

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: P251785

Luminaire Tested: **LD4B30D010 EU4B30509035 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251785  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B30D010 EU4B30509035 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1933.0 lumens  
Efficiency: N/A  
Efficacy: 69.0 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

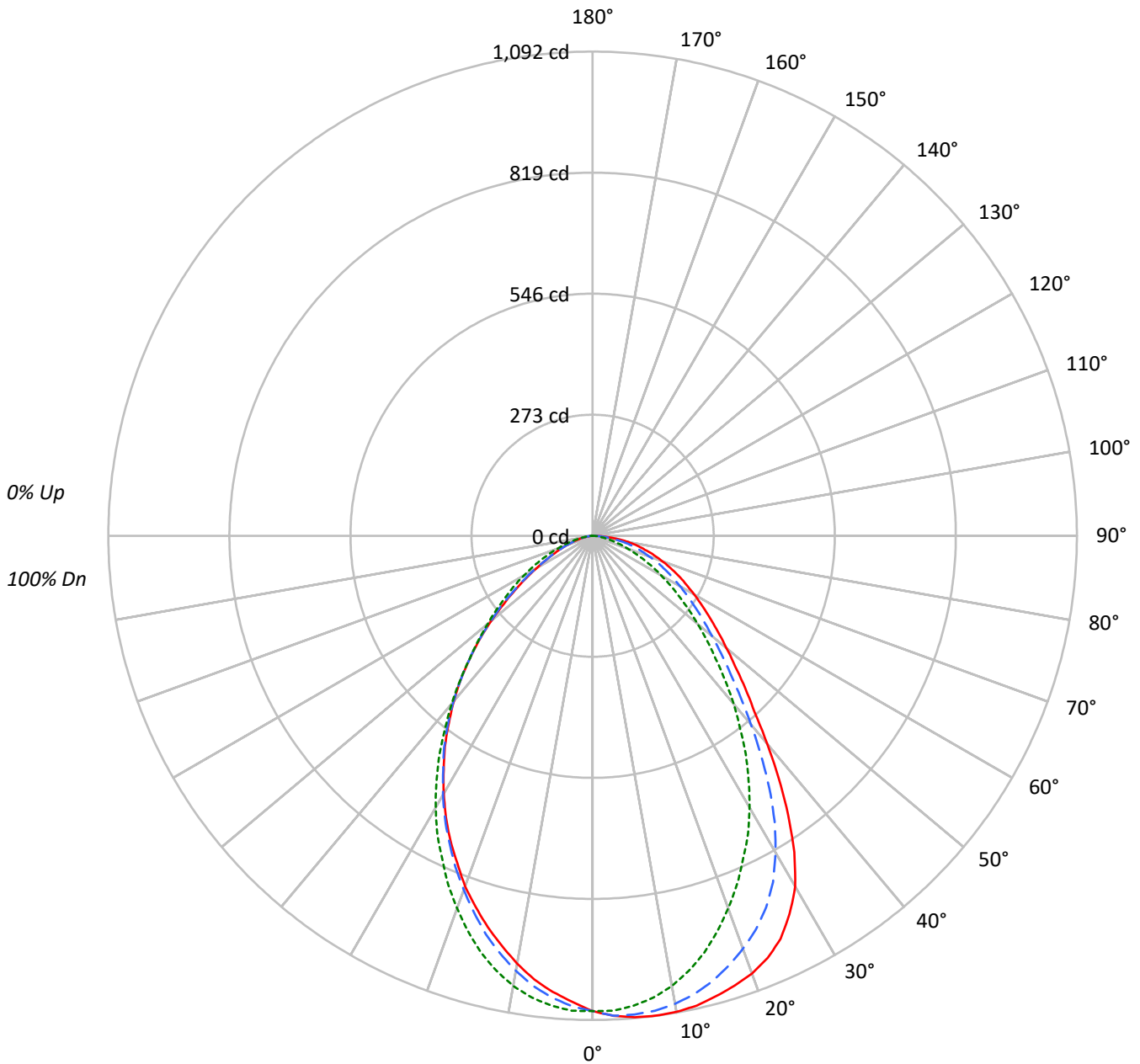
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88	88	88	88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76	76	76	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59	59	59	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32	32	32	32

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

	0°	90°	180°
0°	104475	104475	104475
5°	106655	104072	101000
10°	107888	102010	96953
15°	108493	98182	92189
20°	108961	92709	87233
25°	107834	86371	81585
30°	102823	79618	75545
35°	91444	71623	69065
40°	77847	62950	61894
45°	67053	54097	53876
50°	59768	46759	45258
55°	54933	40354	36157
60°	51438	34715	28282
65°	49442	29287	22069
70°	47472	23508	17866
75°	45939	18639	13669
80°	46302	12965	8306
85°	38690	9169	3690



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.4	5.2
10°-20°	275.9	14.3
20°-30°	385.8	20.0
30°-40°	396.6	20.5
40°-50°	321.9	16.7
50°-60°	226.6	11.7
60°-70°	139.5	7.2
70°-80°	69.7	3.6
80°-90°	16.5	0.9
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°	762.1	39.4
0°-40°	1158.7	59.9
0°-60°	1707.2	88.3
0°-90°	1933.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1933.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1072	1072	1072	1072	1072	
5°	1090	1084	1064	1046	1032	104
15°	1075	1041	973	930	914	304
25°	1003	925	803	764	759	458
35°	769	694	602	584	580	478
45°	486	439	392	392	391	378
55°	323	284	238	218	213	291
65°	214	180	127	97	96	212
75°	122	96	50	36	36	130
85°	35	23	8	5	3	40
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°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1083.6	1085.2	1080.3	1085.2	1078.6	1081.9	1083.6	1080.3	1077.0	1083.6	1083.6
5°	1090.2	1090.2	1085.2	1091.8	1083.6	1085.2	1088.5	1083.6	1078.6	1085.2	1083.6
7.5°	1091.8	1091.8	1085.2	1091.8	1083.6	1085.2	1086.9	1081.9	1077.0	1081.9	1080.3
10°	1090.2	1088.5	1083.6	1090.2	1081.9	1081.9	1083.6	1078.6	1070.4	1075.3	1072.0
12.5°	1085.2	1085.2	1078.6	1085.2	1073.7	1073.7	1075.3	1068.7	1062.1	1062.1	1058.8
15°	1075.3	1075.3	1068.7	1073.7	1063.8	1063.8	1062.1	1055.5	1047.3	1047.3	1040.7
17.5°	1063.8	1063.8	1057.2	1062.1	1050.6	1050.6	1048.9	1039.0	1027.5	1025.8	1017.6
20°	1050.6	1050.6	1042.3	1045.6	1032.4	1032.4	1030.8	1019.3	1006.1	1002.8	991.2
22.5°	1030.8	1030.8	1022.6	1024.2	1011.0	1009.4	1007.7	994.5	981.3	976.4	961.5
25°	1002.8	1001.1	994.5	994.5	981.3	978.0	974.7	961.5	948.3	938.4	925.2
27.5°	961.5	963.2	954.9	956.6	940.1	936.8	935.1	918.6	903.8	893.9	880.7
30°	913.7	908.8	900.5	900.5	887.3	885.7	882.4	867.5	851.0	839.5	824.6
32.5°	846.1	844.4	836.2	836.2	821.3	821.3	814.7	799.9	785.1	778.5	763.6
35°	768.6	766.9	760.3	760.3	747.1	748.8	742.2	730.6	715.8	705.9	694.3
37.5°	689.4	687.7	681.2	682.8	671.3	671.3	666.3	654.8	643.2	638.3	623.4
40°	611.9	610.2	602.0	606.9	597.0	593.7	592.1	583.8	570.6	564.1	555.8
42.5°	541.0	542.6	534.4	537.7	529.4	526.1	524.5	517.9	508.0	501.4	493.1
45°	486.5	483.2	479.9	479.9	471.7	470.0	468.4	460.1	453.6	447.0	438.7
47.5°	435.4	432.1	428.8	430.5	423.9	422.2	418.9	412.3	404.1	400.8	392.5
50°	394.2	392.5	387.6	387.6	381.0	379.3	376.0	371.1	362.8	357.9	351.3
52.5°	356.2	356.2	351.3	349.6	344.7	343.0	341.4	334.8	328.2	321.6	315.0
55°	323.3	321.6	318.3	318.3	311.7	310.1	308.4	301.8	295.2	290.3	283.7
57.5°	291.9	291.9	288.6	288.6	283.7	280.4	280.4	273.8	265.5	262.2	254.0
60°	263.9	263.9	260.6	260.6	255.6	255.6	252.3	245.7	240.8	234.2	227.6
62.5°	237.5	239.1	235.8	234.2	229.2	227.6	227.6	222.7	214.4	209.5	202.9
65°	214.4	212.8	211.1	209.5	204.5	202.9	202.9	196.3	191.3	184.7	179.8
67.5°	189.7	189.7	186.4	186.4	183.1	181.4	178.1	173.2	168.2	163.3	158.3
70°	166.6	166.6	164.9	164.9	160.0	158.3	156.7	151.7	146.8	141.8	135.2
72.5°	145.1	143.5	141.8	141.8	138.5	136.9	135.2	130.3	125.3	120.4	115.4
75°	122.0	122.0	120.4	120.4	117.1	115.4	115.4	112.2	105.6	102.3	95.7
77.5°	102.3	102.3	100.6	100.6	97.3	97.3	95.7	90.7	87.4	82.5	79.2
80°	82.5	80.8	80.8	79.2	75.9	75.9	74.2	72.6	67.6	64.3	59.4
82.5°	57.7	57.7	57.7	56.1	54.4	54.4	52.8	49.5	46.2	44.5	39.6
85°	34.6	34.6	33.0	31.3	33.0	31.3	29.7	28.0	26.4	24.7	23.1
87.5°	14.8	14.8	13.2	13.2	13.2	13.2	13.2	11.5	9.9	9.9	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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1073.7	1078.6	1077.0	1075.3	1072.0	1072.0	1072.0	1070.4	1072.0	1072.0	1068.7
5°	1073.7	1077.0	1075.3	1072.0	1068.7	1068.7	1067.1	1063.8	1063.8	1063.8	1057.2
7.5°	1068.7	1072.0	1067.1	1063.8	1060.5	1057.2	1057.2	1052.2	1052.2	1050.6	1044.0
10°	1058.8	1060.5	1053.9	1050.6	1045.6	1044.0	1040.7	1034.1	1032.4	1030.8	1024.2
12.5°	1044.0	1045.6	1037.4	1030.8	1024.2	1022.6	1019.3	1011.0	1007.7	1004.4	996.2
15°	1022.6	1022.6	1012.7	1004.4	997.8	996.2	987.9	979.7	976.4	973.1	961.5
17.5°	997.8	996.2	983.0	974.7	966.5	963.2	954.9	945.0	938.4	935.1	925.2
20°	971.4	966.5	951.6	943.4	933.5	928.5	920.3	907.1	900.5	893.9	884.0
22.5°	940.1	933.5	917.0	905.5	895.6	890.6	879.1	867.5	857.6	851.0	839.5
25°	902.2	893.9	875.8	860.9	852.7	847.7	836.2	823.0	813.1	803.2	793.3
27.5°	857.6	847.7	829.6	814.7	806.5	798.2	790.0	775.2	766.9	758.7	747.1
30°	803.2	791.7	775.2	762.0	752.1	745.5	735.6	722.4	712.5	707.5	696.0
32.5°	743.8	730.6	715.8	702.6	697.6	689.4	681.2	668.0	659.7	654.8	646.5
35°	677.9	668.0	651.5	641.6	633.3	630.0	623.4	610.2	606.9	602.0	592.1
37.5°	608.6	600.3	588.8	580.5	573.9	570.6	564.1	555.8	550.9	545.9	541.0
40°	544.3	537.7	527.8	521.2	512.9	508.0	508.0	498.1	494.8	494.8	489.8
42.5°	481.6	478.3	470.0	460.1	458.5	453.6	451.9	447.0	443.7	442.0	440.4
45°	428.8	423.9	415.6	410.7	405.7	405.7	400.8	395.8	394.2	392.5	390.9
47.5°	382.6	376.0	369.4	364.5	361.2	359.5	354.6	351.3	349.6	349.6	348.0
50°	341.4	336.5	329.9	324.9	321.6	318.3	315.0	311.7	310.1	308.4	308.4
52.5°	306.8	300.2	293.6	288.6	283.7	282.0	278.7	275.4	273.8	272.1	270.5
55°	275.4	270.5	262.2	257.3	252.3	252.3	247.4	242.4	239.1	237.5	235.8
57.5°	245.7	240.8	232.5	227.6	224.3	221.0	217.7	214.4	211.1	207.8	204.5
60°	219.4	214.4	206.2	199.6	197.9	194.6	191.3	184.7	181.4	178.1	174.8
62.5°	194.6	188.0	181.4	174.8	173.2	169.9	164.9	160.0	155.0	151.7	146.8
65°	171.5	166.6	158.3	153.4	148.4	146.8	141.8	135.2	130.3	127.0	122.0
67.5°	150.1	143.5	135.2	130.3	127.0	123.7	118.7	113.8	108.9	103.9	99.0
70°	128.6	123.7	115.4	110.5	107.2	103.9	99.0	92.4	87.4	82.5	79.2
72.5°	108.9	102.3	95.7	90.7	87.4	84.1	79.2	74.2	69.3	66.0	61.0
75°	90.7	84.1	79.2	72.6	70.9	67.6	62.7	57.7	52.8	49.5	46.2
77.5°	72.6	67.6	61.0	57.7	54.4	51.1	47.8	42.9	39.6	34.6	31.3
80°	54.4	49.5	44.5	41.2	37.9	36.3	33.0	29.7	26.4	23.1	21.4
82.5°	36.3	33.0	28.0	26.4	24.7	23.1	19.8	18.1	16.5	14.8	13.2
85°	19.8	18.1	16.5	13.2	13.2	11.5	9.9	9.9	8.2	8.2	6.6
87.5°	8.2	6.6	6.6	4.9	4.9	4.9	3.3	3.3	3.3	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



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1070.4	1063.8	1063.8	1063.8	1058.8	1060.5	1062.1	1063.8	1062.1	1057.2	1062.1
5°	1058.8	1052.2	1052.2	1048.9	1045.6	1045.6	1045.6	1047.3	1045.6	1040.7	1042.3
7.5°	1044.0	1035.7	1034.1	1030.8	1027.5	1025.8	1025.8	1025.8	1024.2	1017.6	1020.9
10°	1020.9	1012.7	1009.4	1007.7	1002.8	1001.1	999.5	997.8	996.2	989.6	992.9
12.5°	992.9	986.3	979.7	978.0	973.1	969.8	968.1	968.1	964.8	958.2	961.5
15°	959.9	950.0	945.0	941.7	936.8	933.5	930.2	931.8	930.2	923.6	925.2
17.5°	920.3	910.4	905.5	903.8	897.2	893.9	892.3	892.3	890.6	884.0	885.7
20°	877.4	867.5	864.2	860.9	857.6	854.3	852.7	851.0	849.4	842.8	847.7
22.5°	834.5	823.0	818.0	818.0	811.4	809.8	808.1	809.8	808.1	801.5	804.8
25°	790.0	778.5	775.2	770.2	766.9	765.3	765.3	765.3	763.6	760.3	763.6
27.5°	740.5	732.3	727.3	725.7	722.4	720.7	719.1	720.7	720.7	715.8	719.1
30°	691.0	684.4	681.2	679.5	674.6	672.9	674.6	674.6	674.6	669.6	674.6
32.5°	641.6	636.6	635.0	630.0	626.7	626.7	626.7	628.4	626.7	623.4	628.4
35°	592.1	585.5	583.8	582.2	582.2	578.9	582.2	580.5	583.8	578.9	582.2
37.5°	539.3	536.0	534.4	534.4	531.1	532.7	532.7	532.7	536.0	531.1	534.4
40°	489.8	486.5	486.5	486.5	484.9	484.9	484.9	486.5	488.2	484.9	488.2
42.5°	440.4	438.7	438.7	437.1	435.4	437.1	438.7	438.7	440.4	437.1	438.7
45°	392.5	390.9	392.5	390.9	390.9	389.2	390.9	392.5	392.5	390.9	390.9
47.5°	348.0	348.0	346.3	346.3	346.3	346.3	346.3	346.3	346.3	343.0	346.3
50°	308.4	305.1	306.8	305.1	305.1	303.5	303.5	301.8	300.2	298.5	298.5
52.5°	270.5	267.2	267.2	265.5	263.9	263.9	262.2	260.6	258.9	255.6	255.6
55°	234.2	230.9	229.2	227.6	226.0	224.3	222.7	221.0	217.7	216.1	216.1
57.5°	201.2	197.9	194.6	194.6	191.3	189.7	186.4	183.1	181.4	178.1	178.1
60°	171.5	168.2	163.3	161.6	160.0	156.7	151.7	150.1	148.4	145.1	146.8
62.5°	143.5	138.5	133.6	131.9	130.3	127.0	123.7	120.4	118.7	120.4	120.4
65°	117.1	112.2	108.9	105.6	103.9	100.6	99.0	97.3	97.3	97.3	99.0
67.5°	94.0	89.1	85.8	84.1	80.8	79.2	79.2	79.2	79.2	79.2	79.2
70°	74.2	70.9	67.6	64.3	64.3	62.7	62.7	62.7	62.7	62.7	62.7
72.5°	56.1	52.8	51.1	51.1	49.5	49.5	49.5	49.5	47.8	47.8	49.5
75°	41.2	39.6	37.9	37.9	37.9	36.3	36.3	36.3	36.3	36.3	36.3
77.5°	29.7	28.0	28.0	26.4	26.4	26.4	26.4	26.4	26.4	24.7	24.7
80°	19.8	18.1	18.1	18.1	18.1	16.5	16.5	16.5	16.5	16.5	16.5
82.5°	11.5	11.5	11.5	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
85°	6.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	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: P251785

CATALOG NUMBER: LD4B30D010 EU4B30509035 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0	1072.0
2.5°	1052.2	1058.8	1060.5	1055.5	1057.2	1053.9	1055.5	1052.2
5°	1034.1	1039.0	1040.7	1037.4	1037.4	1034.1	1035.7	1032.4
7.5°	1011.0	1016.0	1017.6	1014.3	1014.3	1011.0	1011.0	1009.4
10°	984.6	986.3	989.6	984.6	986.3	983.0	983.0	979.7
12.5°	951.6	954.9	958.2	953.3	953.3	951.6	951.6	946.7
15°	917.0	920.3	921.9	918.6	918.6	917.0	915.3	913.7
17.5°	880.7	882.4	885.7	880.7	884.0	880.7	880.7	877.4
20°	839.5	844.4	846.1	841.1	842.8	841.1	841.1	841.1
22.5°	799.9	803.2	804.8	801.5	803.2	799.9	801.5	798.2
25°	758.7	760.3	762.0	758.7	762.0	760.3	758.7	758.7
27.5°	715.8	717.4	719.1	715.8	719.1	717.4	719.1	715.8
30°	669.6	672.9	676.2	672.9	674.6	672.9	672.9	671.3
32.5°	623.4	626.7	630.0	626.7	630.0	626.7	628.4	625.1
35°	580.5	582.2	583.8	580.5	582.2	582.2	582.2	580.5
37.5°	532.7	536.0	536.0	534.4	537.7	536.0	536.0	532.7
40°	486.5	488.2	489.8	486.5	488.2	486.5	488.2	486.5
42.5°	438.7	442.0	443.7	440.4	440.4	440.4	438.7	440.4
45°	389.2	392.5	395.8	390.9	392.5	392.5	392.5	390.9
47.5°	344.7	344.7	346.3	344.7	346.3	343.0	346.3	344.7
50°	298.5	298.5	301.8	298.5	298.5	298.5	298.5	298.5
52.5°	254.0	255.6	255.6	252.3	254.0	252.3	254.0	252.3
55°	212.8	212.8	214.4	212.8	212.8	212.8	212.8	212.8
57.5°	176.5	178.1	178.1	176.5	178.1	176.5	176.5	176.5
60°	146.8	146.8	146.8	145.1	146.8	145.1	146.8	145.1
62.5°	118.7	120.4	120.4	118.7	120.4	118.7	118.7	118.7
65°	97.3	97.3	97.3	97.3	97.3	97.3	97.3	95.7
67.5°	77.5	77.5	79.2	77.5	79.2	79.2	79.2	79.2
70°	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
72.5°	47.8	47.8	49.5	47.8	47.8	47.8	47.8	47.8
75°	36.3	36.3	36.3	36.3	36.3	34.6	34.6	36.3
77.5°	24.7	24.7	24.7	24.7	24.7	24.7	24.7	26.4
80°	16.5	16.5	16.5	16.5	14.8	14.8	16.5	14.8
82.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
85°	4.9	4.9	3.3	3.3	3.3	3.3	3.3	3.3
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



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















(END OF REPORT)