

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: P251786

Luminaire Tested: **LD4B30D010 EU4B30509040 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251786  
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 EU4B30509040 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1936.0 lumens  
Efficiency: N/A  
Efficacy: 69.1 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

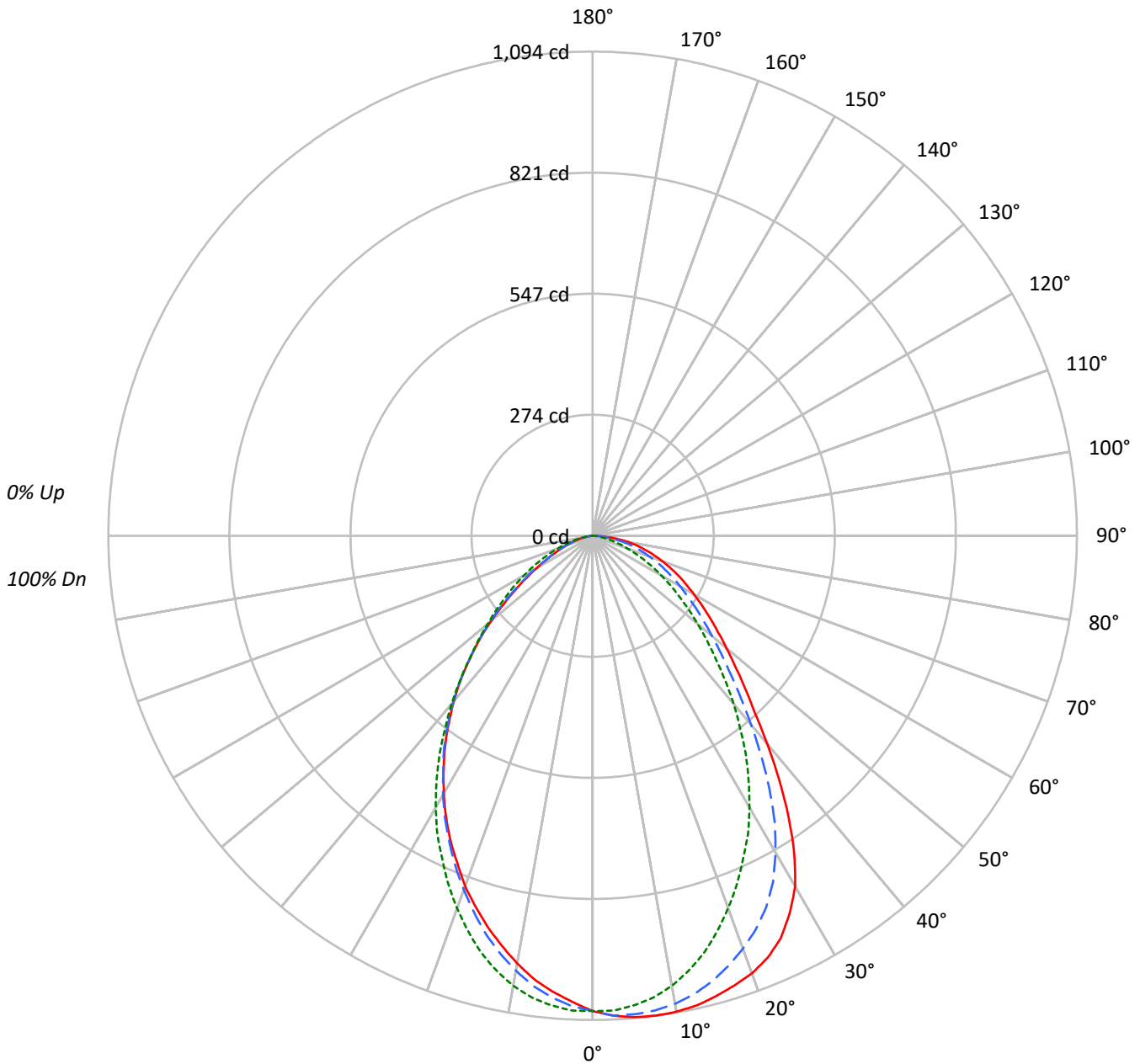
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	90°	180°
0°	104641	104641	104641
5°	106821	104228	101157
10°	108056	102168	97101
15°	108665	98333	92330
20°	109127	92854	87368
25°	107995	86500	81704
30°	102981	79742	75657
35°	91586	71730	69172
40°	77962	63051	61996
45°	67163	54180	53959
50°	59859	46835	45334
55°	55018	40422	36208
60°	51516	34773	28341
65°	49511	29333	22092
70°	47529	23537	17895
75°	46014	18677	13669
80°	46358	12965	8362
85°	38802	9281	3690



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.5	5.2
10°-20°	276.3	14.3
20°-30°	386.4	20.0
30°-40°	397.2	20.5
40°-50°	322.4	16.7
50°-60°	227.0	11.7
60°-70°	139.8	7.2
70°-80°	69.8	3.6
80°-90°	16.6	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°	763.3	39.4
0°-40°	1160.5	59.9
0°-60°	1709.9	88.3
0°-90°	1936.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1936.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1074	1074	1074	1074	1074	
5°	1092	1085	1065	1047	1034	104
15°	1077	1042	975	932	915	304
25°	1004	927	804	765	760	459
35°	770	695	603	585	581	479
45°	487	439	393	393	392	379
55°	324	284	238	218	213	291
65°	215	180	127	98	96	212
75°	122	96	50	36	36	131
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°	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7
2.5°	1085.3	1086.9	1082.0	1086.9	1080.3	1083.6	1085.3	1082.0	1078.6	1085.3	1085.3
5°	1091.9	1091.9	1086.9	1093.5	1085.3	1086.9	1090.2	1085.3	1080.3	1086.9	1085.3
7.5°	1093.5	1093.5	1086.9	1093.5	1085.3	1086.9	1088.6	1083.6	1078.6	1083.6	1082.0
10°	1091.9	1090.2	1085.3	1091.9	1083.6	1083.6	1085.3	1080.3	1072.0	1077.0	1073.7
12.5°	1086.9	1086.9	1080.3	1086.9	1075.3	1075.3	1077.0	1070.4	1063.8	1063.8	1060.5
15°	1077.0	1077.0	1070.4	1075.3	1065.4	1065.4	1063.8	1057.2	1048.9	1048.9	1042.3
17.5°	1065.4	1065.4	1058.8	1063.8	1052.2	1052.2	1050.6	1040.7	1029.1	1027.4	1019.2
20°	1052.2	1052.2	1044.0	1047.3	1034.0	1034.0	1032.4	1020.8	1007.6	1004.3	992.8
22.5°	1032.4	1032.4	1024.1	1025.8	1012.6	1010.9	1009.3	996.1	982.8	977.9	963.0
25°	1004.3	1002.7	996.1	996.1	982.8	979.5	976.2	963.0	949.8	939.9	926.7
27.5°	963.0	964.7	956.4	958.1	941.5	938.2	936.6	920.1	905.2	895.3	882.1
30°	915.1	910.2	901.9	901.9	888.7	887.0	883.7	868.9	852.3	840.8	825.9
32.5°	847.4	845.7	837.5	837.5	822.6	822.6	816.0	801.1	786.3	779.7	764.8
35°	769.8	768.1	761.5	761.5	748.3	749.9	743.3	731.8	716.9	707.0	695.4
37.5°	690.5	688.8	682.2	683.9	672.3	672.3	667.3	655.8	644.2	639.3	624.4
40°	612.8	611.2	602.9	607.9	598.0	594.7	593.0	584.7	571.5	564.9	556.7
42.5°	541.8	543.5	535.2	538.5	530.2	526.9	525.3	518.7	508.8	502.2	493.9
45°	487.3	484.0	480.7	480.7	472.4	470.8	469.1	460.9	454.3	447.6	439.4
47.5°	436.1	432.8	429.5	431.1	424.5	422.9	419.6	413.0	404.7	401.4	393.1
50°	394.8	393.1	388.2	388.2	381.6	379.9	376.6	371.7	363.4	358.4	351.8
52.5°	356.8	356.8	351.8	350.2	345.2	343.6	341.9	335.3	328.7	322.1	315.5
55°	323.8	322.1	318.8	318.8	312.2	310.5	308.9	302.3	295.7	290.7	284.1
57.5°	292.4	292.4	289.1	289.1	284.1	280.8	280.8	274.2	265.9	262.6	254.4
60°	264.3	264.3	261.0	261.0	256.0	256.0	252.7	246.1	241.2	234.6	228.0
62.5°	237.9	239.5	236.2	234.6	229.6	228.0	228.0	223.0	214.7	209.8	203.2
65°	214.7	213.1	211.4	209.8	204.8	203.2	203.2	196.6	191.6	185.0	180.0
67.5°	190.0	190.0	186.7	186.7	183.4	181.7	178.4	173.4	168.5	163.5	158.6
70°	166.8	166.8	165.2	165.2	160.2	158.6	156.9	152.0	147.0	142.1	135.5
72.5°	145.4	143.7	142.1	142.1	138.8	137.1	135.5	130.5	125.5	120.6	115.6
75°	122.2	122.2	120.6	120.6	117.3	115.6	115.6	112.3	105.7	102.4	95.8
77.5°	102.4	102.4	100.8	100.8	97.5	97.5	95.8	90.9	87.5	82.6	79.3
80°	82.6	80.9	80.9	79.3	76.0	76.0	74.3	72.7	67.7	64.4	59.5
82.5°	57.8	57.8	57.8	56.2	54.5	54.5	52.9	49.6	46.3	44.6	39.6
85°	34.7	34.7	33.0	31.4	33.0	31.4	29.7	28.1	26.4	24.8	23.1
87.5°	14.9	14.9	13.2	13.2	13.2	13.2	13.2	11.6	9.9	9.9	8.3
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°	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7
2.5°	1075.3	1080.3	1078.6	1077.0	1073.7	1073.7	1073.7	1072.0	1073.7	1073.7	1070.4
5°	1075.3	1078.6	1077.0	1073.7	1070.4	1070.4	1068.7	1065.4	1065.4	1065.4	1058.8
7.5°	1070.4	1073.7	1068.7	1065.4	1062.1	1058.8	1058.8	1053.9	1053.9	1052.2	1045.6
10°	1060.5	1062.1	1055.5	1052.2	1047.3	1045.6	1042.3	1035.7	1034.0	1032.4	1025.8
12.5°	1045.6	1047.3	1039.0	1032.4	1025.8	1024.1	1020.8	1012.6	1009.3	1006.0	997.7
15°	1024.1	1024.1	1014.2	1006.0	999.4	997.7	989.4	981.2	977.9	974.6	963.0
17.5°	999.4	997.7	984.5	976.2	968.0	964.7	956.4	946.5	939.9	936.6	926.7
20°	972.9	968.0	953.1	944.8	934.9	930.0	921.7	908.5	901.9	895.3	885.4
22.5°	941.5	934.9	918.4	906.9	896.9	892.0	880.4	868.9	859.0	852.3	840.8
25°	903.6	895.3	877.1	862.3	854.0	849.0	837.5	824.3	814.4	804.4	794.5
27.5°	859.0	849.0	830.9	816.0	807.7	799.5	791.2	776.4	768.1	759.8	748.3
30°	804.4	792.9	776.4	763.1	753.2	746.6	736.7	723.5	713.6	708.6	697.1
32.5°	745.0	731.8	716.9	703.7	698.7	690.5	682.2	669.0	660.7	655.8	647.5
35°	678.9	669.0	652.5	642.6	634.3	631.0	624.4	611.2	607.9	602.9	593.0
37.5°	609.5	601.3	589.7	581.4	574.8	571.5	564.9	556.7	551.7	546.8	541.8
40°	545.1	538.5	528.6	522.0	513.7	508.8	508.8	498.9	495.6	495.6	490.6
42.5°	482.3	479.0	470.8	460.9	459.2	454.3	452.6	447.6	444.3	442.7	441.0
45°	429.5	424.5	416.3	411.3	406.4	406.4	401.4	396.4	394.8	393.1	391.5
47.5°	383.2	376.6	370.0	365.1	361.8	360.1	355.1	351.8	350.2	350.2	348.5
50°	341.9	337.0	330.4	325.4	322.1	318.8	315.5	312.2	310.5	308.9	308.9
52.5°	307.2	300.6	294.0	289.1	284.1	282.5	279.2	275.9	274.2	272.6	270.9
55°	275.9	270.9	262.6	257.7	252.7	252.7	247.8	242.8	239.5	237.9	236.2
57.5°	246.1	241.2	232.9	228.0	224.6	221.3	218.0	214.7	211.4	208.1	204.8
60°	219.7	214.7	206.5	199.9	198.2	194.9	191.6	185.0	181.7	178.4	175.1
62.5°	194.9	188.3	181.7	175.1	173.4	170.1	165.2	160.2	155.3	152.0	147.0
65°	171.8	166.8	158.6	153.6	148.7	147.0	142.1	135.5	130.5	127.2	122.2
67.5°	150.3	143.7	135.5	130.5	127.2	123.9	118.9	114.0	109.0	104.1	99.1
70°	128.8	123.9	115.6	110.7	107.4	104.1	99.1	92.5	87.5	82.6	79.3
72.5°	109.0	102.4	95.8	90.9	87.5	84.2	79.3	74.3	69.4	66.1	61.1
75°	90.9	84.2	79.3	72.7	71.0	67.7	62.8	57.8	52.9	49.6	46.3
77.5°	72.7	67.7	61.1	57.8	54.5	51.2	47.9	42.9	39.6	34.7	31.4
80°	54.5	49.6	44.6	41.3	38.0	36.3	33.0	29.7	26.4	23.1	21.5
82.5°	36.3	33.0	28.1	26.4	24.8	23.1	19.8	18.2	16.5	14.9	13.2
85°	19.8	18.2	16.5	13.2	13.2	11.6	9.9	9.9	8.3	8.3	6.6
87.5°	8.3	6.6	6.6	5.0	5.0	5.0	3.3	3.3	3.3	1.7	1.7
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°	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7
2.5°	1072.0	1065.4	1065.4	1065.4	1060.5	1062.1	1063.8	1065.4	1063.8	1058.8	1063.8
5°	1060.5	1053.9	1053.9	1050.6	1047.3	1047.3	1047.3	1048.9	1047.3	1042.3	1044.0
7.5°	1045.6	1037.4	1035.7	1032.4	1029.1	1027.4	1027.4	1027.4	1025.8	1019.2	1022.5
10°	1022.5	1014.2	1010.9	1009.3	1004.3	1002.7	1001.0	999.4	997.7	991.1	994.4
12.5°	994.4	987.8	981.2	979.5	974.6	971.3	969.6	969.6	966.3	959.7	963.0
15°	961.4	951.5	946.5	943.2	938.2	934.9	931.6	933.3	931.6	925.0	926.7
17.5°	921.7	911.8	906.9	905.2	898.6	895.3	893.6	893.6	892.0	885.4	887.0
20°	878.8	868.9	865.6	862.3	859.0	855.7	854.0	852.3	850.7	844.1	849.0
22.5°	835.8	824.3	819.3	819.3	812.7	811.1	809.4	811.1	809.4	802.8	806.1
25°	791.2	779.7	776.4	771.4	768.1	766.5	766.5	766.5	764.8	761.5	764.8
27.5°	741.7	733.4	728.5	726.8	723.5	721.9	720.2	721.9	721.9	716.9	720.2
30°	692.1	685.5	682.2	680.6	675.6	673.9	675.6	675.6	675.6	670.6	675.6
32.5°	642.6	637.6	636.0	631.0	627.7	627.7	627.7	629.3	627.7	624.4	629.3
35°	593.0	586.4	584.7	583.1	583.1	579.8	583.1	581.4	584.7	579.8	583.1
37.5°	540.1	536.8	535.2	535.2	531.9	533.5	533.5	533.5	536.8	531.9	535.2
40°	490.6	487.3	487.3	487.3	485.6	485.6	485.6	487.3	488.9	485.6	488.9
42.5°	441.0	439.4	439.4	437.7	436.1	437.7	439.4	439.4	441.0	437.7	439.4
45°	393.1	391.5	393.1	391.5	391.5	389.8	391.5	393.1	393.1	391.5	391.5
47.5°	348.5	348.5	346.9	346.9	346.9	346.9	346.9	346.9	346.9	343.6	346.9
50°	308.9	305.6	307.2	305.6	305.6	303.9	303.9	302.3	300.6	299.0	299.0
52.5°	270.9	267.6	267.6	265.9	264.3	264.3	262.6	261.0	259.3	256.0	256.0
55°	234.6	231.3	229.6	228.0	226.3	224.6	223.0	221.3	218.0	216.4	216.4
57.5°	201.5	198.2	194.9	194.9	191.6	190.0	186.7	183.4	181.7	178.4	178.4
60°	171.8	168.5	163.5	161.9	160.2	156.9	152.0	150.3	148.7	145.4	147.0
62.5°	143.7	138.8	133.8	132.1	130.5	127.2	123.9	120.6	118.9	120.6	120.6
65°	117.3	112.3	109.0	105.7	104.1	100.8	99.1	97.5	97.5	97.5	99.1
67.5°	94.2	89.2	85.9	84.2	80.9	79.3	79.3	79.3	79.3	79.3	79.3
70°	74.3	71.0	67.7	64.4	64.4	62.8	62.8	62.8	62.8	62.8	62.8
72.5°	56.2	52.9	51.2	51.2	49.6	49.6	49.6	49.6	47.9	47.9	49.6
75°	41.3	39.6	38.0	38.0	38.0	36.3	36.3	36.3	36.3	36.3	36.3
77.5°	29.7	28.1	28.1	26.4	26.4	26.4	26.4	26.4	26.4	24.8	24.8
80°	19.8	18.2	18.2	18.2	18.2	16.5	16.5	16.5	16.5	16.5	16.5
82.5°	11.6	11.6	11.6	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
85°	6.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
87.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	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: P251786

CATALOG NUMBER: LD4B30D010 EU4B30509040 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7	1073.7
2.5°	1053.9	1060.5	1062.1	1057.2	1058.8	1055.5	1057.2	1053.9
5°	1035.7	1040.7	1042.3	1039.0	1039.0	1035.7	1037.4	1034.0
7.5°	1012.6	1017.5	1019.2	1015.9	1015.9	1012.6	1012.6	1010.9
10°	986.1	987.8	991.1	986.1	987.8	984.5	984.5	981.2
12.5°	953.1	956.4	959.7	954.8	954.8	953.1	953.1	948.2
15°	918.4	921.7	923.4	920.1	920.1	918.4	916.8	915.1
17.5°	882.1	883.7	887.0	882.1	885.4	882.1	882.1	878.8
20°	840.8	845.7	847.4	842.4	844.1	842.4	842.4	842.4
22.5°	801.1	804.4	806.1	802.8	804.4	801.1	802.8	799.5
25°	759.8	761.5	763.1	759.8	763.1	761.5	759.8	759.8
27.5°	716.9	718.5	720.2	716.9	720.2	718.5	720.2	716.9
30°	670.6	673.9	677.3	673.9	675.6	673.9	673.9	672.3
32.5°	624.4	627.7	631.0	627.7	631.0	627.7	629.3	626.0
35°	581.4	583.1	584.7	581.4	583.1	583.1	583.1	581.4
37.5°	533.5	536.8	536.8	535.2	538.5	536.8	536.8	533.5
40°	487.3	488.9	490.6	487.3	488.9	487.3	488.9	487.3
42.5°	439.4	442.7	444.3	441.0	441.0	441.0	439.4	441.0
45°	389.8	393.1	396.4	391.5	393.1	393.1	393.1	391.5
47.5°	345.2	345.2	346.9	345.2	346.9	343.6	346.9	345.2
50°	299.0	299.0	302.3	299.0	299.0	299.0	299.0	299.0
52.5°	254.4	256.0	256.0	252.7	254.4	252.7	254.4	252.7
55°	213.1	213.1	214.7	213.1	213.1	213.1	213.1	213.1
57.5°	176.7	178.4	178.4	176.7	178.4	176.7	176.7	176.7
60°	147.0	147.0	147.0	145.4	147.0	145.4	147.0	145.4
62.5°	118.9	120.6	120.6	118.9	120.6	118.9	118.9	118.9
65°	97.5	97.5	97.5	97.5	97.5	97.5	97.5	95.8
67.5°	77.6	77.6	79.3	77.6	79.3	79.3	79.3	79.3
70°	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8
72.5°	47.9	47.9	49.6	47.9	47.9	47.9	47.9	47.9
75°	36.3	36.3	36.3	36.3	36.3	34.7	34.7	36.3
77.5°	24.8	24.8	24.8	24.8	24.8	24.8	24.8	26.4
80°	16.5	16.5	16.5	16.5	14.9	14.9	16.5	14.9
82.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
85°	5.0	5.0	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)