

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: P251718

Luminaire Tested: **LD4B40D010 EU4B30509027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251718
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 EU4B30509027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2716.0 lumens
Efficiency: N/A
Efficacy: 63.1 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

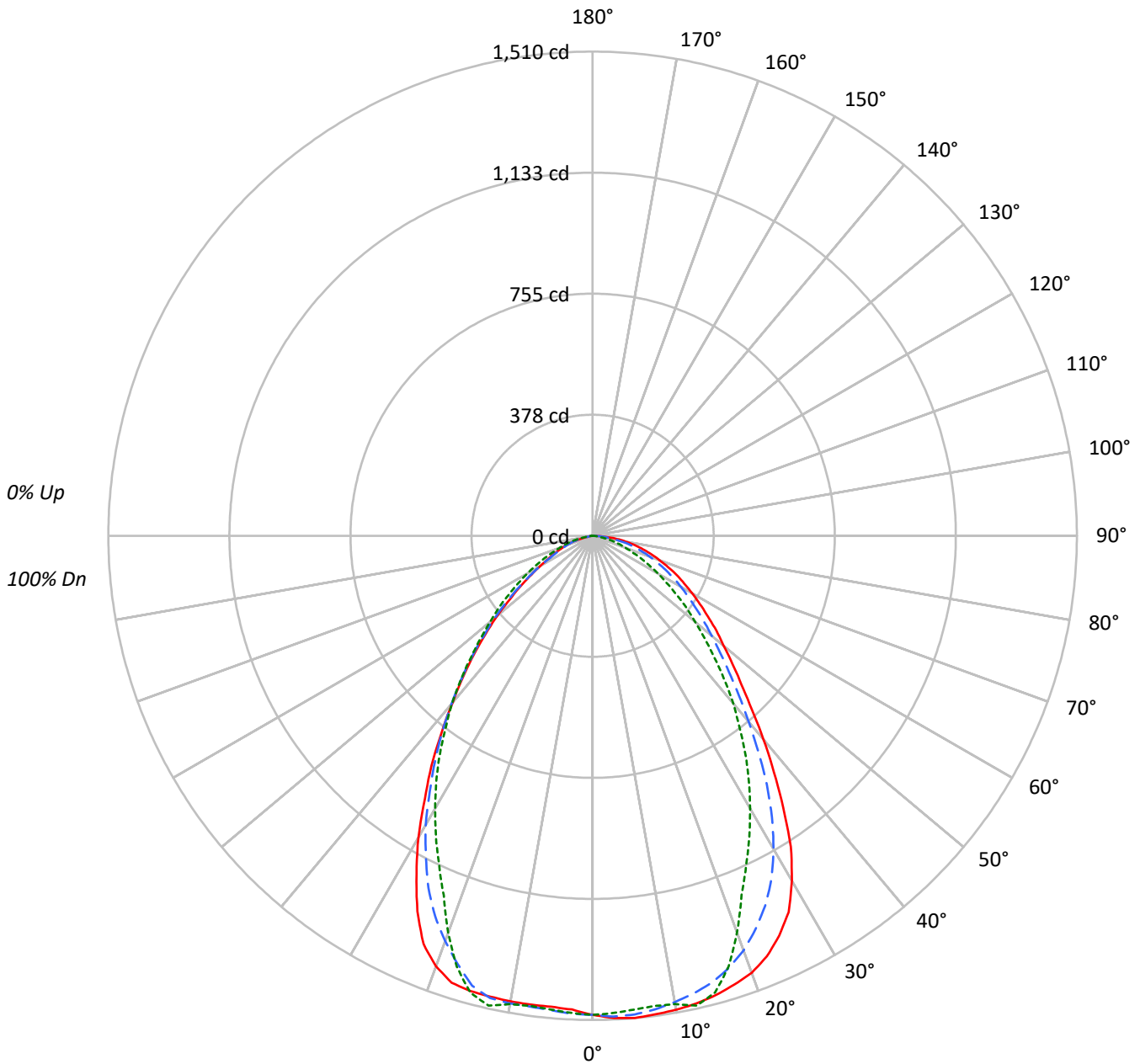
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	145622	145622	145622
5°	147675	145102	144251
10°	148521	146780	145919
15°	149649	148771	148327
20°	150425	136559	148154
25°	147955	121803	138997
30°	139791	110453	122292
35°	123293	98784	104269
40°	105366	86689	86410
45°	90290	73985	72166
50°	80721	63119	58797
55°	74456	53981	46539
60°	69605	45688	36722
65°	66691	37888	30325
70°	63059	30603	25588
75°	61039	24739	18150
80°	59042	13526	4939
85°	51437	7380	2460



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.9	5.2
10°-20°	408.4	15.0
20°-30°	566.5	20.9
30°-40°	559.1	20.6
40°-50°	438.6	16.1
50°-60°	303.8	11.2
60°-70°	186.2	6.9
70°-80°	93.0	3.4
80°-90°	18.6	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°	1116.8	41.1
0°-40°	1675.9	61.7
0°-60°	2418.2	89.0
0°-90°	2716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2716.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1494	1494	1494	1494	1494	
5°	1510	1499	1483	1485	1474	144
15°	1483	1442	1474	1453	1470	419
25°	1376	1273	1133	1212	1293	630
35°	1036	946	830	857	876	647
45°	655	600	537	530	524	512
55°	438	392	318	283	274	395
65°	289	250	164	123	132	286
75°	162	136	66	50	48	172
85°	46	26	7	2	2	52
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°	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2
2.5°	1505.1	1500.8	1498.6	1505.1	1502.9	1507.3	1505.1	1502.9	1498.6	1500.8	1500.8
5°	1509.5	1502.9	1500.8	1505.1	1505.1	1509.5	1507.3	1502.9	1498.6	1500.8	1498.6
7.5°	1505.1	1500.8	1500.8	1502.9	1500.8	1505.1	1500.8	1496.4	1492.0	1494.2	1489.8
10°	1500.8	1494.2	1494.2	1494.2	1494.2	1498.6	1494.2	1487.6	1481.0	1481.0	1476.7
12.5°	1494.2	1487.6	1487.6	1489.8	1485.4	1489.8	1485.4	1474.5	1467.9	1465.7	1461.3
15°	1483.2	1476.7	1476.7	1476.7	1472.3	1474.5	1467.9	1456.9	1448.2	1448.2	1441.6
17.5°	1467.9	1461.3	1459.1	1459.1	1452.6	1454.7	1448.2	1437.2	1424.1	1419.7	1413.1
20°	1450.4	1441.6	1437.2	1437.2	1430.6	1432.8	1424.1	1410.9	1393.4	1386.8	1375.9
22.5°	1419.7	1415.3	1408.7	1406.5	1400.0	1397.8	1389.0	1371.5	1356.2	1345.2	1327.7
25°	1375.9	1373.7	1367.1	1364.9	1356.2	1351.8	1343.0	1323.3	1308.0	1290.4	1272.9
27.5°	1323.3	1314.5	1310.1	1303.6	1294.8	1292.6	1281.7	1264.1	1240.0	1229.1	1207.2
30°	1242.2	1237.8	1233.5	1226.9	1218.1	1213.7	1207.2	1187.5	1167.7	1148.0	1128.3
32.5°	1150.2	1141.4	1134.9	1137.1	1126.1	1121.7	1110.8	1093.2	1075.7	1062.6	1040.7
35°	1036.3	1034.1	1031.9	1027.5	1018.8	1016.6	1007.8	994.7	974.9	959.6	946.5
37.5°	928.9	922.4	918.0	918.0	909.2	909.2	902.6	887.3	876.4	865.4	847.9
40°	828.2	817.2	817.2	817.2	808.4	810.6	806.2	790.9	780.0	766.8	755.9
42.5°	733.9	729.6	727.4	723.0	718.6	718.6	714.2	705.5	694.5	685.7	674.8
45°	655.1	652.9	650.7	648.5	644.1	641.9	639.7	626.6	620.0	611.3	600.3
47.5°	591.5	587.2	585.0	582.8	578.4	576.2	571.8	563.1	556.5	547.7	539.0
50°	532.4	530.2	528.0	528.0	523.6	521.4	517.0	510.5	499.5	495.1	484.2
52.5°	486.4	482.0	477.6	477.6	473.2	473.2	466.7	460.1	449.1	444.7	436.0
55°	438.2	436.0	433.8	433.8	429.4	427.2	425.0	416.3	407.5	400.9	392.2
57.5°	396.5	394.4	392.2	392.2	387.8	385.6	383.4	376.8	368.1	363.7	352.7
60°	357.1	357.1	354.9	352.7	350.5	348.3	346.2	339.6	333.0	326.4	317.7
62.5°	322.1	319.9	317.7	315.5	315.5	313.3	311.1	302.3	298.0	291.4	282.6
65°	289.2	284.8	284.8	282.6	282.6	280.4	278.2	269.5	265.1	258.5	249.8
67.5°	254.1	252.0	249.8	249.8	247.6	247.6	245.4	238.8	232.2	227.9	219.1
70°	221.3	221.3	219.1	219.1	216.9	214.7	214.7	210.3	203.8	197.2	188.4
72.5°	192.8	190.6	188.4	188.4	186.2	186.2	184.0	179.7	175.3	170.9	159.9
75°	162.1	159.9	159.9	159.9	157.7	157.7	155.6	151.2	146.8	142.4	135.8
77.5°	133.6	133.6	131.5	131.5	129.3	129.3	129.3	124.9	120.5	116.1	107.4
80°	105.2	105.2	105.2	103.0	100.8	100.8	100.8	96.4	92.0	87.6	81.1
82.5°	76.7	74.5	74.5	72.3	70.1	70.1	70.1	65.7	63.5	57.0	52.6
85°	46.0	43.8	43.8	41.6	39.4	39.4	39.4	37.2	32.9	30.7	26.3
87.5°	17.5	17.5	17.5	17.5	17.5	15.3	15.3	13.1	13.1	11.0	11.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2
2.5°	1500.8	1498.6	1498.6	1496.4	1498.6	1494.2	1494.2	1494.2	1494.2	1489.8	1489.8
5°	1496.4	1496.4	1494.2	1492.0	1494.2	1489.8	1492.0	1489.8	1489.8	1483.2	1483.2
7.5°	1487.6	1485.4	1481.0	1478.8	1481.0	1478.8	1478.8	1478.8	1483.2	1478.8	1478.8
10°	1472.3	1470.1	1465.7	1463.5	1463.5	1461.3	1465.7	1470.1	1478.8	1483.2	1492.0
12.5°	1456.9	1452.6	1450.4	1450.4	1452.6	1452.6	1461.3	1472.3	1494.2	1500.8	1509.5
15°	1437.2	1435.0	1435.0	1441.6	1450.4	1456.9	1474.5	1481.0	1483.2	1474.5	1470.1
17.5°	1410.9	1410.9	1413.1	1419.7	1426.3	1426.3	1428.5	1424.1	1419.7	1408.7	1395.6
20°	1367.1	1364.9	1360.5	1360.5	1360.5	1351.8	1356.2	1340.8	1329.9	1316.7	1297.0
22.5°	1312.3	1301.4	1286.0	1275.1	1268.5	1264.1	1253.2	1235.7	1222.5	1213.7	1205.0
25°	1253.2	1235.7	1213.7	1196.2	1185.3	1183.1	1167.7	1152.4	1143.6	1132.7	1128.3
27.5°	1185.3	1165.5	1139.3	1121.7	1113.0	1106.4	1093.2	1077.9	1067.0	1058.2	1051.6
30°	1106.4	1086.7	1064.8	1042.9	1034.1	1023.1	1010.0	999.0	988.1	981.5	977.1
32.5°	1018.8	999.0	977.1	961.8	950.8	942.1	931.1	920.2	911.4	907.0	902.6
35°	928.9	909.2	891.7	876.4	867.6	861.0	852.3	839.1	832.5	830.3	826.0
37.5°	832.5	819.4	804.1	790.9	784.3	775.6	771.2	760.2	760.2	751.5	751.5
40°	742.7	733.9	718.6	707.7	703.3	696.7	690.1	685.7	683.6	681.4	679.2
42.5°	663.8	650.7	641.9	633.2	626.6	622.2	622.2	615.6	613.4	606.9	604.7
45°	591.5	585.0	569.6	563.1	560.9	554.3	552.1	547.7	541.1	536.8	534.6
47.5°	528.0	521.4	512.7	503.9	499.5	495.1	490.8	484.2	479.8	473.2	471.0
50°	475.4	464.5	455.7	449.1	442.6	440.4	436.0	427.2	422.8	416.3	416.3
52.5°	427.2	418.5	407.5	400.9	394.4	390.0	383.4	376.8	370.3	368.1	361.5
55°	385.6	374.6	363.7	354.9	348.3	341.8	339.6	330.8	322.1	317.7	313.3
57.5°	346.2	335.2	322.1	311.1	306.7	302.3	295.8	287.0	280.4	273.9	269.5
60°	306.7	298.0	284.8	273.9	269.5	262.9	256.3	247.6	241.0	234.4	230.0
62.5°	273.9	260.7	249.8	238.8	232.2	227.9	219.1	212.5	203.8	197.2	190.6
65°	241.0	227.9	216.9	205.9	201.6	195.0	188.4	179.7	170.9	164.3	155.6
67.5°	208.1	197.2	186.2	175.3	170.9	166.5	157.7	149.0	140.2	133.6	124.9
70°	179.7	168.7	157.7	149.0	144.6	140.2	131.5	122.7	116.1	107.4	100.8
72.5°	153.4	144.6	133.6	124.9	120.5	116.1	107.4	100.8	92.0	87.6	81.1
75°	127.1	118.3	109.5	100.8	96.4	92.0	85.4	78.9	72.3	65.7	61.3
77.5°	100.8	92.0	83.3	76.7	72.3	70.1	63.5	57.0	50.4	46.0	39.4
80°	74.5	65.7	59.2	52.6	48.2	46.0	39.4	35.1	30.7	24.1	21.9
82.5°	46.0	39.4	35.1	30.7	28.5	26.3	21.9	17.5	15.3	13.1	11.0
85°	24.1	21.9	17.5	15.3	13.1	13.1	11.0	8.8	6.6	6.6	4.4
87.5°	8.8	6.6	6.6	4.4	4.4	4.4	4.4	2.2	2.2	2.2	2.2
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°	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2
2.5°	1485.4	1487.6	1489.8	1492.0	1489.8	1489.8	1494.2	1485.4	1492.0	1492.0	1483.2
5°	1481.0	1485.4	1483.2	1487.6	1483.2	1483.2	1485.4	1481.0	1485.4	1485.4	1478.8
7.5°	1476.7	1481.0	1481.0	1483.2	1481.0	1481.0	1483.2	1476.7	1481.0	1481.0	1474.5
10°	1496.4	1500.8	1498.6	1496.4	1489.8	1485.4	1487.6	1476.7	1481.0	1481.0	1474.5
12.5°	1502.9	1500.8	1492.0	1487.6	1483.2	1478.8	1481.0	1472.3	1476.7	1476.7	1472.3
15°	1459.1	1454.7	1448.2	1450.4	1446.0	1443.8	1448.2	1443.8	1452.6	1456.9	1452.6
17.5°	1384.6	1382.4	1378.1	1378.1	1378.1	1380.3	1386.8	1386.8	1400.0	1408.7	1413.1
20°	1288.2	1286.0	1288.2	1292.6	1294.8	1303.6	1318.9	1327.7	1345.2	1360.5	1371.5
22.5°	1200.6	1205.0	1211.6	1220.3	1222.5	1233.5	1253.2	1261.9	1283.9	1301.4	1312.3
25°	1126.1	1132.7	1137.1	1143.6	1145.8	1159.0	1176.5	1187.5	1211.6	1224.7	1237.8
27.5°	1051.6	1060.4	1062.6	1071.3	1071.3	1084.5	1099.8	1110.8	1126.1	1139.3	1150.2
30°	979.3	981.5	988.1	990.3	994.7	1007.8	1016.6	1023.1	1040.7	1047.2	1053.8
32.5°	900.5	909.2	913.6	915.8	913.6	924.6	933.3	937.7	944.3	953.0	957.4
35°	826.0	830.3	832.5	836.9	839.1	841.3	845.7	847.9	856.6	858.8	861.0
37.5°	751.5	758.0	755.9	758.0	758.0	760.2	764.6	762.4	769.0	771.2	769.0
40°	677.0	677.0	681.4	679.2	681.4	679.2	683.6	683.6	683.6	685.7	683.6
42.5°	602.5	604.7	602.5	606.9	602.5	604.7	604.7	602.5	604.7	602.5	602.5
45°	534.6	534.6	534.6	534.6	530.2	530.2	534.6	532.4	530.2	528.0	525.8
47.5°	468.8	471.0	466.7	468.8	466.7	464.5	462.3	462.3	460.1	455.7	453.5
50°	414.1	409.7	407.5	409.7	407.5	405.3	403.1	398.7	396.5	392.2	390.0
52.5°	359.3	354.9	350.5	350.5	348.3	344.0	341.8	337.4	335.2	330.8	330.8
55°	311.1	306.7	302.3	300.2	295.8	291.4	289.2	284.8	282.6	278.2	273.9
57.5°	265.1	258.5	254.1	252.0	249.8	243.2	241.0	236.6	232.2	227.9	225.7
60°	223.5	216.9	210.3	208.1	205.9	199.4	197.2	190.6	188.4	184.0	181.8
62.5°	184.0	179.7	170.9	168.7	164.3	159.9	153.4	151.2	149.0	151.2	151.2
65°	149.0	142.4	135.8	133.6	129.3	124.9	122.7	120.5	122.7	122.7	124.9
67.5°	118.3	111.7	105.2	105.2	103.0	98.6	98.6	98.6	100.8	100.8	103.0
70°	94.2	89.8	85.4	83.3	83.3	81.1	83.3	83.3	85.4	85.4	85.4
72.5°	74.5	72.3	70.1	67.9	67.9	67.9	67.9	67.9	67.9	67.9	70.1
75°	57.0	54.8	52.6	52.6	50.4	50.4	50.4	50.4	50.4	50.4	48.2
77.5°	37.2	35.1	32.9	32.9	30.7	28.5	28.5	26.3	26.3	26.3	26.3
80°	19.7	17.5	15.3	13.1	13.1	11.0	11.0	11.0	11.0	8.8	8.8
82.5°	8.8	6.6	6.6	6.6	6.6	4.4	4.4	4.4	4.4	4.4	4.4
85°	4.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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: P251718

CATALOG NUMBER: LD4B40D010 EU4B30509027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2	1494.2
2.5°	1487.6	1483.2	1487.6	1489.8	1485.4	1483.2	1487.6	1478.8
5°	1485.4	1478.8	1481.0	1483.2	1478.8	1476.7	1481.0	1474.5
7.5°	1481.0	1478.8	1481.0	1483.2	1476.7	1476.7	1481.0	1474.5
10°	1481.0	1476.7	1478.8	1483.2	1478.8	1478.8	1483.2	1474.5
12.5°	1478.8	1472.3	1478.8	1481.0	1476.7	1476.7	1481.0	1472.3
15°	1463.5	1463.5	1465.7	1470.1	1467.9	1470.1	1476.7	1470.1
17.5°	1430.6	1435.0	1443.8	1450.4	1454.7	1459.1	1465.7	1461.3
20°	1391.2	1397.8	1408.7	1415.3	1424.1	1426.3	1437.2	1428.5
22.5°	1329.9	1343.0	1351.8	1358.3	1364.9	1371.5	1380.3	1378.1
25°	1255.4	1264.1	1270.7	1277.3	1286.0	1290.4	1294.8	1292.6
27.5°	1165.5	1169.9	1178.7	1183.1	1187.5	1191.8	1200.6	1189.6
30°	1067.0	1069.1	1073.5	1080.1	1080.1	1084.5	1088.9	1086.7
32.5°	966.2	966.2	970.6	974.9	972.7	974.9	983.7	972.7
35°	867.6	865.4	872.0	874.2	874.2	872.0	878.5	876.4
37.5°	771.2	773.4	775.6	777.8	773.4	777.8	777.8	773.4
40°	683.6	681.4	685.7	687.9	685.7	687.9	687.9	679.2
42.5°	604.7	600.3	602.5	604.7	602.5	604.7	602.5	598.1
45°	528.0	525.8	525.8	528.0	523.6	523.6	523.6	523.6
47.5°	455.7	453.5	455.7	455.7	451.3	451.3	453.5	451.3
50°	390.0	387.8	387.8	387.8	385.6	385.6	387.8	387.8
52.5°	330.8	326.4	326.4	326.4	326.4	326.4	328.6	324.2
55°	271.7	271.7	271.7	271.7	273.9	273.9	273.9	273.9
57.5°	223.5	225.7	225.7	227.9	225.7	227.9	227.9	225.7
60°	186.2	184.0	186.2	186.2	188.4	188.4	188.4	188.4
62.5°	153.4	153.4	153.4	155.6	155.6	155.6	157.7	155.6
65°	127.1	127.1	129.3	129.3	129.3	131.5	131.5	131.5
67.5°	105.2	105.2	105.2	105.2	107.4	107.4	109.5	107.4
70°	87.6	87.6	87.6	87.6	87.6	89.8	89.8	89.8
72.5°	70.1	70.1	70.1	70.1	72.3	72.3	72.3	72.3
75°	48.2	48.2	48.2	50.4	48.2	48.2	48.2	48.2
77.5°	24.1	24.1	24.1	24.1	24.1	21.9	21.9	21.9
80°	8.8	8.8	8.8	8.8	8.8	8.8	6.6	8.8
82.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	2.2
85°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
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)