

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: P251707

Luminaire Tested: **LD4B30D010 EU4B30509035 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251707  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B30D010 EU4B30509035 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2045.0 lumens  
Efficiency: N/A  
Efficacy: 73.0 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

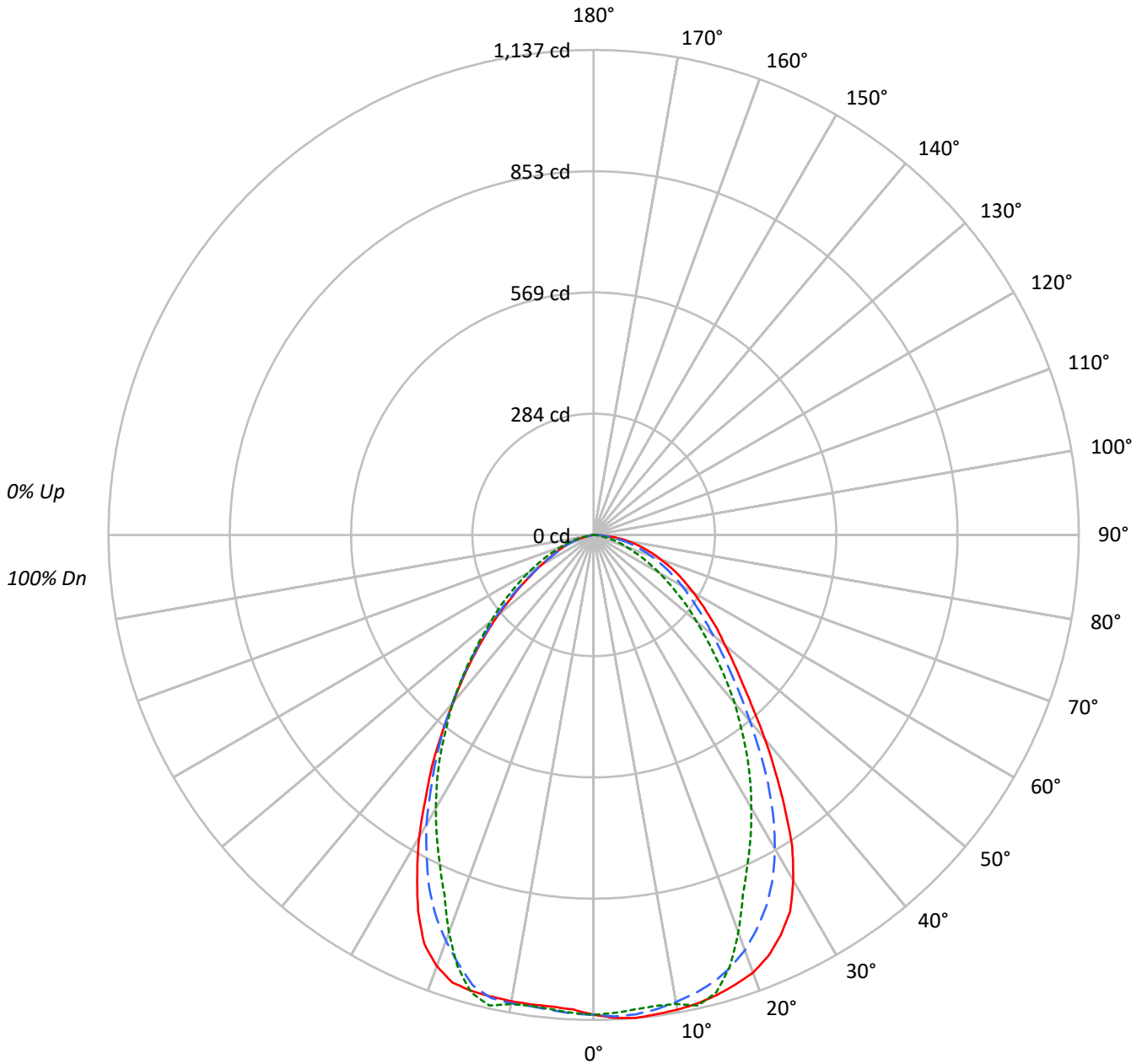
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

### Luminous Intensity Polar Plot





TEST NUMBER: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**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	105	102	99	101	98	96	97	95	93	93	91	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60			60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53			53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48			48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43			43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39			39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36			36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33			33

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

	0°	90°	180°
0°	109640	109640	109640
5°	111194	109257	108611
10°	111827	110520	109867
15°	112681	112015	111682
20°	113254	102821	111543
25°	111404	91704	104662
30°	105254	83163	92076
35°	92836	74383	78499
40°	79336	65265	65062
45°	67976	55709	54345
50°	60784	47517	44272
55°	56054	40643	35036
60°	52413	34403	27659
65°	50203	28526	22830
70°	47472	23024	19263
75°	45977	18639	13669
80°	44450	10158	3704
85°	38690	5479	1789



TEST NUMBER: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.9	5.2
10°-20°	307.5	15.0
20°-30°	426.5	20.9
30°-40°	421.0	20.6
40°-50°	330.2	16.1
50°-60°	228.7	11.2
60°-70°	140.2	6.9
70°-80°	70.0	3.4
80°-90°	14.0	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°	840.9	41.1
0°-40°	1261.9	61.7
0°-60°	1820.8	89.0
0°-90°	2045.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2045.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1125	1125	1125	1125	1125	
5°	1137	1128	1117	1118	1110	108
15°	1117	1085	1110	1094	1107	315
25°	1036	958	853	912	973	474
35°	780	713	625	645	660	487
45°	493	452	404	399	394	386
55°	330	295	239	213	206	297
65°	218	188	124	92	99	215
75°	122	102	50	38	36	129
85°	35	20	5	2	2	39
90°	0	0	0	0	0	



TEST NUMBER: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1133.3	1130.0	1128.3	1133.3	1131.6	1134.9	1133.3	1131.6	1128.3	1130.0	1130.0
5°	1136.6	1131.6	1130.0	1133.3	1133.3	1136.6	1134.9	1131.6	1128.3	1130.0	1128.3
7.5°	1133.3	1130.0	1130.0	1131.6	1130.0	1133.3	1130.0	1126.7	1123.4	1125.0	1121.7
10°	1130.0	1125.0	1125.0	1125.0	1125.0	1128.3	1125.0	1120.1	1115.1	1115.1	1111.8
12.5°	1125.0	1120.1	1120.1	1121.7	1118.4	1121.7	1118.4	1110.2	1105.2	1103.6	1100.3
15°	1116.8	1111.8	1111.8	1111.8	1108.5	1110.2	1105.2	1097.0	1090.4	1090.4	1085.4
17.5°	1105.2	1100.3	1098.6	1098.6	1093.7	1095.3	1090.4	1082.1	1072.2	1068.9	1064.0
20°	1092.0	1085.4	1082.1	1082.1	1077.2	1078.8	1072.2	1062.3	1049.2	1044.2	1036.0
22.5°	1068.9	1065.6	1060.7	1059.1	1054.1	1052.5	1045.9	1032.7	1021.1	1012.9	999.7
25°	1036.0	1034.3	1029.4	1027.7	1021.1	1017.8	1011.2	996.4	984.8	971.6	958.4
27.5°	996.4	989.8	986.5	981.5	974.9	973.3	965.0	951.8	933.7	925.4	908.9
30°	935.3	932.0	928.7	923.8	917.2	913.9	908.9	894.1	879.2	864.4	849.5
32.5°	866.0	859.4	854.5	856.1	847.9	844.6	836.4	823.2	810.0	800.1	783.6
35°	780.3	778.6	777.0	773.7	767.1	765.4	758.8	748.9	734.1	722.5	712.6
37.5°	699.4	694.5	691.2	691.2	684.6	684.6	679.6	668.1	659.8	651.6	638.4
40°	623.6	615.3	615.3	615.3	608.7	610.4	607.1	595.5	587.3	577.4	569.1
42.5°	552.6	549.3	547.7	544.4	541.1	541.1	537.8	531.2	522.9	516.3	508.1
45°	493.2	491.6	489.9	488.3	485.0	483.3	481.7	471.8	466.8	460.2	452.0
47.5°	445.4	442.1	440.4	438.8	435.5	433.8	430.5	424.0	419.0	412.4	405.8
50°	400.9	399.2	397.6	397.6	394.3	392.6	389.3	384.4	376.1	372.8	364.6
52.5°	366.2	362.9	359.6	359.6	356.3	356.3	351.4	346.4	338.2	334.9	328.3
55°	329.9	328.3	326.6	326.6	323.3	321.7	320.0	313.4	306.8	301.9	295.3
57.5°	298.6	296.9	295.3	295.3	292.0	290.3	288.7	283.7	277.1	273.8	265.6
60°	268.9	268.9	267.2	265.6	263.9	262.3	260.6	255.7	250.7	245.8	239.2
62.5°	242.5	240.8	239.2	237.5	237.5	235.9	234.2	227.6	224.3	219.4	212.8
65°	217.7	214.4	214.4	212.8	212.8	211.2	209.5	202.9	199.6	194.7	188.1
67.5°	191.4	189.7	188.1	188.1	186.4	186.4	184.8	179.8	174.9	171.6	165.0
70°	166.6	166.6	165.0	165.0	163.3	161.7	161.7	158.4	153.4	148.5	141.9
72.5°	145.2	143.5	141.9	141.9	140.2	140.2	138.6	135.3	132.0	128.7	120.4
75°	122.1	120.4	120.4	120.4	118.8	118.8	117.1	113.8	110.5	107.2	102.3
77.5°	100.6	100.6	99.0	99.0	97.3	97.3	97.3	94.0	90.7	87.4	80.8
80°	79.2	79.2	79.2	77.5	75.9	75.9	75.9	72.6	69.3	66.0	61.0
82.5°	57.7	56.1	56.1	54.4	52.8	52.8	52.8	49.5	47.8	42.9	39.6
85°	34.6	33.0	33.0	31.3	29.7	29.7	29.7	28.0	24.7	23.1	19.8
87.5°	13.2	13.2	13.2	13.2	13.2	11.5	11.5	9.9	9.9	8.2	8.2
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: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1130.0	1128.3	1128.3	1126.7	1128.3	1125.0	1125.0	1125.0	1125.0	1121.7	1121.7
5°	1126.7	1126.7	1125.0	1123.4	1125.0	1121.7	1123.4	1121.7	1121.7	1116.8	1116.8
7.5°	1120.1	1118.4	1115.1	1113.5	1115.1	1113.5	1113.5	1113.5	1116.8	1113.5	1113.5
10°	1108.5	1106.9	1103.6	1101.9	1101.9	1100.3	1103.6	1106.9	1113.5	1116.8	1123.4
12.5°	1097.0	1093.7	1092.0	1092.0	1093.7	1093.7	1100.3	1108.5	1125.0	1130.0	1136.6
15°	1082.1	1080.5	1080.5	1085.4	1092.0	1097.0	1110.2	1115.1	1116.8	1110.2	1106.9
17.5°	1062.3	1062.3	1064.0	1068.9	1073.9	1073.9	1075.5	1072.2	1068.9	1060.7	1050.8
20°	1029.4	1027.7	1024.4	1024.4	1024.4	1017.8	1021.1	1009.6	1001.3	991.4	976.6
22.5°	988.1	979.9	968.3	960.1	955.1	951.8	943.6	930.4	920.5	913.9	907.3
25°	943.6	930.4	913.9	900.7	892.4	890.8	879.2	867.7	861.1	852.8	849.5
27.5°	892.4	877.6	857.8	844.6	838.0	833.1	823.2	811.6	803.4	796.8	791.8
30°	833.1	818.2	801.7	785.2	778.6	770.4	760.5	752.2	744.0	739.0	735.7
32.5°	767.1	752.2	735.7	724.2	715.9	709.3	701.1	692.8	686.2	682.9	679.6
35°	699.4	684.6	671.4	659.8	653.2	648.3	641.7	631.8	626.9	625.2	621.9
37.5°	626.9	617.0	605.4	595.5	590.6	584.0	580.7	572.4	572.4	565.8	565.8
40°	559.2	552.6	541.1	532.8	529.5	524.6	519.6	516.3	514.7	513.0	511.4
42.5°	499.8	489.9	483.3	476.7	471.8	468.5	468.5	463.5	461.9	456.9	455.3
45°	445.4	440.4	428.9	424.0	422.3	417.4	415.7	412.4	407.5	404.2	402.5
47.5°	397.6	392.6	386.0	379.4	376.1	372.8	369.5	364.6	361.3	356.3	354.7
50°	358.0	349.7	343.1	338.2	333.2	331.6	328.3	321.7	318.4	313.4	313.4
52.5°	321.7	315.1	306.8	301.9	296.9	293.6	288.7	283.7	278.8	277.1	272.2
55°	290.3	282.1	273.8	267.2	262.3	257.3	255.7	249.1	242.5	239.2	235.9
57.5°	260.6	252.4	242.5	234.2	230.9	227.6	222.7	216.1	211.2	206.2	202.9
60°	230.9	224.3	214.4	206.2	202.9	198.0	193.0	186.4	181.5	176.5	173.2
62.5°	206.2	196.3	188.1	179.8	174.9	171.6	165.0	160.0	153.4	148.5	143.5
65°	181.5	171.6	163.3	155.1	151.8	146.8	141.9	135.3	128.7	123.7	117.1
67.5°	156.7	148.5	140.2	132.0	128.7	125.4	118.8	112.2	105.6	100.6	94.0
70°	135.3	127.0	118.8	112.2	108.9	105.6	99.0	92.4	87.4	80.8	75.9
72.5°	115.5	108.9	100.6	94.0	90.7	87.4	80.8	75.9	69.3	66.0	61.0
75°	95.7	89.1	82.5	75.9	72.6	69.3	64.3	59.4	54.4	49.5	46.2
77.5°	75.9	69.3	62.7	57.7	54.4	52.8	47.8	42.9	37.9	34.6	29.7
80°	56.1	49.5	44.5	39.6	36.3	34.6	29.7	26.4	23.1	18.1	16.5
82.5°	34.6	29.7	26.4	23.1	21.4	19.8	16.5	13.2	11.5	9.9	8.2
85°	18.1	16.5	13.2	11.5	9.9	9.9	8.2	6.6	4.9	4.9	3.3
87.5°	6.6	4.9	4.9	3.3	3.3	3.3	3.3	1.6	1.6	1.6	1.6
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: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1118.4	1120.1	1121.7	1123.4	1121.7	1121.7	1125.0	1118.4	1123.4	1123.4	1116.8
5°	1115.1	1118.4	1116.8	1120.1	1116.8	1116.8	1118.4	1115.1	1118.4	1118.4	1113.5
7.5°	1111.8	1115.1	1115.1	1116.8	1115.1	1115.1	1116.8	1111.8	1115.1	1115.1	1110.2
10°	1126.7	1130.0	1128.3	1126.7	1121.7	1118.4	1120.1	1111.8	1115.1	1115.1	1110.2
12.5°	1131.6	1130.0	1123.4	1120.1	1116.8	1113.5	1115.1	1108.5	1111.8	1111.8	1108.5
15°	1098.6	1095.3	1090.4	1092.0	1088.7	1087.1	1090.4	1087.1	1093.7	1097.0	1093.7
17.5°	1042.6	1040.9	1037.6	1037.6	1037.6	1039.3	1044.2	1044.2	1054.1	1060.7	1064.0
20°	970.0	968.3	970.0	973.3	974.9	981.5	993.1	999.7	1012.9	1024.4	1032.7
22.5°	904.0	907.3	912.2	918.8	920.5	928.7	943.6	950.2	966.7	979.9	988.1
25°	847.9	852.8	856.1	861.1	862.7	872.6	885.8	894.1	912.2	922.1	932.0
27.5°	791.8	798.4	800.1	806.7	806.7	816.6	828.1	836.4	847.9	857.8	866.0
30°	737.4	739.0	744.0	745.6	748.9	758.8	765.4	770.4	783.6	788.5	793.5
32.5°	678.0	684.6	687.9	689.5	687.9	696.1	702.7	706.0	711.0	717.6	720.9
35°	621.9	625.2	626.9	630.2	631.8	633.5	636.7	638.4	645.0	646.6	648.3
37.5°	565.8	570.8	569.1	570.8	570.8	572.4	575.7	574.1	579.0	580.7	579.0
40°	509.7	509.7	513.0	511.4	513.0	511.4	514.7	514.7	514.7	516.3	514.7
42.5°	453.6	455.3	453.6	456.9	453.6	455.3	455.3	453.6	455.3	453.6	453.6
45°	402.5	402.5	402.5	402.5	399.2	399.2	402.5	400.9	399.2	397.6	395.9
47.5°	353.0	354.7	351.4	353.0	351.4	349.7	348.1	348.1	346.4	343.1	341.5
50°	311.8	308.5	306.8	308.5	306.8	305.2	303.5	300.2	298.6	295.3	293.6
52.5°	270.5	267.2	263.9	263.9	262.3	259.0	257.3	254.0	252.4	249.1	249.1
55°	234.2	230.9	227.6	226.0	222.7	219.4	217.7	214.4	212.8	209.5	206.2
57.5°	199.6	194.7	191.4	189.7	188.1	183.1	181.5	178.2	174.9	171.6	169.9
60°	168.3	163.3	158.4	156.7	155.1	150.1	148.5	143.5	141.9	138.6	136.9
62.5°	138.6	135.3	128.7	127.0	123.7	120.4	115.5	113.8	112.2	113.8	113.8
65°	112.2	107.2	102.3	100.6	97.3	94.0	92.4	90.7	92.4	92.4	94.0
67.5°	89.1	84.1	79.2	79.2	77.5	74.2	74.2	74.2	75.9	75.9	77.5
70°	70.9	67.6	64.3	62.7	62.7	61.0	62.7	62.7	64.3	64.3	64.3
72.5°	56.1	54.4	52.8	51.1	51.1	51.1	51.1	51.1	51.1	51.1	52.8
75°	42.9	41.2	39.6	39.6	37.9	37.9	37.9	37.9	37.9	37.9	36.3
77.5°	28.0	26.4	24.7	24.7	23.1	21.4	21.4	19.8	19.8	19.8	19.8
80°	14.8	13.2	11.5	9.9	9.9	8.2	8.2	8.2	8.2	6.6	6.6
82.5°	6.6	4.9	4.9	4.9	4.9	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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





TEST NUMBER: P251707

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0	1125.0
2.5°	1120.1	1116.8	1120.1	1121.7	1118.4	1116.8	1120.1	1113.5
5°	1118.4	1113.5	1115.1	1116.8	1113.5	1111.8	1115.1	1110.2
7.5°	1115.1	1113.5	1115.1	1116.8	1111.8	1111.8	1115.1	1110.2
10°	1115.1	1111.8	1113.5	1116.8	1113.5	1113.5	1116.8	1110.2
12.5°	1113.5	1108.5	1113.5	1115.1	1111.8	1111.8	1115.1	1108.5
15°	1101.9	1101.9	1103.6	1106.9	1105.2	1106.9	1111.8	1106.9
17.5°	1077.2	1080.5	1087.1	1092.0	1095.3	1098.6	1103.6	1100.3
20°	1047.5	1052.5	1060.7	1065.6	1072.2	1073.9	1082.1	1075.5
22.5°	1001.3	1011.2	1017.8	1022.8	1027.7	1032.7	1039.3	1037.6
25°	945.2	951.8	956.8	961.7	968.3	971.6	974.9	973.3
27.5°	877.6	880.9	887.5	890.8	894.1	897.4	904.0	895.7
30°	803.4	805.0	808.3	813.3	813.3	816.6	819.9	818.2
32.5°	727.5	727.5	730.8	734.1	732.4	734.1	740.7	732.4
35°	653.2	651.6	656.5	658.2	658.2	656.5	661.5	659.8
37.5°	580.7	582.3	584.0	585.6	582.3	585.6	585.6	582.3
40°	514.7	513.0	516.3	518.0	516.3	518.0	518.0	511.4
42.5°	455.3	452.0	453.6	455.3	453.6	455.3	453.6	450.3
45°	397.6	395.9	395.9	397.6	394.3	394.3	394.3	394.3
47.5°	343.1	341.5	343.1	343.1	339.8	339.8	341.5	339.8
50°	293.6	292.0	292.0	292.0	290.3	290.3	292.0	292.0
52.5°	249.1	245.8	245.8	245.8	245.8	245.8	247.4	244.1
55°	204.6	204.6	204.6	204.6	206.2	206.2	206.2	206.2
57.5°	168.3	169.9	169.9	171.6	169.9	171.6	171.6	169.9
60°	140.2	138.6	140.2	140.2	141.9	141.9	141.9	141.9
62.5°	115.5	115.5	115.5	117.1	117.1	117.1	118.8	117.1
65°	95.7	95.7	97.3	97.3	97.3	99.0	99.0	99.0
67.5°	79.2	79.2	79.2	79.2	80.8	80.8	82.5	80.8
70°	66.0	66.0	66.0	66.0	66.0	67.6	67.6	67.6
72.5°	52.8	52.8	52.8	52.8	54.4	54.4	54.4	54.4
75°	36.3	36.3	36.3	37.9	36.3	36.3	36.3	36.3
77.5°	18.1	18.1	18.1	18.1	18.1	16.5	16.5	16.5
80°	6.6	6.6	6.6	6.6	6.6	6.6	4.9	6.6
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.6
85°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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















(END OF REPORT)