

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: P251936

Luminaire Tested: **LD4B30D010 EU4B30508040 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251936
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 EU4B30508040 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE 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: 2609.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

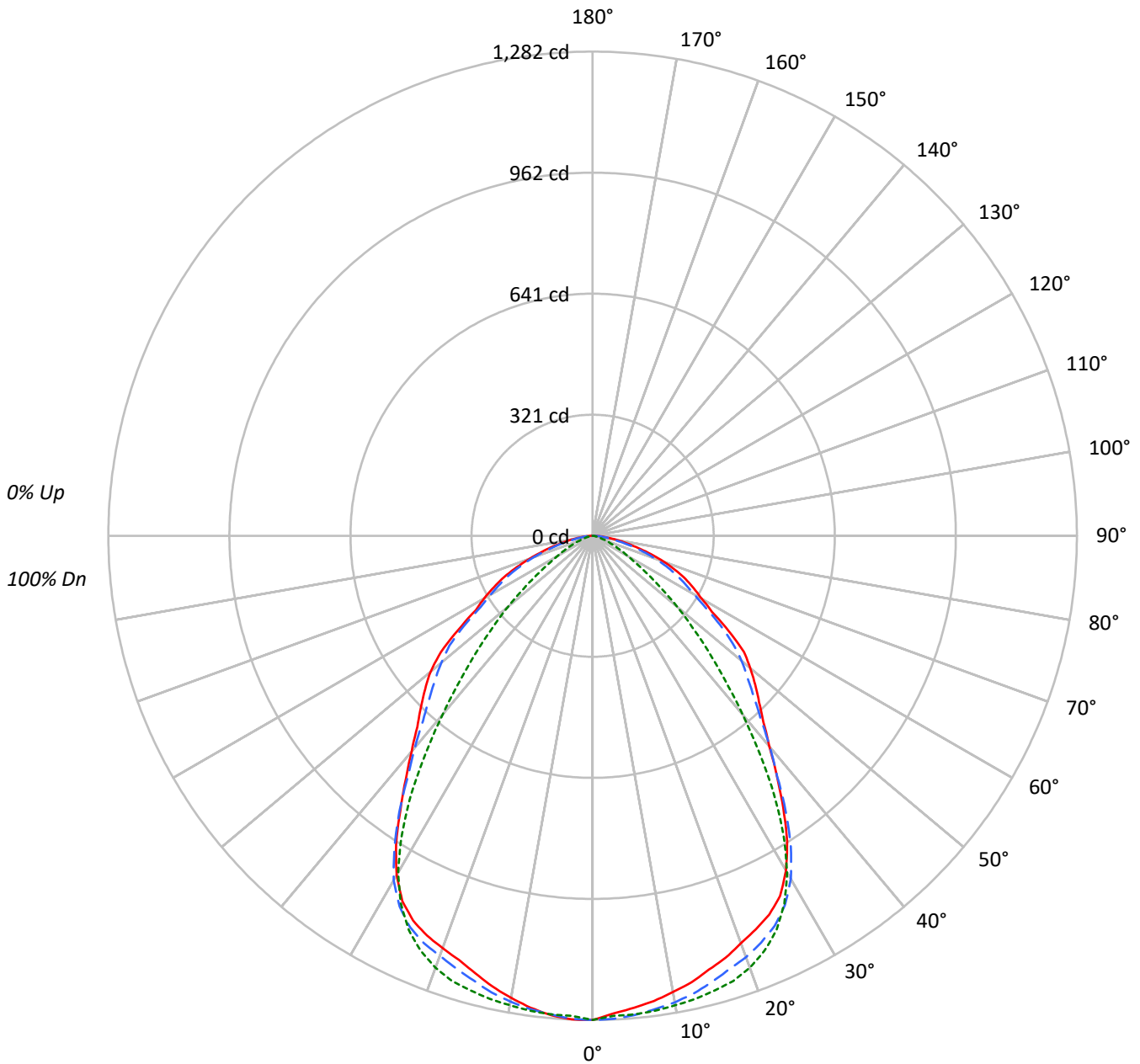
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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																			
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66																			
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41																			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	124941	124941	124941
5°	122709	124450	124646
10°	121396	124909	122960
15°	119996	125767	120984
20°	119041	126208	120483
25°	118975	123857	120889
30°	115191	115855	116744
35°	104650	99724	105590
40°	92593	78534	94844
45°	85893	59803	88622
50°	82526	44257	84921
55°	74728	30499	73725
60°	64966	20759	64576
65°	62771	15012	59588
70°	56762	10116	50578
75°	46805	6703	40102
80°	37659	4434	29914
85°	30862	2236	19904



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	4.6
10°-20°	346.0	13.3
20°-30°	522.7	20.0
30°-40°	547.1	21.0
40°-50°	443.1	17.0
50°-60°	322.3	12.4
60°-70°	198.8	7.6
70°-80°	89.8	3.4
80°-90°	18.2	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°	989.8	37.9
0°-40°	1536.8	58.9
0°-60°	2302.2	88.2
0°-90°	2609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2609.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1282	1282	1282	1282	1282	
5°	1254	1274	1272	1272	1274	119
15°	1189	1223	1246	1219	1199	336
25°	1106	1140	1152	1144	1124	507
35°	880	892	838	892	888	548
45°	623	604	434	611	643	484
55°	440	412	180	416	434	392
65°	272	245	65	241	258	266
75°	124	106	18	93	106	135
85°	28	22	2	16	18	32
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°	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0
2.5°	1266.2	1266.2	1278.0	1291.8	1280.0	1268.2	1276.0	1272.1	1285.9	1285.9	1280.0
5°	1254.3	1258.3	1268.2	1280.0	1270.1	1258.3	1268.2	1264.2	1278.0	1278.0	1274.1
7.5°	1242.5	1244.5	1256.3	1270.1	1260.3	1248.4	1256.3	1254.3	1266.2	1268.2	1264.2
10°	1226.7	1228.7	1240.5	1254.3	1244.5	1234.6	1242.5	1240.5	1256.3	1256.3	1254.3
12.5°	1211.0	1212.9	1224.8	1236.6	1226.7	1216.9	1224.8	1224.8	1240.5	1242.5	1240.5
15°	1189.3	1193.2	1203.1	1214.9	1209.0	1197.2	1205.0	1205.0	1218.8	1222.8	1222.8
17.5°	1171.5	1173.5	1183.3	1195.2	1187.3	1177.4	1185.3	1185.3	1199.1	1203.1	1203.1
20°	1147.8	1151.8	1161.7	1173.5	1167.6	1159.7	1165.6	1165.6	1181.4	1185.3	1187.3
22.5°	1128.1	1132.1	1140.0	1155.7	1145.9	1140.0	1147.8	1145.9	1163.6	1165.6	1165.6
25°	1106.4	1110.4	1120.2	1130.1	1124.2	1118.3	1124.2	1124.2	1138.0	1140.0	1140.0
27.5°	1074.9	1076.8	1086.7	1096.6	1090.7	1082.8	1090.7	1088.7	1102.5	1104.5	1102.5
30°	1023.6	1027.5	1031.5	1045.3	1039.4	1033.5	1041.3	1037.4	1051.2	1051.2	1049.2
32.5°	958.5	958.5	966.4	976.3	968.4	964.4	970.3	972.3	982.2	982.2	976.3
35°	879.6	883.6	889.5	895.4	889.5	885.5	891.5	889.5	901.3	897.4	891.5
37.5°	800.7	802.7	808.6	816.5	808.6	802.7	804.7	802.7	812.6	812.6	802.7
40°	727.8	731.7	735.6	743.5	735.6	731.7	733.7	727.8	739.6	735.6	729.7
42.5°	668.6	670.6	676.5	680.4	672.5	670.6	672.5	668.6	674.5	670.6	658.7
45°	623.2	623.2	625.2	631.1	623.2	621.3	621.3	617.3	623.2	615.3	603.5
47.5°	583.8	585.8	587.7	591.7	585.8	579.8	581.8	573.9	577.9	572.0	556.2
50°	544.3	548.3	550.3	554.2	548.3	544.3	546.3	538.4	538.4	528.6	514.8
52.5°	504.9	506.9	504.9	508.8	504.9	499.0	501.0	493.1	493.1	481.2	467.4
55°	439.8	441.8	443.8	447.7	443.8	437.8	441.8	435.9	435.9	428.0	412.2
57.5°	374.7	376.7	378.7	380.6	380.6	376.7	378.7	374.7	372.8	366.8	355.0
60°	333.3	333.3	333.3	335.3	333.3	331.3	331.3	327.4	327.4	319.5	307.7
62.5°	301.8	303.7	303.7	305.7	303.7	301.8	299.8	295.8	293.9	286.0	276.1
65°	272.2	272.2	270.2	274.1	272.2	270.2	270.2	266.3	262.3	254.4	244.6
67.5°	236.7	238.6	236.7	238.6	238.6	236.7	234.7	230.8	228.8	222.9	211.0
70°	199.2	199.2	199.2	201.2	199.2	199.2	201.2	195.3	193.3	185.4	175.5
72.5°	161.7	163.7	163.7	161.7	163.7	159.8	159.8	159.8	157.8	149.9	140.0
75°	124.3	126.2	126.2	128.2	126.2	124.3	124.3	122.3	120.3	114.4	106.5
77.5°	92.7	92.7	94.7	94.7	94.7	92.7	92.7	88.8	88.8	84.8	76.9
80°	67.1	67.1	65.1	67.1	67.1	65.1	65.1	63.1	63.1	59.2	53.3
82.5°	43.4	45.4	45.4	45.4	45.4	43.4	43.4	43.4	41.4	39.4	35.5
85°	27.6	27.6	27.6	27.6	29.6	27.6	29.6	27.6	27.6	23.7	21.7
87.5°	11.8	11.8	11.8	13.8	13.8	11.8	11.8	11.8	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°	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0
2.5°	1280.0	1282.0	1276.0	1283.9	1278.0	1280.0	1282.0	1280.0	1272.1	1272.1	1293.8
5°	1272.1	1276.0	1270.1	1280.0	1276.0	1276.0	1280.0	1278.0	1270.1	1272.1	1291.8
7.5°	1264.2	1270.1	1266.2	1276.0	1270.1	1270.1	1274.1	1274.1	1266.2	1268.2	1285.9
10°	1252.4	1260.3	1258.3	1268.2	1262.2	1262.2	1268.2	1268.2	1260.3	1262.2	1280.0
12.5°	1242.5	1250.4	1248.4	1258.3	1254.3	1256.3	1258.3	1262.2	1252.4	1256.3	1272.1
15°	1226.7	1234.6	1234.6	1244.5	1240.5	1244.5	1248.4	1254.3	1246.5	1246.5	1262.2
17.5°	1209.0	1218.8	1218.8	1226.7	1226.7	1228.7	1236.6	1242.5	1234.6	1236.6	1250.4
20°	1189.3	1201.1	1201.1	1211.0	1209.0	1212.9	1218.8	1224.8	1216.9	1216.9	1232.7
22.5°	1169.5	1179.4	1181.4	1187.3	1187.3	1189.3	1195.2	1199.1	1189.3	1189.3	1205.0
25°	1141.9	1151.8	1153.8	1157.7	1153.8	1153.8	1157.7	1161.7	1151.8	1151.8	1165.6
27.5°	1104.5	1114.3	1114.3	1112.3	1108.4	1110.4	1108.4	1110.4	1100.5	1098.5	1112.3
30°	1049.2	1055.2	1055.2	1053.2	1047.3	1047.3	1041.3	1043.3	1029.5	1029.5	1041.3
32.5°	974.3	980.2	976.3	972.3	964.4	960.5	956.5	954.6	940.8	940.8	954.6
35°	885.5	889.5	883.6	875.7	865.8	859.9	854.0	846.1	836.2	838.2	846.1
37.5°	794.8	794.8	786.9	771.1	763.3	753.4	743.5	743.5	727.8	725.8	731.7
40°	717.9	710.0	696.2	674.5	660.7	650.8	637.0	629.1	617.3	617.3	627.2
42.5°	648.9	633.1	615.3	585.8	572.0	560.1	542.4	534.5	520.7	518.7	524.6
45°	587.7	572.0	546.3	514.8	497.0	483.2	457.6	447.7	435.9	433.9	437.8
47.5°	538.4	520.7	489.1	447.7	429.9	412.2	386.6	372.8	362.9	357.0	362.9
50°	495.0	471.4	437.8	394.4	370.8	355.0	323.4	309.6	295.8	291.9	293.9
52.5°	447.7	424.0	388.5	343.2	321.5	297.8	268.2	248.5	236.7	230.8	236.7
55°	396.4	372.8	337.3	291.9	268.2	246.5	215.0	199.2	185.4	179.5	185.4
57.5°	341.2	319.5	287.9	242.6	220.9	201.2	171.6	155.8	142.0	138.1	142.0
60°	293.9	276.1	244.6	201.2	183.4	161.7	136.1	120.3	108.5	106.5	108.5
62.5°	262.3	242.6	213.0	171.6	153.8	136.1	112.4	96.6	86.8	84.8	86.8
65°	230.8	209.1	181.4	145.9	128.2	114.4	90.7	76.9	67.1	65.1	67.1
67.5°	195.3	175.5	151.9	120.3	106.5	92.7	73.0	59.2	51.3	49.3	51.3
70°	161.7	144.0	120.3	96.6	82.8	73.0	55.2	45.4	37.5	35.5	37.5
72.5°	128.2	112.4	92.7	73.0	65.1	55.2	43.4	33.5	27.6	25.6	27.6
75°	98.6	86.8	71.0	53.3	47.3	41.4	29.6	23.7	19.7	17.8	19.7
77.5°	69.0	61.1	49.3	39.4	33.5	29.6	21.7	15.8	13.8	11.8	13.8
80°	47.3	41.4	33.5	25.6	21.7	17.8	13.8	9.9	7.9	7.9	7.9
82.5°	31.6	25.6	19.7	15.8	13.8	11.8	7.9	5.9	5.9	3.9	3.9
85°	17.8	15.8	11.8	9.9	7.9	5.9	3.9	3.9	2.0	2.0	2.0
87.5°	7.9	5.9	3.9	3.9	2.0	2.0	2.0	2.0	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0
2.5°	1287.9	1282.0	1289.8	1282.0	1278.0	1282.0	1278.0	1289.8	1280.0	1272.1	1280.0
5°	1285.9	1278.0	1285.9	1280.0	1274.1	1276.0	1272.1	1283.9	1272.1	1266.2	1270.1
7.5°	1282.0	1276.0	1280.0	1274.1	1268.2	1270.1	1266.2	1276.0	1264.2	1258.3	1262.2
10°	1276.0	1270.1	1272.1	1268.2	1262.2	1262.2	1258.3	1266.2	1252.4	1244.5	1248.4
12.5°	1268.2	1260.3	1264.2	1258.3	1250.4	1250.4	1246.5	1252.4	1238.6	1230.7	1232.7
15°	1258.3	1250.4	1250.4	1244.5	1236.6	1236.6	1228.7	1234.6	1218.8	1211.0	1211.0
17.5°	1246.5	1236.6	1236.6	1230.7	1220.8	1218.8	1212.9	1218.8	1201.1	1193.2	1193.2
20°	1228.7	1220.8	1218.8	1214.9	1205.0	1203.1	1195.2	1197.2	1183.3	1177.4	1175.5
22.5°	1205.0	1197.2	1199.1	1193.2	1185.3	1183.3	1175.5	1181.4	1167.6	1161.7	1163.6
25°	1163.6	1159.7	1163.6	1161.7	1155.7	1155.7	1151.8	1155.7	1143.9	1140.0	1141.9
27.5°	1116.3	1114.3	1116.3	1116.3	1112.3	1112.3	1112.3	1118.3	1106.4	1104.5	1104.5
30°	1047.3	1047.3	1049.2	1051.2	1051.2	1055.2	1053.2	1061.1	1053.2	1049.2	1053.2
32.5°	956.5	964.4	970.3	970.3	970.3	974.3	978.2	984.2	976.3	978.2	978.2
35°	854.0	859.9	863.8	873.7	867.8	881.6	885.5	893.4	891.5	895.4	893.4
37.5°	739.6	747.5	755.4	769.2	767.2	783.0	790.9	806.6	802.7	810.6	814.5
40°	633.1	644.9	656.8	666.6	674.5	690.3	706.1	725.8	731.7	737.6	739.6
42.5°	530.5	542.4	562.1	575.9	587.7	613.4	635.1	658.7	664.6	676.5	680.4
45°	447.7	457.6	481.2	499.0	508.8	546.3	572.0	601.5	611.4	625.2	631.1
47.5°	370.8	388.5	412.2	433.9	447.7	487.1	520.7	552.2	566.0	581.8	589.7
50°	303.7	323.4	355.0	374.7	394.4	437.8	475.3	508.8	522.6	540.4	548.3
52.5°	248.5	270.2	299.8	321.5	343.2	388.5	428.0	459.5	477.3	489.1	501.0
55°	195.3	218.9	248.5	272.2	289.9	339.2	372.8	404.3	416.1	426.0	431.9
57.5°	151.9	169.6	199.2	218.9	240.6	284.0	317.5	341.2	351.1	362.9	366.8
60°	118.3	136.1	163.7	183.4	203.1	244.6	278.1	301.8	311.6	321.5	327.4
62.5°	94.7	112.4	138.1	155.8	173.6	211.0	240.6	264.3	276.1	286.0	291.9
65°	74.9	90.7	112.4	130.2	144.0	177.5	207.1	228.8	240.6	250.5	256.4
67.5°	59.2	73.0	92.7	104.5	118.3	145.9	171.6	191.3	201.2	213.0	218.9
70°	45.4	55.2	73.0	82.8	92.7	116.4	136.1	155.8	165.7	173.6	177.5
72.5°	33.5	41.4	55.2	63.1	69.0	88.8	104.5	118.3	126.2	134.1	138.1
75°	23.7	29.6	39.4	45.4	49.3	63.1	76.9	86.8	92.7	98.6	104.5
77.5°	15.8	19.7	25.6	29.6	33.5	43.4	51.3	59.2	65.1	71.0	73.0
80°	9.9	13.8	17.8	19.7	21.7	27.6	35.5	39.4	43.4	47.3	49.3
82.5°	5.9	7.9	9.9	11.8	13.8	17.8	21.7	25.6	27.6	31.6	33.5
85°	2.0	3.9	3.9	5.9	5.9	9.9	11.8	13.8	15.8	17.8	19.7
87.5°	0.0	0.0	2.0	2.0	2.0	2.0	3.9	3.9	3.9	3.9	3.9
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: P251936

CATALOG NUMBER: LD4B30D010 EU4B30508040 4LBDW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0	1282.0
2.5°	1287.9	1282.0	1278.0	1276.0	1289.8	1272.1	1280.0	1282.0
5°	1280.0	1274.1	1270.1	1268.2	1280.0	1264.2	1270.1	1274.1
7.5°	1268.2	1264.2	1258.3	1256.3	1268.2	1250.4	1258.3	1260.3
10°	1254.3	1248.4	1244.5	1242.5	1252.4	1234.6	1242.5	1242.5
12.5°	1236.6	1232.7	1224.8	1224.8	1232.7	1216.9	1222.8	1222.8
15°	1212.9	1209.0	1201.1	1201.1	1209.0	1193.2	1199.1	1199.1
17.5°	1193.2	1189.3	1183.3	1181.4	1189.3	1173.5	1179.4	1177.4
20°	1177.4	1173.5	1165.6	1165.6	1171.5	1155.7	1161.7	1161.7
22.5°	1163.6	1161.7	1153.8	1153.8	1161.7	1145.9	1149.8	1145.9
25°	1141.9	1140.0	1132.1	1134.0	1138.0	1122.2	1128.1	1124.2
27.5°	1106.4	1106.4	1098.5	1096.6	1102.5	1088.7	1092.6	1090.7
30°	1051.2	1053.2	1043.3	1043.3	1045.3	1033.5	1039.4	1037.4
32.5°	976.3	978.2	970.3	968.4	974.3	964.4	968.4	968.4
35°	893.4	895.4	889.5	889.5	895.4	889.5	889.5	887.5
37.5°	810.6	814.5	810.6	812.6	816.5	810.6	814.5	812.6
40°	743.5	747.5	741.6	745.5	749.5	743.5	749.5	745.5
42.5°	682.4	688.3	684.4	688.3	692.3	688.3	692.3	686.3
45°	637.0	641.0	639.0	641.0	644.9	643.0	644.9	643.0
47.5°	593.6	601.5	597.6	601.5	607.5	603.5	607.5	601.5
50°	554.2	560.1	558.1	562.1	564.1	562.1	566.0	560.1
52.5°	502.9	508.8	506.9	506.9	510.8	506.9	510.8	506.9
55°	435.9	437.8	437.8	439.8	437.8	435.9	437.8	433.9
57.5°	370.8	374.7	368.8	374.7	372.8	370.8	370.8	366.8
60°	329.4	335.3	331.3	335.3	333.3	333.3	333.3	331.3
62.5°	295.8	299.8	295.8	297.8	297.8	297.8	295.8	293.9
65°	258.4	264.3	260.3	262.3	260.3	258.4	260.3	258.4
67.5°	220.9	222.9	222.9	220.9	220.9	220.9	220.9	216.9
70°	179.5	181.4	179.5	183.4	181.4	179.5	181.4	177.5
72.5°	140.0	142.0	140.0	142.0	140.0	140.0	140.0	140.0
75°	104.5	106.5	106.5	106.5	106.5	106.5	102.6	106.5
77.5°	74.9	74.9	74.9	76.9	74.9	74.9	74.9	74.9
80°	51.3	51.3	51.3	53.3	51.3	53.3	51.3	53.3
82.5°	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
85°	17.8	19.7	19.7	17.8	17.8	17.8	17.8	17.8
87.5°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)