

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: P201329

Luminaire Tested: **4LBLED-LD4-8-SYMW-UNV-L835-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201329  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28136)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4LBLED-LD4-8-SYMW-UNV-L835-CD1-U  
Description: 4 ft. Low Bay Linear, 8000 lm, Wht Sym lens, 3.3.5K  
Light Source: (392) 3500K CCT, 80 CRI LEDS  
2UT217098A8354C  
Ballast/Driver: OSRAM  
(OTI85W01280CC)

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7882.6 lumens  
Efficiency: N/A  
Efficacy: 137.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 2.12 / 1.93  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')  
CIE Type: Semi-Direct

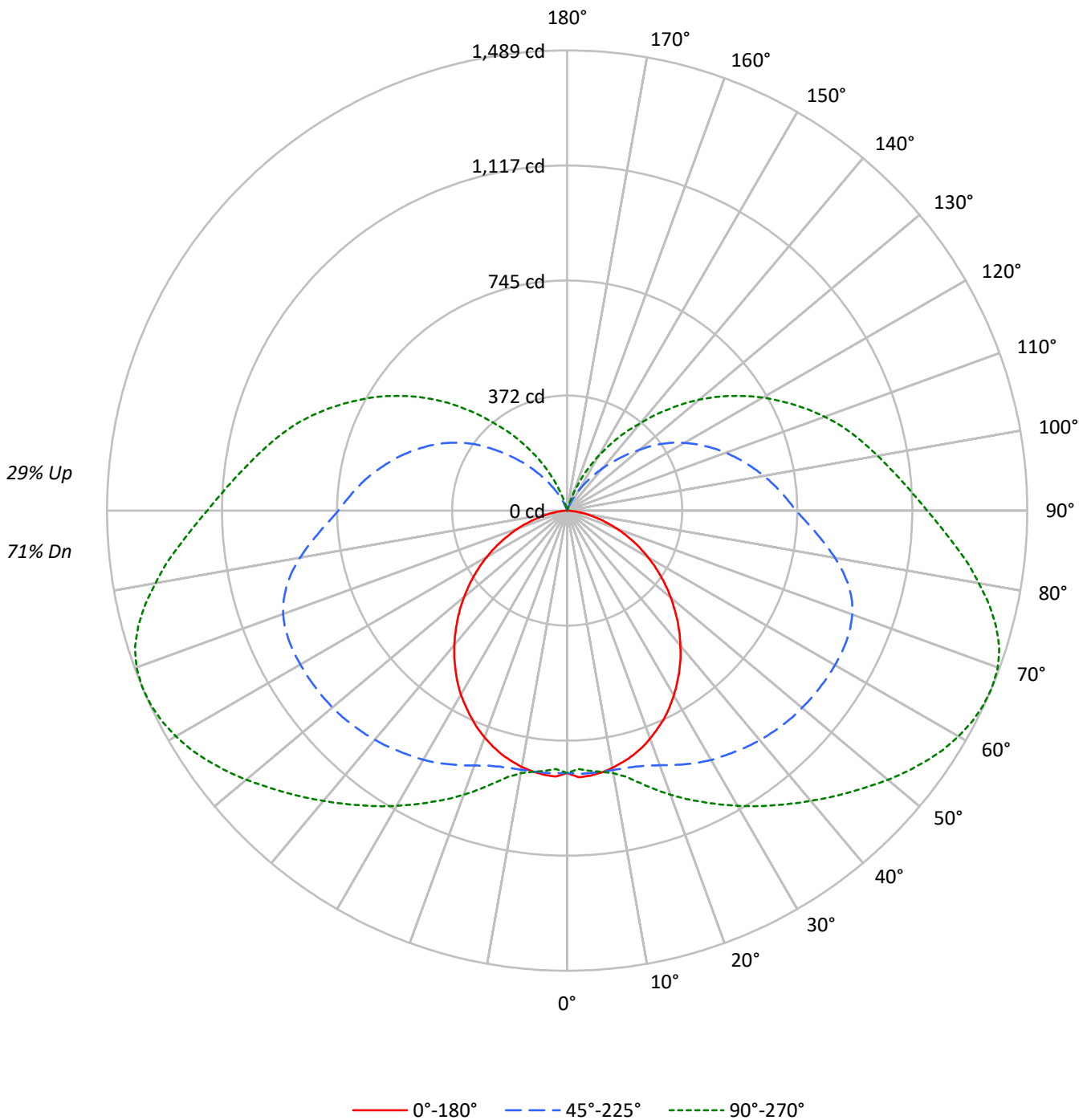
Input Watts (W): 57.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	97	90	84	79	91	85	80	75	75	71	67	66	63	60	58	55	53	49
2	86	76	67	60	81	71	64	57	63	57	51	55	50	46	48	44	40	36
3	77	65	55	48	72	61	52	45	54	47	41	47	41	36	41	36	32	28
4	70	56	46	39	65	53	44	37	47	39	33	41	35	30	35	30	26	23
5	64	50	40	32	60	47	38	31	41	34	28	36	30	25	31	26	22	19
6	59	44	34	27	55	42	33	26	37	29	24	32	26	21	28	23	19	16
7	54	40	30	24	50	37	29	23	33	26	20	29	23	18	25	20	16	14
8	50	36	27	21	47	34	25	20	30	23	18	26	20	16	23	18	14	12
9	47	33	24	18	44	31	23	17	27	21	16	24	18	14	21	16	13	10
10	43	30	22	16	41	28	21	15	25	19	14	22	17	13	20	15	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	13679	13679	13679
5°	13862	12329	13817
10°	13705	11578	13660
15°	13500	11415	13442
20°	13213	11544	13142
25°	12892	11705	12793
30°	12470	11938	12430
35°	12012	12237	11959
40°	11487	12612	11444
45°	10935	13090	10874
50°	10327	13674	10278
55°	9665	14308	9608
60°	8937	14923	8875
65°	8089	15441	8013
70°	7062	15802	6975
75°	5756	15834	5537
80°	4264	15569	3956
85°	2215	15258	1971



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.1	1.0
10°-20°	244.2	3.1
20°-30°	413.3	5.2
30°-40°	578.0	7.3
40°-50°	728.2	9.2
50°-60°	855.0	10.8
60°-70°	934.9	11.9
70°-80°	923.7	11.7
80°-90°	811.5	10.3
90°-100°	690.7	8.8
100°-110°	576.0	7.3
110°-120°	446.2	5.7
120°-130°	310.6	3.9
130°-140°	181.3	2.3
140°-150°	82.7	1.0
150°-160°	23.6	0.3
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	738.5	9.4
0°-40°	1316.5	16.7
0°-60°	2899.7	36.8
0°-90°	5569.9	70.7
90°-120°	1712.9	21.7
90°-150°	2287.5	29.0
90°-180°	2313.0	29.3
0°-180°	7882.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	849	849	849	849	849	
5°	861	853	845	852	858	82
15°	820	857	913	857	817	231
25°	743	906	1041	906	737	341
35°	633	952	1165	950	630	395
45°	505	983	1290	982	502	389
55°	370	998	1415	995	367	331
65°	236	998	1487	994	234	234
75°	110	944	1436	940	106	118
85°	19	807	1257	805	17	24
90°	0	740	1165	740	0	1
95°	0	694	1088	694	0	0
105°	1	597	956	599	0	1
115°	1	494	811	495	1	1
125°	1	377	646	377	1	1
135°	1	239	464	239	1	1
145°	2	122	287	121	1	1
155°	2	35	127	33	1	1
165°	2	4	9	0	1	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



TEST NUMBER: P201329

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	863.7	863.0	859.5	853.8	851.7	850.3	849.6	847.4	846.7	848.1	852.4
5°	860.9	859.5	856.6	851.7	849.6	848.9	848.1	846.0	845.3	847.4	853.1
7.5°	854.5	853.8	851.0	846.0	845.3	843.9	843.9	842.5	842.5	846.0	852.4
10°	845.3	844.6	841.8	838.2	837.5	837.5	837.5	837.5	838.9	844.6	852.4
12.5°	833.3	833.3	831.2	828.3	829.0	829.0	829.7	831.2	835.4	843.9	853.8
15°	820.5	819.8	817.7	817.0	819.1	819.8	822.0	825.5	832.6	844.6	857.4
17.5°	804.3	804.3	802.1	802.8	807.1	809.2	812.7	819.1	830.4	846.7	865.1
20°	785.1	785.8	785.1	787.3	794.3	798.6	802.8	813.5	829.7	852.4	877.2
22.5°	763.9	765.3	765.3	771.0	780.2	786.6	792.9	807.8	831.2	862.3	891.3
25°	742.7	742.7	744.8	752.6	765.3	773.1	783.0	804.3	836.1	872.9	905.5
27.5°	717.2	719.3	722.8	733.5	751.2	761.8	773.8	804.3	841.8	883.5	919.7
30°	690.3	692.4	698.1	712.9	735.6	749.0	766.0	804.3	846.7	892.0	931.7
32.5°	662.0	665.5	673.3	692.4	720.0	738.4	760.4	803.5	851.0	899.1	941.6
35°	632.9	636.5	648.5	671.2	707.3	728.5	754.0	801.4	853.1	905.5	951.5
37.5°	602.5	608.9	622.3	650.6	694.5	720.0	746.9	799.3	855.2	910.4	961.4
40°	569.9	576.3	595.4	629.4	681.8	708.7	738.4	796.5	856.6	915.4	969.9
42.5°	538.1	546.6	568.5	609.6	669.0	698.8	729.9	792.2	855.9	918.9	977.0
45°	504.8	514.7	541.6	590.4	654.9	686.7	720.0	786.6	854.5	921.1	983.4
47.5°	470.8	482.8	514.7	571.3	640.7	674.0	710.1	780.9	852.4	922.5	989.0
50°	437.5	451.7	487.8	552.2	625.1	660.5	698.1	774.5	848.9	923.2	992.6
52.5°	404.3	419.8	462.3	533.1	608.9	646.4	686.0	766.7	844.6	922.5	996.1
55°	369.6	386.6	436.8	512.6	591.9	630.8	672.6	756.8	838.2	919.7	998.2
57.5°	336.3	355.4	412.7	492.7	574.2	615.2	659.8	746.2	831.2	917.5	1000.4
60°	302.3	324.2	388.0	470.1	555.8	598.2	644.3	734.2	822.7	912.6	1000.4
62.5°	269.0	293.8	363.9	449.6	537.3	581.2	628.7	720.7	813.5	907.6	1000.4
65°	235.8	264.1	339.1	426.9	516.8	562.8	611.0	706.6	802.1	900.5	997.5
67.5°	203.2	235.8	313.6	403.5	495.6	543.0	592.6	690.3	789.4	891.3	991.9
70°	171.3	207.4	288.1	378.8	473.6	520.4	572.0	672.6	774.5	879.3	982.0
72.5°	139.5	180.5	261.2	354.0	450.3	498.4	550.8	652.0	756.1	863.0	966.4
75°	110.4	153.6	235.8	328.5	426.2	475.0	527.4	629.4	734.2	841.8	943.7
77.5°	84.2	128.9	211.0	303.7	400.7	451.7	503.4	604.6	708.7	814.9	914.0
80°	59.5	104.8	186.2	278.2	375.2	425.5	476.5	577.7	681.8	783.0	880.0
82.5°	36.8	82.8	161.4	253.5	350.4	400.0	450.3	550.8	651.3	749.7	843.2
85°	19.1	62.3	138.1	230.1	326.4	375.2	424.8	523.2	620.2	715.8	807.1
87.5°	6.4	45.3	118.9	209.6	304.4	353.3	401.4	497.0	591.2	682.5	771.7
90°	0.0	34.0	104.8	193.3	286.0	333.5	381.6	473.6	565.7	655.6	740.5
92.5°	0.0	29.0	95.6	181.9	273.3	320.0	366.7	458.1	546.6	633.6	716.5
95°	0.0	23.4	87.8	170.6	259.8	305.8	351.9	441.1	528.1	613.1	693.8
97.5°	0.0	18.4	79.3	160.0	246.4	291.0	335.6	424.1	509.0	592.6	670.4
100°	0.7	14.2	70.1	146.5	232.2	276.1	319.3	405.7	488.5	569.2	646.4
102.5°	0.7	9.9	61.6	135.2	217.3	259.8	302.3	386.6	468.0	548.0	621.6
105°	0.7	7.1	53.1	123.2	203.2	244.2	286.0	368.1	447.4	524.6	596.8
107.5°	0.7	5.0	45.3	111.9	189.0	228.0	268.3	348.3	426.2	501.2	572.0
110°	0.7	3.5	38.2	99.8	173.5	212.4	251.3	328.5	404.3	477.2	546.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.7	2.8	31.2	88.5	157.9	196.1	233.6	308.7	382.3	453.1	520.4
115°	0.7	2.8	24.8	77.9	142.3	179.1	215.2	288.9	358.9	428.3	493.5
117.5°	0.7	2.1	19.1	67.3	128.1	162.1	196.8	266.9	336.3	403.5	466.6
120°	0.7	2.1	14.2	56.6	113.3	145.1	179.1	245.7	312.2	377.3	437.5
122.5°	1.4	2.1	10.6	47.4	99.8	128.9	161.4	224.4	286.7	349.7	409.2
125°	1.4	1.4	8.5	38.2	85.7	112.6	141.6	202.5	259.1	319.3	377.3
127.5°	1.4	1.4	6.4	29.0	71.5	96.3	122.5	179.1	234.3	288.1	343.4
130°	1.4	1.4	5.7	21.2	58.1	80.0	104.1	155.0	206.7	256.3	306.6
132.5°	1.4	1.4	4.2	15.6	46.0	65.8	87.1	132.4	179.8	228.0	273.3
135°	1.4	1.4	3.5	11.3	34.7	52.4	70.8	111.2	154.3	199.6	239.3
137.5°	1.4	1.4	3.5	8.5	25.5	39.6	55.9	92.7	131.0	171.3	207.4
140°	1.4	1.4	2.8	7.1	17.7	29.0	42.5	74.3	106.9	144.4	179.1
142.5°	1.4	1.4	2.1	5.7	12.7	20.5	30.4	57.3	86.4	118.9	149.4
145°	2.1	1.4	2.1	5.0	9.2	14.2	21.2	43.2	66.5	95.6	122.5
147.5°	1.4	1.4	1.4	3.5	7.1	9.9	14.2	29.7	50.3	74.3	97.0
150°	2.1	1.4	1.4	2.8	5.7	7.1	9.9	19.8	34.7	54.5	74.3
152.5°	2.1	1.4	1.4	2.8	4.2	5.7	7.1	12.7	22.7	36.8	53.1
155°	2.1	1.4	1.4	2.1	3.5	4.2	5.7	8.5	13.5	22.7	34.7
157.5°	2.1	2.1	2.1	2.1	2.8	3.5	4.2	6.4	7.8	12.7	19.8
160°	2.1	2.1	1.4	1.4	2.1	2.1	2.8	4.2	5.7	7.1	9.9
162.5°	2.1	2.1	2.1	1.4	1.4	1.4	2.1	2.8	3.5	5.0	6.4
165°	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	2.1	2.8	3.5
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°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	853.8	850.3	848.9	846.0	843.9	842.5	840.4	838.9	837.5	836.8	836.8
5°	854.5	851.0	849.6	847.4	846.7	845.3	843.9	845.3	844.6	845.3	844.6
7.5°	855.2	852.4	852.4	851.7	851.0	851.0	849.6	851.0	851.7	852.4	851.7
10°	857.4	856.6	858.1	858.8	858.8	858.8	858.8	860.2	863.0	863.0	862.3
12.5°	860.9	863.0	867.3	870.8	872.2	872.2	875.1	877.9	881.4	882.1	881.4
15°	868.0	874.3	883.5	891.3	894.9	897.0	902.7	907.6	911.2	912.6	911.2
17.5°	880.7	892.7	906.9	918.2	922.5	925.3	933.1	938.1	942.3	945.8	944.4
20°	897.7	914.0	931.0	944.4	950.1	953.6	962.1	971.3	975.6	978.4	977.7
22.5°	916.1	935.2	954.3	970.6	977.0	981.2	991.9	1000.4	1006.7	1010.3	1009.6
25°	933.8	955.8	979.1	996.8	1004.6	1009.6	1020.9	1030.8	1037.9	1040.7	1040.0
27.5°	951.5	977.0	1002.5	1023.0	1030.8	1037.2	1050.6	1061.2	1069.7	1071.9	1071.9
30°	965.7	995.4	1023.0	1046.4	1054.9	1063.4	1078.2	1092.4	1100.2	1103.0	1102.3
32.5°	979.1	1012.4	1043.5	1069.7	1080.4	1088.9	1106.6	1122.1	1131.3	1134.2	1131.3
35°	992.6	1029.4	1064.1	1092.4	1103.7	1114.3	1134.2	1151.9	1161.8	1164.6	1163.2
37.5°	1005.3	1046.4	1083.9	1115.1	1128.5	1139.8	1160.4	1181.6	1192.2	1195.1	1192.2
40°	1017.4	1062.0	1103.0	1137.0	1151.9	1165.3	1189.4	1210.6	1222.7	1226.2	1224.8
42.5°	1028.7	1077.5	1122.1	1159.7	1176.6	1190.8	1217.7	1241.1	1253.8	1258.1	1254.5
45°	1038.6	1093.1	1141.2	1181.6	1200.0	1216.3	1246.7	1272.2	1285.0	1289.9	1285.7
47.5°	1048.5	1107.3	1158.9	1203.5	1224.8	1241.8	1275.8	1302.7	1317.5	1321.8	1317.5
50°	1057.7	1121.4	1178.1	1226.2	1248.9	1268.0	1304.8	1333.8	1348.7	1355.1	1349.4
52.5°	1066.2	1134.9	1195.8	1247.4	1272.2	1293.5	1333.1	1364.3	1382.0	1386.2	1380.5
55°	1074.7	1147.6	1211.3	1267.3	1294.2	1316.8	1360.0	1392.6	1410.3	1415.2	1409.6
57.5°	1081.8	1158.9	1226.2	1286.4	1314.0	1340.2	1383.4	1417.4	1435.8	1441.4	1435.8
60°	1086.7	1168.1	1239.7	1302.0	1331.0	1357.9	1403.9	1437.9	1456.3	1462.0	1456.3
62.5°	1090.3	1175.2	1248.9	1314.0	1345.1	1372.8	1419.5	1452.8	1471.9	1477.5	1471.9
65°	1091.0	1178.1	1253.8	1321.8	1353.6	1381.2	1428.7	1462.0	1481.8	1486.7	1481.1
67.5°	1086.7	1175.2	1253.8	1323.2	1355.1	1383.4	1430.8	1464.1	1483.2	1488.9	1483.2
70°	1078.2	1166.7	1246.7	1317.5	1349.4	1377.7	1424.4	1458.4	1477.5	1483.2	1476.8
72.5°	1062.0	1151.9	1231.9	1304.1	1334.5	1362.1	1408.2	1441.4	1459.8	1466.2	1459.1
75°	1038.6	1128.5	1208.5	1277.9	1309.7	1335.2	1381.2	1413.8	1430.8	1436.5	1430.1
77.5°	1008.1	1098.8	1175.9	1244.6	1276.5	1299.8	1344.4	1376.3	1393.3	1398.2	1391.9
80°	972.7	1062.7	1137.0	1205.0	1234.7	1256.6	1301.2	1331.7	1348.0	1352.9	1349.4
82.5°	933.8	1021.6	1093.8	1160.4	1188.7	1210.6	1254.5	1284.3	1300.5	1307.6	1302.0
85°	894.2	978.4	1049.2	1113.6	1142.0	1165.3	1205.7	1235.4	1251.7	1257.4	1253.8
87.5°	854.5	935.9	1004.6	1066.9	1093.1	1117.2	1157.5	1187.3	1203.5	1209.2	1205.0
90°	821.2	899.1	965.0	1026.6	1053.5	1075.4	1114.3	1142.7	1158.9	1164.6	1161.1
92.5°	794.3	868.7	932.4	989.0	1014.5	1037.9	1075.4	1103.0	1119.3	1124.3	1120.7
95°	768.9	841.1	902.7	957.9	982.7	1005.3	1040.7	1067.6	1083.2	1088.1	1085.3
97.5°	744.8	814.2	873.6	927.4	952.9	973.5	1007.4	1032.9	1048.5	1052.8	1048.5
100°	717.9	788.0	846.0	899.1	921.1	941.6	975.6	1001.1	1014.5	1020.2	1016.6
102.5°	692.4	759.7	817.0	869.4	892.7	913.3	944.4	969.2	984.8	988.3	984.8
105°	666.2	731.3	787.3	838.9	862.3	882.1	913.3	937.4	952.2	956.5	952.9
107.5°	639.3	702.3	758.2	807.1	829.7	848.1	880.0	903.4	916.1	923.9	918.2
110°	610.3	672.6	726.4	773.8	795.8	813.5	844.6	868.0	880.0	887.1	882.1





TEST NUMBER: P201329

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	583.4	642.1	693.8	739.8	760.4	778.1	808.5	831.2	842.5	849.6	844.6
115°	555.0	609.6	660.5	704.4	725.0	741.2	771.7	792.9	804.3	810.6	806.4
117.5°	524.6	577.7	625.8	669.0	688.1	704.4	733.5	754.7	765.3	770.3	766.0
120°	494.9	546.6	591.9	632.9	652.0	667.6	695.9	715.8	725.7	731.3	727.1
122.5°	463.7	514.0	555.0	596.1	613.8	628.7	654.2	675.4	684.6	689.6	686.7
125°	430.4	480.0	519.6	557.2	574.2	588.3	613.1	630.8	641.4	646.4	643.5
127.5°	395.8	443.2	483.5	518.2	534.5	550.1	570.6	590.4	597.5	603.2	600.4
130°	356.8	404.3	441.8	477.2	492.7	505.5	528.1	544.4	553.6	558.6	556.5
132.5°	318.6	362.5	402.1	434.0	448.9	462.3	482.8	498.4	511.2	511.9	509.0
135°	281.8	320.0	356.1	390.1	405.0	418.4	436.8	451.0	463.0	463.7	460.2
137.5°	246.4	281.8	312.9	344.8	360.4	374.5	391.5	405.0	416.3	418.4	413.5
140°	212.4	245.0	273.3	301.6	316.5	329.9	348.3	359.6	368.9	369.6	366.7
142.5°	179.8	209.6	234.3	260.5	274.0	286.0	306.6	317.9	326.4	328.5	324.2
145°	149.4	175.6	198.9	221.6	232.9	244.2	264.8	278.2	285.3	287.4	283.2
147.5°	120.4	142.3	162.8	183.4	193.3	203.9	220.9	237.9	244.2	245.7	242.1
150°	93.5	111.9	130.3	147.3	155.8	165.0	179.8	195.4	203.9	205.3	202.5
152.5°	68.7	84.2	99.1	113.3	120.4	127.4	140.2	155.0	165.7	166.4	163.5
155°	46.7	59.5	71.5	82.1	88.5	94.2	104.1	115.4	126.7	127.4	125.3
157.5°	28.3	36.8	46.7	55.2	59.5	64.4	71.5	80.0	89.9	92.0	89.9
160°	14.2	19.1	24.8	30.4	34.0	37.5	41.1	48.1	53.8	58.8	55.9
162.5°	7.1	8.5	9.9	12.7	14.2	16.3	19.1	21.9	24.8	29.7	26.2
165°	4.2	5.0	5.7	5.7	6.4	6.4	6.4	6.4	6.4	9.2	6.4
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201329

CATALOG NUMBER: 4LBLELD4-8-SYMW-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	838.9	840.4	843.2	844.6	846.0	847.4	850.3	854.5	851.0	847.4	848.1
5°	844.6	844.6	845.3	847.4	847.4	848.1	851.0	855.2	851.7	846.7	846.7
7.5°	851.7	851.0	851.7	852.4	851.7	851.7	853.1	855.2	851.0	845.3	843.9
10°	861.6	859.5	858.8	859.5	858.8	856.6	857.4	857.4	851.7	843.2	839.7
12.5°	879.3	875.8	872.9	872.2	870.1	866.6	864.4	861.6	853.1	843.2	836.1
15°	908.3	902.7	897.0	894.9	891.3	882.8	875.8	869.4	857.4	843.2	833.3
17.5°	940.9	933.8	926.0	923.2	918.2	906.2	894.2	882.1	865.1	845.3	831.2
20°	972.0	963.5	954.3	949.4	944.4	929.6	915.4	899.8	877.9	851.7	830.4
22.5°	1003.2	993.3	980.5	976.3	969.9	952.9	935.9	918.2	892.0	860.9	831.9
25°	1033.6	1022.3	1010.3	1003.2	996.1	977.0	956.5	935.2	905.5	871.5	836.8
27.5°	1064.1	1051.3	1036.5	1028.7	1021.6	1000.4	977.0	952.9	919.7	881.4	843.2
30°	1093.8	1079.7	1062.0	1053.5	1045.0	1020.9	994.0	967.1	931.0	889.9	847.4
32.5°	1123.5	1108.0	1088.1	1078.2	1068.3	1040.7	1011.0	980.5	940.9	897.7	851.0
35°	1152.6	1135.6	1113.6	1101.6	1091.0	1061.2	1028.0	994.0	950.1	904.1	853.1
37.5°	1182.3	1163.2	1139.1	1125.7	1113.6	1081.1	1044.3	1006.0	960.0	909.0	855.2
40°	1212.0	1191.5	1164.6	1150.5	1135.6	1100.2	1060.5	1018.1	968.5	914.0	855.9
42.5°	1242.5	1219.8	1190.1	1174.5	1158.9	1119.3	1075.4	1028.7	975.6	917.5	855.2
45°	1272.9	1247.4	1215.6	1197.9	1180.9	1137.7	1090.3	1037.9	982.0	919.7	853.8
47.5°	1303.4	1276.5	1241.8	1222.7	1202.1	1156.1	1104.4	1047.8	987.6	920.4	852.4
50°	1334.5	1305.5	1268.0	1246.7	1225.5	1173.8	1118.6	1056.3	991.2	921.1	848.9
52.5°	1365.0	1333.8	1293.5	1270.8	1246.0	1191.5	1132.0	1064.8	994.0	920.4	843.9
55°	1392.6	1360.0	1317.5	1293.5	1265.8	1207.8	1144.1	1071.9	995.4	918.2	837.5
57.5°	1418.1	1384.8	1340.2	1313.3	1286.4	1223.4	1155.4	1079.7	996.8	914.7	830.4
60°	1437.9	1404.6	1357.9	1331.0	1302.0	1236.1	1164.6	1083.9	996.8	909.7	821.2
62.5°	1452.8	1419.5	1372.8	1344.4	1314.0	1246.7	1171.7	1088.1	996.8	904.8	812.0
65°	1462.0	1429.4	1381.2	1352.9	1321.8	1251.7	1175.2	1088.9	994.0	897.7	800.7
67.5°	1463.4	1430.8	1382.7	1355.1	1323.2	1251.7	1173.1	1085.3	988.3	888.5	788.0
70°	1457.0	1424.4	1377.0	1348.7	1317.5	1245.3	1165.3	1076.8	978.4	876.5	773.1
72.5°	1440.7	1407.4	1361.4	1332.4	1302.0	1230.5	1149.0	1061.2	962.1	859.5	755.4
75°	1412.4	1379.8	1334.5	1307.6	1276.5	1206.4	1124.3	1038.6	939.5	838.2	733.5
77.5°	1374.9	1343.0	1298.4	1271.5	1242.5	1173.8	1093.1	1008.1	911.9	812.0	708.0
80°	1330.3	1299.8	1255.9	1229.7	1201.4	1134.9	1055.6	972.7	877.9	780.9	679.7
82.5°	1282.8	1253.1	1210.6	1183.7	1156.8	1092.4	1016.6	934.5	841.8	747.6	649.2
85°	1236.8	1205.0	1162.5	1137.7	1110.8	1047.8	976.3	894.9	805.0	713.6	619.5
87.5°	1188.7	1157.5	1115.8	1092.4	1066.9	1003.2	935.2	855.9	770.3	683.2	590.4
90°	1144.8	1114.3	1074.0	1050.6	1026.6	965.0	898.4	823.4	740.5	656.3	566.4
92.5°	1104.4	1076.1	1037.9	1015.2	991.9	933.1	869.4	796.5	716.5	635.0	547.3
95°	1069.7	1042.1	1006.7	984.8	960.7	904.8	842.5	771.0	694.5	615.2	529.6
97.5°	1035.1	1008.9	974.2	952.9	930.3	875.8	815.6	746.9	671.9	593.3	510.4
100°	1003.2	977.7	942.3	923.2	901.2	848.9	789.4	722.1	648.5	571.3	489.9
102.5°	972.0	946.6	912.6	893.5	872.2	819.8	761.8	695.2	623.7	549.4	470.1
105°	940.2	915.4	881.4	862.3	841.1	790.1	733.5	669.0	598.9	526.7	449.6
107.5°	905.5	881.4	848.9	829.7	809.9	758.9	704.4	641.4	574.2	503.4	428.3
110°	870.1	846.0	816.3	795.8	776.6	727.1	674.0	613.8	548.0	479.3	406.4



TEST NUMBER: P201329

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	833.3	809.9	780.9	761.8	742.0	694.5	643.5	585.5	521.8	454.5	383.7
115°	795.8	772.4	743.4	724.3	706.6	661.2	611.7	556.5	494.9	429.7	361.1
117.5°	754.7	734.2	706.6	689.6	671.2	625.8	579.8	526.7	468.0	403.5	337.7
120°	716.5	696.6	669.7	651.3	635.0	591.9	548.0	496.3	438.2	378.1	313.6
122.5°	676.1	654.9	630.1	614.5	596.8	557.2	514.7	465.1	408.5	349.0	287.4
125°	633.6	613.8	589.7	574.9	558.6	521.1	480.7	431.2	377.3	320.0	260.5
127.5°	590.4	572.0	548.7	535.2	519.6	482.8	443.9	395.8	341.9	288.1	232.9
130°	546.6	528.1	506.9	492.7	477.9	443.2	405.0	357.5	306.6	256.3	206.0
132.5°	500.5	482.8	461.6	448.9	435.4	402.1	363.2	317.2	271.9	226.6	179.8
135°	453.1	436.8	417.7	405.7	392.2	358.2	321.4	279.6	239.3	197.5	154.3
137.5°	407.1	392.2	373.8	361.8	346.9	315.0	282.5	245.0	208.1	169.2	128.9
140°	361.8	348.3	330.6	317.2	304.4	274.7	245.0	211.0	177.7	142.3	106.2
142.5°	319.3	307.3	287.4	274.7	262.7	236.5	210.3	178.4	148.7	116.8	85.7
145°	277.5	266.9	245.0	233.6	223.7	200.4	174.2	148.0	121.1	93.5	66.5
147.5°	237.2	224.4	203.9	194.0	184.8	164.2	142.3	118.2	96.3	72.2	48.8
150°	198.2	182.7	165.0	156.5	148.7	131.0	111.9	92.0	72.9	52.4	34.0
152.5°	157.9	141.6	129.6	121.1	114.0	99.8	84.2	67.3	51.7	35.4	21.2
155°	116.8	105.5	94.2	89.9	83.5	71.5	58.8	45.3	32.6	21.2	12.0
157.5°	80.7	72.2	65.1	60.9	55.9	46.7	36.1	26.2	18.4	11.3	5.7
160°	48.8	43.2	38.2	34.7	31.2	24.8	17.7	12.0	7.8	3.5	2.1
162.5°	21.9	18.4	16.3	14.2	12.0	9.2	5.7	2.8	1.4	0.7	0.7
165°	4.2	2.8	2.1	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201329

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	848.9	848.9	848.9	848.9	848.9	848.9	848.9	848.9
2.5°	848.9	849.6	850.3	850.3	852.4	855.9	860.9	861.6
5°	846.7	847.4	847.4	848.1	850.3	853.1	857.4	858.1
7.5°	843.2	843.2	843.2	843.2	844.6	847.4	851.0	851.7
10°	838.2	836.8	836.1	835.4	836.1	838.9	841.8	842.5
12.5°	832.6	829.0	827.6	826.9	826.9	827.6	830.4	830.4
15°	826.2	820.5	818.4	817.0	814.2	814.2	817.0	817.0
17.5°	819.8	812.0	807.8	805.0	800.7	800.0	801.4	800.0
20°	814.2	802.1	796.5	791.5	785.1	783.0	783.0	780.9
22.5°	808.5	792.2	784.4	777.4	767.4	763.9	761.8	760.4
25°	805.0	781.6	771.7	763.2	749.7	742.0	739.8	737.0
27.5°	804.3	773.1	759.7	749.0	730.6	721.4	715.8	712.2
30°	804.3	764.6	746.9	732.0	709.4	695.2	689.6	688.1
32.5°	803.5	758.2	737.0	717.9	688.9	670.4	662.0	659.8
35°	801.4	751.9	727.1	703.7	668.3	645.0	632.9	630.1
37.5°	798.6	744.1	717.9	691.0	647.1	618.8	603.9	599.7
40°	795.8	736.3	706.6	677.5	625.8	591.9	572.7	567.8
42.5°	790.8	727.8	696.6	664.8	606.0	565.0	543.0	535.2
45°	785.8	717.9	684.6	650.6	586.2	537.3	509.7	502.0
47.5°	779.5	707.3	672.6	635.0	567.8	510.4	479.3	469.4
50°	772.4	696.6	659.1	620.2	548.0	484.3	446.0	435.4
52.5°	764.6	684.6	645.7	604.6	528.1	459.5	414.9	401.4
55°	754.7	671.2	630.1	586.9	507.6	434.0	383.0	367.4
57.5°	744.1	657.7	615.2	570.6	487.1	409.9	351.9	334.2
60°	731.3	642.1	596.8	552.2	465.8	385.1	320.7	300.2
62.5°	717.9	626.6	580.5	533.1	444.6	361.1	290.3	266.9
65°	703.7	608.9	562.1	513.3	421.9	335.6	260.5	233.6
67.5°	686.7	589.7	541.6	492.0	398.6	310.1	231.5	201.1
70°	669.7	569.2	518.9	469.4	374.5	284.6	203.9	169.2
72.5°	649.2	547.3	496.3	446.0	349.7	259.8	177.0	137.3
75°	626.6	524.6	472.9	421.9	324.2	233.6	150.1	106.2
77.5°	602.5	499.8	448.9	397.2	300.2	208.9	125.3	80.0
80°	577.0	473.6	423.4	371.7	274.7	184.1	101.2	55.2
82.5°	548.7	448.1	397.9	346.2	250.6	160.0	79.3	34.0
85°	521.8	422.7	373.8	322.8	227.3	135.9	59.5	17.0
87.5°	495.6	399.3	351.9	301.6	207.4	117.5	43.2	5.0
90°	474.3	380.2	333.5	284.6	191.9	104.1	32.6	0.0
92.5°	457.3	365.3	319.3	271.9	180.5	94.9	27.6	0.0
95°	441.1	349.7	305.8	258.4	169.2	87.1	21.9	0.0
97.5°	423.4	334.9	291.0	245.0	157.9	78.6	17.7	0.0
100°	405.7	318.6	276.1	231.5	145.1	70.1	12.7	0.0
102.5°	386.6	301.6	259.8	216.6	133.8	60.9	8.5	0.0
105°	368.1	284.6	244.2	201.8	121.8	53.1	5.7	0.0
107.5°	348.3	267.6	228.0	187.6	109.7	44.6	3.5	0.0
110°	328.5	250.6	211.7	172.7	98.4	36.8	2.8	0.0



TEST NUMBER: P201329

CATALOG NUMBER: 4LBLED-LD4-8-SYMW-UNV-L835-CD1-U

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	308.7	232.9	195.4	157.2	87.1	29.7	2.1	0.7
115°	287.4	214.5	178.4	141.6	75.8	23.4	2.1	0.7
117.5°	266.2	195.4	162.1	126.7	65.1	17.7	1.4	0.7
120°	244.2	178.4	144.4	112.6	55.2	12.7	1.4	0.7
122.5°	223.0	160.7	128.1	97.7	45.3	9.9	1.4	0.7
125°	201.1	140.2	111.9	84.2	36.1	7.8	1.4	0.7
127.5°	177.7	121.1	94.9	69.4	27.6	5.7	1.4	0.7
130°	153.6	101.9	78.6	56.6	19.8	4.2	1.4	0.7
132.5°	131.0	85.7	63.7	44.6	14.2	3.5	1.4	0.7
135°	110.4	69.4	50.3	33.3	9.9	2.8	0.7	0.7
137.5°	90.6	55.2	38.2	24.1	7.1	2.1	1.4	0.7
140°	72.9	41.8	27.6	17.0	5.0	1.4	1.4	0.7
142.5°	56.6	29.7	19.1	11.3	3.5	1.4	0.7	0.7
145°	41.8	19.8	12.7	7.1	2.8	1.4	1.4	1.4
147.5°	28.3	13.5	7.8	5.0	2.1	1.4	1.4	0.7
150°	18.4	8.5	5.0	3.5	1.4	1.4	1.4	0.7
152.5°	11.3	5.0	2.8	2.1	1.4	1.4	1.4	0.7
155°	5.7	2.8	2.1	1.4	1.4	1.4	1.4	1.4
157.5°	2.8	2.1	1.4	1.4	1.4	1.4	1.4	1.4
160°	1.4	1.4	0.7	0.7	1.4	1.4	1.4	1.4
162.5°	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4
165°	0.0	0.7	0.7	0.7	1.4	1.4	1.4	1.4
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)