

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: P251717

Luminaire Tested: **LD4B40D010 EU4B30509024 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251717
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 EU4B30509024 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2390.0 lumens
Efficiency: N/A
Efficacy: 55.6 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

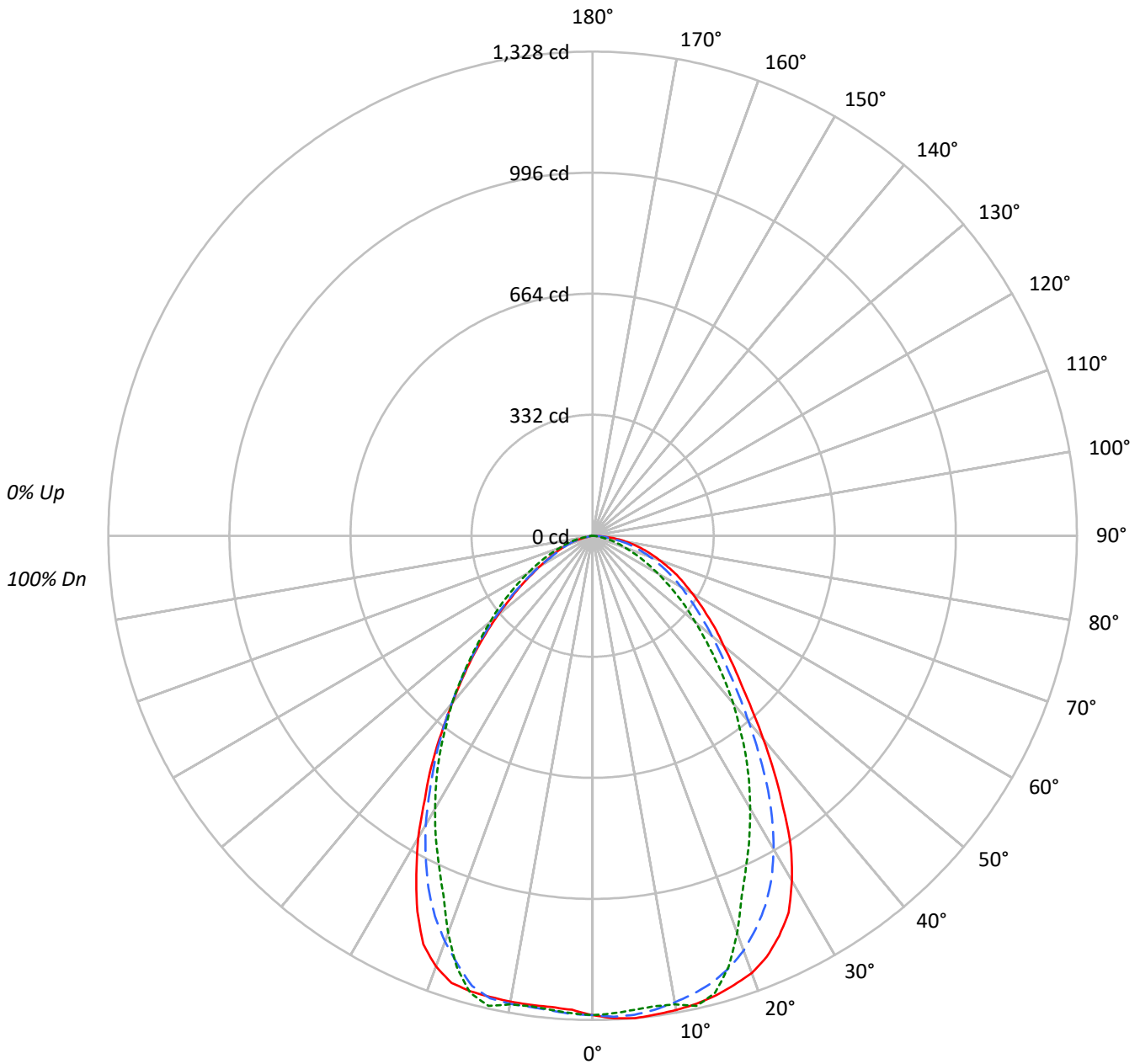
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
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	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88	88	88	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77	77	77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67	67	67	67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60	60	60	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53	53	53	53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48	48	48	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43	43	43	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39	39	39	39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36	36	36	36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33	33	33	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	128138	128138	128138
5°	129948	127688	126935
10°	130689	129165	128403
15°	131689	130913	130519
20°	132369	120172	130367
25°	130190	107178	122319
30°	123012	97196	107606
35°	108493	86935	91753
40°	92707	76283	76041
45°	79443	65095	63510
50°	71033	55538	51732
55°	65518	47491	40949
60°	61243	40211	32317
65°	58689	33346	26681
70°	55479	26928	22511
75°	53734	21765	15966
80°	51915	11898	4322
85°	45287	6486	2125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.9	5.2
10°-20°	359.4	15.0
20°-30°	498.5	20.9
30°-40°	492.0	20.6
40°-50°	385.9	16.1
50°-60°	267.3	11.2
60°-70°	163.8	6.9
70°-80°	81.9	3.4
80°-90°	16.4	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°	982.7	41.1
0°-40°	1474.7	61.7
0°-60°	2128.0	89.0
0°-90°	2390.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2390.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1315	1315	1315	1315	1315	
5°	1328	1319	1305	1307	1298	126
15°	1305	1269	1298	1278	1294	369
25°	1211	1120	997	1066	1138	554
35°	912	833	731	754	771	569
45°	576	528	472	467	461	451
55°	386	345	280	249	241	347
65°	254	220	145	108	116	251
75°	143	120	58	44	42	151
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°	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8
2.5°	1324.5	1320.6	1318.7	1324.5	1322.5	1326.4	1324.5	1322.5	1318.7	1320.6	1320.6
5°	1328.3	1322.5	1320.6	1324.5	1324.5	1328.3	1326.4	1322.5	1318.7	1320.6	1318.7
7.5°	1324.5	1320.6	1320.6	1322.5	1320.6	1324.5	1320.6	1316.8	1312.9	1314.8	1311.0
10°	1320.6	1314.8	1314.8	1314.8	1314.8	1318.7	1314.8	1309.0	1303.3	1303.3	1299.4
12.5°	1314.8	1309.0	1309.0	1311.0	1307.1	1311.0	1307.1	1297.5	1291.7	1289.8	1285.9
15°	1305.2	1299.4	1299.4	1299.4	1295.6	1297.5	1291.7	1282.1	1274.3	1274.3	1268.6
17.5°	1291.7	1285.9	1284.0	1284.0	1278.2	1280.1	1274.3	1264.7	1253.1	1249.3	1243.5
20°	1276.3	1268.6	1264.7	1264.7	1258.9	1260.9	1253.1	1241.6	1226.1	1220.4	1210.7
22.5°	1249.3	1245.4	1239.6	1237.7	1231.9	1230.0	1222.3	1206.9	1193.4	1183.7	1168.3
25°	1210.7	1208.8	1203.0	1201.1	1193.4	1189.5	1181.8	1164.5	1151.0	1135.5	1120.1
27.5°	1164.5	1156.7	1152.9	1147.1	1139.4	1137.5	1127.8	1112.4	1091.2	1081.6	1062.3
30°	1093.1	1089.3	1085.4	1079.6	1071.9	1068.1	1062.3	1044.9	1027.6	1010.2	992.9
32.5°	1012.2	1004.4	998.7	1000.6	990.9	987.1	977.4	962.0	946.6	935.0	915.8
35°	911.9	910.0	908.0	904.2	896.5	894.5	886.8	875.3	857.9	844.4	832.9
37.5°	817.4	811.6	807.8	807.8	800.1	800.1	794.3	780.8	771.2	761.5	746.1
40°	728.7	719.1	719.1	719.1	711.4	713.3	709.5	696.0	686.3	674.8	665.1
42.5°	645.8	642.0	640.1	636.2	632.4	632.4	628.5	620.8	611.1	603.4	593.8
45°	576.4	574.5	572.6	570.7	566.8	564.9	562.9	551.4	545.6	537.9	528.2
47.5°	520.5	516.7	514.8	512.8	509.0	507.0	503.2	495.5	489.7	482.0	474.3
50°	468.5	466.6	464.6	464.6	460.8	458.8	455.0	449.2	439.6	435.7	426.1
52.5°	428.0	424.1	420.3	420.3	416.4	416.4	410.6	404.9	395.2	391.4	383.7
55°	385.6	383.7	381.7	381.7	377.9	375.9	374.0	366.3	358.6	352.8	345.1
57.5°	349.0	347.0	345.1	345.1	341.2	339.3	337.4	331.6	323.9	320.0	310.4
60°	314.2	314.2	312.3	310.4	308.5	306.5	304.6	298.8	293.0	287.3	279.5
62.5°	283.4	281.5	279.5	277.6	277.6	275.7	273.8	266.1	262.2	256.4	248.7
65°	254.5	250.6	250.6	248.7	248.7	246.8	244.8	237.1	233.3	227.5	219.8
67.5°	223.6	221.7	219.8	219.8	217.9	217.9	215.9	210.1	204.4	200.5	192.8
70°	194.7	194.7	192.8	192.8	190.9	188.9	188.9	185.1	179.3	173.5	165.8
72.5°	169.7	167.7	165.8	165.8	163.9	163.9	161.9	158.1	154.2	150.4	140.7
75°	142.7	140.7	140.7	140.7	138.8	138.8	136.9	133.0	129.2	125.3	119.5
77.5°	117.6	117.6	115.7	115.7	113.7	113.7	113.7	109.9	106.0	102.2	94.5
80°	92.5	92.5	92.5	90.6	88.7	88.7	88.7	84.8	81.0	77.1	71.3
82.5°	67.5	65.5	65.5	63.6	61.7	61.7	61.7	57.8	55.9	50.1	46.3
85°	40.5	38.6	38.6	36.6	34.7	34.7	34.7	32.8	28.9	27.0	23.1
87.5°	15.4	15.4	15.4	15.4	15.4	13.5	13.5	11.6	11.6	9.6	9.6
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°	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8
2.5°	1320.6	1318.7	1318.7	1316.8	1318.7	1314.8	1314.8	1314.8	1314.8	1311.0	1311.0
5°	1316.8	1316.8	1314.8	1312.9	1314.8	1311.0	1312.9	1311.0	1311.0	1305.2	1305.2
7.5°	1309.0	1307.1	1303.3	1301.3	1303.3	1301.3	1301.3	1301.3	1305.2	1301.3	1301.3
10°	1295.6	1293.6	1289.8	1287.8	1287.8	1285.9	1289.8	1293.6	1301.3	1305.2	1312.9
12.5°	1282.1	1278.2	1276.3	1276.3	1278.2	1278.2	1285.9	1295.6	1314.8	1320.6	1328.3
15°	1264.7	1262.8	1262.8	1268.6	1276.3	1282.1	1297.5	1303.3	1305.2	1297.5	1293.6
17.5°	1241.6	1241.6	1243.5	1249.3	1255.1	1255.1	1257.0	1253.1	1249.3	1239.6	1228.1
20°	1203.0	1201.1	1197.2	1197.2	1197.2	1189.5	1193.4	1179.9	1170.2	1158.7	1141.3
22.5°	1154.8	1145.2	1131.7	1122.0	1116.3	1112.4	1102.8	1087.3	1075.8	1068.1	1060.3
25°	1102.8	1087.3	1068.1	1052.6	1043.0	1041.1	1027.6	1014.1	1006.4	996.7	992.9
27.5°	1043.0	1025.6	1002.5	987.1	979.4	973.6	962.0	948.5	938.9	931.2	925.4
30°	973.6	956.2	937.0	917.7	910.0	900.3	888.8	879.1	869.5	863.7	859.8
32.5°	896.5	879.1	859.8	846.4	836.7	829.0	819.4	809.7	802.0	798.2	794.3
35°	817.4	800.1	784.7	771.2	763.5	757.7	750.0	738.4	732.6	730.7	726.8
37.5°	732.6	721.0	707.5	696.0	690.2	682.5	678.6	669.0	669.0	661.3	661.3
40°	653.6	645.8	632.4	622.7	618.9	613.1	607.3	603.4	601.5	599.6	597.7
42.5°	584.2	572.6	564.9	557.2	551.4	547.5	547.5	541.7	539.8	534.0	532.1
45°	520.5	514.8	501.3	495.5	493.5	487.8	485.8	482.0	476.2	472.3	470.4
47.5°	464.6	458.8	451.1	443.4	439.6	435.7	431.9	426.1	422.2	416.4	414.5
50°	418.4	408.7	401.0	395.2	389.4	387.5	383.7	375.9	372.1	366.3	366.3
52.5°	375.9	368.2	358.6	352.8	347.0	343.2	337.4	331.6	325.8	323.9	318.1
55°	339.3	329.7	320.0	312.3	306.5	300.8	298.8	291.1	283.4	279.5	275.7
57.5°	304.6	295.0	283.4	273.8	269.9	266.1	260.3	252.6	246.8	241.0	237.1
60°	269.9	262.2	250.6	241.0	237.1	231.3	225.6	217.9	212.1	206.3	202.4
62.5°	241.0	229.4	219.8	210.1	204.4	200.5	192.8	187.0	179.3	173.5	167.7
65°	212.1	200.5	190.9	181.2	177.4	171.6	165.8	158.1	150.4	144.6	136.9
67.5°	183.2	173.5	163.9	154.2	150.4	146.5	138.8	131.1	123.4	117.6	109.9
70°	158.1	148.4	138.8	131.1	127.2	123.4	115.7	108.0	102.2	94.5	88.7
72.5°	135.0	127.2	117.6	109.9	106.0	102.2	94.5	88.7	81.0	77.1	71.3
75°	111.8	104.1	96.4	88.7	84.8	81.0	75.2	69.4	63.6	57.8	54.0
77.5°	88.7	81.0	73.3	67.5	63.6	61.7	55.9	50.1	44.3	40.5	34.7
80°	65.5	57.8	52.1	46.3	42.4	40.5	34.7	30.8	27.0	21.2	19.3
82.5°	40.5	34.7	30.8	27.0	25.1	23.1	19.3	15.4	13.5	11.6	9.6
85°	21.2	19.3	15.4	13.5	11.6	11.6	9.6	7.7	5.8	5.8	3.9
87.5°	7.7	5.8	5.8	3.9	3.9	3.9	3.9	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	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°	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8
2.5°	1307.1	1309.0	1311.0	1312.9	1311.0	1311.0	1314.8	1307.1	1312.9	1312.9	1305.2
5°	1303.3	1307.1	1305.2	1309.0	1305.2	1305.2	1307.1	1303.3	1307.1	1307.1	1301.3
7.5°	1299.4	1303.3	1303.3	1305.2	1303.3	1303.3	1305.2	1299.4	1303.3	1303.3	1297.5
10°	1316.8	1320.6	1318.7	1316.8	1311.0	1307.1	1309.0	1299.4	1303.3	1303.3	1297.5
12.5°	1322.5	1320.6	1312.9	1309.0	1305.2	1301.3	1303.3	1295.6	1299.4	1299.4	1295.6
15°	1284.0	1280.1	1274.3	1276.3	1272.4	1270.5	1274.3	1270.5	1278.2	1282.1	1278.2
17.5°	1218.4	1216.5	1212.7	1212.7	1212.7	1214.6	1220.4	1220.4	1231.9	1239.6	1243.5
20°	1133.6	1131.7	1133.6	1137.5	1139.4	1147.1	1160.6	1168.3	1183.7	1197.2	1206.9
22.5°	1056.5	1060.3	1066.1	1073.8	1075.8	1085.4	1102.8	1110.5	1129.8	1145.2	1154.8
25°	990.9	996.7	1000.6	1006.4	1008.3	1019.9	1035.3	1044.9	1066.1	1077.7	1089.3
27.5°	925.4	933.1	935.0	942.7	942.7	954.3	967.8	977.4	990.9	1002.5	1012.2
30°	861.8	863.7	869.5	871.4	875.3	886.8	894.5	900.3	915.8	921.5	927.3
32.5°	792.4	800.1	803.9	805.9	803.9	813.6	821.3	825.1	830.9	838.6	842.5
35°	726.8	730.7	732.6	736.5	738.4	740.3	744.2	746.1	753.8	755.7	757.7
37.5°	661.3	667.1	665.1	667.1	667.1	669.0	672.8	670.9	676.7	678.6	676.7
40°	595.7	595.7	599.6	597.7	599.6	597.7	601.5	601.5	601.5	603.4	601.5
42.5°	530.2	532.1	530.2	534.0	530.2	532.1	532.1	530.2	532.1	530.2	530.2
45°	470.4	470.4	470.4	470.4	466.6	466.6	470.4	468.5	466.6	464.6	462.7
47.5°	412.6	414.5	410.6	412.6	410.6	408.7	406.8	406.8	404.9	401.0	399.1
50°	364.4	360.5	358.6	360.5	358.6	356.7	354.7	350.9	349.0	345.1	343.2
52.5°	316.2	312.3	308.5	308.5	306.5	302.7	300.8	296.9	295.0	291.1	291.1
55°	273.8	269.9	266.1	264.1	260.3	256.4	254.5	250.6	248.7	244.8	241.0
57.5°	233.3	227.5	223.6	221.7	219.8	214.0	212.1	208.2	204.4	200.5	198.6
60°	196.6	190.9	185.1	183.2	181.2	175.4	173.5	167.7	165.8	161.9	160.0
62.5°	161.9	158.1	150.4	148.4	144.6	140.7	135.0	133.0	131.1	133.0	133.0
65°	131.1	125.3	119.5	117.6	113.7	109.9	108.0	106.0	108.0	108.0	109.9
67.5°	104.1	98.3	92.5	92.5	90.6	86.8	86.8	86.8	88.7	88.7	90.6
70°	82.9	79.0	75.2	73.3	73.3	71.3	73.3	73.3	75.2	75.2	75.2
72.5°	65.5	63.6	61.7	59.8	59.8	59.8	59.8	59.8	59.8	59.8	61.7
75°	50.1	48.2	46.3	46.3	44.3	44.3	44.3	44.3	44.3	44.3	42.4
77.5°	32.8	30.8	28.9	28.9	27.0	25.1	25.1	23.1	23.1	23.1	23.1
80°	17.4	15.4	13.5	11.6	11.6	9.6	9.6	9.6	9.6	7.7	7.7
82.5°	7.7	5.8	5.8	5.8	5.8	3.9	3.9	3.9	3.9	3.9	3.9
85°	3.9	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: P251717

CATALOG NUMBER: LD4B40D010 EU4B30509024 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8	1314.8
2.5°	1309.0	1305.2	1309.0	1311.0	1307.1	1305.2	1309.0	1301.3
5°	1307.1	1301.3	1303.3	1305.2	1301.3	1299.4	1303.3	1297.5
7.5°	1303.3	1301.3	1303.3	1305.2	1299.4	1299.4	1303.3	1297.5
10°	1303.3	1299.4	1301.3	1305.2	1301.3	1301.3	1305.2	1297.5
12.5°	1301.3	1295.6	1301.3	1303.3	1299.4	1299.4	1303.3	1295.6
15°	1287.8	1287.8	1289.8	1293.6	1291.7	1293.6	1299.4	1293.6
17.5°	1258.9	1262.8	1270.5	1276.3	1280.1	1284.0	1289.8	1285.9
20°	1224.2	1230.0	1239.6	1245.4	1253.1	1255.1	1264.7	1257.0
22.5°	1170.2	1181.8	1189.5	1195.3	1201.1	1206.9	1214.6	1212.7
25°	1104.7	1112.4	1118.2	1124.0	1131.7	1135.5	1139.4	1137.5
27.5°	1025.6	1029.5	1037.2	1041.1	1044.9	1048.8	1056.5	1046.9
30°	938.9	940.8	944.7	950.5	950.5	954.3	958.2	956.2
32.5°	850.2	850.2	854.1	857.9	856.0	857.9	865.6	856.0
35°	763.5	761.5	767.3	769.2	769.2	767.3	773.1	771.2
37.5°	678.6	680.6	682.5	684.4	680.6	684.4	684.4	680.6
40°	601.5	599.6	603.4	605.4	603.4	605.4	605.4	597.7
42.5°	532.1	528.2	530.2	532.1	530.2	532.1	530.2	526.3
45°	464.6	462.7	462.7	464.6	460.8	460.8	460.8	460.8
47.5°	401.0	399.1	401.0	401.0	397.1	397.1	399.1	397.1
50°	343.2	341.2	341.2	341.2	339.3	339.3	341.2	341.2
52.5°	291.1	287.3	287.3	287.3	287.3	287.3	289.2	285.3
55°	239.1	239.1	239.1	239.1	241.0	241.0	241.0	241.0
57.5°	196.6	198.6	198.6	200.5	198.6	200.5	200.5	198.6
60°	163.9	161.9	163.9	163.9	165.8	165.8	165.8	165.8
62.5°	135.0	135.0	135.0	136.9	136.9	136.9	138.8	136.9
65°	111.8	111.8	113.7	113.7	113.7	115.7	115.7	115.7
67.5°	92.5	92.5	92.5	92.5	94.5	94.5	96.4	94.5
70°	77.1	77.1	77.1	77.1	77.1	79.0	79.0	79.0
72.5°	61.7	61.7	61.7	61.7	63.6	63.6	63.6	63.6
75°	42.4	42.4	42.4	44.3	42.4	42.4	42.4	42.4
77.5°	21.2	21.2	21.2	21.2	21.2	19.3	19.3	19.3
80°	7.7	7.7	7.7	7.7	7.7	7.7	5.8	7.7
82.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	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)