	91.0	44.8	7.3	0.0
107.5°	254.5	193.2	163.5	133.8	81.1	38.9	4.6	0.0
110°	234.7	176.7	147.7	120.6	72.5	33.6	4.0	0.0



TEST NUMBER: P201246

CATALOG NUMBER: 4LBLED-LD4-7-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	216.2	160.9	133.8	108.1	65.3	28.3	4.0	0.0
115°	197.1	145.7	120.6	97.6	58.0	23.1	3.3	0.0
117.5°	180.6	131.2	108.8	89.0	50.8	18.5	3.3	0.0
120°	164.2	118.7	98.9	79.8	44.2	13.8	3.3	0.0
122.5°	147.7	107.5	88.3	71.2	38.2	11.2	2.6	0.0
125°	132.5	95.6	78.5	62.0	31.6	9.9	2.6	0.0
127.5°	117.3	83.7	67.9	53.4	25.1	8.6	2.0	0.0
130°	102.2	71.9	58.0	44.8	19.1	7.3	2.0	0.0
132.5°	88.3	60.7	48.8	36.9	15.2	5.9	1.3	0.0
135°	74.5	50.8	40.2	29.0	11.9	5.3	1.3	0.0
137.5°	62.6	41.5	31.6	21.8	9.9	4.0	1.3	0.0
140°	51.4	33.0	23.7	16.5	7.9	3.3	0.7	0.0
142.5°	40.9	24.4	17.8	12.5	6.6	2.6	0.7	0.0
145°	31.6	17.8	13.2	9.9	5.9	2.0	0.7	0.0
147.5°	23.1	13.8	10.5	8.6	4.6	2.0	0.7	0.0
150°	16.5	10.5	8.6	6.6	3.3	1.3	0.7	0.0
152.5°	12.5	7.9	6.6	5.3	2.6	1.3	0.7	0.0
155°	9.2	5.9	5.3	4.0	2.0	1.3	0.7	0.0
157.5°	6.6	4.6	4.0	2.6	2.0	1.3	0.7	0.0
160°	4.0	3.3	2.6	2.0	1.3	0.7	0.7	0.0
162.5°	3.3	2.0	2.0	2.0	1.3	0.7	0.7	0.0
165°	2.0	1.3	1.3	1.3	0.7	0.7	0.7	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)