

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: P251792

Luminaire Tested: **LD4B40D010 EU4B30508035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251792
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 EU4B30508035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3203.0 lumens
Efficiency: N/A
Efficacy: 74.5 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

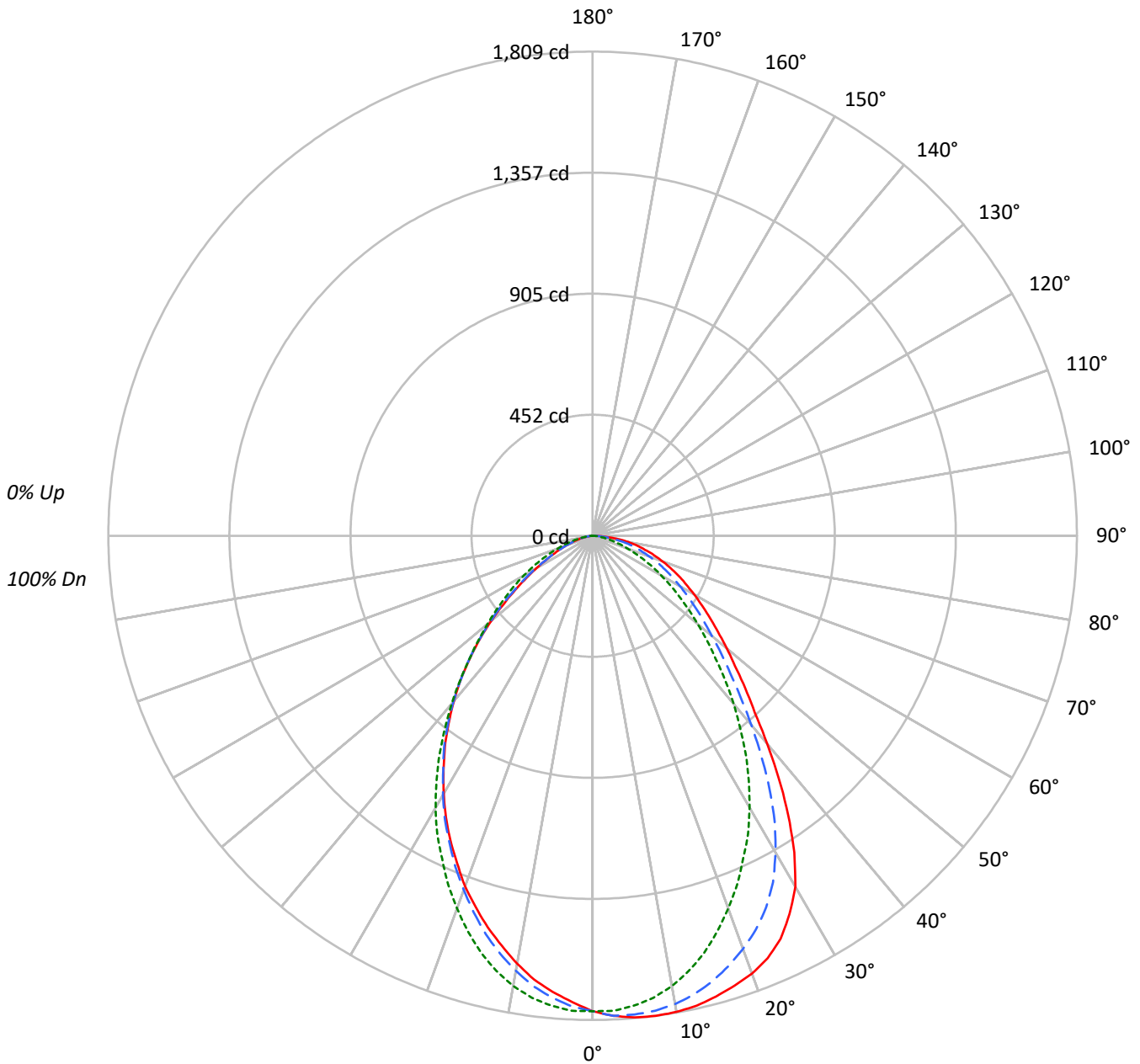
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	104	101	98	100	98	95	96	94	92	93	91	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	173125	173125	173125
5°	176721	172446	167368
10°	178764	169026	160644
15°	179777	162685	152757
20°	180543	153619	144555
25°	178677	143116	135180
30°	170378	131936	125173
35°	151514	118677	114453
40°	128991	104310	102567
45°	111116	89642	89270
50°	99037	77477	74990
55°	91005	66861	59894
60°	85237	57520	46877
65°	81934	48519	36551
70°	78646	38924	29578
75°	76138	30877	22631
80°	76665	21495	13806
85°	64185	15319	6150



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.3	5.2
10°-20°	457.2	14.3
20°-30°	639.3	20.0
30°-40°	657.1	20.5
40°-50°	533.4	16.7
50°-60°	375.6	11.7
60°-70°	231.2	7.2
70°-80°	115.5	3.6
80°-90°	27.4	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°	1262.8	39.4
0°-40°	1919.9	59.9
0°-60°	2828.9	88.3
0°-90°	3203.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3203.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1776	1776	1776	1776	1776	
5°	1806	1796	1763	1733	1711	172
15°	1782	1724	1612	1541	1514	503
25°	1662	1533	1331	1265	1257	760
35°	1274	1150	998	967	962	792
45°	806	727	650	650	648	627
55°	536	470	394	361	352	481
65°	355	298	210	161	158	351
75°	202	158	82	60	60	216
85°	57	38	14	8	6	67
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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1795.5	1798.2	1790.0	1798.2	1787.3	1792.8	1795.5	1790.0	1784.6	1795.5	1795.5
5°	1806.4	1806.4	1798.2	1809.2	1795.5	1798.2	1803.7	1795.5	1787.3	1798.2	1795.5
7.5°	1809.2	1809.2	1798.2	1809.2	1795.5	1798.2	1801.0	1792.8	1784.6	1792.8	1790.0
10°	1806.4	1803.7	1795.5	1806.4	1792.8	1792.8	1795.5	1787.3	1773.6	1781.8	1776.4
12.5°	1798.2	1798.2	1787.3	1798.2	1779.1	1779.1	1781.8	1770.9	1760.0	1760.0	1754.5
15°	1781.8	1781.8	1770.9	1779.1	1762.7	1762.7	1760.0	1749.0	1735.4	1735.4	1724.4
17.5°	1762.7	1762.7	1751.8	1760.0	1740.8	1740.8	1738.1	1721.7	1702.6	1699.8	1686.2
20°	1740.8	1740.8	1727.2	1732.6	1710.8	1710.8	1708.0	1688.9	1667.0	1661.6	1642.5
22.5°	1708.0	1708.0	1694.4	1697.1	1675.2	1672.5	1669.8	1647.9	1626.1	1617.9	1593.3
25°	1661.6	1658.8	1647.9	1647.9	1626.1	1620.6	1615.1	1593.3	1571.4	1555.0	1533.1
27.5°	1593.3	1596.0	1582.3	1585.1	1557.7	1552.3	1549.5	1522.2	1497.6	1481.2	1459.3
30°	1514.0	1505.8	1492.1	1492.1	1470.3	1467.5	1462.1	1437.5	1410.2	1391.0	1366.4
32.5°	1402.0	1399.2	1385.6	1385.6	1361.0	1361.0	1350.0	1325.4	1300.8	1289.9	1265.3
35°	1273.5	1270.8	1259.9	1259.9	1238.0	1240.7	1229.8	1210.7	1186.1	1169.7	1150.5
37.5°	1142.3	1139.6	1128.7	1131.4	1112.3	1112.3	1104.1	1084.9	1065.8	1057.6	1033.0
40°	1013.9	1011.2	997.5	1005.7	989.3	983.8	981.1	967.4	945.6	934.6	921.0
42.5°	896.4	899.1	885.4	890.9	877.2	871.8	869.1	858.1	841.7	830.8	817.1
45°	806.2	800.7	795.3	795.3	781.6	778.9	776.1	762.5	751.5	740.6	726.9
47.5°	721.5	716.0	710.5	713.3	702.3	699.6	694.1	683.2	669.6	664.1	650.4
50°	653.2	650.4	642.2	642.2	631.3	628.6	623.1	614.9	601.2	593.0	582.1
52.5°	590.3	590.3	582.1	579.4	571.2	568.4	565.7	554.8	543.8	532.9	522.0
55°	535.6	532.9	527.4	527.4	516.5	513.8	511.0	500.1	489.2	481.0	470.1
57.5°	483.7	483.7	478.3	478.3	470.1	464.6	464.6	453.7	440.0	434.5	420.9
60°	437.3	437.3	431.8	431.8	423.6	423.6	418.1	407.2	399.0	388.1	377.1
62.5°	393.5	396.3	390.8	388.1	379.9	377.1	377.1	368.9	355.3	347.1	336.1
65°	355.3	352.5	349.8	347.1	338.9	336.1	336.1	325.2	317.0	306.1	297.9
67.5°	314.3	314.3	308.8	308.8	303.3	300.6	295.1	287.0	278.8	270.6	262.4
70°	276.0	276.0	273.3	273.3	265.1	262.4	259.6	251.4	243.2	235.0	224.1
72.5°	240.5	237.8	235.0	235.0	229.6	226.8	224.1	215.9	207.7	199.5	191.3
75°	202.2	202.2	199.5	199.5	194.0	191.3	191.3	185.8	174.9	169.4	158.5
77.5°	169.4	169.4	166.7	166.7	161.2	161.2	158.5	150.3	144.8	136.6	131.2
80°	136.6	133.9	133.9	131.2	125.7	125.7	123.0	120.2	112.0	106.6	98.4
82.5°	95.7	95.7	95.7	92.9	90.2	90.2	87.5	82.0	76.5	73.8	65.6
85°	57.4	57.4	54.7	51.9	54.7	51.9	49.2	46.5	43.7	41.0	38.3
87.5°	24.6	24.6	21.9	21.9	21.9	21.9	21.9	19.1	16.4	16.4	13.7
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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1779.1	1787.3	1784.6	1781.8	1776.4	1776.4	1776.4	1773.6	1776.4	1776.4	1770.9
5°	1779.1	1784.6	1781.8	1776.4	1770.9	1770.9	1768.2	1762.7	1762.7	1762.7	1751.8
7.5°	1770.9	1776.4	1768.2	1762.7	1757.2	1751.8	1751.8	1743.6	1743.6	1740.8	1729.9
10°	1754.5	1757.2	1746.3	1740.8	1732.6	1729.9	1724.4	1713.5	1710.8	1708.0	1697.1
12.5°	1729.9	1732.6	1719.0	1708.0	1697.1	1694.4	1688.9	1675.2	1669.8	1664.3	1650.7
15°	1694.4	1694.4	1678.0	1664.3	1653.4	1650.7	1637.0	1623.3	1617.9	1612.4	1593.3
17.5°	1653.4	1650.7	1628.8	1615.1	1601.5	1596.0	1582.3	1565.9	1555.0	1549.5	1533.1
20°	1609.7	1601.5	1576.9	1563.2	1546.8	1538.6	1524.9	1503.1	1492.1	1481.2	1464.8
22.5°	1557.7	1546.8	1519.5	1500.3	1483.9	1475.7	1456.6	1437.5	1421.1	1410.2	1391.0
25°	1494.9	1481.2	1451.2	1426.6	1412.9	1404.7	1385.6	1363.7	1347.3	1330.9	1314.5
27.5°	1421.1	1404.7	1374.6	1350.0	1336.4	1322.7	1309.0	1284.4	1270.8	1257.1	1238.0
30°	1330.9	1311.8	1284.4	1262.6	1246.2	1235.3	1218.9	1197.0	1180.6	1172.4	1153.3
32.5°	1232.5	1210.7	1186.1	1164.2	1156.0	1142.3	1128.7	1106.8	1093.1	1084.9	1071.3
35°	1123.2	1106.8	1079.5	1063.1	1049.4	1044.0	1033.0	1011.2	1005.7	997.5	981.1
37.5°	1008.4	994.8	975.6	962.0	951.0	945.6	934.6	921.0	912.8	904.6	896.4
40°	901.8	890.9	874.5	863.6	849.9	841.7	841.7	825.3	819.9	819.9	811.7
42.5°	798.0	792.5	778.9	762.5	759.7	751.5	748.8	740.6	735.1	732.4	729.7
45°	710.5	702.3	688.7	680.5	672.3	672.3	664.1	655.9	653.2	650.4	647.7
47.5°	634.0	623.1	612.2	604.0	598.5	595.8	587.6	582.1	579.4	579.4	576.6
50°	565.7	557.5	546.6	538.4	532.9	527.4	522.0	516.5	513.8	511.0	511.0
52.5°	508.3	497.4	486.4	478.3	470.1	467.3	461.9	456.4	453.7	450.9	448.2
55°	456.4	448.2	434.5	426.3	418.1	418.1	409.9	401.7	396.3	393.5	390.8
57.5°	407.2	399.0	385.3	377.1	371.7	366.2	360.7	355.3	349.8	344.3	338.9
60°	363.5	355.3	341.6	330.7	327.9	322.5	317.0	306.1	300.6	295.1	289.7
62.5°	322.5	311.5	300.6	289.7	287.0	281.5	273.3	265.1	256.9	251.4	243.2
65°	284.2	276.0	262.4	254.2	246.0	243.2	235.0	224.1	215.9	210.4	202.2
67.5°	248.7	237.8	224.1	215.9	210.4	205.0	196.8	188.6	180.4	172.2	164.0
70°	213.2	205.0	191.3	183.1	177.6	172.2	164.0	153.0	144.8	136.6	131.2
72.5°	180.4	169.4	158.5	150.3	144.8	139.4	131.2	123.0	114.8	109.3	101.1
75°	150.3	139.4	131.2	120.2	117.5	112.0	103.8	95.7	87.5	82.0	76.5
77.5°	120.2	112.0	101.1	95.7	90.2	84.7	79.3	71.1	65.6	57.4	51.9
80°	90.2	82.0	73.8	68.3	62.9	60.1	54.7	49.2	43.7	38.3	35.5
82.5°	60.1	54.7	46.5	43.7	41.0	38.3	32.8	30.1	27.3	24.6	21.9
85°	32.8	30.1	27.3	21.9	21.9	19.1	16.4	16.4	13.7	13.7	10.9
87.5°	13.7	10.9	10.9	8.2	8.2	8.2	5.5	5.5	5.5	2.7	2.7
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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1773.6	1762.7	1762.7	1762.7	1754.5	1757.2	1760.0	1762.7	1760.0	1751.8	1760.0
5°	1754.5	1743.6	1743.6	1738.1	1732.6	1732.6	1732.6	1735.4	1732.6	1724.4	1727.2
7.5°	1729.9	1716.2	1713.5	1708.0	1702.6	1699.8	1699.8	1699.8	1697.1	1686.2	1691.6
10°	1691.6	1678.0	1672.5	1669.8	1661.6	1658.8	1656.1	1653.4	1650.7	1639.7	1645.2
12.5°	1645.2	1634.3	1623.3	1620.6	1612.4	1606.9	1604.2	1604.2	1598.7	1587.8	1593.3
15°	1590.5	1574.1	1565.9	1560.5	1552.3	1546.8	1541.3	1544.1	1541.3	1530.4	1533.1
17.5°	1524.9	1508.5	1500.3	1497.6	1486.7	1481.2	1478.5	1478.5	1475.7	1464.8	1467.5
20°	1453.9	1437.5	1432.0	1426.6	1421.1	1415.6	1412.9	1410.2	1407.4	1396.5	1404.7
22.5°	1382.8	1363.7	1355.5	1355.5	1344.6	1341.8	1339.1	1341.8	1339.1	1328.2	1333.6
25°	1309.0	1289.9	1284.4	1276.2	1270.8	1268.0	1268.0	1268.0	1265.3	1259.9	1265.3
27.5°	1227.1	1213.4	1205.2	1202.5	1197.0	1194.3	1191.5	1194.3	1194.3	1186.1	1191.5
30°	1145.1	1134.1	1128.7	1125.9	1117.7	1115.0	1117.7	1117.7	1117.7	1109.5	1117.7
32.5°	1063.1	1054.9	1052.2	1044.0	1038.5	1038.5	1038.5	1041.2	1038.5	1033.0	1041.2
35°	981.1	970.2	967.4	964.7	964.7	959.2	964.7	962.0	967.4	959.2	964.7
37.5°	893.6	888.2	885.4	885.4	880.0	882.7	882.7	882.7	888.2	880.0	885.4
40°	811.7	806.2	806.2	806.2	803.5	803.5	803.5	806.2	808.9	803.5	808.9
42.5°	729.7	726.9	726.9	724.2	721.5	724.2	726.9	726.9	729.7	724.2	726.9
45°	650.4	647.7	650.4	647.7	647.7	645.0	647.7	650.4	650.4	647.7	647.7
47.5°	576.6	576.6	573.9	573.9	573.9	573.9	573.9	573.9	573.9	568.4	573.9
50°	511.0	505.6	508.3	505.6	505.6	502.8	502.8	500.1	497.4	494.6	494.6
52.5°	448.2	442.7	442.7	440.0	437.3	437.3	434.5	431.8	429.1	423.6	423.6
55°	388.1	382.6	379.9	377.1	374.4	371.7	368.9	366.2	360.7	358.0	358.0
57.5°	333.4	327.9	322.5	322.5	317.0	314.3	308.8	303.3	300.6	295.1	295.1
60°	284.2	278.8	270.6	267.8	265.1	259.6	251.4	248.7	246.0	240.5	243.2
62.5°	237.8	229.6	221.4	218.6	215.9	210.4	205.0	199.5	196.8	199.5	199.5
65°	194.0	185.8	180.4	174.9	172.2	166.7	164.0	161.2	161.2	161.2	164.0
67.5°	155.8	147.6	142.1	139.4	133.9	131.2	131.2	131.2	131.2	131.2	131.2
70°	123.0	117.5	112.0	106.6	106.6	103.8	103.8	103.8	103.8	103.8	103.8
72.5°	92.9	87.5	84.7	84.7	82.0	82.0	82.0	82.0	79.3	79.3	82.0
75°	68.3	65.6	62.9	62.9	62.9	60.1	60.1	60.1	60.1	60.1	60.1
77.5°	49.2	46.5	46.5	43.7	43.7	43.7	43.7	43.7	43.7	41.0	41.0
80°	32.8	30.1	30.1	30.1	30.1	27.3	27.3	27.3	27.3	27.3	27.3
82.5°	19.1	19.1	19.1	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
85°	10.9	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
87.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	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: P251792

CATALOG NUMBER: LD4B40D010 EU4B30508035 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1743.6	1754.5	1757.2	1749.0	1751.8	1746.3	1749.0	1743.6
5°	1713.5	1721.7	1724.4	1719.0	1719.0	1713.5	1716.2	1710.8
7.5°	1675.2	1683.4	1686.2	1680.7	1680.7	1675.2	1675.2	1672.5
10°	1631.5	1634.3	1639.7	1631.5	1634.3	1628.8	1628.8	1623.3
12.5°	1576.9	1582.3	1587.8	1579.6	1579.6	1576.9	1576.9	1568.7
15°	1519.5	1524.9	1527.7	1522.2	1522.2	1519.5	1516.7	1514.0
17.5°	1459.3	1462.1	1467.5	1459.3	1464.8	1459.3	1459.3	1453.9
20°	1391.0	1399.2	1402.0	1393.8	1396.5	1393.8	1393.8	1393.8
22.5°	1325.4	1330.9	1333.6	1328.2	1330.9	1325.4	1328.2	1322.7
25°	1257.1	1259.9	1262.6	1257.1	1262.6	1259.9	1257.1	1257.1
27.5°	1186.1	1188.8	1191.5	1186.1	1191.5	1188.8	1191.5	1186.1
30°	1109.5	1115.0	1120.5	1115.0	1117.7	1115.0	1115.0	1112.3
32.5°	1033.0	1038.5	1044.0	1038.5	1044.0	1038.5	1041.2	1035.8
35°	962.0	964.7	967.4	962.0	964.7	964.7	964.7	962.0
37.5°	882.7	888.2	888.2	885.4	890.9	888.2	888.2	882.7
40°	806.2	808.9	811.7	806.2	808.9	806.2	808.9	806.2
42.5°	726.9	732.4	735.1	729.7	729.7	729.7	726.9	729.7
45°	645.0	650.4	655.9	647.7	650.4	650.4	650.4	647.7
47.5°	571.2	571.2	573.9	571.2	573.9	568.4	573.9	571.2
50°	494.6	494.6	500.1	494.6	494.6	494.6	494.6	494.6
52.5°	420.9	423.6	423.6	418.1	420.9	418.1	420.9	418.1
55°	352.5	352.5	355.3	352.5	352.5	352.5	352.5	352.5
57.5°	292.4	295.1	295.1	292.4	295.1	292.4	292.4	292.4
60°	243.2	243.2	243.2	240.5	243.2	240.5	243.2	240.5
62.5°	196.8	199.5	199.5	196.8	199.5	196.8	196.8	196.8
65°	161.2	161.2	161.2	161.2	161.2	161.2	161.2	158.5
67.5°	128.4	128.4	131.2	128.4	131.2	131.2	131.2	131.2
70°	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8
72.5°	79.3	79.3	82.0	79.3	79.3	79.3	79.3	79.3
75°	60.1	60.1	60.1	60.1	60.1	57.4	57.4	60.1
77.5°	41.0	41.0	41.0	41.0	41.0	41.0	41.0	43.7
80°	27.3	27.3	27.3	27.3	24.6	24.6	27.3	24.6
82.5°	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
85°	8.2	8.2	5.5	5.5	5.5	5.5	5.5	5.5
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)