

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: P201328

Luminaire Tested: **4LBLED-LD4-7-SYMW-UNV-L835-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P201328
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28136)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U
Description: 4 ft. Low Bay Linear, 7000 lm, Wht Sym lens, 3.3.5K
Light Source: (392) 3500K CCT, 80 CRI LEDS
2UT217098A8354C
Ballast/Driver: OSRAM
(OTI50W01120CC)

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6953.7 lumens
Efficiency: N/A
Efficacy: 139.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 2.12 / 1.93
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

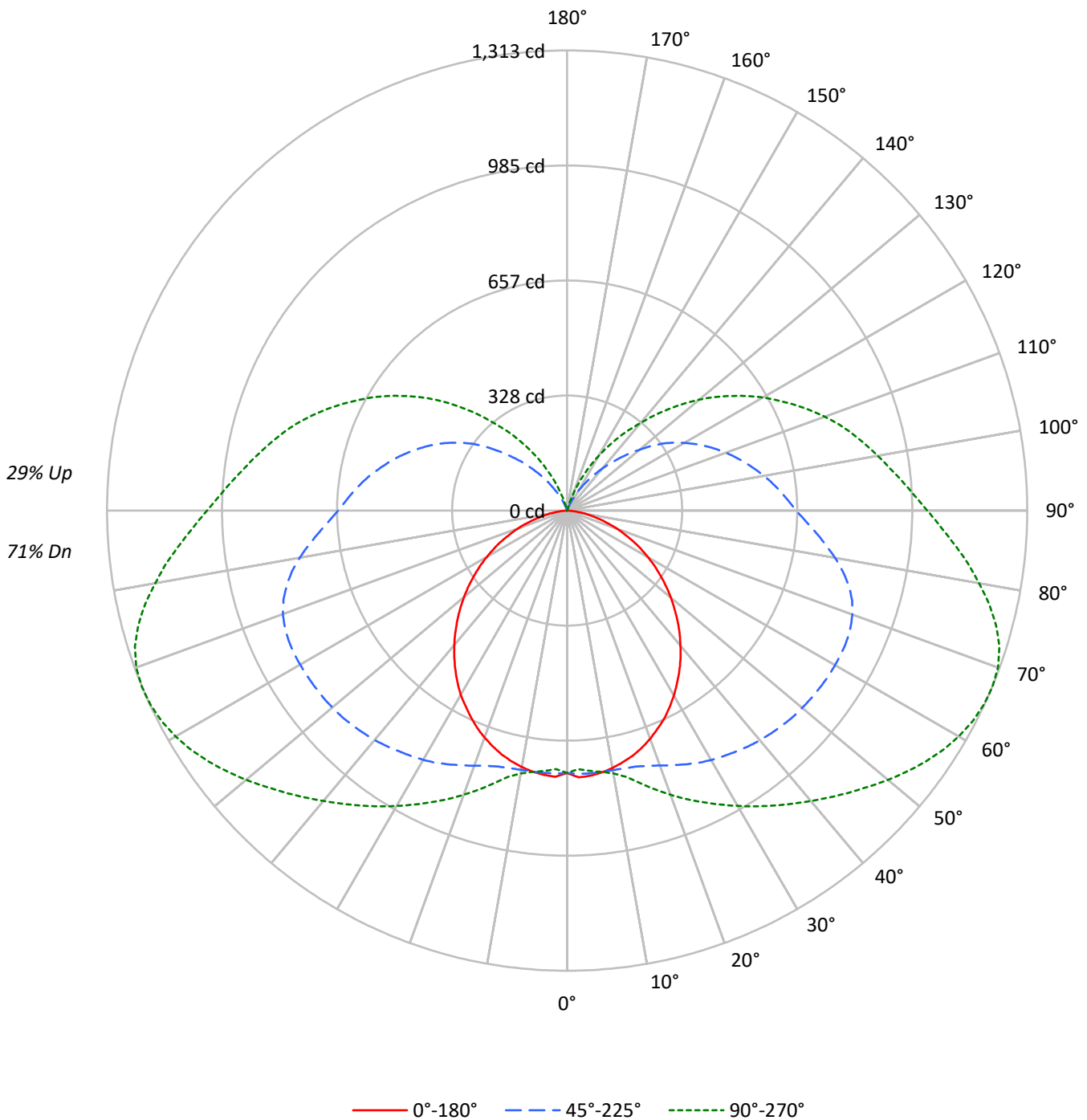
Input Watts (W): 49.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20						20								20					
RC	80					70						30								10	0				
RW	70	50	30	10		70	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°	12066	12066	12066
5°	12228	10877	12188
10°	12090	10214	12050
15°	11909	10069	11858
20°	11656	10184	11594
25°	11372	10326	11285
30°	10999	10531	10967
35°	10597	10795	10549
40°	10134	11126	10096
45°	9646	11548	9592
50°	9112	12062	9067
55°	8525	12622	8476
60°	7885	13164	7829
65°	7135	13622	7070
70°	6229	13940	6155
75°	5078	13968	4885
80°	3762	13735	3490
85°	1960	13460	1739



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.5	1.0
10°-20°	215.4	3.1
20°-30°	364.6	5.2
30°-40°	509.8	7.3
40°-50°	642.4	9.2
50°-60°	754.3	10.8
60°-70°	824.8	11.9
70°-80°	814.9	11.7
80°-90°	715.9	10.3
90°-100°	609.3	8.8
100°-110°	508.2	7.3
110°-120°	393.6	5.7
120°-130°	274.0	3.9
130°-140°	159.9	2.3
140°-150°	72.9	1.0
150°-160°	20.8	0.3
160°-170°	1.5	0.0
170°-180°	0.0	0.0
0°-30°	651.5	9.4
0°-40°	1161.4	16.7
0°-60°	2558.0	36.8
0°-90°	4913.5	70.7
90°-120°	1511.1	21.7
90°-150°	2017.9	29.0
90°-180°	2040.0	29.3
0°-180°	6953.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	749	749	749	749	749	
5°	759	753	746	751	757	72
15°	724	756	805	756	721	204
25°	655	799	918	799	650	301
35°	558	839	1027	838	556	349
45°	445	868	1138	866	443	343
55°	326	881	1248	878	324	292
65°	208	880	1312	877	206	206
75°	97	832	1267	829	94	104
85°	17	712	1109	710	15	21
90°	0	653	1027	653	0	1
95°	0	612	960	613	0	0
105°	1	526	844	528	0	1
115°	1	435	715	437	1	1
125°	1	333	570	333	1	1
135°	1	211	409	211	1	1
145°	2	108	254	107	1	1
155°	2	31	112	29	1	1
165°	2	3	8	0	1	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8
2.5°	761.9	761.3	758.2	753.2	751.3	750.1	749.5	747.6	747.0	748.2	751.9
5°	759.4	758.2	755.7	751.3	749.5	748.8	748.2	746.3	745.7	747.6	752.6
7.5°	753.8	753.2	750.7	746.3	745.7	744.5	744.5	743.2	743.2	746.3	751.9
10°	745.7	745.1	742.6	739.5	738.8	738.8	738.8	738.8	740.1	745.1	751.9
12.5°	735.1	735.1	733.2	730.7	731.3	731.3	732.0	733.2	737.0	744.5	753.2
15°	723.8	723.2	721.3	720.7	722.6	723.2	725.1	728.2	734.5	745.1	756.3
17.5°	709.5	709.5	707.6	708.2	712.0	713.9	717.0	722.6	732.6	747.0	763.2
20°	692.6	693.2	692.6	694.5	700.7	704.5	708.2	717.6	732.0	751.9	773.8
22.5°	673.9	675.1	675.1	680.1	688.2	693.9	699.5	712.6	733.2	760.7	786.3
25°	655.1	655.1	657.0	663.9	675.1	682.0	690.7	709.5	737.6	770.1	798.8
27.5°	632.7	634.5	637.7	647.0	662.6	672.0	682.6	709.5	742.6	779.4	811.3
30°	608.9	610.8	615.8	628.9	648.9	660.8	675.8	709.5	747.0	786.9	821.9
32.5°	583.9	587.1	593.9	610.8	635.2	651.4	670.8	708.9	750.7	793.2	830.6
35°	558.3	561.5	572.1	592.1	623.9	642.7	665.1	707.0	752.6	798.8	839.4
37.5°	531.5	537.1	549.0	574.0	612.7	635.2	658.9	705.1	754.4	803.2	848.1
40°	502.8	508.4	525.2	555.2	601.4	625.2	651.4	702.6	755.7	807.5	855.6
42.5°	474.7	482.1	501.5	537.7	590.2	616.4	643.9	698.9	755.1	810.7	861.9
45°	445.3	454.0	477.8	520.9	577.7	605.8	635.2	693.9	753.8	812.5	867.5
47.5°	415.3	425.9	454.0	504.0	565.2	594.6	626.4	688.9	751.9	813.8	872.5
50°	386.0	398.5	430.3	487.1	551.5	582.7	615.8	683.3	748.8	814.4	875.6
52.5°	356.6	370.4	407.8	470.3	537.1	570.2	605.2	676.4	745.1	813.8	878.7
55°	326.0	341.0	385.3	452.2	522.1	556.5	593.3	667.6	739.5	811.3	880.6
57.5°	296.7	313.5	364.1	434.7	506.5	542.7	582.1	658.3	733.2	809.4	882.5
60°	266.7	286.0	342.2	414.7	490.3	527.7	568.3	647.7	725.7	805.0	882.5
62.5°	237.3	259.2	321.0	396.6	474.0	512.7	554.6	635.8	717.6	800.7	882.5
65°	208.0	233.0	299.2	376.6	455.9	496.5	539.0	623.3	707.6	794.4	880.0
67.5°	179.2	208.0	276.7	356.0	437.2	479.0	522.7	608.9	696.4	786.3	875.0
70°	151.1	183.0	254.2	334.1	417.8	459.0	504.6	593.3	683.3	775.7	866.2
72.5°	123.0	159.3	230.5	312.3	397.2	439.7	485.9	575.2	667.0	761.3	852.5
75°	97.4	135.5	208.0	289.8	376.0	419.1	465.3	555.2	647.7	742.6	832.5
77.5°	74.3	113.7	186.1	267.9	353.5	398.5	444.1	533.4	625.2	718.8	806.3
80°	52.5	92.4	164.3	245.4	331.0	375.4	420.3	509.6	601.4	690.7	776.3
82.5°	32.5	73.1	142.4	223.6	309.1	352.9	397.2	485.9	574.6	661.4	743.8
85°	16.9	55.0	121.8	203.0	287.9	331.0	374.7	461.5	547.1	631.4	712.0
87.5°	5.6	40.0	104.9	184.9	268.6	311.6	354.1	438.4	521.5	602.1	680.8
90°	0.0	30.0	92.4	170.5	252.3	294.2	336.6	417.8	499.0	578.3	653.3
92.5°	0.0	25.6	84.3	160.5	241.1	282.3	323.5	404.1	482.1	559.0	632.0
95°	0.0	20.6	77.4	150.5	229.2	269.8	310.4	389.1	465.9	540.9	612.1
97.5°	0.0	16.2	69.9	141.1	217.3	256.7	296.0	374.1	449.0	522.7	591.4
100°	0.6	12.5	61.8	129.3	204.9	243.6	281.7	357.9	430.9	502.1	570.2
102.5°	0.6	8.7	54.3	119.3	191.7	229.2	266.7	341.0	412.8	483.4	548.3
105°	0.6	6.2	46.8	108.7	179.2	215.5	252.3	324.8	394.7	462.8	526.5
107.5°	0.6	4.4	40.0	98.7	166.8	201.1	236.7	307.3	376.0	442.2	504.6
110°	0.6	3.1	33.7	88.1	153.0	187.4	221.7	289.8	356.6	420.9	482.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.6	2.5	27.5	78.1	139.3	173.0	206.1	272.3	337.3	399.7	459.0
115°	0.6	2.5	21.9	68.7	125.5	158.0	189.9	254.8	316.6	377.8	435.3
117.5°	0.6	1.9	16.9	59.3	113.0	143.0	173.6	235.5	296.7	356.0	411.6
120°	0.6	1.9	12.5	50.0	99.9	128.0	158.0	216.7	275.4	332.9	386.0
122.5°	1.2	1.9	9.4	41.8	88.1	113.7	142.4	198.0	252.9	308.5	361.0
125°	1.2	1.2	7.5	33.7	75.6	99.3	124.9	178.6	228.6	281.7	332.9
127.5°	1.2	1.2	5.6	25.6	63.1	84.9	108.0	158.0	206.7	254.2	302.9
130°	1.2	1.2	5.0	18.7	51.2	70.6	91.8	136.8	182.4	226.1	270.4
132.5°	1.2	1.2	3.7	13.7	40.6	58.1	76.8	116.8	158.6	201.1	241.1
135°	1.2	1.2	3.1	10.0	30.6	46.2	62.5	98.1	136.2	176.1	211.1
137.5°	1.2	1.2	3.1	7.5	22.5	35.0	49.3	81.8	115.5	151.1	183.0
140°	1.2	1.2	2.5	6.2	15.6	25.6	37.5	65.6	94.3	127.4	158.0
142.5°	1.2	1.2	1.9	5.0	11.2	18.1	26.9	50.6	76.2	104.9	131.8
145°	1.9	1.2	1.9	4.4	8.1	12.5	18.7	38.1	58.7	84.3	108.0
147.5°	1.2	1.2	1.2	3.1	6.2	8.7	12.5	26.2	44.3	65.6	85.6
150°	1.9	1.2	1.2	2.5	5.0	6.2	8.7	17.5	30.6	48.1	65.6
152.5°	1.9	1.2	1.2	2.5	3.7	5.0	6.2	11.2	20.0	32.5	46.8
155°	1.9	1.2	1.2	1.9	3.1	3.7	5.0	7.5	11.9	20.0	30.6
157.5°	1.9	1.9	1.9	1.9	2.5	3.1	3.7	5.6	6.9	11.2	17.5
160°	1.9	1.9	1.2	1.2	1.9	1.9	2.5	3.7	5.0	6.2	8.7
162.5°	1.9	1.9	1.9	1.2	1.2	1.2	1.9	2.5	3.1	4.4	5.6
165°	1.9	1.9	1.2	1.2	1.2	1.2	1.2	1.2	1.9	2.5	3.1
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8
2.5°	753.2	750.1	748.8	746.3	744.5	743.2	741.3	740.1	738.8	738.2	738.2
5°	753.8	750.7	749.5	747.6	747.0	745.7	744.5	745.7	745.1	745.7	745.1
7.5°	754.4	751.9	751.9	751.3	750.7	750.7	749.5	750.7	751.3	751.9	751.3
10°	756.3	755.7	756.9	757.6	757.6	757.6	757.6	758.8	761.3	761.3	760.7
12.5°	759.4	761.3	765.1	768.2	769.4	769.4	771.9	774.4	777.6	778.2	777.6
15°	765.7	771.3	779.4	786.3	789.4	791.3	796.3	800.7	803.8	805.0	803.8
17.5°	776.9	787.5	800.0	810.0	813.8	816.3	823.1	827.5	831.3	834.4	833.1
20°	791.9	806.3	821.3	833.1	838.1	841.3	848.8	856.9	860.6	863.1	862.5
22.5°	808.2	825.0	841.9	856.2	861.9	865.6	875.0	882.5	888.1	891.2	890.6
25°	823.8	843.1	863.7	879.4	886.2	890.6	900.6	909.3	915.6	918.1	917.5
27.5°	839.4	861.9	884.4	902.5	909.3	915.0	926.8	936.2	943.7	945.6	945.6
30°	851.9	878.1	902.5	923.1	930.6	938.1	951.2	963.7	970.5	973.0	972.4
32.5°	863.7	893.1	920.6	943.7	953.1	960.5	976.2	989.9	998.0	1000.5	998.0
35°	875.6	908.1	938.7	963.7	973.7	983.0	1000.5	1016.1	1024.9	1027.4	1026.1
37.5°	886.9	923.1	956.2	983.7	995.5	1005.5	1023.6	1042.4	1051.7	1054.2	1051.7
40°	897.5	936.8	973.0	1003.0	1016.1	1028.0	1049.2	1068.0	1078.6	1081.7	1080.5
42.5°	907.5	950.6	989.9	1023.0	1038.0	1050.5	1074.2	1094.8	1106.1	1109.8	1106.7
45°	916.2	964.3	1006.8	1042.4	1058.6	1073.0	1099.8	1122.3	1133.5	1137.9	1134.2
47.5°	924.9	976.8	1022.4	1061.7	1080.5	1095.4	1125.4	1149.2	1162.3	1166.0	1162.3
50°	933.1	989.3	1039.2	1081.7	1101.7	1118.6	1151.0	1176.6	1189.8	1195.4	1190.4
52.5°	940.6	1001.1	1054.9	1100.4	1122.3	1141.0	1176.0	1203.5	1219.1	1222.9	1217.9
55°	948.1	1012.4	1068.6	1117.9	1141.7	1161.7	1199.7	1228.5	1244.1	1248.5	1243.5
57.5°	954.3	1022.4	1081.7	1134.8	1159.2	1182.3	1220.4	1250.3	1266.6	1271.6	1266.6
60°	958.7	1030.5	1093.6	1148.5	1174.1	1197.9	1238.5	1268.4	1284.7	1289.7	1284.7
62.5°	961.8	1036.7	1101.7	1159.2	1186.6	1211.0	1252.2	1281.6	1298.4	1303.4	1298.4
65°	962.4	1039.2	1106.1	1166.0	1194.1	1218.5	1260.3	1289.7	1307.2	1311.5	1306.5
67.5°	958.7	1036.7	1106.1	1167.3	1195.4	1220.4	1262.2	1291.6	1308.4	1313.4	1308.4
70°	951.2	1029.2	1099.8	1162.3	1190.4	1215.4	1256.6	1286.6	1303.4	1308.4	1302.8
72.5°	936.8	1016.1	1086.7	1150.4	1177.3	1201.6	1242.2	1271.6	1287.8	1293.4	1287.2
75°	916.2	995.5	1066.1	1127.3	1155.4	1177.9	1218.5	1247.2	1262.2	1267.2	1261.6
77.5°	889.3	969.3	1037.4	1097.9	1126.1	1146.7	1186.0	1214.1	1229.1	1233.5	1227.9
80°	858.1	937.4	1003.0	1063.0	1089.2	1108.6	1147.9	1174.8	1189.1	1193.5	1190.4
82.5°	823.8	901.2	964.9	1023.6	1048.6	1068.0	1106.7	1132.9	1147.3	1153.5	1148.5
85°	788.8	863.1	925.6	982.4	1007.4	1028.0	1063.6	1089.8	1104.2	1109.2	1106.1
87.5°	753.8	825.6	886.2	941.2	964.3	985.5	1021.1	1047.4	1061.7	1066.7	1063.0
90°	724.5	793.2	851.3	905.6	929.3	948.7	983.0	1008.0	1022.4	1027.4	1024.3
92.5°	700.7	766.3	822.5	872.5	895.0	915.6	948.7	973.0	987.4	991.8	988.7
95°	678.3	742.0	796.3	845.0	866.9	886.9	918.1	941.8	955.6	959.9	957.4
97.5°	657.0	718.2	770.7	818.2	840.6	858.7	888.7	911.2	924.9	928.7	924.9
100°	633.3	695.1	746.3	793.2	812.5	830.6	860.6	883.1	895.0	900.0	896.8
102.5°	610.8	670.1	720.7	766.9	787.5	805.7	833.1	855.0	868.7	871.9	868.7
105°	587.7	645.2	694.5	740.1	760.7	778.2	805.7	826.9	840.0	843.8	840.6
107.5°	564.0	619.5	668.9	712.0	732.0	748.2	776.3	796.9	808.2	815.0	810.0
110°	538.4	593.3	640.8	682.6	702.0	717.6	745.1	765.7	776.3	782.6	778.2



TEST NUMBER: P201328

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	514.6	566.5	612.1	652.6	670.8	686.4	713.2	733.2	743.2	749.5	745.1
115°	489.6	537.7	582.7	621.4	639.5	653.9	680.8	699.5	709.5	715.1	711.4
117.5°	462.8	509.6	552.1	590.2	607.1	621.4	647.0	665.8	675.1	679.5	675.8
120°	436.6	482.1	522.1	558.3	575.2	588.9	613.9	631.4	640.2	645.2	641.4
122.5°	409.1	453.4	489.6	525.9	541.5	554.6	577.1	595.8	603.9	608.3	605.8
125°	379.7	423.4	458.4	491.5	506.5	519.0	540.9	556.5	565.8	570.2	567.7
127.5°	349.1	391.0	426.6	457.2	471.5	485.3	503.4	520.9	527.1	532.1	529.6
130°	314.8	356.6	389.7	420.9	434.7	445.9	465.9	480.3	488.4	492.8	490.9
132.5°	281.0	319.8	354.7	382.8	396.0	407.8	425.9	439.7	450.9	451.5	449.0
135°	248.6	282.3	314.1	344.1	357.2	369.1	385.3	397.8	408.5	409.1	406.0
137.5°	217.3	248.6	276.0	304.2	317.9	330.4	345.4	357.2	367.2	369.1	364.7
140°	187.4	216.1	241.1	266.1	279.2	291.0	307.3	317.3	325.4	326.0	323.5
142.5°	158.6	184.9	206.7	229.8	241.7	252.3	270.4	280.4	287.9	289.8	286.0
145°	131.8	154.9	175.5	195.5	205.5	215.5	233.6	245.4	251.7	253.6	249.8
147.5°	106.2	125.5	143.6	161.8	170.5	179.9	194.9	209.8	215.5	216.7	213.6
150°	82.4	98.7	114.9	129.9	137.4	145.5	158.6	172.4	179.9	181.1	178.6
152.5°	60.6	74.3	87.4	99.9	106.2	112.4	123.7	136.8	146.1	146.8	144.3
155°	41.2	52.5	63.1	72.4	78.1	83.1	91.8	101.8	111.8	112.4	110.5
157.5°	25.0	32.5	41.2	48.7	52.5	56.8	63.1	70.6	79.3	81.2	79.3
160°	12.5	16.9	21.9	26.9	30.0	33.1	36.2	42.5	47.5	51.8	49.3
162.5°	6.2	7.5	8.7	11.2	12.5	14.4	16.9	19.4	21.9	26.2	23.1
165°	3.7	4.4	5.0	5.0	5.6	5.6	5.6	5.6	5.6	8.1	5.6
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: P201328

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8
2.5°	740.1	741.3	743.8	745.1	746.3	747.6	750.1	753.8	750.7	747.6	748.2
5°	745.1	745.1	745.7	747.6	747.6	748.2	750.7	754.4	751.3	747.0	747.0
7.5°	751.3	750.7	751.3	751.9	751.3	751.3	752.6	754.4	750.7	745.7	744.5
10°	760.1	758.2	757.6	758.2	757.6	755.7	756.3	756.3	751.3	743.8	740.7
12.5°	775.7	772.6	770.1	769.4	767.6	764.4	762.6	760.1	752.6	743.8	737.6
15°	801.3	796.3	791.3	789.4	786.3	778.8	772.6	766.9	756.3	743.8	735.1
17.5°	830.0	823.8	816.9	814.4	810.0	799.4	788.8	778.2	763.2	745.7	733.2
20°	857.5	850.0	841.9	837.5	833.1	820.0	807.5	793.8	774.4	751.3	732.6
22.5°	885.0	876.2	865.0	861.2	855.6	840.6	825.6	810.0	786.9	759.4	733.8
25°	911.8	901.8	891.2	885.0	878.7	861.9	843.8	825.0	798.8	768.8	738.2
27.5°	938.7	927.4	914.3	907.5	901.2	882.5	861.9	840.6	811.3	777.6	743.8
30°	964.9	952.4	936.8	929.3	921.8	900.6	876.9	853.1	821.3	785.1	747.6
32.5°	991.1	977.4	959.9	951.2	942.4	918.1	891.8	865.0	830.0	791.9	750.7
35°	1016.8	1001.8	982.4	971.8	962.4	936.2	906.8	876.9	838.1	797.5	752.6
37.5°	1043.0	1026.1	1004.9	993.0	982.4	953.7	921.2	887.5	846.9	801.9	754.4
40°	1069.2	1051.1	1027.4	1014.9	1001.8	970.5	935.6	898.1	854.4	806.3	755.1
42.5°	1096.1	1076.1	1049.9	1036.1	1022.4	987.4	948.7	907.5	860.6	809.4	754.4
45°	1122.9	1100.4	1072.3	1056.7	1041.7	1003.6	961.8	915.6	866.2	811.3	753.2
47.5°	1149.8	1126.1	1095.4	1078.6	1060.5	1019.9	974.3	924.3	871.2	811.9	751.9
50°	1177.3	1151.7	1118.6	1099.8	1081.1	1035.5	986.8	931.8	874.4	812.5	748.8
52.5°	1204.1	1176.6	1141.0	1121.1	1099.2	1051.1	998.6	939.3	876.9	811.9	744.5
55°	1228.5	1199.7	1162.3	1141.0	1116.7	1065.5	1009.3	945.6	878.1	810.0	738.8
57.5°	1251.0	1221.6	1182.3	1158.5	1134.8	1079.2	1019.3	952.4	879.4	806.9	732.6
60°	1268.4	1239.1	1197.9	1174.1	1148.5	1090.5	1027.4	956.2	879.4	802.5	724.5
62.5°	1281.6	1252.2	1211.0	1186.0	1159.2	1099.8	1033.6	959.9	879.4	798.2	716.4
65°	1289.7	1261.0	1218.5	1193.5	1166.0	1104.2	1036.7	960.5	876.9	791.9	706.4
67.5°	1290.9	1262.2	1219.7	1195.4	1167.3	1104.2	1034.9	957.4	871.9	783.8	695.1
70°	1285.3	1256.6	1214.7	1189.8	1162.3	1098.6	1028.0	949.9	863.1	773.2	682.0
72.5°	1270.9	1241.6	1201.0	1175.4	1148.5	1085.5	1013.6	936.2	848.8	758.2	666.4
75°	1246.0	1217.2	1177.3	1153.5	1126.1	1064.2	991.8	916.2	828.8	739.5	647.0
77.5°	1212.9	1184.8	1145.4	1121.7	1096.1	1035.5	964.3	889.3	804.4	716.4	624.5
80°	1173.5	1146.7	1107.9	1084.8	1059.8	1001.1	931.2	858.1	774.4	688.9	599.6
82.5°	1131.7	1105.4	1068.0	1044.2	1020.5	963.7	896.8	824.4	742.6	659.5	572.7
85°	1091.1	1063.0	1025.5	1003.6	979.9	924.3	861.2	789.4	710.1	629.5	546.5
87.5°	1048.6	1021.1	984.3	963.7	941.2	885.0	825.0	755.1	679.5	602.7	520.9
90°	1009.9	983.0	947.4	926.8	905.6	851.3	792.5	726.3	653.3	579.0	499.6
92.5°	974.3	949.3	915.6	895.6	875.0	823.1	766.9	702.6	632.0	560.2	482.8
95°	943.7	919.3	888.1	868.7	847.5	798.2	743.2	680.1	612.7	542.7	467.2
97.5°	913.1	890.0	859.4	840.6	820.6	772.6	719.5	658.9	592.7	523.4	450.3
100°	885.0	862.5	831.3	814.4	795.0	748.8	696.4	637.0	572.1	504.0	432.2
102.5°	857.5	835.0	805.0	788.2	769.4	723.2	672.0	613.3	550.2	484.6	414.7
105°	829.4	807.5	777.6	760.7	742.0	697.0	647.0	590.2	528.4	464.7	396.6
107.5°	798.8	777.6	748.8	732.0	714.5	669.5	621.4	565.8	506.5	444.1	377.8
110°	767.6	746.3	720.1	702.0	685.1	641.4	594.6	541.5	483.4	422.8	358.5



TEST NUMBER: P201328

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	735.1	714.5	688.9	672.0	654.5	612.7	567.7	516.5	460.3	401.0	338.5
115°	702.0	681.4	655.8	638.9	623.3	583.3	539.6	490.9	436.6	379.1	318.5
117.5°	665.8	647.7	623.3	608.3	592.1	552.1	511.5	464.7	412.8	356.0	297.9
120°	632.0	614.6	590.8	574.6	560.2	522.1	483.4	437.8	386.6	333.5	276.7
122.5°	596.4	577.7	555.8	542.1	526.5	491.5	454.0	410.3	360.4	307.9	253.6
125°	559.0	541.5	520.2	507.1	492.8	459.7	424.1	380.3	332.9	282.3	229.8
127.5°	520.9	504.6	484.0	472.2	458.4	425.9	391.6	349.1	301.7	254.2	205.5
130°	482.1	465.9	447.2	434.7	421.6	391.0	357.2	315.4	270.4	226.1	181.7
132.5°	441.6	425.9	407.2	396.0	384.1	354.7	320.4	279.8	239.8	199.9	158.6
135°	399.7	385.3	368.5	357.9	346.0	316.0	283.5	246.7	211.1	174.2	136.2
137.5°	359.1	346.0	329.8	319.1	306.0	277.9	249.2	216.1	183.6	149.3	113.7
140°	319.1	307.3	291.7	279.8	268.6	242.3	216.1	186.1	156.8	125.5	93.7
142.5°	281.7	271.1	253.6	242.3	231.7	208.6	185.5	157.4	131.2	103.0	75.6
145°	244.8	235.5	216.1	206.1	197.4	176.7	153.6	130.5	106.8	82.4	58.7
147.5°	209.2	198.0	179.9	171.1	163.0	144.9	125.5	104.3	84.9	63.7	43.1
150°	174.9	161.1	145.5	138.0	131.2	115.5	98.7	81.2	64.3	46.2	30.0
152.5°	139.3	124.9	114.3	106.8	100.6	88.1	74.3	59.3	45.6	31.2	18.7
155°	103.0	93.1	83.1	79.3	73.7	63.1	51.8	40.0	28.7	18.7	10.6
157.5°	71.2	63.7	57.5	53.7	49.3	41.2	31.9	23.1	16.2	10.0	5.0
160°	43.1	38.1	33.7	30.6	27.5	21.9	15.6	10.6	6.9	3.1	1.9
162.5°	19.4	16.2	14.4	12.5	10.6	8.1	5.0	2.5	1.2	0.6	0.6
165°	3.7	2.5	1.9	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P201328

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	748.8	748.8	748.8	748.8	748.8	748.8	748.8	748.8
2.5°	748.8	749.5	750.1	750.1	751.9	755.1	759.4	760.1
5°	747.0	747.6	747.6	748.2	750.1	752.6	756.3	756.9
7.5°	743.8	743.8	743.8	743.8	745.1	747.6	750.7	751.3
10°	739.5	738.2	737.6	737.0	737.6	740.1	742.6	743.2
12.5°	734.5	731.3	730.1	729.5	729.5	730.1	732.6	732.6
15°	728.8	723.8	722.0	720.7	718.2	718.2	720.7	720.7
17.5°	723.2	716.4	712.6	710.1	706.4	705.7	707.0	705.7
20°	718.2	707.6	702.6	698.2	692.6	690.7	690.7	688.9
22.5°	713.2	698.9	692.0	685.7	677.0	673.9	672.0	670.8
25°	710.1	689.5	680.8	673.3	661.4	654.5	652.6	650.1
27.5°	709.5	682.0	670.1	660.8	644.5	636.4	631.4	628.3
30°	709.5	674.5	658.9	645.8	625.8	613.3	608.3	607.1
32.5°	708.9	668.9	650.1	633.3	607.7	591.4	583.9	582.1
35°	707.0	663.3	641.4	620.8	589.6	569.0	558.3	555.8
37.5°	704.5	656.4	633.3	609.6	570.8	545.9	532.7	529.0
40°	702.0	649.5	623.3	597.7	552.1	522.1	505.3	500.9
42.5°	697.6	642.0	614.6	586.4	534.6	498.4	479.0	472.2
45°	693.2	633.3	603.9	574.0	517.1	474.0	449.7	442.8
47.5°	687.6	623.9	593.3	560.2	500.9	450.3	422.8	414.1
50°	681.4	614.6	581.4	547.1	483.4	427.2	393.5	384.1
52.5°	674.5	603.9	569.6	533.4	465.9	405.3	366.0	354.1
55°	665.8	592.1	555.8	517.7	447.8	382.8	337.9	324.1
57.5°	656.4	580.2	542.7	503.4	429.7	361.6	310.4	294.8
60°	645.2	566.5	526.5	487.1	410.9	339.8	282.9	264.8
62.5°	633.3	552.7	512.1	470.3	392.2	318.5	256.1	235.5
65°	620.8	537.1	495.9	452.8	372.2	296.0	229.8	206.1
67.5°	605.8	520.2	477.8	434.1	351.6	273.5	204.2	177.4
70°	590.8	502.1	457.8	414.1	330.4	251.1	179.9	149.3
72.5°	572.7	482.8	437.8	393.5	308.5	229.2	156.1	121.2
75°	552.7	462.8	417.2	372.2	286.0	206.1	132.4	93.7
77.5°	531.5	440.9	396.0	350.4	264.8	184.2	110.5	70.6
80°	509.0	417.8	373.5	327.9	242.3	162.4	89.3	48.7
82.5°	484.0	395.3	351.0	305.4	221.1	141.1	69.9	30.0
85°	460.3	372.9	329.8	284.8	200.5	119.9	52.5	15.0
87.5°	437.2	352.2	310.4	266.1	183.0	103.7	38.1	4.4
90°	418.4	335.4	294.2	251.1	169.3	91.8	28.7	0.0
92.5°	403.5	322.3	281.7	239.8	159.3	83.7	24.4	0.0
95°	389.1	308.5	269.8	228.0	149.3	76.8	19.4	0.0
97.5°	373.5	295.4	256.7	216.1	139.3	69.3	15.6	0.0
100°	357.9	281.0	243.6	204.2	128.0	61.8	11.2	0.0
102.5°	341.0	266.1	229.2	191.1	118.0	53.7	7.5	0.0
105°	324.8	251.1	215.5	178.0	107.4	46.8	5.0	0.0
107.5°	307.3	236.1	201.1	165.5	96.8	39.3	3.1	0.0
110°	289.8	221.1	186.7	152.4	86.8	32.5	2.5	0.0



TEST NUMBER: P201328

CATALOG NUMBER: 4LBLED-LD4-7-SYMW-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	272.3	205.5	172.4	138.6	76.8	26.2	1.9	0.6
115°	253.6	189.2	157.4	124.9	66.8	20.6	1.9	0.6
117.5°	234.8	172.4	143.0	111.8	57.5	15.6	1.2	0.6
120°	215.5	157.4	127.4	99.3	48.7	11.2	1.2	0.6
122.5°	196.7	141.8	113.0	86.2	40.0	8.7	1.2	0.6
125°	177.4	123.7	98.7	74.3	31.9	6.9	1.2	0.6
127.5°	156.8	106.8	83.7	61.2	24.4	5.0	1.2	0.6
130°	135.5	89.9	69.3	50.0	17.5	3.7	1.2	0.6
132.5°	115.5	75.6	56.2	39.3	12.5	3.1	1.2	0.6
135°	97.4	61.2	44.3	29.4	8.7	2.5	0.6	0.6
137.5°	79.9	48.7	33.7	21.2	6.2	1.9	1.2	0.6
140°	64.3	36.8	24.4	15.0	4.4	1.2	1.2	0.6
142.5°	50.0	26.2	16.9	10.0	3.1	1.2	0.6	0.6
145°	36.8	17.5	11.2	6.2	2.5	1.2	1.2	1.2
147.5°	25.0	11.9	6.9	4.4	1.9	1.2	1.2	0.6
150°	16.2	7.5	4.4	3.1	1.2	1.2	1.2	0.6
152.5°	10.0	4.4	2.5	1.9	1.2	1.2	1.2	0.6
155°	5.0	2.5	1.9	1.2	1.2	1.2	1.2	1.2
157.5°	2.5	1.9	1.2	1.2	1.2	1.2	1.2	1.2
160°	1.2	1.2	0.6	0.6	1.2	1.2	1.2	1.2
162.5°	0.6	0.6	0.6	0.6	1.2	1.2	1.2	1.2
165°	0.0	0.6	0.6	0.6	1.2	1.2	1.2	1.2
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)