

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: P251712

Luminaire Tested: **LD4B40D010 EU4B30508027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251712
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 EU4B30508027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3164.0 lumens
Efficiency: N/A
Efficacy: 73.5 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

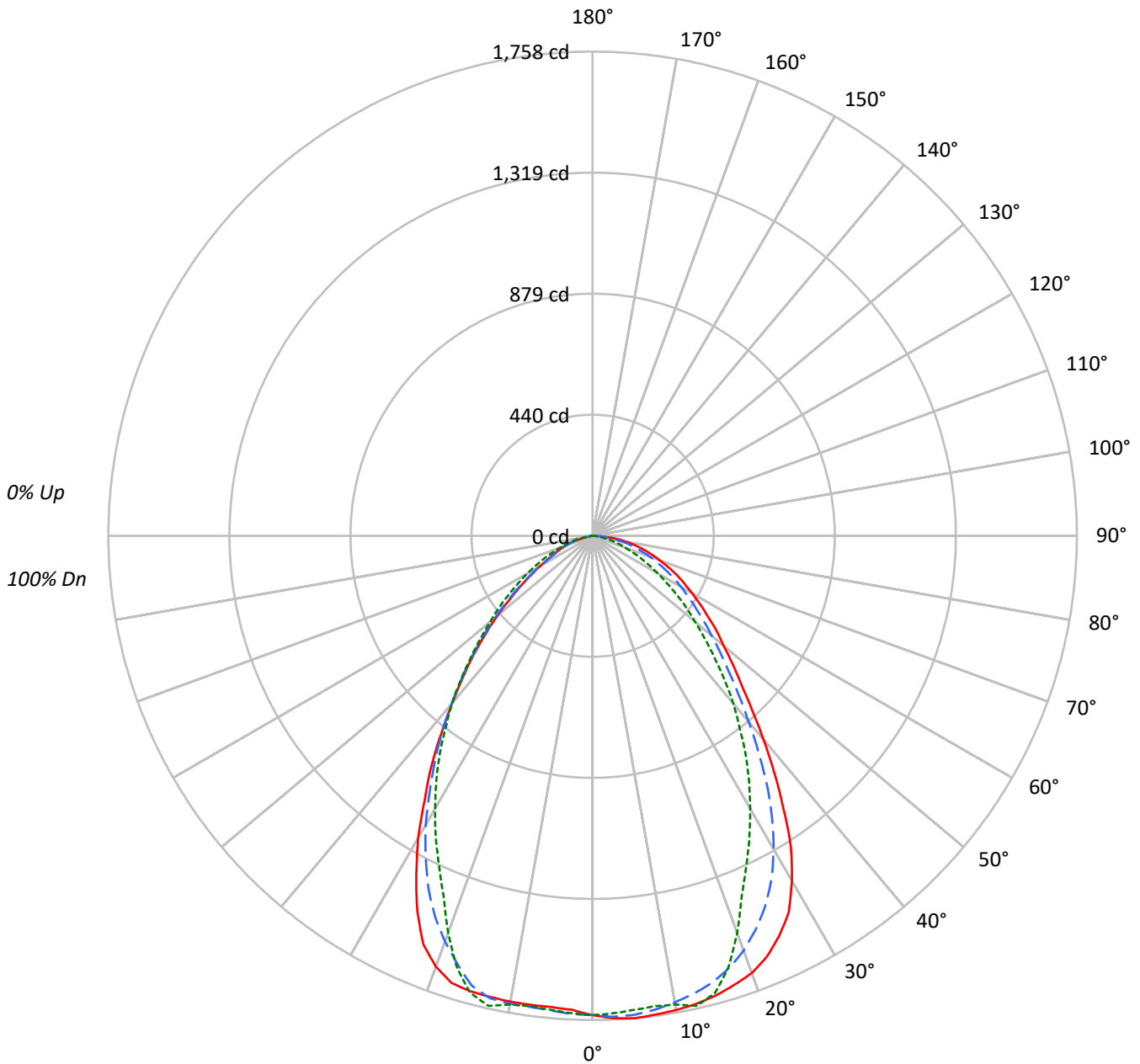
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	169636	169636	169636
5°	172035	169041	168043
10°	173014	170996	169986
15°	174338	173309	172795
20°	175233	159085	172588
25°	172354	141890	161923
30°	162849	128672	142458
35°	143626	115084	121461
40°	122744	100989	100658
45°	105175	86183	84074
50°	94033	73519	68486
55°	86741	62885	54202
60°	81085	53232	42784
65°	77691	44138	35306
70°	73460	35647	29806
75°	71130	28844	21124
80°	68752	15771	5725
85°	59936	8610	2907



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.4	5.2
10°-20°	475.7	15.0
20°-30°	659.9	20.9
30°-40°	651.3	20.6
40°-50°	510.9	16.1
50°-60°	353.9	11.2
60°-70°	216.8	6.9
70°-80°	108.4	3.4
80°-90°	21.7	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°	1301.0	41.1
0°-40°	1952.3	61.7
0°-60°	2817.1	89.0
0°-90°	3164.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3164.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1741	1741	1741	1741	1741	
5°	1758	1746	1728	1730	1718	167
15°	1728	1679	1718	1692	1713	488
25°	1603	1483	1320	1411	1506	734
35°	1207	1103	967	998	1021	753
45°	763	699	625	618	610	597
55°	510	457	370	329	319	460
65°	337	291	191	143	153	333
75°	189	158	77	59	56	200
85°	54	31	8	3	3	61
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°	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6
2.5°	1753.4	1748.3	1745.7	1753.4	1750.8	1756.0	1753.4	1750.8	1745.7	1748.3	1748.3
5°	1758.5	1750.8	1748.3	1753.4	1753.4	1758.5	1756.0	1750.8	1745.7	1748.3	1745.7
7.5°	1753.4	1748.3	1748.3	1750.8	1748.3	1753.4	1748.3	1743.2	1738.1	1740.6	1735.5
10°	1748.3	1740.6	1740.6	1740.6	1740.6	1745.7	1740.6	1733.0	1725.3	1725.3	1720.2
12.5°	1740.6	1733.0	1733.0	1735.5	1730.4	1735.5	1730.4	1717.7	1710.0	1707.5	1702.4
15°	1727.9	1720.2	1720.2	1720.2	1715.1	1717.7	1710.0	1697.3	1687.0	1687.0	1679.4
17.5°	1710.0	1702.4	1699.8	1699.8	1692.1	1694.7	1687.0	1674.3	1659.0	1653.9	1646.2
20°	1689.6	1679.4	1674.3	1674.3	1666.6	1669.2	1659.0	1643.7	1623.2	1615.6	1602.8
22.5°	1653.9	1648.8	1641.1	1638.6	1630.9	1628.3	1618.1	1597.7	1579.8	1567.1	1546.7
25°	1602.8	1600.3	1592.6	1590.1	1579.8	1574.7	1564.5	1541.6	1523.7	1503.3	1482.9
27.5°	1541.6	1531.4	1526.3	1518.6	1508.4	1505.8	1493.1	1472.7	1444.6	1431.8	1406.3
30°	1447.1	1442.0	1436.9	1429.3	1419.1	1414.0	1406.3	1383.3	1360.4	1337.4	1314.4
32.5°	1339.9	1329.7	1322.1	1324.6	1311.9	1306.8	1294.0	1273.6	1253.2	1237.8	1212.3
35°	1207.2	1204.7	1202.1	1197.0	1186.8	1184.2	1174.0	1158.7	1135.8	1117.9	1102.6
37.5°	1082.2	1074.5	1069.4	1069.4	1059.2	1059.2	1051.5	1033.7	1020.9	1008.1	987.7
40°	964.8	952.0	952.0	952.0	941.8	944.3	939.2	921.4	908.6	893.3	880.5
42.5°	855.0	849.9	847.4	842.2	837.1	837.1	832.0	821.8	809.1	798.9	786.1
45°	763.1	760.6	758.0	755.5	750.4	747.8	745.3	729.9	722.3	712.1	699.3
47.5°	689.1	684.0	681.5	678.9	673.8	671.2	666.1	655.9	648.3	638.1	627.9
50°	620.2	617.6	615.1	615.1	610.0	607.4	602.3	594.7	581.9	576.8	564.0
52.5°	566.6	561.5	556.4	556.4	551.3	551.3	543.6	536.0	523.2	518.1	507.9
55°	510.5	507.9	505.3	505.3	500.2	497.7	495.1	484.9	474.7	467.1	456.9
57.5°	462.0	459.4	456.9	456.9	451.7	449.2	446.6	439.0	428.8	423.7	410.9
60°	416.0	416.0	413.5	410.9	408.4	405.8	403.3	395.6	387.9	380.3	370.1
62.5°	375.2	372.6	370.1	367.5	367.5	365.0	362.4	352.2	347.1	339.5	329.2
65°	336.9	331.8	331.8	329.2	329.2	326.7	324.1	313.9	308.8	301.2	291.0
67.5°	296.1	293.5	291.0	291.0	288.4	288.4	285.9	278.2	270.5	265.4	255.2
70°	257.8	257.8	255.2	255.2	252.7	250.1	250.1	245.0	237.4	229.7	219.5
72.5°	224.6	222.0	219.5	219.5	216.9	216.9	214.4	209.3	204.2	199.1	186.3
75°	188.9	186.3	186.3	186.3	183.8	183.8	181.2	176.1	171.0	165.9	158.2
77.5°	155.7	155.7	153.1	153.1	150.6	150.6	150.6	145.5	140.4	135.3	125.1
80°	122.5	122.5	122.5	120.0	117.4	117.4	117.4	112.3	107.2	102.1	94.4
82.5°	89.3	86.8	86.8	84.2	81.7	81.7	81.7	76.6	74.0	66.4	61.3
85°	53.6	51.0	51.0	48.5	45.9	45.9	45.9	43.4	38.3	35.7	30.6
87.5°	20.4	20.4	20.4	20.4	20.4	17.9	17.9	15.3	15.3	12.8	12.8
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°	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6
2.5°	1748.3	1745.7	1745.7	1743.2	1745.7	1740.6	1740.6	1740.6	1740.6	1735.5	1735.5
5°	1743.2	1743.2	1740.6	1738.1	1740.6	1735.5	1738.1	1735.5	1735.5	1727.9	1727.9
7.5°	1733.0	1730.4	1725.3	1722.8	1725.3	1722.8	1722.8	1722.8	1727.9	1722.8	1722.8
10°	1715.1	1712.6	1707.5	1704.9	1704.9	1702.4	1707.5	1712.6	1722.8	1727.9	1738.1
12.5°	1697.3	1692.1	1689.6	1689.6	1692.1	1692.1	1702.4	1715.1	1740.6	1748.3	1758.5
15°	1674.3	1671.7	1671.7	1679.4	1689.6	1697.3	1717.7	1725.3	1727.9	1717.7	1712.6
17.5°	1643.7	1643.7	1646.2	1653.9	1661.5	1661.5	1664.1	1659.0	1653.9	1641.1	1625.8
20°	1592.6	1590.1	1585.0	1585.0	1585.0	1574.7	1579.8	1562.0	1549.2	1533.9	1510.9
22.5°	1528.8	1516.0	1498.2	1485.4	1477.8	1472.7	1459.9	1439.5	1424.2	1414.0	1403.7
25°	1459.9	1439.5	1414.0	1393.5	1380.8	1378.2	1360.4	1342.5	1332.3	1319.5	1314.4
27.5°	1380.8	1357.8	1327.2	1306.8	1296.5	1288.9	1273.6	1255.7	1243.0	1232.7	1225.1
30°	1288.9	1265.9	1240.4	1214.9	1204.7	1191.9	1176.6	1163.8	1151.1	1143.4	1138.3
32.5°	1186.8	1163.8	1138.3	1120.4	1107.7	1097.5	1084.7	1071.9	1061.7	1056.6	1051.5
35°	1082.2	1059.2	1038.8	1020.9	1010.7	1003.0	992.8	977.5	969.9	967.3	962.2
37.5°	969.9	954.5	936.7	921.4	913.7	903.5	898.4	885.6	885.6	875.4	875.4
40°	865.2	855.0	837.1	824.4	819.3	811.6	804.0	798.9	796.3	793.8	791.2
42.5°	773.3	758.0	747.8	737.6	729.9	724.8	724.8	717.2	714.6	707.0	704.4
45°	689.1	681.5	663.6	655.9	653.4	645.7	643.2	638.1	630.4	625.3	622.8
47.5°	615.1	607.4	597.2	587.0	581.9	576.8	571.7	564.0	558.9	551.3	548.7
50°	553.8	541.1	530.9	523.2	515.6	513.0	507.9	497.7	492.6	484.9	484.9
52.5°	497.7	487.5	474.7	467.1	459.4	454.3	446.6	439.0	431.3	428.8	421.1
55°	449.2	436.4	423.7	413.5	405.8	398.2	395.6	385.4	375.2	370.1	365.0
57.5°	403.3	390.5	375.2	362.4	357.3	352.2	344.6	334.3	326.7	319.0	313.9
60°	357.3	347.1	331.8	319.0	313.9	306.3	298.6	288.4	280.7	273.1	268.0
62.5°	319.0	303.7	291.0	278.2	270.5	265.4	255.2	247.6	237.4	229.7	222.0
65°	280.7	265.4	252.7	239.9	234.8	227.2	219.5	209.3	199.1	191.4	181.2
67.5°	242.5	229.7	216.9	204.2	199.1	194.0	183.8	173.6	163.3	155.7	145.5
70°	209.3	196.5	183.8	173.6	168.4	163.3	153.1	142.9	135.3	125.1	117.4
72.5°	178.7	168.4	155.7	145.5	140.4	135.3	125.1	117.4	107.2	102.1	94.4
75°	148.0	137.8	127.6	117.4	112.3	107.2	99.5	91.9	84.2	76.6	71.5
77.5°	117.4	107.2	97.0	89.3	84.2	81.7	74.0	66.4	58.7	53.6	45.9
80°	86.8	76.6	68.9	61.3	56.1	53.6	45.9	40.8	35.7	28.1	25.5
82.5°	53.6	45.9	40.8	35.7	33.2	30.6	25.5	20.4	17.9	15.3	12.8
85°	28.1	25.5	20.4	17.9	15.3	15.3	12.8	10.2	7.7	7.7	5.1
87.5°	10.2	7.7	7.7	5.1	5.1	5.1	5.1	2.6	2.6	2.6	2.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6
2.5°	1730.4	1733.0	1735.5	1738.1	1735.5	1735.5	1740.6	1730.4	1738.1	1738.1	1727.9
5°	1725.3	1730.4	1727.9	1733.0	1727.9	1727.9	1730.4	1725.3	1730.4	1730.4	1722.8
7.5°	1720.2	1725.3	1725.3	1727.9	1725.3	1725.3	1727.9	1720.2	1725.3	1725.3	1717.7
10°	1743.2	1748.3	1745.7	1743.2	1735.5	1730.4	1733.0	1720.2	1725.3	1725.3	1717.7
12.5°	1750.8	1748.3	1738.1	1733.0	1727.9	1722.8	1725.3	1715.1	1720.2	1720.2	1715.1
15°	1699.8	1694.7	1687.0	1689.6	1684.5	1681.9	1687.0	1681.9	1692.1	1697.3	1692.1
17.5°	1613.0	1610.5	1605.4	1605.4	1605.4	1607.9	1615.6	1615.6	1630.9	1641.1	1646.2
20°	1500.7	1498.2	1500.7	1505.8	1508.4	1518.6	1536.5	1546.7	1567.1	1585.0	1597.7
22.5°	1398.6	1403.7	1411.4	1421.6	1424.2	1436.9	1459.9	1470.1	1495.6	1516.0	1528.8
25°	1311.9	1319.5	1324.6	1332.3	1334.8	1350.1	1370.6	1383.3	1411.4	1426.7	1442.0
27.5°	1225.1	1235.3	1237.8	1248.1	1248.1	1263.4	1281.2	1294.0	1311.9	1327.2	1339.9
30°	1140.9	1143.4	1151.1	1153.6	1158.7	1174.0	1184.2	1191.9	1212.3	1220.0	1227.6
32.5°	1049.0	1059.2	1064.3	1066.8	1064.3	1077.1	1087.3	1092.4	1100.0	1110.2	1115.3
35°	962.2	967.3	969.9	975.0	977.5	980.1	985.2	987.7	997.9	1000.5	1003.0
37.5°	875.4	883.1	880.5	883.1	883.1	885.6	890.7	888.2	895.8	898.4	895.8
40°	788.6	788.6	793.8	791.2	793.8	791.2	796.3	796.3	796.3	798.9	796.3
42.5°	701.9	704.4	701.9	707.0	701.9	704.4	704.4	701.9	704.4	701.9	701.9
45°	622.8	622.8	622.8	622.8	617.6	617.6	622.8	620.2	617.6	615.1	612.5
47.5°	546.2	548.7	543.6	546.2	543.6	541.1	538.5	538.5	536.0	530.9	528.3
50°	482.4	477.3	474.7	477.3	474.7	472.2	469.6	464.5	462.0	456.9	454.3
52.5°	418.6	413.5	408.4	408.4	405.8	400.7	398.2	393.0	390.5	385.4	385.4
55°	362.4	357.3	352.2	349.7	344.6	339.5	336.9	331.8	329.2	324.1	319.0
57.5°	308.8	301.2	296.1	293.5	291.0	283.3	280.7	275.6	270.5	265.4	262.9
60°	260.3	252.7	245.0	242.5	239.9	232.3	229.7	222.0	219.5	214.4	211.8
62.5°	214.4	209.3	199.1	196.5	191.4	186.3	178.7	176.1	173.6	176.1	176.1
65°	173.6	165.9	158.2	155.7	150.6	145.5	142.9	140.4	142.9	142.9	145.5
67.5°	137.8	130.2	122.5	122.5	120.0	114.9	114.9	114.9	117.4	117.4	120.0
70°	109.7	104.6	99.5	97.0	97.0	94.4	97.0	97.0	99.5	99.5	99.5
72.5°	86.8	84.2	81.7	79.1	79.1	79.1	79.1	79.1	79.1	79.1	81.7
75°	66.4	63.8	61.3	61.3	58.7	58.7	58.7	58.7	58.7	58.7	56.1
77.5°	43.4	40.8	38.3	38.3	35.7	33.2	33.2	30.6	30.6	30.6	30.6
80°	23.0	20.4	17.9	15.3	15.3	12.8	12.8	12.8	12.8	10.2	10.2
82.5°	10.2	7.7	7.7	7.7	7.7	5.1	5.1	5.1	5.1	5.1	5.1
85°	5.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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: P251712

CATALOG NUMBER: LD4B40D010 EU4B30508027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6	1740.6
2.5°	1733.0	1727.9	1733.0	1735.5	1730.4	1727.9	1733.0	1722.8
5°	1730.4	1722.8	1725.3	1727.9	1722.8	1720.2	1725.3	1717.7
7.5°	1725.3	1722.8	1725.3	1727.9	1720.2	1720.2	1725.3	1717.7
10°	1725.3	1720.2	1722.8	1727.9	1722.8	1722.8	1727.9	1717.7
12.5°	1722.8	1715.1	1722.8	1725.3	1720.2	1720.2	1725.3	1715.1
15°	1704.9	1704.9	1707.5	1712.6	1710.0	1712.6	1720.2	1712.6
17.5°	1666.6	1671.7	1681.9	1689.6	1694.7	1699.8	1707.5	1702.4
20°	1620.7	1628.3	1641.1	1648.8	1659.0	1661.5	1674.3	1664.1
22.5°	1549.2	1564.5	1574.7	1582.4	1590.1	1597.7	1607.9	1605.4
25°	1462.4	1472.7	1480.3	1488.0	1498.2	1503.3	1508.4	1505.8
27.5°	1357.8	1362.9	1373.1	1378.2	1383.3	1388.4	1398.6	1385.9
30°	1243.0	1245.5	1250.6	1258.3	1258.3	1263.4	1268.5	1265.9
32.5°	1125.5	1125.5	1130.7	1135.8	1133.2	1135.8	1146.0	1133.2
35°	1010.7	1008.1	1015.8	1018.4	1018.4	1015.8	1023.5	1020.9
37.5°	898.4	900.9	903.5	906.1	900.9	906.1	906.1	900.9
40°	796.3	793.8	798.9	801.4	798.9	801.4	801.4	791.2
42.5°	704.4	699.3	701.9	704.4	701.9	704.4	701.9	696.8
45°	615.1	612.5	612.5	615.1	610.0	610.0	610.0	610.0
47.5°	530.9	528.3	530.9	530.9	525.8	525.8	528.3	525.8
50°	454.3	451.7	451.7	451.7	449.2	449.2	451.7	451.7
52.5°	385.4	380.3	380.3	380.3	380.3	380.3	382.8	377.7
55°	316.5	316.5	316.5	316.5	319.0	319.0	319.0	319.0
57.5°	260.3	262.9	262.9	265.4	262.9	265.4	265.4	262.9
60°	216.9	214.4	216.9	216.9	219.5	219.5	219.5	219.5
62.5°	178.7	178.7	178.7	181.2	181.2	181.2	183.8	181.2
65°	148.0	148.0	150.6	150.6	150.6	153.1	153.1	153.1
67.5°	122.5	122.5	122.5	122.5	125.1	125.1	127.6	125.1
70°	102.1	102.1	102.1	102.1	102.1	104.6	104.6	104.6
72.5°	81.7	81.7	81.7	81.7	84.2	84.2	84.2	84.2
75°	56.1	56.1	56.1	58.7	56.1	56.1	56.1	56.1
77.5°	28.1	28.1	28.1	28.1	28.1	25.5	25.5	25.5
80°	10.2	10.2	10.2	10.2	10.2	10.2	7.7	10.2
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	2.6
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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)