

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: P251723

Luminaire Tested: **LD4B40D010 EU4B30509727 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251723  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B40D010 EU4B30509727 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2362.0 lumens  
Efficiency: N/A  
Efficacy: 54.9 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

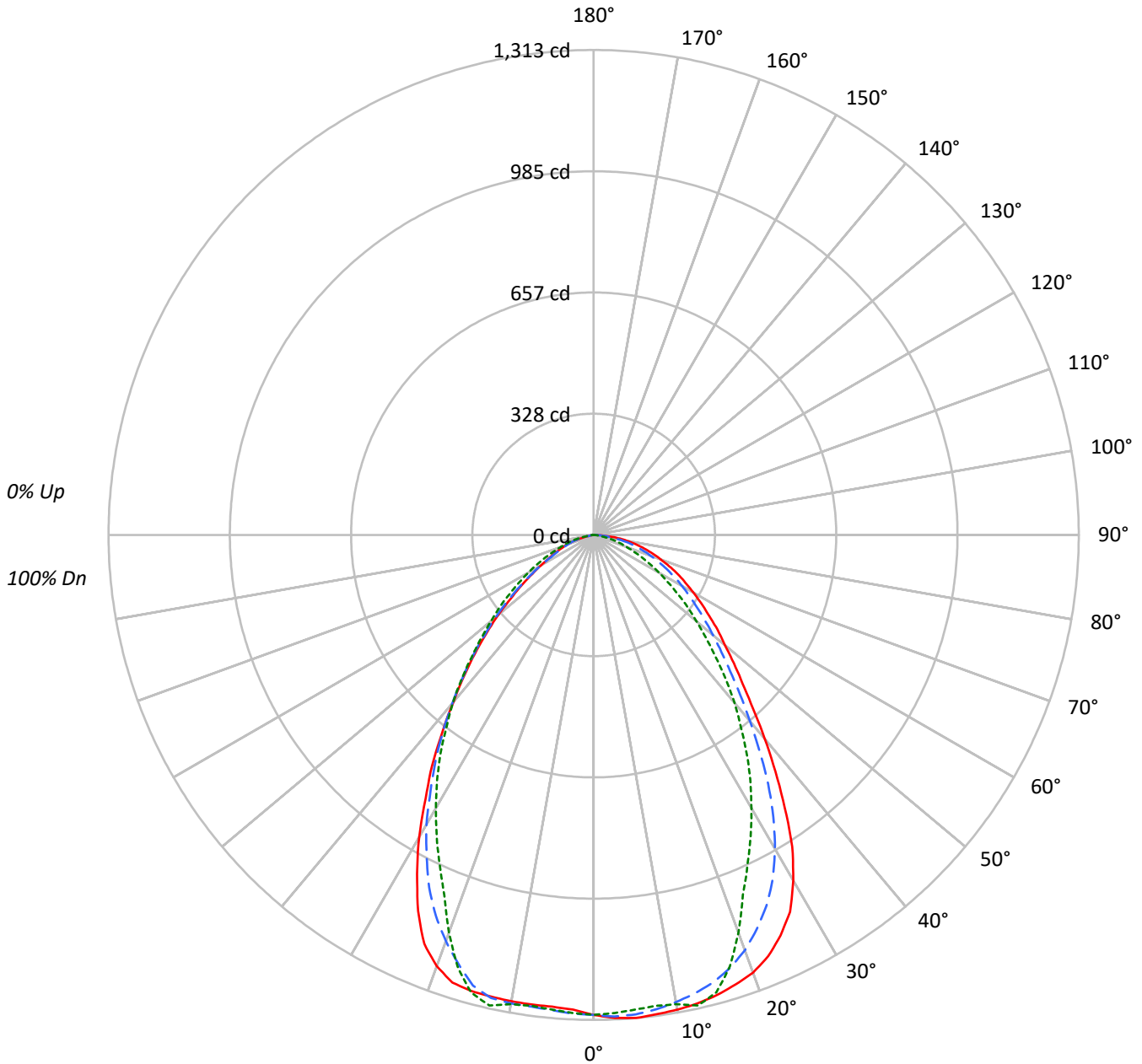
Input Watts (W): 43.02  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				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	105	102	99	101	98	96	97	95	93	93	91	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60			60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53			53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48			48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43			43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39			39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36			36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33			33

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

	0°	90°	180°
0°	126637	126637	126637
5°	128432	126191	125448
10°	129155	127650	126898
15°	130146	129379	128996
20°	130813	118761	128842
25°	128663	105931	120878
30°	121571	96060	106345
35°	107220	85911	90670
40°	91626	75392	75138
45°	78520	64337	62766
50°	70199	54886	51126
55°	64754	46947	40473
60°	60541	39743	31947
65°	57997	32954	26358
70°	54824	26614	22254
75°	53093	21539	15777
80°	51353	11786	4265
85°	44728	6374	2125



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.4	5.2
10°-20°	355.2	15.0
20°-30°	492.6	20.9
30°-40°	486.2	20.6
40°-50°	381.4	16.1
50°-60°	264.2	11.2
60°-70°	161.9	6.9
70°-80°	80.9	3.4
80°-90°	16.2	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°	971.2	41.1
0°-40°	1457.5	61.7
0°-60°	2103.0	89.0
0°-90°	2362.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2362.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1299	1299	1299	1299	1299	
5°	1313	1303	1290	1292	1282	125
15°	1290	1254	1282	1263	1278	364
25°	1196	1107	985	1054	1124	548
35°	901	823	722	745	762	562
45°	570	522	467	461	455	445
55°	381	341	276	246	238	343
65°	252	217	143	107	114	248
75°	141	118	57	44	42	150
85°	40	23	6	2	2	46
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°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1309.0	1305.1	1303.2	1309.0	1307.1	1310.9	1309.0	1307.1	1303.2	1305.1	1305.1
5°	1312.8	1307.1	1305.1	1309.0	1309.0	1312.8	1310.9	1307.1	1303.2	1305.1	1303.2
7.5°	1309.0	1305.1	1305.1	1307.1	1305.1	1309.0	1305.1	1301.3	1297.5	1299.4	1295.6
10°	1305.1	1299.4	1299.4	1299.4	1299.4	1303.2	1299.4	1293.7	1288.0	1288.0	1284.2
12.5°	1299.4	1293.7	1293.7	1295.6	1291.8	1295.6	1291.8	1282.3	1276.6	1274.7	1270.8
15°	1289.9	1284.2	1284.2	1284.2	1280.4	1282.3	1276.6	1267.0	1259.4	1259.4	1253.7
17.5°	1276.6	1270.8	1268.9	1268.9	1263.2	1265.1	1259.4	1249.9	1238.5	1234.6	1228.9
20°	1261.3	1253.7	1249.9	1249.9	1244.2	1246.1	1238.5	1227.0	1211.8	1206.1	1196.5
22.5°	1234.6	1230.8	1225.1	1223.2	1217.5	1215.6	1208.0	1192.7	1179.4	1169.9	1154.6
25°	1196.5	1194.6	1188.9	1187.0	1179.4	1175.6	1168.0	1150.8	1137.5	1122.2	1107.0
27.5°	1150.8	1143.2	1139.4	1133.7	1126.0	1124.1	1114.6	1099.4	1078.4	1068.9	1049.8
30°	1080.3	1076.5	1072.7	1067.0	1059.4	1055.5	1049.8	1032.7	1015.5	998.4	981.2
32.5°	1000.3	992.7	987.0	988.9	979.3	975.5	966.0	950.8	935.5	924.1	905.0
35°	901.2	899.3	897.4	893.6	886.0	884.1	876.4	865.0	847.9	834.5	823.1
37.5°	807.9	802.1	798.3	798.3	790.7	790.7	785.0	771.7	762.1	752.6	737.4
40°	720.2	710.7	710.7	710.7	703.1	705.0	701.2	687.8	678.3	666.9	657.3
42.5°	638.3	634.5	632.6	628.8	624.9	624.9	621.1	613.5	604.0	596.4	586.8
45°	569.7	567.8	565.9	564.0	560.2	558.3	556.4	544.9	539.2	531.6	522.1
47.5°	514.4	510.6	508.7	506.8	503.0	501.1	497.3	489.7	484.0	476.3	468.7
50°	463.0	461.1	459.2	459.2	455.4	453.5	449.7	443.9	434.4	430.6	421.1
52.5°	423.0	419.2	415.4	415.4	411.5	411.5	405.8	400.1	390.6	386.8	379.2
55°	381.1	379.2	377.3	377.3	373.4	371.5	369.6	362.0	354.4	348.7	341.1
57.5°	344.9	343.0	341.1	341.1	337.2	335.3	333.4	327.7	320.1	316.3	306.8
60°	310.6	310.6	308.7	306.8	304.9	302.9	301.0	295.3	289.6	283.9	276.3
62.5°	280.1	278.2	276.3	274.4	274.4	272.5	270.6	262.9	259.1	253.4	245.8
65°	251.5	247.7	247.7	245.8	245.8	243.9	242.0	234.4	230.5	224.8	217.2
67.5°	221.0	219.1	217.2	217.2	215.3	215.3	213.4	207.7	202.0	198.2	190.5
70°	192.4	192.4	190.5	190.5	188.6	186.7	186.7	182.9	177.2	171.5	163.9
72.5°	167.7	165.8	163.9	163.9	162.0	162.0	160.0	156.2	152.4	148.6	139.1
75°	141.0	139.1	139.1	139.1	137.2	137.2	135.3	131.5	127.7	123.8	118.1
77.5°	116.2	116.2	114.3	114.3	112.4	112.4	112.4	108.6	104.8	101.0	93.4
80°	91.5	91.5	91.5	89.6	87.6	87.6	87.6	83.8	80.0	76.2	70.5
82.5°	66.7	64.8	64.8	62.9	61.0	61.0	61.0	57.2	55.3	49.5	45.7
85°	40.0	38.1	38.1	36.2	34.3	34.3	34.3	32.4	28.6	26.7	22.9
87.5°	15.2	15.2	15.2	15.2	15.2	13.3	13.3	11.4	11.4	9.5	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°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1305.1	1303.2	1303.2	1301.3	1303.2	1299.4	1299.4	1299.4	1299.4	1295.6	1295.6
5°	1301.3	1301.3	1299.4	1297.5	1299.4	1295.6	1297.5	1295.6	1295.6	1289.9	1289.9
7.5°	1293.7	1291.8	1288.0	1286.1	1288.0	1286.1	1286.1	1286.1	1289.9	1286.1	1286.1
10°	1280.4	1278.5	1274.7	1272.8	1272.8	1270.8	1274.7	1278.5	1286.1	1289.9	1297.5
12.5°	1267.0	1263.2	1261.3	1261.3	1263.2	1263.2	1270.8	1280.4	1299.4	1305.1	1312.8
15°	1249.9	1248.0	1248.0	1253.7	1261.3	1267.0	1282.3	1288.0	1289.9	1282.3	1278.5
17.5°	1227.0	1227.0	1228.9	1234.6	1240.4	1240.4	1242.3	1238.5	1234.6	1225.1	1213.7
20°	1188.9	1187.0	1183.2	1183.2	1183.2	1175.6	1179.4	1166.1	1156.5	1145.1	1128.0
22.5°	1141.3	1131.8	1118.4	1108.9	1103.2	1099.4	1089.8	1074.6	1063.2	1055.5	1047.9
25°	1089.8	1074.6	1055.5	1040.3	1030.8	1028.9	1015.5	1002.2	994.6	985.1	981.2
27.5°	1030.8	1013.6	990.8	975.5	967.9	962.2	950.8	937.4	927.9	920.3	914.6
30°	962.2	945.0	926.0	906.9	899.3	889.8	878.4	868.8	859.3	853.6	849.8
32.5°	886.0	868.8	849.8	836.4	826.9	819.3	809.8	800.2	792.6	788.8	785.0
35°	807.9	790.7	775.5	762.1	754.5	748.8	741.2	729.7	724.0	722.1	718.3
37.5°	724.0	712.6	699.3	687.8	682.1	674.5	670.7	661.1	661.1	653.5	653.5
40°	645.9	638.3	624.9	615.4	611.6	605.9	600.2	596.4	594.5	592.6	590.6
42.5°	577.3	565.9	558.3	550.6	544.9	541.1	541.1	535.4	533.5	527.8	525.9
45°	514.4	508.7	495.4	489.7	487.8	482.0	480.1	476.3	470.6	466.8	464.9
47.5°	459.2	453.5	445.8	438.2	434.4	430.6	426.8	421.1	417.3	411.5	409.6
50°	413.5	403.9	396.3	390.6	384.9	383.0	379.2	371.5	367.7	362.0	362.0
52.5°	371.5	363.9	354.4	348.7	343.0	339.1	333.4	327.7	322.0	320.1	314.4
55°	335.3	325.8	316.3	308.7	302.9	297.2	295.3	287.7	280.1	276.3	272.5
57.5°	301.0	291.5	280.1	270.6	266.7	262.9	257.2	249.6	243.9	238.2	234.4
60°	266.7	259.1	247.7	238.2	234.4	228.6	222.9	215.3	209.6	203.9	200.1
62.5°	238.2	226.7	217.2	207.7	202.0	198.2	190.5	184.8	177.2	171.5	165.8
65°	209.6	198.2	188.6	179.1	175.3	169.6	163.9	156.2	148.6	142.9	135.3
67.5°	181.0	171.5	162.0	152.4	148.6	144.8	137.2	129.6	121.9	116.2	108.6
70°	156.2	146.7	137.2	129.6	125.8	121.9	114.3	106.7	101.0	93.4	87.6
72.5°	133.4	125.8	116.2	108.6	104.8	101.0	93.4	87.6	80.0	76.2	70.5
75°	110.5	102.9	95.3	87.6	83.8	80.0	74.3	68.6	62.9	57.2	53.3
77.5°	87.6	80.0	72.4	66.7	62.9	61.0	55.3	49.5	43.8	40.0	34.3
80°	64.8	57.2	51.4	45.7	41.9	40.0	34.3	30.5	26.7	21.0	19.1
82.5°	40.0	34.3	30.5	26.7	24.8	22.9	19.1	15.2	13.3	11.4	9.5
85°	21.0	19.1	15.2	13.3	11.4	11.4	9.5	7.6	5.7	5.7	3.8
87.5°	7.6	5.7	5.7	3.8	3.8	3.8	3.8	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	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°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1291.8	1293.7	1295.6	1297.5	1295.6	1295.6	1299.4	1291.8	1297.5	1297.5	1289.9
5°	1288.0	1291.8	1289.9	1293.7	1289.9	1289.9	1291.8	1288.0	1291.8	1291.8	1286.1
7.5°	1284.2	1288.0	1288.0	1289.9	1288.0	1288.0	1289.9	1284.2	1288.0	1288.0	1282.3
10°	1301.3	1305.1	1303.2	1301.3	1295.6	1291.8	1293.7	1284.2	1288.0	1288.0	1282.3
12.5°	1307.1	1305.1	1297.5	1293.7	1289.9	1286.1	1288.0	1280.4	1284.2	1284.2	1280.4
15°	1268.9	1265.1	1259.4	1261.3	1257.5	1255.6	1259.4	1255.6	1263.2	1267.0	1263.2
17.5°	1204.2	1202.3	1198.4	1198.4	1198.4	1200.4	1206.1	1206.1	1217.5	1225.1	1228.9
20°	1120.3	1118.4	1120.3	1124.1	1126.0	1133.7	1147.0	1154.6	1169.9	1183.2	1192.7
22.5°	1044.1	1047.9	1053.6	1061.3	1063.2	1072.7	1089.8	1097.5	1116.5	1131.8	1141.3
25°	979.3	985.1	988.9	994.6	996.5	1007.9	1023.2	1032.7	1053.6	1065.1	1076.5
27.5°	914.6	922.2	924.1	931.7	931.7	943.1	956.5	966.0	979.3	990.8	1000.3
30°	851.7	853.6	859.3	861.2	865.0	876.4	884.1	889.8	905.0	910.7	916.5
32.5°	783.1	790.7	794.5	796.4	794.5	804.0	811.7	815.5	821.2	828.8	832.6
35°	718.3	722.1	724.0	727.8	729.7	731.6	735.5	737.4	745.0	746.9	748.8
37.5°	653.5	659.2	657.3	659.2	659.2	661.1	665.0	663.1	668.8	670.7	668.8
40°	588.7	588.7	592.6	590.6	592.6	590.6	594.5	594.5	594.5	596.4	594.5
42.5°	524.0	525.9	524.0	527.8	524.0	525.9	525.9	524.0	525.9	524.0	524.0
45°	464.9	464.9	464.9	464.9	461.1	461.1	464.9	463.0	461.1	459.2	457.3
47.5°	407.7	409.6	405.8	407.7	405.8	403.9	402.0	402.0	400.1	396.3	394.4
50°	360.1	356.3	354.4	356.3	354.4	352.5	350.6	346.8	344.9	341.1	339.1
52.5°	312.5	308.7	304.9	304.9	302.9	299.1	297.2	293.4	291.5	287.7	287.7
55°	270.6	266.7	262.9	261.0	257.2	253.4	251.5	247.7	245.8	242.0	238.2
57.5°	230.5	224.8	221.0	219.1	217.2	211.5	209.6	205.8	202.0	198.2	196.2
60°	194.3	188.6	182.9	181.0	179.1	173.4	171.5	165.8	163.9	160.0	158.1
62.5°	160.0	156.2	148.6	146.7	142.9	139.1	133.4	131.5	129.6	131.5	131.5
65°	129.6	123.8	118.1	116.2	112.4	108.6	106.7	104.8	106.7	106.7	108.6
67.5°	102.9	97.2	91.5	91.5	89.6	85.7	85.7	85.7	87.6	87.6	89.6
70°	81.9	78.1	74.3	72.4	72.4	70.5	72.4	72.4	74.3	74.3	74.3
72.5°	64.8	62.9	61.0	59.1	59.1	59.1	59.1	59.1	59.1	59.1	61.0
75°	49.5	47.6	45.7	45.7	43.8	43.8	43.8	43.8	43.8	43.8	41.9
77.5°	32.4	30.5	28.6	28.6	26.7	24.8	24.8	22.9	22.9	22.9	22.9
80°	17.1	15.2	13.3	11.4	11.4	9.5	9.5	9.5	9.5	7.6	7.6
82.5°	7.6	5.7	5.7	5.7	5.7	3.8	3.8	3.8	3.8	3.8	3.8
85°	3.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0





TEST NUMBER: P251723

CATALOG NUMBER: LD4B40D010 EU4B30509727 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1293.7	1289.9	1293.7	1295.6	1291.8	1289.9	1293.7	1286.1
5°	1291.8	1286.1	1288.0	1289.9	1286.1	1284.2	1288.0	1282.3
7.5°	1288.0	1286.1	1288.0	1289.9	1284.2	1284.2	1288.0	1282.3
10°	1288.0	1284.2	1286.1	1289.9	1286.1	1286.1	1289.9	1282.3
12.5°	1286.1	1280.4	1286.1	1288.0	1284.2	1284.2	1288.0	1280.4
15°	1272.8	1272.8	1274.7	1278.5	1276.6	1278.5	1284.2	1278.5
17.5°	1244.2	1248.0	1255.6	1261.3	1265.1	1268.9	1274.7	1270.8
20°	1209.9	1215.6	1225.1	1230.8	1238.5	1240.4	1249.9	1242.3
22.5°	1156.5	1168.0	1175.6	1181.3	1187.0	1192.7	1200.4	1198.4
25°	1091.7	1099.4	1105.1	1110.8	1118.4	1122.2	1126.0	1124.1
27.5°	1013.6	1017.4	1025.1	1028.9	1032.7	1036.5	1044.1	1034.6
30°	927.9	929.8	933.6	939.3	939.3	943.1	946.9	945.0
32.5°	840.2	840.2	844.1	847.9	846.0	847.9	855.5	846.0
35°	754.5	752.6	758.3	760.2	760.2	758.3	764.0	762.1
37.5°	670.7	672.6	674.5	676.4	672.6	676.4	676.4	672.6
40°	594.5	592.6	596.4	598.3	596.4	598.3	598.3	590.6
42.5°	525.9	522.1	524.0	525.9	524.0	525.9	524.0	520.2
45°	459.2	457.3	457.3	459.2	455.4	455.4	455.4	455.4
47.5°	396.3	394.4	396.3	396.3	392.5	392.5	394.4	392.5
50°	339.1	337.2	337.2	337.2	335.3	335.3	337.2	337.2
52.5°	287.7	283.9	283.9	283.9	283.9	283.9	285.8	282.0
55°	236.3	236.3	236.3	236.3	238.2	238.2	238.2	238.2
57.5°	194.3	196.2	196.2	198.2	196.2	198.2	198.2	196.2
60°	162.0	160.0	162.0	162.0	163.9	163.9	163.9	163.9
62.5°	133.4	133.4	133.4	135.3	135.3	135.3	137.2	135.3
65°	110.5	110.5	112.4	112.4	112.4	114.3	114.3	114.3
67.5°	91.5	91.5	91.5	91.5	93.4	93.4	95.3	93.4
70°	76.2	76.2	76.2	76.2	76.2	78.1	78.1	78.1
72.5°	61.0	61.0	61.0	61.0	62.9	62.9	62.9	62.9
75°	41.9	41.9	41.9	43.8	41.9	41.9	41.9	41.9
77.5°	21.0	21.0	21.0	21.0	21.0	19.1	19.1	19.1
80°	7.6	7.6	7.6	7.6	7.6	7.6	5.7	7.6
82.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	1.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)