

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: P251798

Luminaire Tested: **LD4B40D010 EU4B30509035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251798
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30509035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2708.0 lumens
Efficiency: N/A
Efficacy: 62.9 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

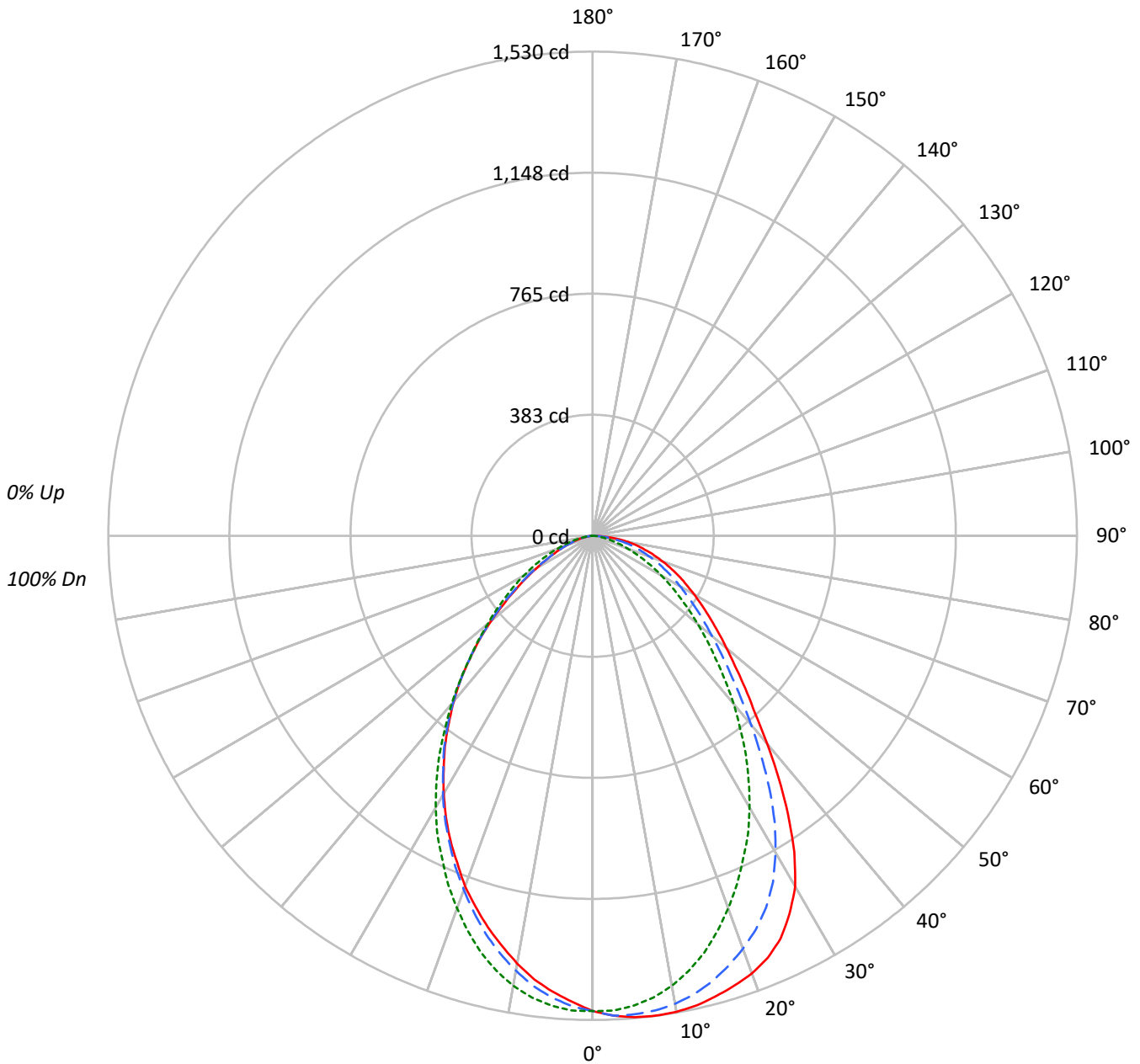
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	101	98	100	98	95	96	94	92	93	91	90	88			88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76			76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67			67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	146363	146363	146363
5°	149416	145797	141502
10°	151144	142910	135815
15°	152000	137541	129147
20°	152644	129879	122215
25°	151062	120996	114286
30°	144045	111545	105828
35°	128100	100331	96762
40°	109055	88191	86715
45°	93943	75791	75474
50°	83723	65514	63407
55°	76954	56530	50651
60°	72061	48632	39626
65°	69274	41025	30901
70°	66507	32912	25018
75°	64390	26095	19129
80°	64823	18128	11674
85°	54233	12971	5144



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.6	5.2
10°-20°	386.5	14.3
20°-30°	540.5	20.0
30°-40°	555.6	20.5
40°-50°	451.0	16.7
50°-60°	317.5	11.7
60°-70°	195.5	7.2
70°-80°	97.6	3.6
80°-90°	23.2	0.9
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°	1067.6	39.4
0°-40°	1623.2	59.9
0°-60°	2391.7	88.3
0°-90°	2708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2708.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1502	1502	1502	1502	1502	
5°	1527	1518	1490	1465	1446	146
15°	1506	1458	1363	1303	1280	426
25°	1405	1296	1125	1070	1063	642
35°	1077	973	843	818	813	669
45°	682	615	550	550	548	530
55°	453	397	333	305	298	407
65°	300	252	178	136	134	297
75°	171	134	69	51	51	183
85°	48	32	12	7	5	57
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°	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8
2.5°	1518.0	1520.3	1513.4	1520.3	1511.1	1515.7	1518.0	1513.4	1508.8	1518.0	1518.0
5°	1527.3	1527.3	1520.3	1529.6	1518.0	1520.3	1524.9	1518.0	1511.1	1520.3	1518.0
7.5°	1529.6	1529.6	1520.3	1529.6	1518.0	1520.3	1522.6	1515.7	1508.8	1515.7	1513.4
10°	1527.3	1524.9	1518.0	1527.3	1515.7	1515.7	1518.0	1511.1	1499.5	1506.5	1501.8
12.5°	1520.3	1520.3	1511.1	1520.3	1504.1	1504.1	1506.5	1497.2	1488.0	1488.0	1483.4
15°	1506.5	1506.5	1497.2	1504.1	1490.3	1490.3	1488.0	1478.7	1467.2	1467.2	1457.9
17.5°	1490.3	1490.3	1481.0	1488.0	1471.8	1471.8	1469.5	1455.6	1439.5	1437.1	1425.6
20°	1471.8	1471.8	1460.2	1464.9	1446.4	1446.4	1444.1	1427.9	1409.4	1404.8	1388.6
22.5°	1444.1	1444.1	1432.5	1434.8	1416.3	1414.0	1411.7	1393.2	1374.8	1367.8	1347.0
25°	1404.8	1402.5	1393.2	1393.2	1374.8	1370.1	1365.5	1347.0	1328.5	1314.7	1296.2
27.5°	1347.0	1349.3	1337.8	1340.1	1317.0	1312.4	1310.1	1287.0	1266.2	1252.3	1233.8
30°	1280.0	1273.1	1261.5	1261.5	1243.1	1240.7	1236.1	1215.3	1192.2	1176.1	1155.3
32.5°	1185.3	1183.0	1171.4	1171.4	1150.6	1150.6	1141.4	1120.6	1099.8	1090.6	1069.8
35°	1076.7	1074.4	1065.1	1065.1	1046.7	1049.0	1039.7	1023.6	1002.8	988.9	972.7
37.5°	965.8	963.5	954.2	956.6	940.4	940.4	933.5	917.3	901.1	894.2	873.4
40°	857.2	854.9	843.3	850.3	836.4	831.8	829.5	817.9	799.4	790.2	778.6
42.5°	757.9	760.2	748.6	753.2	741.7	737.1	734.7	725.5	711.6	702.4	690.8
45°	681.6	677.0	672.4	672.4	660.8	658.5	656.2	644.6	635.4	626.2	614.6
47.5°	610.0	605.4	600.7	603.0	593.8	591.5	586.9	577.6	566.1	561.5	549.9
50°	552.2	549.9	543.0	543.0	533.7	531.4	526.8	519.9	508.3	501.4	492.1
52.5°	499.1	499.1	492.1	489.8	482.9	480.6	478.3	469.0	459.8	450.6	441.3
55°	452.9	450.6	445.9	445.9	436.7	434.4	432.1	422.8	413.6	406.7	397.4
57.5°	409.0	409.0	404.3	404.3	397.4	392.8	392.8	383.5	372.0	367.4	355.8
60°	369.7	369.7	365.1	365.1	358.1	358.1	353.5	344.3	337.3	328.1	318.9
62.5°	332.7	335.0	330.4	328.1	321.2	318.9	318.9	311.9	300.4	293.4	284.2
65°	300.4	298.1	295.7	293.4	286.5	284.2	284.2	275.0	268.0	258.8	251.8
67.5°	265.7	265.7	261.1	261.1	256.5	254.2	249.5	242.6	235.7	228.7	221.8
70°	233.4	233.4	231.1	231.1	224.1	221.8	219.5	212.6	205.6	198.7	189.5
72.5°	203.3	201.0	198.7	198.7	194.1	191.8	189.5	182.5	175.6	168.7	161.7
75°	171.0	171.0	168.7	168.7	164.0	161.7	161.7	157.1	147.9	143.3	134.0
77.5°	143.3	143.3	140.9	140.9	136.3	136.3	134.0	127.1	122.5	115.5	110.9
80°	115.5	113.2	113.2	110.9	106.3	106.3	104.0	101.7	94.7	90.1	83.2
82.5°	80.9	80.9	80.9	78.6	76.2	76.2	73.9	69.3	64.7	62.4	55.5
85°	48.5	48.5	46.2	43.9	46.2	43.9	41.6	39.3	37.0	34.7	32.3
87.5°	20.8	20.8	18.5	18.5	18.5	18.5	18.5	16.2	13.9	13.9	11.6
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°	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8
2.5°	1504.1	1511.1	1508.8	1506.5	1501.8	1501.8	1501.8	1499.5	1501.8	1501.8	1497.2
5°	1504.1	1508.8	1506.5	1501.8	1497.2	1497.2	1494.9	1490.3	1490.3	1490.3	1481.0
7.5°	1497.2	1501.8	1494.9	1490.3	1485.7	1481.0	1481.0	1474.1	1474.1	1471.8	1462.6
10°	1483.4	1485.7	1476.4	1471.8	1464.9	1462.6	1457.9	1448.7	1446.4	1444.1	1434.8
12.5°	1462.6	1464.9	1453.3	1444.1	1434.8	1432.5	1427.9	1416.3	1411.7	1407.1	1395.6
15°	1432.5	1432.5	1418.7	1407.1	1397.9	1395.6	1384.0	1372.4	1367.8	1363.2	1347.0
17.5°	1397.9	1395.6	1377.1	1365.5	1354.0	1349.3	1337.8	1323.9	1314.7	1310.1	1296.2
20°	1360.9	1354.0	1333.2	1321.6	1307.8	1300.8	1289.3	1270.8	1261.5	1252.3	1238.4
22.5°	1317.0	1307.8	1284.6	1268.5	1254.6	1247.7	1231.5	1215.3	1201.5	1192.2	1176.1
25°	1263.9	1252.3	1226.9	1206.1	1194.5	1187.6	1171.4	1152.9	1139.1	1125.2	1111.4
27.5°	1201.5	1187.6	1162.2	1141.4	1129.8	1118.3	1106.7	1085.9	1074.4	1062.8	1046.7
30°	1125.2	1109.0	1085.9	1067.5	1053.6	1044.4	1030.5	1012.0	998.1	991.2	975.0
32.5°	1042.0	1023.6	1002.8	984.3	977.4	965.8	954.2	935.8	924.2	917.3	905.7
35°	949.6	935.8	912.7	898.8	887.2	882.6	873.4	854.9	850.3	843.3	829.5
37.5°	852.6	841.0	824.9	813.3	804.1	799.4	790.2	778.6	771.7	764.8	757.9
40°	762.5	753.2	739.4	730.1	718.6	711.6	711.6	697.8	693.2	693.2	686.2
42.5°	674.7	670.1	658.5	644.6	642.3	635.4	633.1	626.2	621.5	619.2	616.9
45°	600.7	593.8	582.3	575.3	568.4	568.4	561.5	554.5	552.2	549.9	547.6
47.5°	536.0	526.8	517.6	510.6	506.0	503.7	496.8	492.1	489.8	489.8	487.5
50°	478.3	471.3	462.1	455.2	450.6	445.9	441.3	436.7	434.4	432.1	432.1
52.5°	429.8	420.5	411.3	404.3	397.4	395.1	390.5	385.9	383.5	381.2	378.9
55°	385.9	378.9	367.4	360.4	353.5	353.5	346.6	339.6	335.0	332.7	330.4
57.5°	344.3	337.3	325.8	318.9	314.2	309.6	305.0	300.4	295.7	291.1	286.5
60°	307.3	300.4	288.8	279.6	277.3	272.6	268.0	258.8	254.2	249.5	244.9
62.5°	272.6	263.4	254.2	244.9	242.6	238.0	231.1	224.1	217.2	212.6	205.6
65°	240.3	233.4	221.8	214.9	207.9	205.6	198.7	189.5	182.5	177.9	171.0
67.5°	210.3	201.0	189.5	182.5	177.9	173.3	166.4	159.4	152.5	145.6	138.6
70°	180.2	173.3	161.7	154.8	150.2	145.6	138.6	129.4	122.5	115.5	110.9
72.5°	152.5	143.3	134.0	127.1	122.5	117.8	110.9	104.0	97.0	92.4	85.5
75°	127.1	117.8	110.9	101.7	99.4	94.7	87.8	80.9	73.9	69.3	64.7
77.5°	101.7	94.7	85.5	80.9	76.2	71.6	67.0	60.1	55.5	48.5	43.9
80°	76.2	69.3	62.4	57.8	53.1	50.8	46.2	41.6	37.0	32.3	30.0
82.5°	50.8	46.2	39.3	37.0	34.7	32.3	27.7	25.4	23.1	20.8	18.5
85°	27.7	25.4	23.1	18.5	18.5	16.2	13.9	13.9	11.6	11.6	9.2
87.5°	11.6	9.2	9.2	6.9	6.9	6.9	4.6	4.6	4.6	2.3	2.3
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°	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8
2.5°	1499.5	1490.3	1490.3	1490.3	1483.4	1485.7	1488.0	1490.3	1488.0	1481.0	1488.0
5°	1483.4	1474.1	1474.1	1469.5	1464.9	1464.9	1464.9	1467.2	1464.9	1457.9	1460.2
7.5°	1462.6	1451.0	1448.7	1444.1	1439.5	1437.1	1437.1	1437.1	1434.8	1425.6	1430.2
10°	1430.2	1418.7	1414.0	1411.7	1404.8	1402.5	1400.2	1397.9	1395.6	1386.3	1390.9
12.5°	1390.9	1381.7	1372.4	1370.1	1363.2	1358.6	1356.3	1356.3	1351.7	1342.4	1347.0
15°	1344.7	1330.9	1323.9	1319.3	1312.4	1307.8	1303.1	1305.4	1303.1	1293.9	1296.2
17.5°	1289.3	1275.4	1268.5	1266.2	1256.9	1252.3	1250.0	1250.0	1247.7	1238.4	1240.7
20°	1229.2	1215.3	1210.7	1206.1	1201.5	1196.8	1194.5	1192.2	1189.9	1180.7	1187.6
22.5°	1169.1	1152.9	1146.0	1146.0	1136.8	1134.5	1132.2	1134.5	1132.2	1122.9	1127.5
25°	1106.7	1090.6	1085.9	1079.0	1074.4	1072.1	1072.1	1072.1	1069.8	1065.1	1069.8
27.5°	1037.4	1025.9	1018.9	1016.6	1012.0	1009.7	1007.4	1009.7	1009.7	1002.8	1007.4
30°	968.1	958.9	954.2	951.9	945.0	942.7	945.0	945.0	945.0	938.1	945.0
32.5°	898.8	891.9	889.6	882.6	878.0	878.0	878.0	880.3	878.0	873.4	880.3
35°	829.5	820.2	817.9	815.6	815.6	811.0	815.6	813.3	817.9	811.0	815.6
37.5°	755.5	750.9	748.6	748.6	744.0	746.3	746.3	746.3	750.9	744.0	748.6
40°	686.2	681.6	681.6	681.6	679.3	679.3	679.3	681.6	683.9	679.3	683.9
42.5°	616.9	614.6	614.6	612.3	610.0	612.3	614.6	614.6	616.9	612.3	614.6
45°	549.9	547.6	549.9	547.6	547.6	545.3	547.6	549.9	549.9	547.6	547.6
47.5°	487.5	487.5	485.2	485.2	485.2	485.2	485.2	485.2	485.2	480.6	485.2
50°	432.1	427.4	429.8	427.4	427.4	425.1	425.1	422.8	420.5	418.2	418.2
52.5°	378.9	374.3	374.3	372.0	369.7	369.7	367.4	365.1	362.8	358.1	358.1
55°	328.1	323.5	321.2	318.9	316.5	314.2	311.9	309.6	305.0	302.7	302.7
57.5°	281.9	277.3	272.6	272.6	268.0	265.7	261.1	256.5	254.2	249.5	249.5
60°	240.3	235.7	228.7	226.4	224.1	219.5	212.6	210.3	207.9	203.3	205.6
62.5°	201.0	194.1	187.2	184.8	182.5	177.9	173.3	168.7	166.4	168.7	168.7
65°	164.0	157.1	152.5	147.9	145.6	140.9	138.6	136.3	136.3	136.3	138.6
67.5°	131.7	124.8	120.1	117.8	113.2	110.9	110.9	110.9	110.9	110.9	110.9
70°	104.0	99.4	94.7	90.1	90.1	87.8	87.8	87.8	87.8	87.8	87.8
72.5°	78.6	73.9	71.6	71.6	69.3	69.3	69.3	69.3	67.0	67.0	69.3
75°	57.8	55.5	53.1	53.1	53.1	50.8	50.8	50.8	50.8	50.8	50.8
77.5°	41.6	39.3	39.3	37.0	37.0	37.0	37.0	37.0	37.0	34.7	34.7
80°	27.7	25.4	25.4	25.4	25.4	23.1	23.1	23.1	23.1	23.1	23.1
82.5°	16.2	16.2	16.2	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
85°	9.2	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	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: P251798

CATALOG NUMBER: LD4B40D010 EU4B30509035 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8	1501.8
2.5°	1474.1	1483.4	1485.7	1478.7	1481.0	1476.4	1478.7	1474.1
5°	1448.7	1455.6	1457.9	1453.3	1453.3	1448.7	1451.0	1446.4
7.5°	1416.3	1423.3	1425.6	1421.0	1421.0	1416.3	1416.3	1414.0
10°	1379.4	1381.7	1386.3	1379.4	1381.7	1377.1	1377.1	1372.4
12.5°	1333.2	1337.8	1342.4	1335.5	1335.5	1333.2	1333.2	1326.2
15°	1284.6	1289.3	1291.6	1287.0	1287.0	1284.6	1282.3	1280.0
17.5°	1233.8	1236.1	1240.7	1233.8	1238.4	1233.8	1233.8	1229.2
20°	1176.1	1183.0	1185.3	1178.4	1180.7	1178.4	1178.4	1178.4
22.5°	1120.6	1125.2	1127.5	1122.9	1125.2	1120.6	1122.9	1118.3
25°	1062.8	1065.1	1067.5	1062.8	1067.5	1065.1	1062.8	1062.8
27.5°	1002.8	1005.1	1007.4	1002.8	1007.4	1005.1	1007.4	1002.8
30°	938.1	942.7	947.3	942.7	945.0	942.7	942.7	940.4
32.5°	873.4	878.0	882.6	878.0	882.6	878.0	880.3	875.7
35°	813.3	815.6	817.9	813.3	815.6	815.6	815.6	813.3
37.5°	746.3	750.9	750.9	748.6	753.2	750.9	750.9	746.3
40°	681.6	683.9	686.2	681.6	683.9	681.6	683.9	681.6
42.5°	614.6	619.2	621.5	616.9	616.9	616.9	614.6	616.9
45°	545.3	549.9	554.5	547.6	549.9	549.9	549.9	547.6
47.5°	482.9	482.9	485.2	482.9	485.2	480.6	485.2	482.9
50°	418.2	418.2	422.8	418.2	418.2	418.2	418.2	418.2
52.5°	355.8	358.1	358.1	353.5	355.8	353.5	355.8	353.5
55°	298.1	298.1	300.4	298.1	298.1	298.1	298.1	298.1
57.5°	247.2	249.5	249.5	247.2	249.5	247.2	247.2	247.2
60°	205.6	205.6	205.6	203.3	205.6	203.3	205.6	203.3
62.5°	166.4	168.7	168.7	166.4	168.7	166.4	166.4	166.4
65°	136.3	136.3	136.3	136.3	136.3	136.3	136.3	134.0
67.5°	108.6	108.6	110.9	108.6	110.9	110.9	110.9	110.9
70°	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
72.5°	67.0	67.0	69.3	67.0	67.0	67.0	67.0	67.0
75°	50.8	50.8	50.8	50.8	50.8	48.5	48.5	50.8
77.5°	34.7	34.7	34.7	34.7	34.7	34.7	34.7	37.0
80°	23.1	23.1	23.1	23.1	20.8	20.8	23.1	20.8
82.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
85°	6.9	6.9	4.6	4.6	4.6	4.6	4.6	4.6
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)