

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: P251934

Luminaire Tested: **LD4B30D010 EU4B30508030 4LBDW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251934  
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 EU4B30508030 4LBDW1H  
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2519.0 lumens  
Efficiency: N/A  
Efficacy: 90.0 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

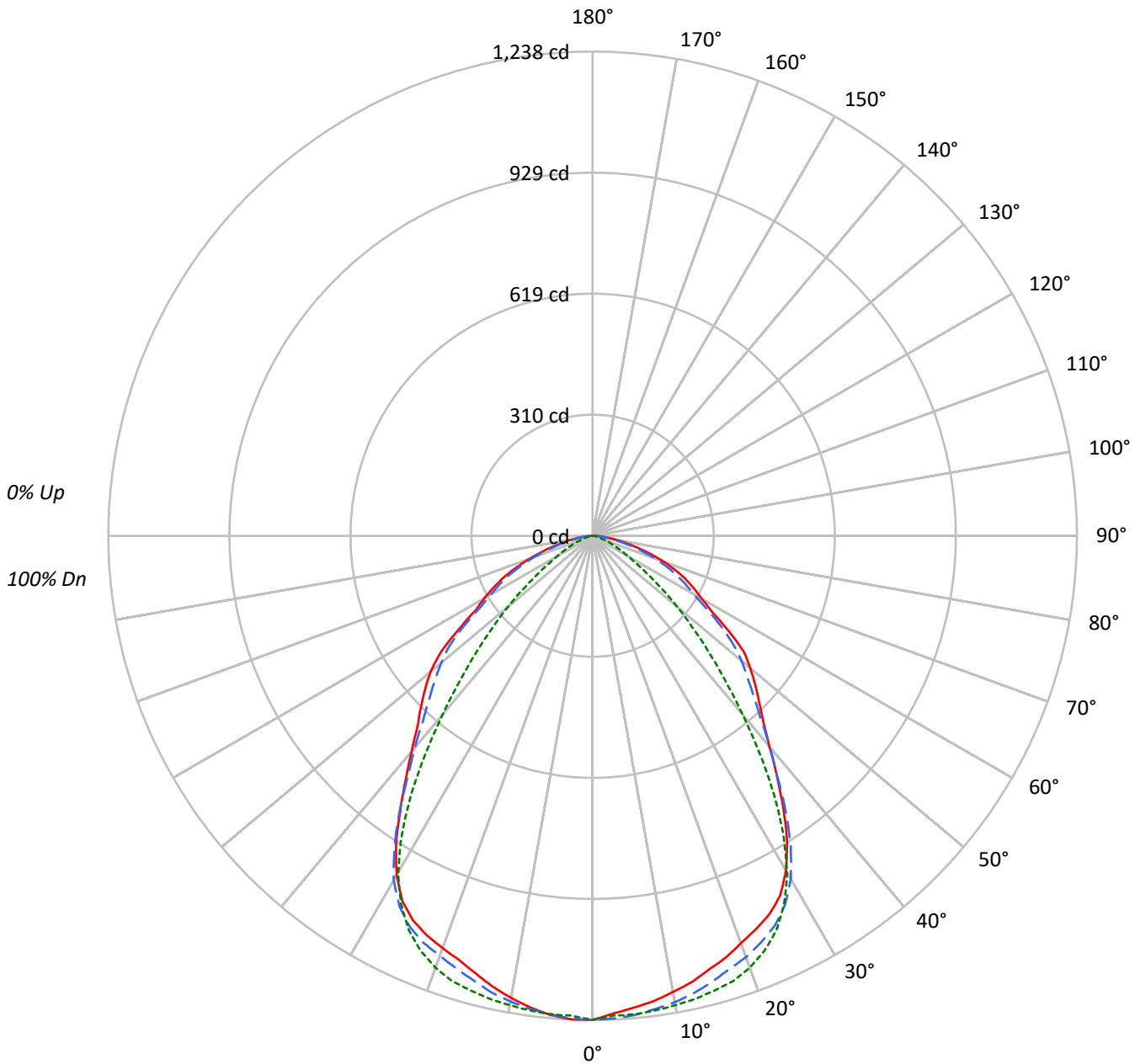
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	120624	120624	120624
5°	118482	120155	120341
10°	117210	120604	118724
15°	115849	121428	116817
20°	114945	121852	116324
25°	114878	119588	116716
30°	111218	111860	112715
35°	101045	96286	101949
40°	89399	75825	91575
45°	82930	57736	85563
50°	79690	42726	81995
55°	72145	29446	71177
60°	62724	20037	62354
65°	60603	14482	57536
70°	54796	9774	48840
75°	45186	6439	38709
80°	36312	4265	28848
85°	29856	2125	19121



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.8	4.6
10°-20°	334.1	13.3
20°-30°	504.7	20.0
30°-40°	528.2	21.0
40°-50°	427.8	17.0
50°-60°	311.2	12.4
60°-70°	191.9	7.6
70°-80°	86.7	3.4
80°-90°	17.6	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°	955.6	37.9
0°-40°	1483.8	58.9
0°-60°	2222.8	88.2
0°-90°	2519.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2519.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1238	1238	1238	1238	1238	
5°	1211	1230	1228	1228	1230	115
15°	1148	1181	1204	1177	1158	325
25°	1068	1101	1112	1104	1085	490
35°	849	861	809	861	857	529
45°	602	583	419	590	621	468
55°	425	398	173	402	419	379
65°	263	236	63	232	250	257
75°	120	103	17	90	103	130
85°	27	21	2	15	17	31
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°	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7
2.5°	1222.5	1222.5	1233.9	1247.3	1235.8	1224.4	1232.0	1228.2	1241.5	1241.5	1235.8
5°	1211.1	1214.9	1224.4	1235.8	1226.3	1214.9	1224.4	1220.6	1233.9	1233.9	1230.1
7.5°	1199.7	1201.6	1213.0	1226.3	1216.8	1205.4	1213.0	1211.1	1222.5	1224.4	1220.6
10°	1184.4	1186.3	1197.7	1211.1	1201.6	1192.0	1199.7	1197.7	1213.0	1213.0	1211.1
12.5°	1169.2	1171.1	1182.5	1193.9	1184.4	1174.9	1182.5	1182.5	1197.7	1199.7	1197.7
15°	1148.2	1152.0	1161.6	1173.0	1167.3	1155.9	1163.5	1163.5	1176.8	1180.6	1180.6
17.5°	1131.1	1133.0	1142.5	1154.0	1146.3	1136.8	1144.4	1144.4	1157.8	1161.6	1161.6
20°	1108.3	1112.1	1121.6	1133.0	1127.3	1119.7	1125.4	1125.4	1140.6	1144.4	1146.3
22.5°	1089.2	1093.0	1100.6	1115.9	1106.3	1100.6	1108.3	1106.3	1123.5	1125.4	1125.4
25°	1068.3	1072.1	1081.6	1091.1	1085.4	1079.7	1085.4	1085.4	1098.7	1100.6	1100.6
27.5°	1037.8	1039.7	1049.2	1058.7	1053.0	1045.4	1053.0	1051.1	1064.5	1066.4	1064.5
30°	988.3	992.1	995.9	1009.2	1003.5	997.8	1005.4	1001.6	1014.9	1014.9	1013.0
32.5°	925.4	925.4	933.1	942.6	935.0	931.2	936.9	938.8	948.3	948.3	942.6
35°	849.3	853.1	858.8	864.5	858.8	855.0	860.7	858.8	870.2	866.4	860.7
37.5°	773.1	775.0	780.7	788.3	780.7	775.0	776.9	775.0	784.5	784.5	775.0
40°	702.7	706.5	710.3	717.9	710.3	706.5	708.4	702.7	714.1	710.3	704.6
42.5°	645.5	647.4	653.1	657.0	649.3	647.4	649.3	645.5	651.2	647.4	636.0
45°	601.7	601.7	603.6	609.3	601.7	599.8	599.8	596.0	601.7	594.1	582.7
47.5°	563.6	565.6	567.5	571.3	565.6	559.8	561.7	554.1	557.9	552.2	537.0
50°	525.6	529.4	531.3	535.1	529.4	525.6	527.5	519.9	519.9	510.3	497.0
52.5°	487.5	489.4	487.5	491.3	487.5	481.8	483.7	476.1	476.1	464.6	451.3
55°	424.6	426.5	428.4	432.3	428.4	422.7	426.5	420.8	420.8	413.2	398.0
57.5°	361.8	363.7	365.6	367.5	367.5	363.7	365.6	361.8	359.9	354.2	342.8
60°	321.8	321.8	321.8	323.7	321.8	319.9	319.9	316.1	316.1	308.5	297.1
62.5°	291.3	293.2	293.2	295.2	293.2	291.3	289.4	285.6	283.7	276.1	266.6
65°	262.8	262.8	260.9	264.7	262.8	260.9	260.9	257.1	253.3	245.6	236.1
67.5°	228.5	230.4	228.5	230.4	230.4	228.5	226.6	222.8	220.9	215.2	203.8
70°	192.3	192.3	192.3	194.2	192.3	192.3	194.2	188.5	186.6	179.0	169.5
72.5°	156.1	158.0	158.0	156.1	158.0	154.2	154.2	154.2	152.3	144.7	135.2
75°	120.0	121.9	121.9	123.8	121.9	120.0	120.0	118.1	116.2	110.4	102.8
77.5°	89.5	89.5	91.4	91.4	91.4	89.5	89.5	85.7	85.7	81.9	74.3
80°	64.7	64.7	62.8	64.7	64.7	62.8	62.8	60.9	60.9	57.1	51.4
82.5°	41.9	43.8	43.8	43.8	43.8	41.9	41.9	41.9	40.0	38.1	34.3
85°	26.7	26.7	26.7	26.7	28.6	26.7	28.6	26.7	26.7	22.9	20.9
87.5°	11.4	11.4	11.4	13.3	13.3	11.4	11.4	11.4	11.4	11.4	9.5
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°	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7
2.5°	1235.8	1237.7	1232.0	1239.6	1233.9	1235.8	1237.7	1235.8	1228.2	1228.2	1249.2
5°	1228.2	1232.0	1226.3	1235.8	1232.0	1232.0	1235.8	1233.9	1226.3	1228.2	1247.3
7.5°	1220.6	1226.3	1222.5	1232.0	1226.3	1226.3	1230.1	1230.1	1222.5	1224.4	1241.5
10°	1209.2	1216.8	1214.9	1224.4	1218.7	1218.7	1224.4	1224.4	1216.8	1218.7	1235.8
12.5°	1199.7	1207.3	1205.4	1214.9	1211.1	1213.0	1214.9	1218.7	1209.2	1213.0	1228.2
15°	1184.4	1192.0	1192.0	1201.6	1197.7	1201.6	1205.4	1211.1	1203.5	1203.5	1218.7
17.5°	1167.3	1176.8	1176.8	1184.4	1184.4	1186.3	1193.9	1199.7	1192.0	1193.9	1207.3
20°	1148.2	1159.7	1159.7	1169.2	1167.3	1171.1	1176.8	1182.5	1174.9	1174.9	1190.1
22.5°	1129.2	1138.7	1140.6	1146.3	1146.3	1148.2	1154.0	1157.8	1148.2	1148.2	1163.5
25°	1102.5	1112.1	1114.0	1117.8	1114.0	1114.0	1117.8	1121.6	1112.1	1112.1	1125.4
27.5°	1066.4	1075.9	1075.9	1074.0	1070.2	1072.1	1070.2	1072.1	1062.6	1060.6	1074.0
30°	1013.0	1018.8	1018.8	1016.8	1011.1	1011.1	1005.4	1007.3	994.0	994.0	1005.4
32.5°	940.7	946.4	942.6	938.8	931.2	927.4	923.5	921.6	908.3	908.3	921.6
35°	855.0	858.8	853.1	845.5	835.9	830.2	824.5	816.9	807.4	809.3	816.9
37.5°	767.4	767.4	759.8	744.5	736.9	727.4	717.9	717.9	702.7	700.8	706.5
40°	693.1	685.5	672.2	651.2	637.9	628.4	615.1	607.4	596.0	596.0	605.5
42.5°	626.5	611.3	594.1	565.6	552.2	540.8	523.7	516.0	502.7	500.8	506.5
45°	567.5	552.2	527.5	497.0	479.9	466.5	441.8	432.3	420.8	418.9	422.7
47.5°	519.9	502.7	472.2	432.3	415.1	398.0	373.2	359.9	350.4	344.7	350.4
50°	478.0	455.1	422.7	380.8	358.0	342.8	312.3	299.0	285.6	281.8	283.7
52.5°	432.3	409.4	375.1	331.3	310.4	287.5	259.0	239.9	228.5	222.8	228.5
55°	382.7	359.9	325.6	281.8	259.0	238.0	207.6	192.3	179.0	173.3	179.0
57.5°	329.4	308.5	278.0	234.2	213.3	194.2	165.7	150.4	137.1	133.3	137.1
60°	283.7	266.6	236.1	194.2	177.1	156.1	131.4	116.2	104.7	102.8	104.7
62.5°	253.3	234.2	205.7	165.7	148.5	131.4	108.5	93.3	83.8	81.9	83.8
65°	222.8	201.8	175.2	140.9	123.8	110.4	87.6	74.3	64.7	62.8	64.7
67.5°	188.5	169.5	146.6	116.2	102.8	89.5	70.5	57.1	49.5	47.6	49.5
70°	156.1	139.0	116.2	93.3	80.0	70.5	53.3	43.8	36.2	34.3	36.2
72.5°	123.8	108.5	89.5	70.5	62.8	53.3	41.9	32.4	26.7	24.8	26.7
75°	95.2	83.8	68.6	51.4	45.7	40.0	28.6	22.9	19.0	17.1	19.0
77.5°	66.6	59.0	47.6	38.1	32.4	28.6	20.9	15.2	13.3	11.4	13.3
80°	45.7	40.0	32.4	24.8	20.9	17.1	13.3	9.5	7.6	7.6	7.6
82.5°	30.5	24.8	19.0	15.2	13.3	11.4	7.6	5.7	5.7	3.8	3.8
85°	17.1	15.2	11.4	9.5	7.6	5.7	3.8	3.8	1.9	1.9	1.9
87.5°	7.6	5.7	3.8	3.8	1.9	1.9	1.9	1.9	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°	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7
2.5°	1243.5	1237.7	1245.4	1237.7	1233.9	1237.7	1233.9	1245.4	1235.8	1228.2	1235.8
5°	1241.5	1233.9	1241.5	1235.8	1230.1	1232.0	1228.2	1239.6	1228.2	1222.5	1226.3
7.5°	1237.7	1232.0	1235.8	1230.1	1224.4	1226.3	1222.5	1232.0	1220.6	1214.9	1218.7
10°	1232.0	1226.3	1228.2	1224.4	1218.7	1218.7	1214.9	1222.5	1209.2	1201.6	1205.4
12.5°	1224.4	1216.8	1220.6	1214.9	1207.3	1207.3	1203.5	1209.2	1195.8	1188.2	1190.1
15°	1214.9	1207.3	1207.3	1201.6	1193.9	1193.9	1186.3	1192.0	1176.8	1169.2	1169.2
17.5°	1203.5	1193.9	1193.9	1188.2	1178.7	1176.8	1171.1	1176.8	1159.7	1152.0	1152.0
20°	1186.3	1178.7	1176.8	1173.0	1163.5	1161.6	1154.0	1155.9	1142.5	1136.8	1134.9
22.5°	1163.5	1155.9	1157.8	1152.0	1144.4	1142.5	1134.9	1140.6	1127.3	1121.6	1123.5
25°	1123.5	1119.7	1123.5	1121.6	1115.9	1115.9	1112.1	1115.9	1104.4	1100.6	1102.5
27.5°	1077.8	1075.9	1077.8	1077.8	1074.0	1074.0	1074.0	1079.7	1068.3	1066.4	1066.4
30°	1011.1	1011.1	1013.0	1014.9	1014.9	1018.8	1016.8	1024.5	1016.8	1013.0	1016.8
32.5°	923.5	931.2	936.9	936.9	936.9	940.7	944.5	950.2	942.6	944.5	944.5
35°	824.5	830.2	834.0	843.6	837.9	851.2	855.0	862.6	860.7	864.5	862.6
37.5°	714.1	721.7	729.3	742.6	740.7	756.0	763.6	778.8	775.0	782.6	786.4
40°	611.3	622.7	634.1	643.6	651.2	666.5	681.7	700.8	706.5	712.2	714.1
42.5°	512.2	523.7	542.7	556.0	567.5	592.2	613.2	636.0	641.7	653.1	657.0
45°	432.3	441.8	464.6	481.8	491.3	527.5	552.2	580.8	590.3	603.6	609.3
47.5°	358.0	375.1	398.0	418.9	432.3	470.3	502.7	533.2	546.5	561.7	569.4
50°	293.2	312.3	342.8	361.8	380.8	422.7	458.9	491.3	504.6	521.8	529.4
52.5°	239.9	260.9	289.4	310.4	331.3	375.1	413.2	443.7	460.8	472.2	483.7
55°	188.5	211.4	239.9	262.8	279.9	327.5	359.9	390.4	401.8	411.3	417.0
57.5°	146.6	163.8	192.3	211.4	232.3	274.2	306.6	329.4	338.9	350.4	354.2
60°	114.3	131.4	158.0	177.1	196.1	236.1	268.5	291.3	300.9	310.4	316.1
62.5°	91.4	108.5	133.3	150.4	167.6	203.8	232.3	255.2	266.6	276.1	281.8
65°	72.4	87.6	108.5	125.7	139.0	171.4	199.9	220.9	232.3	241.8	247.5
67.5°	57.1	70.5	89.5	100.9	114.3	140.9	165.7	184.7	194.2	205.7	211.4
70°	43.8	53.3	70.5	80.0	89.5	112.3	131.4	150.4	160.0	167.6	171.4
72.5°	32.4	40.0	53.3	60.9	66.6	85.7	100.9	114.3	121.9	129.5	133.3
75°	22.9	28.6	38.1	43.8	47.6	60.9	74.3	83.8	89.5	95.2	100.9
77.5°	15.2	19.0	24.8	28.6	32.4	41.9	49.5	57.1	62.8	68.6	70.5
80°	9.5	13.3	17.1	19.0	20.9	26.7	34.3	38.1	41.9	45.7	47.6
82.5°	5.7	7.6	9.5	11.4	13.3	17.1	20.9	24.8	26.7	30.5	32.4
85°	1.9	3.8	3.8	5.7	5.7	9.5	11.4	13.3	15.2	17.1	19.0
87.5°	0.0	0.0	1.9	1.9	1.9	1.9	3.8	3.8	3.8	3.8	3.8
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: P251934

CATALOG NUMBER: LD4B30D010 EU4B30508030 4LBDW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7	1237.7
2.5°	1243.5	1237.7	1233.9	1232.0	1245.4	1228.2	1235.8	1237.7
5°	1235.8	1230.1	1226.3	1224.4	1235.8	1220.6	1226.3	1230.1
7.5°	1224.4	1220.6	1214.9	1213.0	1224.4	1207.3	1214.9	1216.8
10°	1211.1	1205.4	1201.6	1199.7	1209.2	1192.0	1199.7	1199.7
12.5°	1193.9	1190.1	1182.5	1182.5	1190.1	1174.9	1180.6	1180.6
15°	1171.1	1167.3	1159.7	1159.7	1167.3	1152.0	1157.8	1157.8
17.5°	1152.0	1148.2	1142.5	1140.6	1148.2	1133.0	1138.7	1136.8
20°	1136.8	1133.0	1125.4	1125.4	1131.1	1115.9	1121.6	1121.6
22.5°	1123.5	1121.6	1114.0	1114.0	1121.6	1106.3	1110.2	1106.3
25°	1102.5	1100.6	1093.0	1094.9	1098.7	1083.5	1089.2	1085.4
27.5°	1068.3	1068.3	1060.6	1058.7	1064.5	1051.1	1054.9	1053.0
30°	1014.9	1016.8	1007.3	1007.3	1009.2	997.8	1003.5	1001.6
32.5°	942.6	944.5	936.9	935.0	940.7	931.2	935.0	935.0
35°	862.6	864.5	858.8	858.8	864.5	858.8	858.8	856.9
37.5°	782.6	786.4	782.6	784.5	788.3	782.6	786.4	784.5
40°	717.9	721.7	716.0	719.8	723.6	717.9	723.6	719.8
42.5°	658.9	664.6	660.8	664.6	668.4	664.6	668.4	662.7
45°	615.1	618.9	617.0	618.9	622.7	620.8	622.7	620.8
47.5°	573.2	580.8	577.0	580.8	586.5	582.7	586.5	580.8
50°	535.1	540.8	538.9	542.7	544.6	542.7	546.5	540.8
52.5°	485.6	491.3	489.4	489.4	493.2	489.4	493.2	489.4
55°	420.8	422.7	422.7	424.6	422.7	420.8	422.7	418.9
57.5°	358.0	361.8	356.1	361.8	359.9	358.0	358.0	354.2
60°	318.0	323.7	319.9	323.7	321.8	321.8	321.8	319.9
62.5°	285.6	289.4	285.6	287.5	287.5	287.5	285.6	283.7
65°	249.5	255.2	251.4	253.3	251.4	249.5	251.4	249.5
67.5°	213.3	215.2	215.2	213.3	213.3	213.3	213.3	209.5
70°	173.3	175.2	173.3	177.1	175.2	173.3	175.2	171.4
72.5°	135.2	137.1	135.2	137.1	135.2	135.2	135.2	135.2
75°	100.9	102.8	102.8	102.8	102.8	102.8	99.0	102.8
77.5°	72.4	72.4	72.4	74.3	72.4	72.4	72.4	72.4
80°	49.5	49.5	49.5	51.4	49.5	51.4	49.5	51.4
82.5°	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
85°	17.1	19.0	19.0	17.1	17.1	17.1	17.1	17.1
87.5°	3.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)