

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: P201248

Luminaire Tested: **4LBLED-LD4-8-SYMF-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201248
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-LD4-8-SYMF-UNV-L850-CD1-U
Description: 4 ft. Low Bay Linear, 8000 lm, Frst Sym lens, 5K
Light Source: (392) 5000K CCT, 80 CRI LEDS
2UT217098A8504C
Ballast/Driver: OSRAM
(OTI85W01280CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8801.9 lumens
Efficiency: N/A
Efficacy: 153.9 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

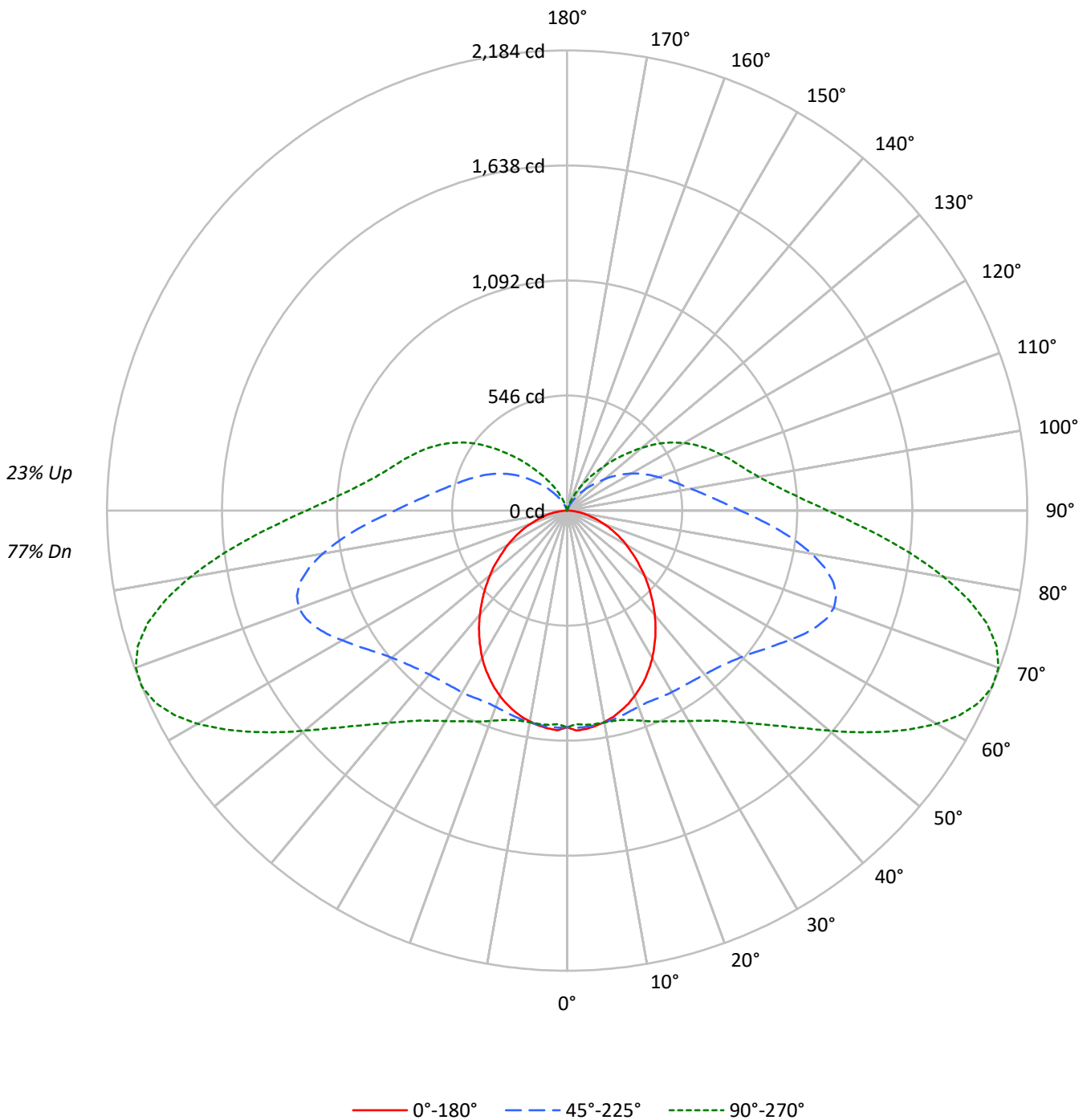
Input Watts (W): 57.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	16570	16570	16570
5°	16751	14889	16714
10°	16515	13695	16479
15°	16181	12862	16157
20°	15759	12539	15734
25°	15256	12415	15190
30°	14594	12480	14580
35°	13844	12783	13816
40°	13045	13513	12984
45°	12174	14683	12141
50°	11291	16394	11255
55°	10398	18510	10377
60°	9588	20665	9611
65°	8689	22401	8716
70°	7734	23210	7734
75°	6585	22711	6549
80°	5303	20898	5246
85°	3641	18355	3467



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.6	1.1
10°-20°	284.0	3.2
20°-30°	456.4	5.2
30°-40°	618.0	7.0
40°-50°	794.0	9.0
50°-60°	1021.5	11.6
60°-70°	1249.7	14.2
70°-80°	1263.4	14.4
80°-90°	977.0	11.1
90°-100°	678.8	7.7
100°-110°	507.0	5.8
110°-120°	380.0	4.3
120°-130°	255.9	2.9
130°-140°	140.3	1.6
140°-150°	59.8	0.7
150°-160°	17.1	0.2
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	838.0	9.5
0°-40°	1456.0	16.5
0°-60°	3271.5	37.2
0°-90°	6761.6	76.8
90°-120°	1565.7	17.8
90°-150°	2021.8	23.0
90°-180°	2040.0	23.2
0°-180°	8801.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1028	1028	1028	1028	1028	
5°	1040	1031	1021	1029	1038	99
15°	984	1007	1028	1007	982	277
25°	879	988	1104	989	875	404
35°	729	1001	1217	1002	728	456
45°	562	1040	1447	1044	560	434
55°	398	1146	1831	1151	397	356
65°	253	1306	2157	1314	254	252
75°	126	1308	2060	1312	126	135
85°	31	1000	1513	997	30	34
90°	1	821	1235	817	0	2
95°	1	693	1045	690	0	0
105°	1	524	842	524	0	1
115°	1	407	713	407	0	1
125°	1	292	559	291	0	1
135°	2	176	367	174	0	1
145°	2	90	202	86	0	1
155°	2	28	84	27	0	1
165°	2	2	8	4	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3
2.5°	1044.8	1044.0	1039.5	1032.8	1029.8	1029.1	1028.3	1025.3	1024.6	1026.1	1032.1
5°	1040.3	1039.5	1035.0	1028.3	1026.1	1025.3	1024.6	1022.3	1022.3	1024.6	1030.6
7.5°	1031.3	1030.6	1026.1	1020.8	1018.6	1017.9	1017.9	1016.4	1016.4	1020.1	1026.8
10°	1018.6	1017.9	1014.1	1009.6	1008.1	1008.1	1008.1	1007.4	1008.9	1013.4	1020.8
12.5°	1003.7	1002.2	999.2	995.4	995.4	995.4	996.2	996.2	998.4	1005.9	1014.9
15°	983.5	984.2	981.2	978.2	979.7	980.5	982.0	983.5	987.2	996.2	1006.6
17.5°	962.6	962.6	960.3	958.8	961.8	963.3	965.5	967.8	974.5	985.7	997.7
20°	936.4	937.1	936.4	937.1	940.9	943.1	946.1	951.3	960.3	976.0	990.2
22.5°	908.0	909.5	909.5	912.5	918.5	922.2	925.9	933.4	946.1	966.3	986.5
25°	878.9	878.1	881.8	887.1	893.1	898.3	902.8	914.0	932.7	959.6	988.0
27.5°	843.7	845.2	850.5	857.9	866.9	873.6	880.3	896.0	922.9	958.8	991.7
30°	807.9	810.1	816.8	827.3	840.0	849.0	856.4	881.1	917.7	958.8	994.7
32.5°	769.0	772.7	781.7	795.2	813.1	823.6	835.5	868.4	913.2	957.3	997.7
35°	729.4	733.9	745.8	762.3	783.2	795.9	814.6	858.7	907.3	955.8	1001.4
37.5°	689.0	694.3	707.7	728.6	755.5	775.0	797.4	848.2	902.8	955.8	1006.6
40°	647.2	653.2	670.4	694.3	728.6	754.1	781.0	837.8	898.3	956.6	1014.9
42.5°	604.6	611.3	632.2	660.6	705.5	735.4	765.3	828.8	895.3	960.3	1025.3
45°	562.0	571.0	594.1	628.5	684.5	715.9	750.3	820.6	893.8	967.0	1039.5
47.5°	519.4	529.9	556.8	597.9	662.9	700.2	736.1	813.8	895.3	976.0	1058.2
50°	478.3	490.2	520.1	570.2	642.7	683.1	722.7	809.4	898.3	989.5	1080.6
52.5°	436.4	452.1	485.0	545.5	624.8	667.4	711.5	806.4	904.3	1007.4	1109.8
55°	397.6	414.0	452.1	521.6	607.6	653.9	701.0	805.6	914.7	1029.1	1145.6
57.5°	358.0	378.1	420.0	498.5	589.6	640.5	692.8	807.1	927.4	1052.2	1182.3
60°	324.3	342.3	390.9	476.0	573.9	627.8	685.3	808.6	940.9	1079.1	1224.9
62.5°	288.5	307.9	365.4	454.4	558.3	616.5	677.8	810.8	955.1	1106.8	1268.2
65°	253.3	273.5	340.0	433.4	542.6	604.6	668.9	810.8	966.3	1132.2	1305.6
67.5°	219.7	241.4	314.6	411.0	524.6	589.6	657.6	807.1	973.0	1150.1	1334.7
70°	187.6	211.5	290.0	387.1	505.2	571.7	642.0	798.9	972.3	1156.9	1347.4
72.5°	155.4	183.1	263.1	363.2	484.3	551.5	623.3	783.2	961.8	1148.6	1339.2
75°	126.3	156.2	239.1	339.3	460.4	527.6	600.1	759.3	938.6	1123.2	1307.8
77.5°	99.4	132.3	213.7	313.1	433.4	500.0	571.0	728.6	902.0	1078.4	1252.5
80°	74.0	110.6	189.8	287.0	404.3	469.3	538.1	689.8	854.2	1017.9	1178.5
82.5°	51.6	90.4	166.7	260.8	374.4	436.4	502.2	643.4	798.9	947.6	1093.3
85°	31.4	72.5	143.5	235.4	343.8	402.1	464.1	594.9	738.4	871.4	999.9
87.5°	13.5	56.0	123.3	210.7	313.1	368.4	425.2	548.5	674.1	792.2	906.5
90°	0.7	41.9	105.4	187.6	284.0	335.5	388.6	499.2	615.0	719.7	821.3
92.5°	0.0	35.9	94.9	173.4	263.8	311.6	361.0	462.6	567.2	660.6	751.1
95°	0.7	29.9	85.9	157.7	243.6	289.2	334.8	429.7	523.9	609.8	692.8
97.5°	0.7	24.7	76.2	143.5	224.9	266.8	309.4	397.6	482.8	564.2	641.2
100°	0.7	19.4	67.3	130.0	205.5	244.4	284.7	367.7	447.6	523.9	596.4
102.5°	0.7	14.2	59.8	117.3	187.6	224.2	261.6	340.0	415.5	488.8	557.5
105°	0.7	9.7	52.3	105.4	171.1	205.5	240.6	314.6	386.4	456.6	523.9
107.5°	0.7	6.7	45.6	94.2	153.2	187.6	220.5	290.7	359.5	427.5	493.2
110°	0.7	6.0	39.6	84.4	139.0	170.4	201.8	268.3	334.1	399.1	463.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	5.2	33.6	75.5	124.8	153.2	183.8	246.6	310.9	373.7	434.9
115°	0.7	5.2	27.7	67.3	112.8	138.3	166.7	225.7	287.0	347.5	407.3
117.5°	0.7	5.2	22.4	59.8	101.6	124.8	149.5	206.3	263.1	322.1	380.4
120°	0.7	4.5	17.9	52.3	91.9	112.8	136.0	187.6	239.9	295.2	351.2
122.5°	0.7	4.5	14.9	45.6	82.2	101.6	122.6	168.1	218.2	269.0	321.3
125°	0.7	3.7	12.7	38.1	72.5	91.2	109.9	151.0	197.3	244.4	292.2
127.5°	1.5	3.7	10.5	31.4	62.8	79.2	97.2	134.5	174.9	217.5	263.1
130°	1.5	3.7	9.0	23.9	53.1	68.0	83.7	118.1	155.4	192.1	231.7
132.5°	1.5	3.0	8.2	18.7	44.1	57.5	71.7	102.4	135.3	168.1	202.5
135°	1.5	3.0	6.7	14.9	35.1	47.1	60.5	87.4	116.6	147.2	176.4
137.5°	1.5	2.2	6.0	12.0	26.9	38.1	50.1	74.0	99.4	125.6	152.5
140°	1.5	2.2	5.2	9.7	20.2	28.4	39.6	60.5	83.0	106.1	129.3
142.5°	1.5	2.2	4.5	8.2	15.7	21.7	29.9	49.3	68.8	88.2	108.4
145°	1.5	2.2	3.7	6.7	12.0	16.4	21.7	38.1	55.3	72.5	89.7
147.5°	1.5	2.2	3.7	6.0	9.7	12.7	16.4	27.7	43.3	57.5	72.5
150°	1.5	2.2	3.0	5.2	8.2	9.7	12.0	19.4	31.4	44.1	56.8
152.5°	1.5	1.5	3.0	4.5	6.0	7.5	9.0	14.2	21.7	31.4	42.6
155°	1.5	1.5	2.2	3.7	5.2	6.0	6.7	9.7	14.2	20.2	28.4
157.5°	1.5	1.5	2.2	3.0	3.7	4.5	5.2	6.7	9.7	12.7	17.2
160°	1.5	1.5	2.2	3.0	3.0	3.7	3.7	4.5	6.0	7.5	9.7
162.5°	1.5	1.5	2.2	2.2	2.2	3.0	3.0	3.0	3.7	3.7	4.5
165°	1.5	1.5	1.5	2.2	1.5	2.2	1.5	2.2	2.2	1.5	1.5
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3
2.5°	1034.3	1029.1	1026.8	1023.8	1021.6	1020.1	1017.9	1016.4	1014.1	1014.1	1014.9
5°	1032.8	1027.6	1026.1	1023.1	1021.6	1020.8	1019.4	1020.1	1020.1	1020.8	1020.1
7.5°	1029.8	1025.3	1023.8	1022.3	1020.8	1020.1	1019.4	1020.8	1020.8	1021.6	1021.6
10°	1024.6	1021.6	1021.6	1020.1	1019.4	1018.6	1017.1	1019.4	1019.4	1020.8	1020.1
12.5°	1018.6	1017.9	1018.6	1019.4	1019.4	1018.6	1017.9	1020.8	1022.3	1022.3	1023.1
15°	1011.9	1013.4	1017.1	1019.4	1020.8	1020.8	1022.3	1025.3	1027.6	1028.3	1028.3
17.5°	1006.6	1010.4	1017.1	1023.1	1026.1	1027.6	1031.3	1037.3	1041.0	1041.8	1041.8
20°	1002.9	1011.9	1023.8	1035.0	1038.8	1041.8	1049.2	1056.7	1061.9	1062.7	1062.7
22.5°	1005.9	1020.8	1037.3	1050.0	1055.2	1059.0	1067.2	1076.9	1082.9	1083.6	1083.6
25°	1013.4	1031.3	1050.0	1065.7	1071.7	1076.1	1085.1	1095.6	1101.6	1103.8	1103.1
27.5°	1020.1	1041.8	1063.4	1081.4	1088.1	1094.1	1105.3	1117.3	1124.7	1127.0	1125.5
30°	1026.1	1051.5	1076.1	1097.8	1106.8	1113.5	1127.0	1141.2	1150.9	1153.1	1150.9
32.5°	1032.1	1062.7	1091.8	1117.3	1126.2	1135.9	1153.1	1169.6	1179.3	1182.3	1180.8
35°	1040.3	1076.1	1110.5	1139.7	1151.6	1162.8	1183.0	1202.4	1214.4	1216.6	1214.4
37.5°	1051.5	1093.3	1131.5	1168.1	1180.8	1196.5	1220.4	1243.5	1257.7	1260.7	1257.7
40°	1065.7	1115.0	1159.8	1202.4	1219.6	1236.1	1265.2	1292.9	1308.6	1313.8	1311.6
42.5°	1084.4	1141.9	1194.2	1245.0	1264.5	1285.4	1319.8	1351.9	1369.8	1375.8	1369.8
45°	1107.5	1175.5	1236.1	1295.1	1317.5	1342.9	1384.0	1420.7	1441.6	1446.8	1441.6
47.5°	1138.2	1215.2	1285.4	1353.4	1380.3	1410.2	1458.8	1500.6	1523.0	1529.0	1523.8
50°	1171.1	1263.0	1343.7	1421.4	1455.0	1486.4	1543.2	1589.6	1613.5	1624.7	1615.0
52.5°	1212.2	1315.3	1410.2	1496.9	1537.2	1574.6	1637.4	1688.2	1717.4	1727.1	1713.6
55°	1261.5	1378.1	1484.2	1584.3	1624.7	1666.5	1736.0	1789.8	1820.5	1830.9	1821.2
57.5°	1316.0	1444.6	1561.9	1667.3	1714.4	1757.0	1834.7	1890.7	1917.6	1931.1	1919.1
60°	1372.8	1513.3	1640.4	1752.5	1804.0	1848.1	1927.4	1982.7	2011.1	2024.5	2013.3
62.5°	1428.1	1579.8	1713.6	1830.2	1879.5	1928.1	2007.3	2060.4	2089.5	2101.5	2091.0
65°	1476.0	1635.9	1773.4	1893.7	1944.5	1992.4	2067.1	2117.9	2148.6	2156.8	2149.3
67.5°	1511.8	1674.0	1813.0	1931.8	1981.2	2029.0	2100.0	2147.1	2177.0	2184.4	2177.7
70°	1528.3	1689.0	1826.5	1942.3	1990.9	2033.5	2100.7	2145.6	2174.0	2178.5	2173.2
72.5°	1517.8	1674.0	1807.0	1917.6	1964.0	2001.3	2063.4	2106.0	2132.9	2136.6	2132.9
75°	1479.0	1628.4	1754.0	1857.1	1900.4	1931.8	1990.9	2030.5	2057.4	2060.4	2055.9
77.5°	1413.2	1552.2	1667.3	1766.7	1802.5	1833.2	1889.2	1924.4	1946.0	1950.5	1945.3
80°	1325.0	1452.8	1555.9	1644.9	1679.2	1705.4	1760.0	1798.1	1810.0	1816.0	1808.5
82.5°	1224.1	1338.5	1430.4	1511.1	1541.7	1573.9	1609.0	1644.1	1661.3	1666.5	1660.6
85°	1115.8	1217.4	1298.9	1371.3	1398.2	1427.4	1458.0	1492.4	1507.4	1512.6	1506.6
87.5°	1007.4	1097.1	1168.8	1233.1	1257.7	1283.9	1320.5	1338.5	1358.6	1364.6	1357.9
90°	910.2	991.0	1055.2	1113.5	1136.7	1160.6	1189.0	1211.4	1230.1	1235.3	1229.3
92.5°	831.8	904.3	963.3	1015.6	1035.8	1058.2	1085.9	1107.5	1124.0	1129.2	1123.2
95°	766.8	833.3	888.6	937.1	956.6	977.5	1008.1	1025.3	1040.3	1044.8	1040.3
97.5°	711.5	774.2	826.5	873.6	892.3	911.7	941.6	958.8	973.0	976.8	973.0
100°	662.9	724.2	775.7	820.6	839.2	857.9	887.1	904.3	917.7	922.2	917.7
102.5°	622.5	681.6	732.4	778.0	795.9	814.6	842.2	862.4	872.9	878.1	873.6
105°	587.4	644.9	695.8	740.6	759.3	777.2	805.6	824.3	836.3	842.2	837.0
107.5°	555.3	612.1	663.6	707.0	725.7	743.6	772.7	791.4	802.6	809.4	803.4
110°	524.6	580.7	630.0	674.8	693.5	712.2	741.3	760.0	771.2	777.2	772.0



TEST NUMBER: P201248

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	494.7	549.3	600.1	643.4	661.4	680.1	710.0	729.4	739.9	746.6	740.6
115°	464.8	518.6	568.0	609.8	627.8	647.2	676.3	696.5	707.7	712.9	707.0
117.5°	435.7	487.3	534.3	575.4	593.4	612.1	640.5	660.6	672.6	677.8	671.8
120°	405.8	455.1	501.5	538.8	557.5	574.7	603.8	623.3	635.2	640.5	634.5
122.5°	373.7	422.2	466.3	502.9	520.9	537.3	565.7	585.2	596.4	601.6	596.4
125°	340.8	386.4	429.0	465.6	480.5	496.2	523.9	542.6	554.5	559.0	554.5
127.5°	307.9	349.7	389.4	421.5	437.9	452.9	479.0	497.0	507.4	512.7	508.9
130°	275.0	314.6	350.5	379.6	393.8	408.0	432.0	448.4	458.9	463.3	459.6
132.5°	239.9	278.0	313.1	338.5	352.0	363.9	385.6	399.8	408.8	414.0	409.5
135°	208.5	239.9	272.8	298.9	312.4	322.8	342.3	354.2	362.5	366.9	362.5
137.5°	180.1	207.0	233.9	257.1	269.8	281.0	299.7	310.9	318.4	322.8	318.4
140°	153.9	177.1	201.0	219.7	230.9	239.9	257.1	266.8	273.5	277.3	272.8
142.5°	128.5	149.5	169.6	186.8	196.5	204.0	220.5	227.9	233.2	235.4	233.2
145°	106.9	124.1	141.2	156.9	164.4	170.4	186.8	195.1	199.5	201.8	199.5
147.5°	86.7	100.9	115.1	127.8	134.5	142.0	153.2	162.9	166.7	168.1	166.7
150°	68.0	80.7	91.9	102.4	107.6	112.8	122.6	132.3	136.0	138.3	136.0
152.5°	51.6	62.0	71.0	79.2	83.7	88.2	96.4	105.4	109.1	110.6	109.1
155°	37.4	44.8	53.1	59.0	62.8	65.8	71.7	77.7	83.7	83.7	83.7
157.5°	23.2	29.1	35.9	41.1	43.3	46.3	50.8	56.0	60.5	62.8	62.8
160°	12.0	15.7	20.2	23.9	26.2	28.4	31.4	35.9	38.9	41.1	39.6
162.5°	5.2	6.7	9.0	10.5	12.0	12.7	14.9	17.2	18.7	22.4	19.4
165°	1.5	1.5	2.2	3.0	3.0	3.0	3.7	4.5	5.2	8.2	6.0
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: P201248

CATALOG NUMBER: 4LBLELD4-8-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3
2.5°	1016.4	1018.6	1021.6	1023.1	1025.3	1026.8	1030.6	1035.0	1031.3	1026.1	1026.8
5°	1020.1	1019.4	1021.6	1023.1	1024.6	1025.3	1029.1	1033.6	1029.1	1023.8	1023.8
7.5°	1021.6	1020.8	1021.6	1022.3	1023.1	1023.1	1026.8	1030.6	1026.1	1019.4	1017.9
10°	1019.4	1018.6	1019.4	1020.8	1020.8	1020.8	1023.1	1026.1	1020.8	1012.6	1009.6
12.5°	1020.8	1018.6	1018.6	1019.4	1019.4	1017.9	1018.6	1020.8	1014.1	1005.2	1000.7
15°	1026.1	1022.3	1020.8	1020.8	1019.4	1015.6	1014.1	1014.1	1006.6	994.7	988.7
17.5°	1038.8	1032.8	1028.3	1026.1	1023.1	1016.4	1011.1	1008.1	998.4	985.0	975.3
20°	1058.2	1050.0	1043.3	1038.8	1035.0	1023.1	1012.6	1004.4	991.0	974.5	961.8
22.5°	1077.6	1068.7	1059.0	1054.5	1049.2	1035.8	1021.6	1007.4	987.2	964.8	947.6
25°	1096.3	1087.4	1076.1	1071.7	1064.9	1049.2	1031.3	1014.9	988.7	958.1	933.4
27.5°	1118.0	1106.8	1094.8	1088.1	1080.6	1062.7	1042.5	1022.3	993.2	958.1	923.7
30°	1142.7	1129.2	1113.5	1106.0	1097.1	1076.1	1051.5	1027.6	996.2	958.1	918.5
32.5°	1171.1	1155.4	1136.7	1126.2	1115.8	1091.1	1061.9	1034.3	998.4	957.3	914.0
35°	1203.9	1186.0	1163.6	1151.6	1138.9	1109.8	1075.4	1041.8	1002.2	956.6	908.0
37.5°	1245.0	1224.1	1197.2	1182.3	1167.3	1132.9	1093.3	1053.0	1008.1	957.3	903.5
40°	1294.4	1269.7	1238.3	1219.6	1201.7	1162.1	1115.0	1067.2	1016.4	958.8	899.0
42.5°	1352.7	1322.8	1287.6	1266.0	1245.0	1195.7	1141.9	1085.1	1027.6	961.8	896.8
45°	1422.2	1390.8	1345.9	1319.0	1295.9	1238.3	1176.3	1109.0	1044.0	969.3	896.0
47.5°	1502.1	1462.5	1413.9	1382.6	1354.9	1288.4	1216.6	1138.9	1062.7	979.0	897.5
50°	1591.8	1547.0	1490.9	1458.0	1423.7	1347.4	1264.5	1174.0	1086.6	993.2	901.3
52.5°	1690.4	1641.1	1580.6	1541.7	1503.6	1415.4	1318.3	1218.9	1114.3	1011.1	908.0
55°	1792.8	1739.8	1672.5	1629.9	1587.3	1490.2	1381.8	1267.5	1150.9	1033.6	919.2
57.5°	1892.2	1837.7	1763.7	1720.3	1672.5	1569.4	1449.8	1320.5	1190.5	1059.7	931.9
60°	1984.1	1929.6	1854.9	1810.8	1758.5	1647.9	1519.3	1378.8	1231.6	1087.4	946.9
62.5°	2061.9	2009.6	1934.8	1890.0	1836.2	1721.8	1585.8	1435.6	1276.4	1116.5	961.1
65°	2119.4	2070.1	1997.6	1951.3	1899.7	1780.9	1641.9	1485.7	1313.8	1141.9	973.8
67.5°	2148.6	2102.2	2032.0	1987.9	1937.1	1819.0	1680.0	1519.3	1342.2	1159.8	982.0
70°	2145.6	2101.5	2035.7	1992.4	1943.8	1830.2	1693.4	1532.8	1354.9	1166.6	980.5
72.5°	2106.7	2062.6	2003.6	1961.7	1915.4	1809.3	1674.8	1520.8	1345.2	1156.1	968.5
75°	2029.7	1989.4	1929.6	1895.2	1853.4	1754.7	1626.2	1476.7	1312.3	1128.5	943.9
77.5°	1919.1	1888.5	1830.2	1798.1	1757.0	1665.8	1544.7	1410.2	1254.8	1082.1	905.8
80°	1783.9	1758.5	1701.7	1673.3	1632.9	1553.7	1449.1	1319.0	1178.5	1019.4	856.4
82.5°	1635.9	1606.7	1561.9	1535.8	1497.6	1426.6	1327.2	1221.1	1090.3	947.6	798.9
85°	1482.7	1455.8	1414.7	1392.3	1358.6	1295.1	1206.2	1112.8	996.9	868.4	736.9
87.5°	1337.0	1310.8	1271.9	1251.8	1221.1	1164.3	1086.6	1004.4	902.0	792.2	671.1
90°	1210.7	1186.0	1149.4	1130.7	1103.1	1051.5	981.2	907.3	816.8	715.9	612.1
92.5°	1106.8	1084.4	1050.0	1032.1	1007.4	960.3	896.8	829.5	748.1	660.6	564.2
95°	1024.6	1002.9	972.3	955.1	931.9	883.3	827.3	764.5	689.8	609.8	520.9
97.5°	958.1	940.1	906.5	890.1	871.4	822.1	771.2	709.2	639.7	565.0	482.0
100°	904.3	884.1	853.4	837.8	818.3	772.0	720.4	662.1	594.9	523.9	446.9
102.5°	862.4	841.5	813.1	795.2	776.5	729.4	678.6	621.8	557.5	488.8	414.8
105°	825.0	804.9	776.5	758.5	739.9	693.5	644.9	587.4	523.9	457.4	385.6
107.5°	789.9	772.0	743.6	725.7	707.0	660.6	612.1	555.3	493.2	428.2	358.7
110°	760.0	740.6	710.7	693.5	673.3	629.2	580.7	525.4	463.3	399.8	333.3



TEST NUMBER: P201248

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	730.1	709.2	679.3	662.1	642.0	597.9	550.0	495.5	434.9	373.7	309.4
115°	697.3	677.1	645.7	628.5	608.3	565.0	518.6	465.6	407.3	347.5	285.5
117.5°	662.1	642.0	610.6	594.1	574.7	532.1	488.0	436.4	379.6	322.1	261.6
120°	624.0	604.6	574.7	558.3	539.6	498.5	455.9	404.3	350.5	295.2	239.1
122.5°	585.2	566.5	537.3	520.9	502.9	464.1	422.2	372.2	320.6	269.0	217.5
125°	543.3	524.6	497.0	481.3	463.3	426.0	385.6	338.5	290.7	244.4	195.1
127.5°	494.7	479.8	452.9	437.2	420.7	387.9	349.0	306.4	262.3	217.5	173.4
130°	448.4	432.7	407.3	393.1	378.9	349.0	314.6	273.5	230.2	191.3	151.7
132.5°	399.8	385.6	363.9	352.0	339.3	312.4	277.3	236.9	200.3	166.7	131.5
135°	354.2	342.3	322.8	312.4	299.7	271.3	238.4	204.8	174.1	144.2	112.8
137.5°	311.6	299.7	281.7	270.5	257.1	231.7	204.8	177.1	148.7	123.3	95.7
140°	266.8	257.1	240.6	230.9	219.0	197.3	174.9	148.7	126.3	103.1	79.2
142.5°	228.7	220.5	204.0	195.1	184.6	166.7	145.7	125.6	105.4	85.2	65.0
145°	195.8	187.6	169.6	162.9	153.2	137.5	120.3	102.4	85.9	68.8	52.3
147.5°	163.7	153.9	138.3	132.3	124.8	111.4	97.9	83.7	69.5	54.6	40.4
150°	133.8	122.6	109.9	106.1	98.6	88.2	77.0	65.0	53.8	41.9	29.1
152.5°	105.4	95.7	85.2	81.5	75.5	68.8	59.0	49.3	40.4	29.1	20.2
155°	78.5	71.0	62.8	60.5	56.0	50.8	42.6	35.1	26.9	19.4	14.2
157.5°	55.3	49.3	43.3	41.9	38.9	34.4	27.7	21.7	17.2	12.7	9.7
160°	34.4	30.6	26.2	24.7	22.4	19.4	14.9	12.7	10.5	8.2	6.0
162.5°	16.4	14.2	12.7	12.0	10.5	9.0	8.2	6.7	6.0	5.2	4.5
165°	6.0	6.0	6.0	5.2	5.2	5.2	5.2	4.5	3.7	3.7	3.0
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: P201248

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3	1028.3
2.5°	1027.6	1029.1	1029.1	1029.8	1032.1	1036.5	1042.5	1043.3
5°	1024.6	1025.3	1025.3	1025.3	1027.6	1031.3	1037.3	1038.0
7.5°	1017.9	1017.9	1017.9	1017.9	1020.1	1023.1	1028.3	1029.1
10°	1008.9	1008.1	1008.1	1007.4	1008.9	1011.1	1017.1	1016.4
12.5°	997.7	996.2	995.4	995.4	994.7	996.9	1000.7	1001.4
15°	985.0	982.0	980.5	979.0	978.2	978.2	982.7	982.0
17.5°	970.0	965.5	963.3	961.1	958.1	958.1	961.1	960.3
20°	952.8	946.9	943.1	940.1	935.7	934.2	935.7	934.9
22.5°	935.7	925.9	922.2	917.7	911.0	908.0	907.3	906.5
25°	915.5	903.5	898.3	893.8	884.1	880.3	876.6	875.1
27.5°	897.5	880.3	873.6	866.1	854.9	849.7	843.7	842.2
30°	881.8	856.4	846.0	838.5	824.3	816.1	808.6	807.1
32.5°	869.9	834.8	820.6	811.6	792.2	781.0	771.2	766.8
35°	859.4	814.6	795.9	781.7	758.5	745.1	731.6	727.9
37.5°	849.7	797.4	772.7	753.3	727.1	707.7	692.8	686.8
40°	840.0	781.7	751.8	727.1	692.8	670.4	651.7	644.2
42.5°	831.0	766.0	733.9	704.0	659.1	632.2	612.1	601.6
45°	822.8	751.8	716.7	683.8	626.3	594.9	570.2	560.5
47.5°	816.8	738.4	699.5	663.6	595.6	556.8	531.3	518.6
50°	812.3	725.7	683.1	643.4	568.7	520.1	491.7	476.8
52.5°	810.1	714.4	668.1	625.5	544.1	485.0	451.4	440.2
55°	810.8	705.5	655.4	609.1	520.9	451.4	414.0	396.8
57.5°	812.3	697.3	642.7	592.6	497.7	418.5	376.7	358.7
60°	815.3	690.5	631.5	576.9	476.0	390.1	342.3	325.1
62.5°	818.3	684.5	620.3	562.0	455.1	363.9	307.9	288.5
65°	819.1	675.6	608.3	547.0	434.2	337.8	272.8	254.1
67.5°	816.1	664.4	593.4	529.9	412.5	312.4	239.9	220.5
70°	807.1	649.4	576.2	510.4	388.6	287.7	208.5	187.6
72.5°	790.7	630.0	556.0	488.8	365.4	261.6	180.1	154.7
75°	767.5	606.1	532.1	464.1	340.8	236.9	153.9	125.6
77.5°	736.1	575.4	503.7	436.4	313.9	211.5	131.5	98.6
80°	695.8	543.3	472.3	406.5	287.7	188.3	109.9	73.2
82.5°	647.9	506.7	438.7	375.9	263.1	164.4	89.7	50.8
85°	598.6	467.1	403.6	343.8	236.9	142.0	72.5	29.9
87.5°	550.0	427.5	369.9	314.6	210.0	121.8	56.0	12.0
90°	502.2	389.4	334.8	283.2	186.8	103.1	41.9	0.0
92.5°	462.6	361.0	311.6	262.3	171.9	93.4	35.9	0.0
95°	427.5	334.1	287.0	241.4	156.2	84.4	29.9	0.0
97.5°	395.3	308.6	265.3	222.0	142.0	74.7	24.7	0.0
100°	364.7	283.2	242.9	204.0	128.5	66.5	18.7	0.0
102.5°	337.8	260.8	222.7	184.6	115.1	58.3	13.5	0.0
105°	311.6	239.1	204.0	167.4	103.1	50.8	8.2	0.0
107.5°	288.5	219.0	185.3	151.7	91.9	44.1	5.2	0.0
110°	266.0	200.3	167.4	136.8	82.2	38.1	4.5	0.0



TEST NUMBER: P201248

CATALOG NUMBER: 4LBLED-LD4-8-SYMF-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	245.1	182.3	151.7	122.6	74.0	32.1	4.5	0.0
115°	223.5	165.2	136.8	110.6	65.8	26.2	3.7	0.0
117.5°	204.8	148.7	123.3	100.9	57.5	20.9	3.7	0.0
120°	186.1	134.5	112.1	90.4	50.1	15.7	3.7	0.0
122.5°	167.4	121.8	100.1	80.7	43.3	12.7	3.0	0.0
125°	150.2	108.4	88.9	70.2	35.9	11.2	3.0	0.0
127.5°	133.0	94.9	77.0	60.5	28.4	9.7	2.2	0.0
130°	115.8	81.5	65.8	50.8	21.7	8.2	2.2	0.0
132.5°	100.1	68.8	55.3	41.9	17.2	6.7	1.5	0.0
135°	84.4	57.5	45.6	32.9	13.5	6.0	1.5	0.0
137.5°	71.0	47.1	35.9	24.7	11.2	4.5	1.5	0.0
140°	58.3	37.4	26.9	18.7	9.0	3.7	0.7	0.0
142.5°	46.3	27.7	20.2	14.2	7.5	3.0	0.7	0.0
145°	35.9	20.2	14.9	11.2	6.7	2.2	0.7	0.0
147.5°	26.2	15.7	12.0	9.7	5.2	2.2	0.7	0.0
150°	18.7	12.0	9.7	7.5	3.7	1.5	0.7	0.0
152.5°	14.2	9.0	7.5	6.0	3.0	1.5	0.7	0.0
155°	10.5	6.7	6.0	4.5	2.2	1.5	0.7	0.0
157.5°	7.5	5.2	4.5	3.0	2.2	1.5	0.7	0.0
160°	4.5	3.7	3.0	2.2	1.5	0.7	0.7	0.0
162.5°	3.7	2.2	2.2	2.2	1.5	0.7	0.7	0.0
165°	2.2	1.5	1.5	1.5	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)