

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: P251780

Luminaire Tested: **LD4B30D010 EU4B30508040 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251780  
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 EU4B30508040 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2312.0 lumens  
Efficiency: N/A  
Efficacy: 82.6 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

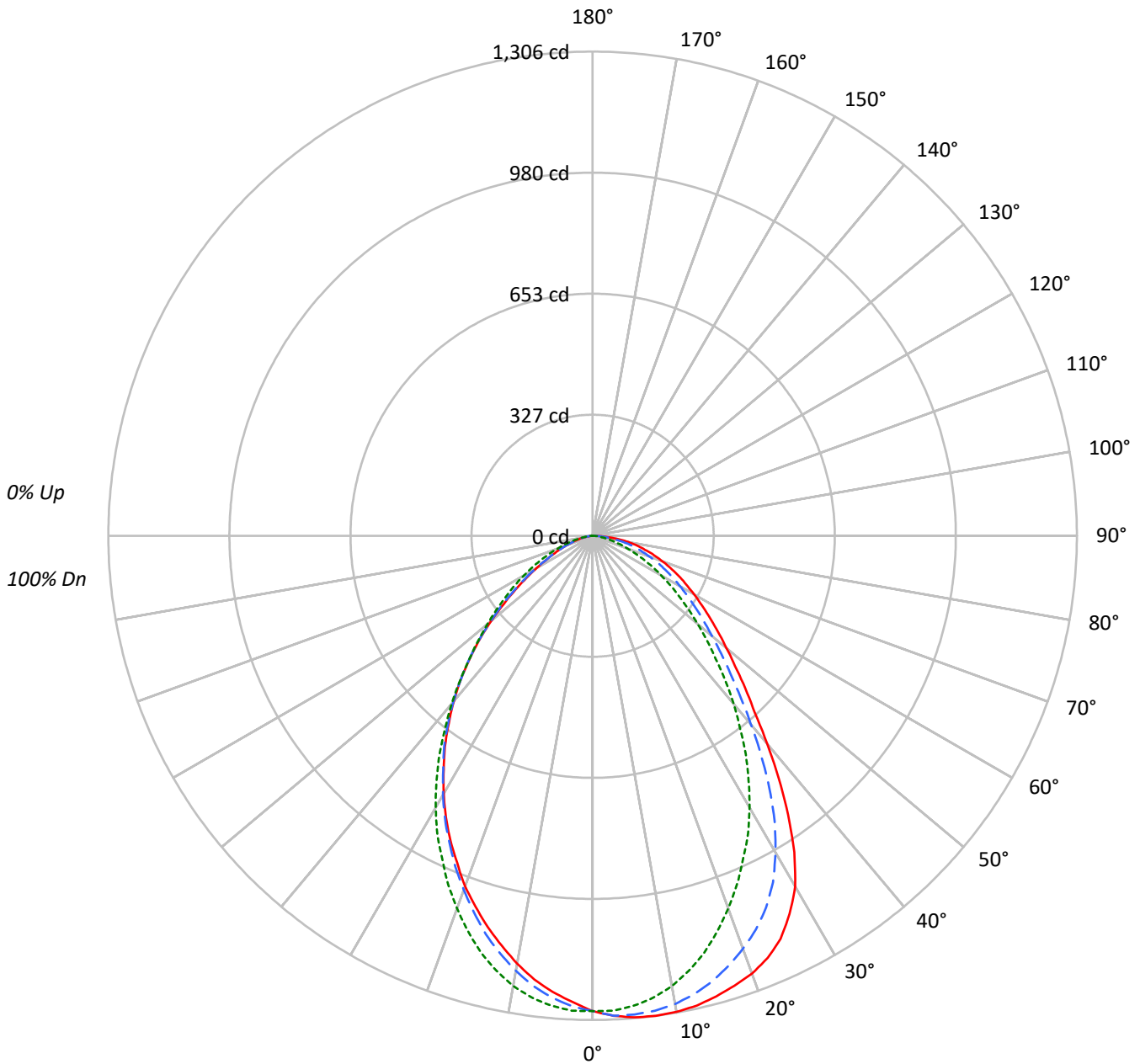
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	124961	124961	124961
5°	127561	124479	120811
10°	129036	122010	115963
15°	129772	117433	110259
20°	130325	110890	104335
25°	128975	103307	97576
30°	122978	95238	90354
35°	109373	85662	82616
40°	93114	75290	74031
45°	80201	64710	64434
50°	71488	55932	54128
55°	65688	48272	43243
60°	61516	41517	33837
65°	59127	35029	26381
70°	56762	28096	21371
75°	54976	22292	16342
80°	55338	15490	9990
85°	46294	11070	4361



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.0	5.2
10°-20°	330.0	14.3
20°-30°	461.5	20.0
30°-40°	474.3	20.5
40°-50°	385.0	16.7
50°-60°	271.1	11.7
60°-70°	166.9	7.2
70°-80°	83.4	3.6
80°-90°	19.8	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°	911.5	39.4
0°-40°	1385.8	59.9
0°-60°	2042.0	88.3
0°-90°	2312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2312.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1282	1282	1282	1282	1282	
5°	1304	1296	1272	1251	1235	124
15°	1286	1245	1164	1113	1093	363
25°	1199	1107	961	913	907	548
35°	919	830	720	698	694	572
45°	582	525	470	470	468	453
55°	387	339	284	260	254	348
65°	256	215	152	116	114	254
75°	146	114	59	43	43	156
85°	41	28	10	6	4	48
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°	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2
2.5°	1296.0	1298.0	1292.1	1298.0	1290.1	1294.1	1296.0	1292.1	1288.1	1296.0	1296.0
5°	1303.9	1303.9	1298.0	1305.9	1296.0	1298.0	1301.9	1296.0	1290.1	1298.0	1296.0
7.5°	1305.9	1305.9	1298.0	1305.9	1296.0	1298.0	1300.0	1294.1	1288.1	1294.1	1292.1
10°	1303.9	1301.9	1296.0	1303.9	1294.1	1294.1	1296.0	1290.1	1280.2	1286.2	1282.2
12.5°	1298.0	1298.0	1290.1	1298.0	1284.2	1284.2	1286.2	1278.3	1270.4	1270.4	1266.4
15°	1286.2	1286.2	1278.3	1284.2	1272.4	1272.4	1270.4	1262.5	1252.6	1252.6	1244.7
17.5°	1272.4	1272.4	1264.5	1270.4	1256.6	1256.6	1254.6	1242.8	1229.0	1227.0	1217.1
20°	1256.6	1256.6	1246.7	1250.7	1234.9	1234.9	1232.9	1219.1	1203.3	1199.4	1185.6
22.5°	1232.9	1232.9	1223.0	1225.0	1209.2	1207.3	1205.3	1189.5	1173.7	1167.8	1150.1
25°	1199.4	1197.4	1189.5	1189.5	1173.7	1169.8	1165.8	1150.1	1134.3	1122.4	1106.7
27.5°	1150.1	1152.0	1142.2	1144.1	1124.4	1120.5	1118.5	1098.8	1081.0	1069.2	1053.4
30°	1092.8	1086.9	1077.1	1077.1	1061.3	1059.3	1055.4	1037.6	1017.9	1004.1	986.3
32.5°	1012.0	1010.0	1000.1	1000.1	982.4	982.4	974.5	956.7	939.0	931.1	913.3
35°	919.3	917.3	909.4	909.4	893.6	895.6	887.7	873.9	856.1	844.3	830.5
37.5°	824.6	822.6	814.7	816.7	802.9	802.9	796.9	783.1	769.3	763.4	745.7
40°	731.9	729.9	720.0	725.9	714.1	710.2	708.2	698.3	682.5	674.6	664.8
42.5°	647.0	649.0	639.1	643.1	633.2	629.3	627.3	619.4	607.6	599.7	589.8
45°	581.9	578.0	574.0	574.0	564.2	562.2	560.2	550.4	542.5	534.6	524.7
47.5°	520.8	516.8	512.9	514.9	507.0	505.0	501.1	493.2	483.3	479.4	469.5
50°	471.5	469.5	463.6	463.6	455.7	453.7	449.8	443.8	434.0	428.1	420.2
52.5°	426.1	426.1	420.2	418.2	412.3	410.3	408.3	400.4	392.6	384.7	376.8
55°	386.6	384.7	380.7	380.7	372.8	370.9	368.9	361.0	353.1	347.2	339.3
57.5°	349.2	349.2	345.2	345.2	339.3	335.3	335.3	327.5	317.6	313.7	303.8
60°	315.6	315.6	311.7	311.7	305.8	305.8	301.8	293.9	288.0	280.1	272.2
62.5°	284.1	286.0	282.1	280.1	274.2	272.2	272.2	266.3	256.4	250.5	242.6
65°	256.4	254.5	252.5	250.5	244.6	242.6	242.6	234.7	228.8	220.9	215.0
67.5°	226.9	226.9	222.9	222.9	219.0	217.0	213.0	207.1	201.2	195.3	189.4
70°	199.2	199.2	197.3	197.3	191.3	189.4	187.4	181.5	175.6	169.6	161.8
72.5°	173.6	171.6	169.6	169.6	165.7	163.7	161.8	155.8	149.9	144.0	138.1
75°	146.0	146.0	144.0	144.0	140.1	138.1	138.1	134.1	126.2	122.3	114.4
77.5°	122.3	122.3	120.3	120.3	116.4	116.4	114.4	108.5	104.6	98.6	94.7
80°	98.6	96.7	96.7	94.7	90.7	90.7	88.8	86.8	80.9	76.9	71.0
82.5°	69.0	69.0	69.0	67.1	65.1	65.1	63.1	59.2	55.2	53.3	47.3
85°	41.4	41.4	39.5	37.5	39.5	37.5	35.5	33.5	31.6	29.6	27.6
87.5°	17.8	17.8	15.8	15.8	15.8	15.8	15.8	13.8	11.8	11.8	9.9
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°	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2
2.5°	1284.2	1290.1	1288.1	1286.2	1282.2	1282.2	1282.2	1280.2	1282.2	1282.2	1278.3
5°	1284.2	1288.1	1286.2	1282.2	1278.3	1278.3	1276.3	1272.4	1272.4	1272.4	1264.5
7.5°	1278.3	1282.2	1276.3	1272.4	1268.4	1264.5	1264.5	1258.5	1258.5	1256.6	1248.7
10°	1266.4	1268.4	1260.5	1256.6	1250.7	1248.7	1244.7	1236.8	1234.9	1232.9	1225.0
12.5°	1248.7	1250.7	1240.8	1232.9	1225.0	1223.0	1219.1	1209.2	1205.3	1201.3	1191.5
15°	1223.0	1223.0	1211.2	1201.3	1193.5	1191.5	1181.6	1171.8	1167.8	1163.9	1150.1
17.5°	1193.5	1191.5	1175.7	1165.8	1156.0	1152.0	1142.2	1130.3	1122.4	1118.5	1106.7
20°	1161.9	1156.0	1138.2	1128.4	1116.5	1110.6	1100.7	1085.0	1077.1	1069.2	1057.3
22.5°	1124.4	1116.5	1096.8	1083.0	1071.1	1065.2	1051.4	1037.6	1025.8	1017.9	1004.1
25°	1079.0	1069.2	1047.5	1029.7	1019.9	1013.9	1000.1	984.3	972.5	960.7	948.8
27.5°	1025.8	1013.9	992.2	974.5	964.6	954.8	944.9	927.1	917.3	907.4	893.6
30°	960.7	946.9	927.1	911.4	899.5	891.6	879.8	864.0	852.2	846.3	832.5
32.5°	889.7	873.9	856.1	840.3	834.4	824.6	814.7	798.9	789.1	783.1	773.3
35°	810.8	798.9	779.2	767.4	757.5	753.6	745.7	729.9	725.9	720.0	708.2
37.5°	727.9	718.0	704.2	694.4	686.5	682.5	674.6	664.8	658.9	652.9	647.0
40°	651.0	643.1	631.2	623.4	613.5	607.6	607.6	595.7	591.8	591.8	585.9
42.5°	576.0	572.1	562.2	550.4	548.4	542.5	540.5	534.6	530.6	528.7	526.7
45°	512.9	507.0	497.1	491.2	485.3	485.3	479.4	473.4	471.5	469.5	467.5
47.5°	457.7	449.8	441.9	436.0	432.0	430.0	424.1	420.2	418.2	418.2	416.2
50°	408.3	402.4	394.5	388.6	384.7	380.7	376.8	372.8	370.9	368.9	368.9
52.5°	366.9	359.0	351.1	345.2	339.3	337.3	333.4	329.4	327.5	325.5	323.5
55°	329.4	323.5	313.7	307.7	301.8	301.8	295.9	290.0	286.0	284.1	282.1
57.5°	293.9	288.0	278.1	272.2	268.3	264.3	260.4	256.4	252.5	248.6	244.6
60°	262.4	256.4	246.6	238.7	236.7	232.8	228.8	220.9	217.0	213.0	209.1
62.5°	232.8	224.9	217.0	209.1	207.1	203.2	197.3	191.3	185.4	181.5	175.6
65°	205.2	199.2	189.4	183.5	177.5	175.6	169.6	161.8	155.8	151.9	146.0
67.5°	179.5	171.6	161.8	155.8	151.9	147.9	142.0	136.1	130.2	124.3	118.4
70°	153.9	147.9	138.1	132.2	128.2	124.3	118.4	110.5	104.6	98.6	94.7
72.5°	130.2	122.3	114.4	108.5	104.6	100.6	94.7	88.8	82.9	78.9	73.0
75°	108.5	100.6	94.7	86.8	84.8	80.9	75.0	69.0	63.1	59.2	55.2
77.5°	86.8	80.9	73.0	69.0	65.1	61.2	57.2	51.3	47.3	41.4	37.5
80°	65.1	59.2	53.3	49.3	45.4	43.4	39.5	35.5	31.6	27.6	25.6
82.5°	43.4	39.5	33.5	31.6	29.6	27.6	23.7	21.7	19.7	17.8	15.8
85°	23.7	21.7	19.7	15.8	15.8	13.8	11.8	11.8	9.9	9.9	7.9
87.5°	9.9	7.9	7.9	5.9	5.9	5.9	3.9	3.9	3.9	2.0	2.0
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°	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2
2.5°	1280.2	1272.4	1272.4	1272.4	1266.4	1268.4	1270.4	1272.4	1270.4	1264.5	1270.4
5°	1266.4	1258.5	1258.5	1254.6	1250.7	1250.7	1250.7	1252.6	1250.7	1244.7	1246.7
7.5°	1248.7	1238.8	1236.8	1232.9	1229.0	1227.0	1227.0	1227.0	1225.0	1217.1	1221.1
10°	1221.1	1211.2	1207.3	1205.3	1199.4	1197.4	1195.4	1193.5	1191.5	1183.6	1187.5
12.5°	1187.5	1179.6	1171.8	1169.8	1163.9	1159.9	1157.9	1157.9	1154.0	1146.1	1150.1
15°	1148.1	1136.2	1130.3	1126.4	1120.5	1116.5	1112.6	1114.5	1112.6	1104.7	1106.7
17.5°	1100.7	1088.9	1083.0	1081.0	1073.1	1069.2	1067.2	1067.2	1065.2	1057.3	1059.3
20°	1049.4	1037.6	1033.7	1029.7	1025.8	1021.8	1019.9	1017.9	1015.9	1008.0	1013.9
22.5°	998.2	984.3	978.4	978.4	970.5	968.6	966.6	968.6	966.6	958.7	962.7
25°	944.9	931.1	927.1	921.2	917.3	915.3	915.3	915.3	913.3	909.4	913.3
27.5°	885.7	875.9	869.9	868.0	864.0	862.0	860.1	862.0	862.0	856.1	860.1
30°	826.5	818.6	814.7	812.7	806.8	804.8	806.8	806.8	806.8	800.9	806.8
32.5°	767.4	761.4	759.5	753.6	749.6	749.6	749.6	751.6	749.6	745.7	751.6
35°	708.2	700.3	698.3	696.3	696.3	692.4	696.3	694.4	698.3	692.4	696.3
37.5°	645.1	641.1	639.1	639.1	635.2	637.2	637.2	637.2	641.1	635.2	639.1
40°	585.9	581.9	581.9	581.9	580.0	580.0	580.0	581.9	583.9	580.0	583.9
42.5°	526.7	524.7	524.7	522.8	520.8	522.8	524.7	524.7	526.7	522.8	524.7
45°	469.5	467.5	469.5	467.5	467.5	465.5	467.5	469.5	469.5	467.5	467.5
47.5°	416.2	416.2	414.3	414.3	414.3	414.3	414.3	414.3	414.3	410.3	414.3
50°	368.9	364.9	366.9	364.9	364.9	363.0	363.0	361.0	359.0	357.0	357.0
52.5°	323.5	319.6	319.6	317.6	315.6	315.6	313.7	311.7	309.7	305.8	305.8
55°	280.1	276.2	274.2	272.2	270.3	268.3	266.3	264.3	260.4	258.4	258.4
57.5°	240.7	236.7	232.8	232.8	228.8	226.9	222.9	219.0	217.0	213.0	213.0
60°	205.2	201.2	195.3	193.3	191.3	187.4	181.5	179.5	177.5	173.6	175.6
62.5°	171.6	165.7	159.8	157.8	155.8	151.9	147.9	144.0	142.0	144.0	144.0
65°	140.1	134.1	130.2	126.2	124.3	120.3	118.4	116.4	116.4	116.4	118.4
67.5°	112.4	106.5	102.6	100.6	96.7	94.7	94.7	94.7	94.7	94.7	94.7
70°	88.8	84.8	80.9	76.9	76.9	75.0	75.0	75.0	75.0	75.0	75.0
72.5°	67.1	63.1	61.2	61.2	59.2	59.2	59.2	59.2	57.2	57.2	59.2
75°	49.3	47.3	45.4	45.4	45.4	43.4	43.4	43.4	43.4	43.4	43.4
77.5°	35.5	33.5	33.5	31.6	31.6	31.6	31.6	31.6	31.6	29.6	29.6
80°	23.7	21.7	21.7	21.7	21.7	19.7	19.7	19.7	19.7	19.7	19.7
82.5°	13.8	13.8	13.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
85°	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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: P251780

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2	1282.2
2.5°	1258.5	1266.4	1268.4	1262.5	1264.5	1260.5	1262.5	1258.5
5°	1236.8	1242.8	1244.7	1240.8	1240.8	1236.8	1238.8	1234.9
7.5°	1209.2	1215.1	1217.1	1213.2	1213.2	1209.2	1209.2	1207.3
10°	1177.7	1179.6	1183.6	1177.7	1179.6	1175.7	1175.7	1171.8
12.5°	1138.2	1142.2	1146.1	1140.2	1140.2	1138.2	1138.2	1132.3
15°	1096.8	1100.7	1102.7	1098.8	1098.8	1096.8	1094.8	1092.8
17.5°	1053.4	1055.4	1059.3	1053.4	1057.3	1053.4	1053.4	1049.4
20°	1004.1	1010.0	1012.0	1006.0	1008.0	1006.0	1006.0	1006.0
22.5°	956.7	960.7	962.7	958.7	960.7	956.7	958.7	954.8
25°	907.4	909.4	911.4	907.4	911.4	909.4	907.4	907.4
27.5°	856.1	858.1	860.1	856.1	860.1	858.1	860.1	856.1
30°	800.9	804.8	808.8	804.8	806.8	804.8	804.8	802.9
32.5°	745.7	749.6	753.6	749.6	753.6	749.6	751.6	747.6
35°	694.4	696.3	698.3	694.4	696.3	696.3	696.3	694.4
37.5°	637.2	641.1	641.1	639.1	643.1	641.1	641.1	637.2
40°	581.9	583.9	585.9	581.9	583.9	581.9	583.9	581.9
42.5°	524.7	528.7	530.6	526.7	526.7	526.7	524.7	526.7
45°	465.5	469.5	473.4	467.5	469.5	469.5	469.5	467.5
47.5°	412.3	412.3	414.3	412.3	414.3	410.3	414.3	412.3
50°	357.0	357.0	361.0	357.0	357.0	357.0	357.0	357.0
52.5°	303.8	305.8	305.8	301.8	303.8	301.8	303.8	301.8
55°	254.5	254.5	256.4	254.5	254.5	254.5	254.5	254.5
57.5°	211.1	213.0	213.0	211.1	213.0	211.1	211.1	211.1
60°	175.6	175.6	175.6	173.6	175.6	173.6	175.6	173.6
62.5°	142.0	144.0	144.0	142.0	144.0	142.0	142.0	142.0
65°	116.4	116.4	116.4	116.4	116.4	116.4	116.4	114.4
67.5°	92.7	92.7	94.7	92.7	94.7	94.7	94.7	94.7
70°	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
72.5°	57.2	57.2	59.2	57.2	57.2	57.2	57.2	57.2
75°	43.4	43.4	43.4	43.4	43.4	41.4	41.4	43.4
77.5°	29.6	29.6	29.6	29.6	29.6	29.6	29.6	31.6
80°	19.7	19.7	19.7	19.7	17.8	17.8	19.7	17.8
82.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
85°	5.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9
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)