

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251933

Luminaire Tested: **LD4B30D010 EU4B30508027 4LBDW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251933  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B30D010 EU4B30508027 4LBDW1H  
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2410.0 lumens  
Efficiency: N/A  
Efficacy: 86.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

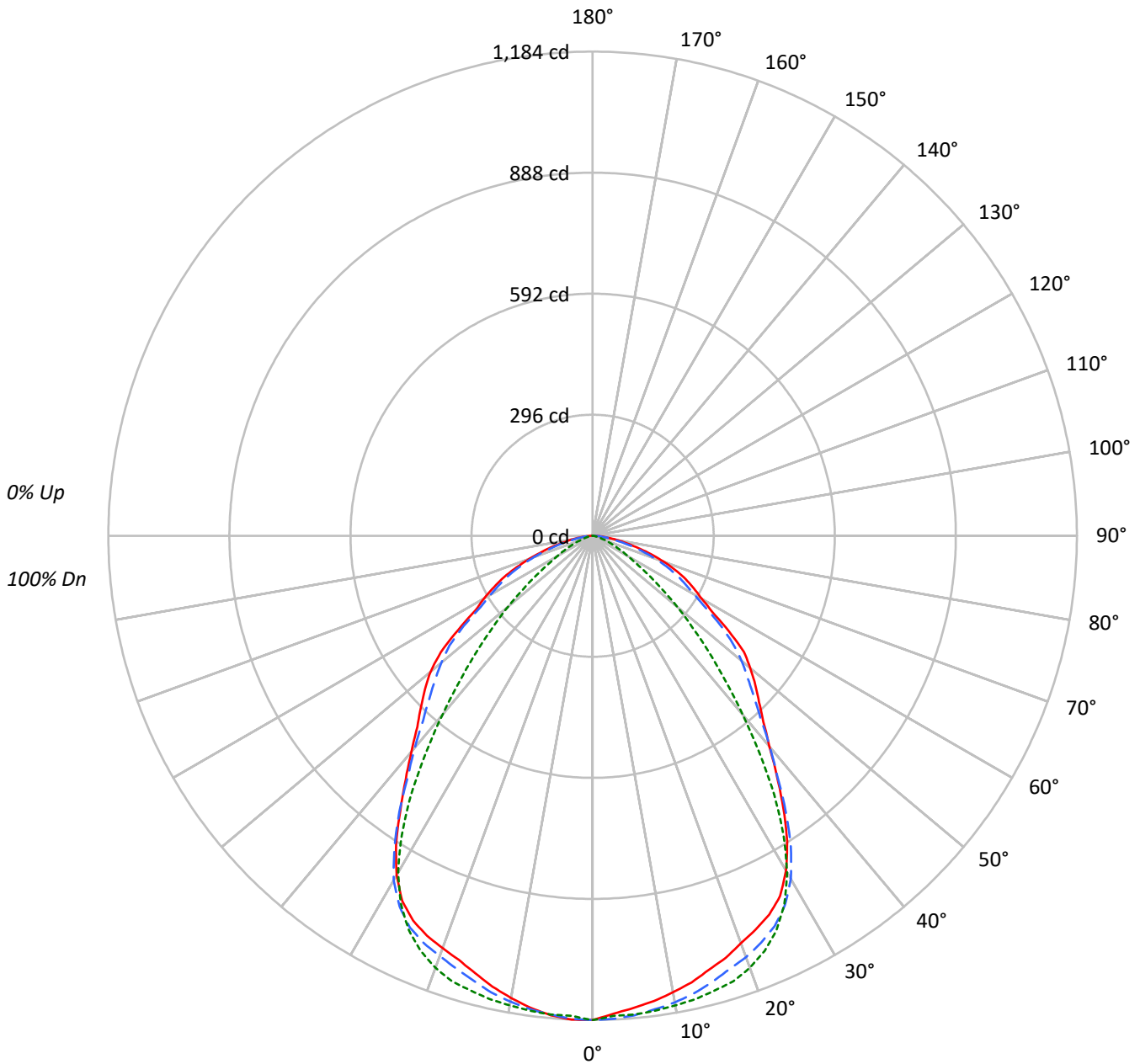
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100				
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51				
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46				
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

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

	0°	90°	180°
0°	115410	115410	115410
5°	113356	114960	115137
10°	112143	115389	113578
15°	110844	116172	111763
20°	109967	116583	111284
25°	109899	114404	111662
30°	106402	107021	107842
35°	96667	92122	97535
40°	85519	72542	87605
45°	79347	55241	81855
50°	76233	40876	78447
55°	69036	28172	68101
60°	60015	19180	59664
65°	57974	13859	55046
70°	52430	9346	46732
75°	43228	6175	37052
80°	34741	4097	27613
85°	28514	2013	18339



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.8	4.6
10°-20°	319.6	13.3
20°-30°	482.9	20.0
30°-40°	505.3	21.0
40°-50°	409.3	17.0
50°-60°	297.7	12.4
60°-70°	183.6	7.6
70°-80°	83.0	3.4
80°-90°	16.8	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	914.3	37.9
0°-40°	1419.6	58.9
0°-60°	2126.6	88.2
0°-90°	2410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2410.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1184	1184	1184	1184	1184	
5°	1159	1177	1175	1175	1177	110
15°	1099	1130	1151	1126	1108	310
25°	1022	1053	1064	1057	1038	468
35°	812	824	774	824	820	506
45°	576	558	401	565	594	447
55°	406	381	166	384	401	362
65°	251	226	60	222	239	246
75°	115	98	16	86	98	125
85°	26	20	2	15	16	29
90°	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°	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2
2.5°	1169.6	1169.6	1180.5	1193.3	1182.4	1171.4	1178.7	1175.1	1187.8	1187.8	1182.4
5°	1158.7	1162.3	1171.4	1182.4	1173.2	1162.3	1171.4	1167.8	1180.5	1180.5	1176.9
7.5°	1147.7	1149.6	1160.5	1173.2	1164.1	1153.2	1160.5	1158.7	1169.6	1171.4	1167.8
10°	1133.2	1135.0	1145.9	1158.7	1149.6	1140.5	1147.7	1145.9	1160.5	1160.5	1158.7
12.5°	1118.6	1120.4	1131.3	1142.3	1133.2	1124.1	1131.3	1131.3	1145.9	1147.7	1145.9
15°	1098.6	1102.2	1111.3	1122.2	1116.8	1105.8	1113.1	1113.1	1125.9	1129.5	1129.5
17.5°	1082.2	1084.0	1093.1	1104.0	1096.7	1087.6	1094.9	1094.9	1107.7	1111.3	1111.3
20°	1060.3	1063.9	1073.0	1084.0	1078.5	1071.2	1076.7	1076.7	1091.3	1094.9	1096.7
22.5°	1042.1	1045.7	1053.0	1067.6	1058.5	1053.0	1060.3	1058.5	1074.9	1076.7	1076.7
25°	1022.0	1025.7	1034.8	1043.9	1038.4	1033.0	1038.4	1038.4	1051.2	1053.0	1053.0
27.5°	992.9	994.7	1003.8	1012.9	1007.5	1000.2	1007.5	1005.6	1018.4	1020.2	1018.4
30°	945.5	949.2	952.8	965.6	960.1	954.6	961.9	958.3	971.0	971.0	969.2
32.5°	885.4	885.4	892.7	901.8	894.5	890.9	896.3	898.2	907.3	907.3	901.8
35°	812.5	816.2	821.6	827.1	821.6	818.0	823.5	821.6	832.6	828.9	823.5
37.5°	739.7	741.5	746.9	754.2	746.9	741.5	743.3	741.5	750.6	750.6	741.5
40°	672.2	675.9	679.5	686.8	679.5	675.9	677.7	672.2	683.2	679.5	674.1
42.5°	617.6	619.4	624.9	628.5	621.2	619.4	621.2	617.6	623.1	619.4	608.5
45°	575.7	575.7	577.5	583.0	575.7	573.9	573.9	570.2	575.7	568.4	557.5
47.5°	539.3	541.1	542.9	546.5	541.1	535.6	537.4	530.1	533.8	528.3	513.8
50°	502.8	506.5	508.3	511.9	506.5	502.8	504.6	497.4	497.4	488.2	475.5
52.5°	466.4	468.2	466.4	470.0	466.4	460.9	462.7	455.5	455.5	444.5	431.8
55°	406.3	408.1	409.9	413.6	409.9	404.4	408.1	402.6	402.6	395.3	380.8
57.5°	346.1	348.0	349.8	351.6	351.6	348.0	349.8	346.1	344.3	338.9	327.9
60°	307.9	307.9	307.9	309.7	307.9	306.1	306.1	302.4	302.4	295.1	284.2
62.5°	278.7	280.6	280.6	282.4	280.6	278.7	276.9	273.3	271.5	264.2	255.1
65°	251.4	251.4	249.6	253.2	251.4	249.6	249.6	245.9	242.3	235.0	225.9
67.5°	218.6	220.4	218.6	220.4	220.4	218.6	216.8	213.2	211.3	205.9	194.9
70°	184.0	184.0	184.0	185.8	184.0	184.0	185.8	180.4	178.5	171.3	162.1
72.5°	149.4	151.2	151.2	149.4	151.2	147.6	147.6	147.6	145.7	138.5	129.3
75°	114.8	116.6	116.6	118.4	116.6	114.8	114.8	113.0	111.1	105.7	98.4
77.5°	85.6	85.6	87.4	87.4	87.4	85.6	85.6	82.0	82.0	78.3	71.1
80°	61.9	61.9	60.1	61.9	61.9	60.1	60.1	58.3	58.3	54.7	49.2
82.5°	40.1	41.9	41.9	41.9	41.9	40.1	40.1	40.1	38.3	36.4	32.8
85°	25.5	25.5	25.5	25.5	27.3	25.5	27.3	25.5	25.5	21.9	20.0
87.5°	10.9	10.9	10.9	12.8	12.8	10.9	10.9	10.9	10.9	10.9	9.1
90°	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°	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2
2.5°	1182.4	1184.2	1178.7	1186.0	1180.5	1182.4	1184.2	1182.4	1175.1	1175.1	1195.1
5°	1175.1	1178.7	1173.2	1182.4	1178.7	1178.7	1182.4	1180.5	1173.2	1175.1	1193.3
7.5°	1167.8	1173.2	1169.6	1178.7	1173.2	1173.2	1176.9	1176.9	1169.6	1171.4	1187.8
10°	1156.9	1164.1	1162.3	1171.4	1166.0	1166.0	1171.4	1171.4	1164.1	1166.0	1182.4
12.5°	1147.7	1155.0	1153.2	1162.3	1158.7	1160.5	1162.3	1166.0	1156.9	1160.5	1175.1
15°	1133.2	1140.5	1140.5	1149.6	1145.9	1149.6	1153.2	1158.7	1151.4	1151.4	1166.0
17.5°	1116.8	1125.9	1125.9	1133.2	1133.2	1135.0	1142.3	1147.7	1140.5	1142.3	1155.0
20°	1098.6	1109.5	1109.5	1118.6	1116.8	1120.4	1125.9	1131.3	1124.1	1124.1	1138.6
22.5°	1080.3	1089.4	1091.3	1096.7	1096.7	1098.6	1104.0	1107.7	1098.6	1098.6	1113.1
25°	1054.8	1063.9	1065.8	1069.4	1065.8	1065.8	1069.4	1073.0	1063.9	1063.9	1076.7
27.5°	1020.2	1029.3	1029.3	1027.5	1023.9	1025.7	1023.9	1025.7	1016.6	1014.8	1027.5
30°	969.2	974.7	974.7	972.8	967.4	967.4	961.9	963.7	951.0	951.0	961.9
32.5°	900.0	905.4	901.8	898.2	890.9	887.2	883.6	881.8	869.0	869.0	881.8
35°	818.0	821.6	816.2	808.9	799.8	794.3	788.8	781.6	772.4	774.3	781.6
37.5°	734.2	734.2	726.9	712.3	705.0	695.9	686.8	686.8	672.2	670.4	675.9
40°	663.1	655.9	643.1	623.1	610.3	601.2	588.4	581.2	570.2	570.2	579.3
42.5°	599.4	584.8	568.4	541.1	528.3	517.4	501.0	493.7	481.0	479.1	484.6
45°	542.9	528.3	504.6	475.5	459.1	446.3	422.7	413.6	402.6	400.8	404.4
47.5°	497.4	481.0	451.8	413.6	397.2	380.8	357.1	344.3	335.2	329.7	335.2
50°	457.3	435.4	404.4	364.4	342.5	327.9	298.8	286.0	273.3	269.6	271.5
52.5°	413.6	391.7	358.9	317.0	297.0	275.1	247.8	229.5	218.6	213.2	218.6
55°	366.2	344.3	311.5	269.6	247.8	227.7	198.6	184.0	171.3	165.8	171.3
57.5°	315.2	295.1	266.0	224.1	204.0	185.8	158.5	143.9	131.2	127.5	131.2
60°	271.5	255.1	225.9	185.8	169.4	149.4	125.7	111.1	100.2	98.4	100.2
62.5°	242.3	224.1	196.8	158.5	142.1	125.7	103.8	89.3	80.2	78.3	80.2
65°	213.2	193.1	167.6	134.8	118.4	105.7	83.8	71.1	61.9	60.1	61.9
67.5°	180.4	162.1	140.3	111.1	98.4	85.6	67.4	54.7	47.4	45.5	47.4
70°	149.4	133.0	111.1	89.3	76.5	67.4	51.0	41.9	34.6	32.8	34.6
72.5°	118.4	103.8	85.6	67.4	60.1	51.0	40.1	31.0	25.5	23.7	25.5
75°	91.1	80.2	65.6	49.2	43.7	38.3	27.3	21.9	18.2	16.4	18.2
77.5°	63.8	56.5	45.5	36.4	31.0	27.3	20.0	14.6	12.8	10.9	12.8
80°	43.7	38.3	31.0	23.7	20.0	16.4	12.8	9.1	7.3	7.3	7.3
82.5°	29.1	23.7	18.2	14.6	12.8	10.9	7.3	5.5	5.5	3.6	3.6
85°	16.4	14.6	10.9	9.1	7.3	5.5	3.6	3.6	1.8	1.8	1.8
87.5°	7.3	5.5	3.6	3.6	1.8	1.8	1.8	1.8	0.0	0.0	0.0
90°	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2
2.5°	1189.6	1184.2	1191.5	1184.2	1180.5	1184.2	1180.5	1191.5	1182.4	1175.1	1182.4
5°	1187.8	1180.5	1187.8	1182.4	1176.9	1178.7	1175.1	1186.0	1175.1	1169.6	1173.2
7.5°	1184.2	1178.7	1182.4	1176.9	1171.4	1173.2	1169.6	1178.7	1167.8	1162.3	1166.0
10°	1178.7	1173.2	1175.1	1171.4	1166.0	1166.0	1162.3	1169.6	1156.9	1149.6	1153.2
12.5°	1171.4	1164.1	1167.8	1162.3	1155.0	1155.0	1151.4	1156.9	1144.1	1136.8	1138.6
15°	1162.3	1155.0	1155.0	1149.6	1142.3	1142.3	1135.0	1140.5	1125.9	1118.6	1118.6
17.5°	1151.4	1142.3	1142.3	1136.8	1127.7	1125.9	1120.4	1125.9	1109.5	1102.2	1102.2
20°	1135.0	1127.7	1125.9	1122.2	1113.1	1111.3	1104.0	1105.8	1093.1	1087.6	1085.8
22.5°	1113.1	1105.8	1107.7	1102.2	1094.9	1093.1	1085.8	1091.3	1078.5	1073.0	1074.9
25°	1074.9	1071.2	1074.9	1073.0	1067.6	1067.6	1063.9	1067.6	1056.7	1053.0	1054.8
27.5°	1031.1	1029.3	1031.1	1031.1	1027.5	1027.5	1027.5	1033.0	1022.0	1020.2	1020.2
30°	967.4	967.4	969.2	971.0	971.0	974.7	972.8	980.1	972.8	969.2	972.8
32.5°	883.6	890.9	896.3	896.3	896.3	900.0	903.6	909.1	901.8	903.6	903.6
35°	788.8	794.3	798.0	807.1	801.6	814.4	818.0	825.3	823.5	827.1	825.3
37.5°	683.2	690.5	697.8	710.5	708.7	723.3	730.5	745.1	741.5	748.8	752.4
40°	584.8	595.7	606.7	615.8	623.1	637.6	652.2	670.4	675.9	681.4	683.2
42.5°	490.1	501.0	519.2	532.0	542.9	566.6	586.6	608.5	614.0	624.9	628.5
45°	413.6	422.7	444.5	460.9	470.0	504.6	528.3	555.7	564.8	577.5	583.0
47.5°	342.5	358.9	380.8	400.8	413.6	450.0	481.0	510.1	522.9	537.4	544.7
50°	280.6	298.8	327.9	346.1	364.4	404.4	439.1	470.0	482.8	499.2	506.5
52.5°	229.5	249.6	276.9	297.0	317.0	358.9	395.3	424.5	440.9	451.8	462.7
55°	180.4	202.2	229.5	251.4	267.8	313.4	344.3	373.5	384.4	393.5	399.0
57.5°	140.3	156.7	184.0	202.2	222.3	262.3	293.3	315.2	324.3	335.2	338.9
60°	109.3	125.7	151.2	169.4	187.6	225.9	256.9	278.7	287.8	297.0	302.4
62.5°	87.4	103.8	127.5	143.9	160.3	194.9	222.3	244.1	255.1	264.2	269.6
65°	69.2	83.8	103.8	120.2	133.0	164.0	191.3	211.3	222.3	231.4	236.8
67.5°	54.7	67.4	85.6	96.6	109.3	134.8	158.5	176.7	185.8	196.8	202.2
70°	41.9	51.0	67.4	76.5	85.6	107.5	125.7	143.9	153.0	160.3	164.0
72.5°	31.0	38.3	51.0	58.3	63.8	82.0	96.6	109.3	116.6	123.9	127.5
75°	21.9	27.3	36.4	41.9	45.5	58.3	71.1	80.2	85.6	91.1	96.6
77.5°	14.6	18.2	23.7	27.3	31.0	40.1	47.4	54.7	60.1	65.6	67.4
80°	9.1	12.8	16.4	18.2	20.0	25.5	32.8	36.4	40.1	43.7	45.5
82.5°	5.5	7.3	9.1	10.9	12.8	16.4	20.0	23.7	25.5	29.1	31.0
85°	1.8	3.6	3.6	5.5	5.5	9.1	10.9	12.8	14.6	16.4	18.2
87.5°	0.0	0.0	1.8	1.8	1.8	1.8	3.6	3.6	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P251933

CATALOG NUMBER: LD4B30D010 EU4B30508027 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2	1184.2
2.5°	1189.6	1184.2	1180.5	1178.7	1191.5	1175.1	1182.4	1184.2
5°	1182.4	1176.9	1173.2	1171.4	1182.4	1167.8	1173.2	1176.9
7.5°	1171.4	1167.8	1162.3	1160.5	1171.4	1155.0	1162.3	1164.1
10°	1158.7	1153.2	1149.6	1147.7	1156.9	1140.5	1147.7	1147.7
12.5°	1142.3	1138.6	1131.3	1131.3	1138.6	1124.1	1129.5	1129.5
15°	1120.4	1116.8	1109.5	1109.5	1116.8	1102.2	1107.7	1107.7
17.5°	1102.2	1098.6	1093.1	1091.3	1098.6	1084.0	1089.4	1087.6
20°	1087.6	1084.0	1076.7	1076.7	1082.2	1067.6	1073.0	1073.0
22.5°	1074.9	1073.0	1065.8	1065.8	1073.0	1058.5	1062.1	1058.5
25°	1054.8	1053.0	1045.7	1047.5	1051.2	1036.6	1042.1	1038.4
27.5°	1022.0	1022.0	1014.8	1012.9	1018.4	1005.6	1009.3	1007.5
30°	971.0	972.8	963.7	963.7	965.6	954.6	960.1	958.3
32.5°	901.8	903.6	896.3	894.5	900.0	890.9	894.5	894.5
35°	825.3	827.1	821.6	821.6	827.1	821.6	821.6	819.8
37.5°	748.8	752.4	748.8	750.6	754.2	748.8	752.4	750.6
40°	686.8	690.5	685.0	688.6	692.3	686.8	692.3	688.6
42.5°	630.3	635.8	632.2	635.8	639.5	635.8	639.5	634.0
45°	588.4	592.1	590.3	592.1	595.7	593.9	595.7	593.9
47.5°	548.4	555.7	552.0	555.7	561.1	557.5	561.1	555.7
50°	511.9	517.4	515.6	519.2	521.0	519.2	522.9	517.4
52.5°	464.6	470.0	468.2	468.2	471.9	468.2	471.9	468.2
55°	402.6	404.4	404.4	406.3	404.4	402.6	404.4	400.8
57.5°	342.5	346.1	340.7	346.1	344.3	342.5	342.5	338.9
60°	304.2	309.7	306.1	309.7	307.9	307.9	307.9	306.1
62.5°	273.3	276.9	273.3	275.1	275.1	275.1	273.3	271.5
65°	238.7	244.1	240.5	242.3	240.5	238.7	240.5	238.7
67.5°	204.0	205.9	205.9	204.0	204.0	204.0	204.0	200.4
70°	165.8	167.6	165.8	169.4	167.6	165.8	167.6	164.0
72.5°	129.3	131.2	129.3	131.2	129.3	129.3	129.3	129.3
75°	96.6	98.4	98.4	98.4	98.4	98.4	94.7	98.4
77.5°	69.2	69.2	69.2	71.1	69.2	69.2	69.2	69.2
80°	47.4	47.4	47.4	49.2	47.4	49.2	47.4	49.2
82.5°	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
85°	16.4	18.2	18.2	16.4	16.4	16.4	16.4	16.4
87.5°	3.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)