

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: P251791

Luminaire Tested: **LD4B40D010 EU4B30508030 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251791
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 EU4B30508030 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3126.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

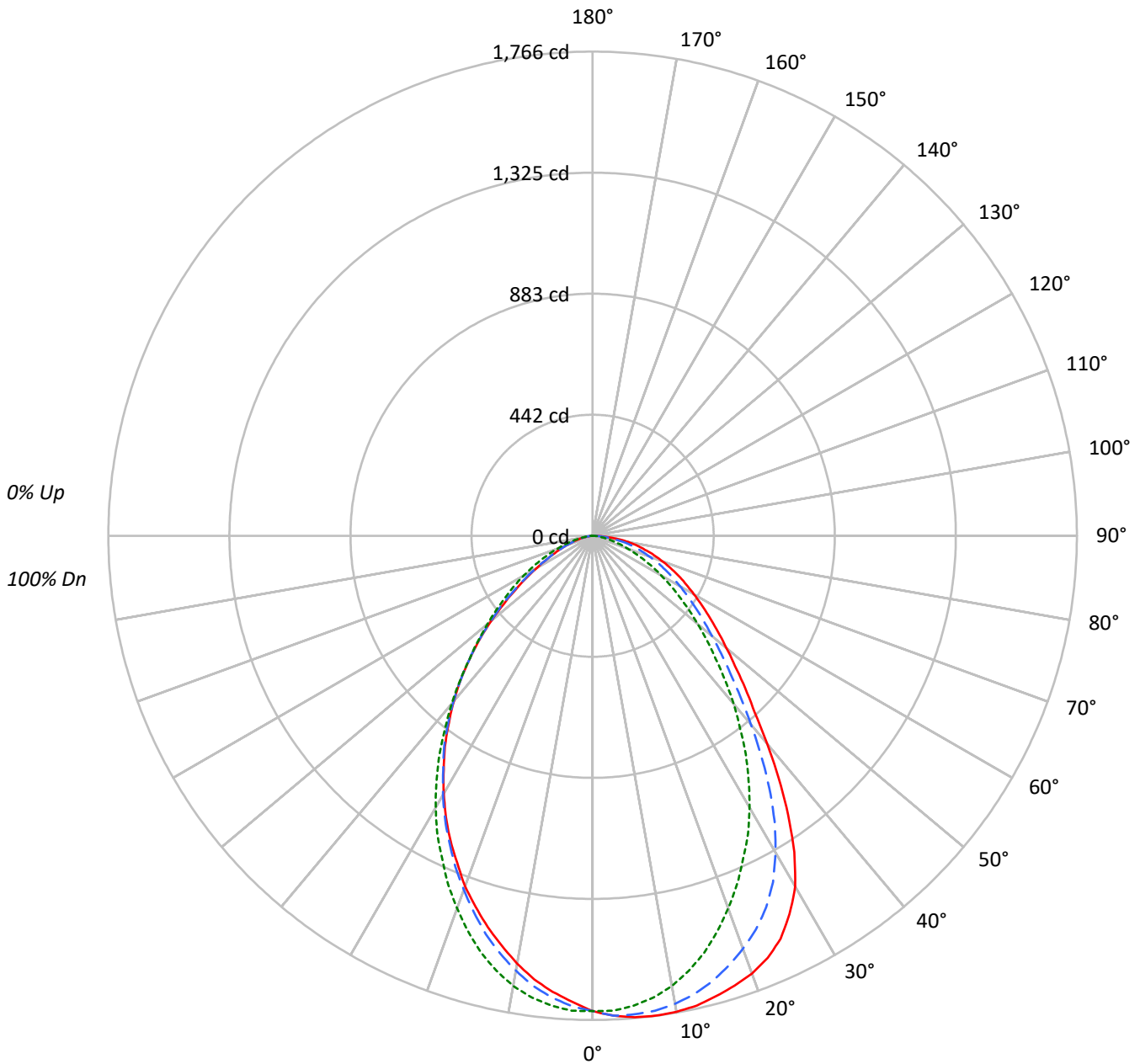
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

Luminous Intensity Polar Plot





TEST NUMBER: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	168963	168963	168963
5°	172475	168298	163338
10°	174469	164969	156785
15°	175458	158770	149084
20°	176208	149927	141080
25°	174376	139675	131932
30°	166282	128762	122157
35°	147873	115822	111693
40°	125887	101791	100099
45°	108442	87492	87120
50°	96656	75627	73201
55°	88831	65264	58467
60°	83171	56155	45747
65°	79951	47366	35675
70°	76765	38012	28894
75°	74331	30124	22103
80°	74869	20934	13470
85°	62620	14872	5926



TEST NUMBER: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	5.2
10°-20°	446.2	14.3
20°-30°	624.0	20.0
30°-40°	641.3	20.5
40°-50°	520.6	16.7
50°-60°	366.5	11.7
60°-70°	225.7	7.2
70°-80°	112.7	3.6
80°-90°	26.8	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°	1232.4	39.4
0°-40°	1873.8	59.9
0°-60°	2760.9	88.3
0°-90°	3126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3126.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1734	1734	1734	1734	1734	
5°	1763	1752	1720	1691	1670	168
15°	1739	1683	1574	1504	1478	491
25°	1622	1496	1299	1235	1227	741
35°	1243	1123	974	944	939	773
45°	787	710	635	635	632	612
55°	523	459	384	352	344	470
65°	347	291	205	157	155	343
75°	197	155	80	59	59	211
85°	56	37	13	8	5	65
90°	0	0	0	0	0	



TEST NUMBER: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7
2.5°	1752.3	1755.0	1747.0	1755.0	1744.3	1749.7	1752.3	1747.0	1741.7	1752.3	1752.3
5°	1763.0	1763.0	1755.0	1765.7	1752.3	1755.0	1760.3	1752.3	1744.3	1755.0	1752.3
7.5°	1765.7	1765.7	1755.0	1765.7	1752.3	1755.0	1757.7	1749.7	1741.7	1749.7	1747.0
10°	1763.0	1760.3	1752.3	1763.0	1749.7	1749.7	1752.3	1744.3	1731.0	1739.0	1733.7
12.5°	1755.0	1755.0	1744.3	1755.0	1736.3	1736.3	1739.0	1728.3	1717.7	1717.7	1712.3
15°	1739.0	1739.0	1728.3	1736.3	1720.3	1720.3	1717.7	1707.0	1693.7	1693.7	1683.0
17.5°	1720.3	1720.3	1709.7	1717.7	1699.0	1699.0	1696.3	1680.3	1661.6	1659.0	1645.6
20°	1699.0	1699.0	1685.6	1691.0	1669.6	1669.6	1667.0	1648.3	1627.0	1621.6	1603.0
22.5°	1667.0	1667.0	1653.6	1656.3	1635.0	1632.3	1629.6	1608.3	1587.0	1579.0	1555.0
25°	1621.6	1619.0	1608.3	1608.3	1587.0	1581.6	1576.3	1555.0	1533.6	1517.6	1496.3
27.5°	1555.0	1557.6	1544.3	1547.0	1520.3	1515.0	1512.3	1485.6	1461.6	1445.6	1424.3
30°	1477.6	1469.6	1456.3	1456.3	1434.9	1432.3	1426.9	1402.9	1376.3	1357.6	1333.6
32.5°	1368.3	1365.6	1352.3	1352.3	1328.2	1328.2	1317.6	1293.6	1269.6	1258.9	1234.9
35°	1242.9	1240.2	1229.6	1229.6	1208.2	1210.9	1200.2	1181.6	1157.6	1141.5	1122.9
37.5°	1114.9	1112.2	1101.5	1104.2	1085.5	1085.5	1077.5	1058.9	1040.2	1032.2	1008.2
40°	989.5	986.9	973.5	981.5	965.5	960.2	957.5	944.2	922.8	912.2	898.8
42.5°	874.8	877.5	864.2	869.5	856.2	850.8	848.2	837.5	821.5	810.8	797.5
45°	786.8	781.5	776.1	776.1	762.8	760.1	757.5	744.1	733.5	722.8	709.5
47.5°	704.1	698.8	693.5	696.1	685.5	682.8	677.5	666.8	653.5	648.1	634.8
50°	637.5	634.8	626.8	626.8	616.1	613.4	608.1	600.1	586.8	578.8	568.1
52.5°	576.1	576.1	568.1	565.4	557.4	554.8	552.1	541.4	530.8	520.1	509.4
55°	522.8	520.1	514.8	514.8	504.1	501.4	498.8	488.1	477.4	469.4	458.8
57.5°	472.1	472.1	466.8	466.8	458.8	453.4	453.4	442.7	429.4	424.1	410.7
60°	426.7	426.7	421.4	421.4	413.4	413.4	408.1	397.4	389.4	378.7	368.1
62.5°	384.1	386.7	381.4	378.7	370.7	368.1	368.1	360.1	346.7	338.7	328.1
65°	346.7	344.1	341.4	338.7	330.7	328.1	328.1	317.4	309.4	298.7	290.7
67.5°	306.7	306.7	301.4	301.4	296.1	293.4	288.1	280.1	272.1	264.0	256.0
70°	269.4	269.4	266.7	266.7	258.7	256.0	253.4	245.4	237.4	229.4	218.7
72.5°	234.7	232.0	229.4	229.4	224.0	221.4	218.7	210.7	202.7	194.7	186.7
75°	197.4	197.4	194.7	194.7	189.4	186.7	186.7	181.4	170.7	165.4	154.7
77.5°	165.4	165.4	162.7	162.7	157.4	157.4	154.7	146.7	141.4	133.4	128.0
80°	133.4	130.7	130.7	128.0	122.7	122.7	120.0	117.4	109.4	104.0	96.0
82.5°	93.4	93.4	93.4	90.7	88.0	88.0	85.3	80.0	74.7	72.0	64.0
85°	56.0	56.0	53.3	50.7	53.3	50.7	48.0	45.3	42.7	40.0	37.3
87.5°	24.0	24.0	21.3	21.3	21.3	21.3	21.3	18.7	16.0	16.0	13.3
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: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7
2.5°	1736.3	1744.3	1741.7	1739.0	1733.7	1733.7	1733.7	1731.0	1733.7	1733.7	1728.3
5°	1736.3	1741.7	1739.0	1733.7	1728.3	1728.3	1725.7	1720.3	1720.3	1720.3	1709.7
7.5°	1728.3	1733.7	1725.7	1720.3	1715.0	1709.7	1709.7	1701.7	1701.7	1699.0	1688.3
10°	1712.3	1715.0	1704.3	1699.0	1691.0	1688.3	1683.0	1672.3	1669.6	1667.0	1656.3
12.5°	1688.3	1691.0	1677.6	1667.0	1656.3	1653.6	1648.3	1635.0	1629.6	1624.3	1611.0
15°	1653.6	1653.6	1637.6	1624.3	1613.6	1611.0	1597.6	1584.3	1579.0	1573.6	1555.0
17.5°	1613.6	1611.0	1589.6	1576.3	1563.0	1557.6	1544.3	1528.3	1517.6	1512.3	1496.3
20°	1571.0	1563.0	1539.0	1525.6	1509.6	1501.6	1488.3	1466.9	1456.3	1445.6	1429.6
22.5°	1520.3	1509.6	1482.9	1464.3	1448.3	1440.3	1421.6	1402.9	1386.9	1376.3	1357.6
25°	1458.9	1445.6	1416.3	1392.3	1378.9	1370.9	1352.3	1330.9	1314.9	1298.9	1282.9
27.5°	1386.9	1370.9	1341.6	1317.6	1304.2	1290.9	1277.6	1253.6	1240.2	1226.9	1208.2
30°	1298.9	1280.2	1253.6	1232.2	1216.2	1205.6	1189.6	1168.2	1152.2	1144.2	1125.5
32.5°	1202.9	1181.6	1157.6	1136.2	1128.2	1114.9	1101.5	1080.2	1066.9	1058.9	1045.5
35°	1096.2	1080.2	1053.5	1037.5	1024.2	1018.9	1008.2	986.9	981.5	973.5	957.5
37.5°	984.2	970.8	952.2	938.8	928.2	922.8	912.2	898.8	890.8	882.8	874.8
40°	880.2	869.5	853.5	842.8	829.5	821.5	821.5	805.5	800.1	800.1	792.1
42.5°	778.8	773.5	760.1	744.1	741.5	733.5	730.8	722.8	717.5	714.8	712.1
45°	693.5	685.5	672.1	664.1	656.1	656.1	648.1	640.1	637.5	634.8	632.1
47.5°	618.8	608.1	597.4	589.4	584.1	581.4	573.4	568.1	565.4	565.4	562.8
50°	552.1	544.1	533.4	525.4	520.1	514.8	509.4	504.1	501.4	498.8	498.8
52.5°	496.1	485.4	474.8	466.8	458.8	456.1	450.8	445.4	442.7	440.1	437.4
55°	445.4	437.4	424.1	416.1	408.1	408.1	400.1	392.1	386.7	384.1	381.4
57.5°	397.4	389.4	376.1	368.1	362.7	357.4	352.1	346.7	341.4	336.1	330.7
60°	354.7	346.7	333.4	322.7	320.1	314.7	309.4	298.7	293.4	288.1	282.7
62.5°	314.7	304.1	293.4	282.7	280.1	274.7	266.7	258.7	250.7	245.4	237.4
65°	277.4	269.4	256.0	248.0	240.0	237.4	229.4	218.7	210.7	205.4	197.4
67.5°	242.7	232.0	218.7	210.7	205.4	200.0	192.0	184.0	176.0	168.0	160.0
70°	208.0	200.0	186.7	178.7	173.4	168.0	160.0	149.4	141.4	133.4	128.0
72.5°	176.0	165.4	154.7	146.7	141.4	136.0	128.0	120.0	112.0	106.7	98.7
75°	146.7	136.0	128.0	117.4	114.7	109.4	101.4	93.4	85.3	80.0	74.7
77.5°	117.4	109.4	98.7	93.4	88.0	82.7	77.3	69.3	64.0	56.0	50.7
80°	88.0	80.0	72.0	66.7	61.3	58.7	53.3	48.0	42.7	37.3	34.7
82.5°	58.7	53.3	45.3	42.7	40.0	37.3	32.0	29.3	26.7	24.0	21.3
85°	32.0	29.3	26.7	21.3	21.3	18.7	16.0	16.0	13.3	13.3	10.7
87.5°	13.3	10.7	10.7	8.0	8.0	8.0	5.3	5.3	5.3	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



TEST NUMBER: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7
2.5°	1731.0	1720.3	1720.3	1720.3	1712.3	1715.0	1717.7	1720.3	1717.7	1709.7	1717.7
5°	1712.3	1701.7	1701.7	1696.3	1691.0	1691.0	1691.0	1693.7	1691.0	1683.0	1685.6
7.5°	1688.3	1675.0	1672.3	1667.0	1661.6	1659.0	1659.0	1659.0	1656.3	1645.6	1651.0
10°	1651.0	1637.6	1632.3	1629.6	1621.6	1619.0	1616.3	1613.6	1611.0	1600.3	1605.6
12.5°	1605.6	1595.0	1584.3	1581.6	1573.6	1568.3	1565.6	1565.6	1560.3	1549.6	1555.0
15°	1552.3	1536.3	1528.3	1523.0	1515.0	1509.6	1504.3	1506.9	1504.3	1493.6	1496.3
17.5°	1488.3	1472.3	1464.3	1461.6	1450.9	1445.6	1442.9	1442.9	1440.3	1429.6	1432.3
20°	1418.9	1402.9	1397.6	1392.3	1386.9	1381.6	1378.9	1376.3	1373.6	1362.9	1370.9
22.5°	1349.6	1330.9	1322.9	1322.9	1312.2	1309.6	1306.9	1309.6	1306.9	1296.2	1301.6
25°	1277.6	1258.9	1253.6	1245.6	1240.2	1237.6	1237.6	1237.6	1234.9	1229.6	1234.9
27.5°	1197.6	1184.2	1176.2	1173.6	1168.2	1165.6	1162.9	1165.6	1165.6	1157.6	1162.9
30°	1117.5	1106.9	1101.5	1098.9	1090.9	1088.2	1090.9	1090.9	1090.9	1082.9	1090.9
32.5°	1037.5	1029.5	1026.9	1018.9	1013.5	1013.5	1013.5	1016.2	1013.5	1008.2	1016.2
35°	957.5	946.8	944.2	941.5	941.5	936.2	941.5	938.8	944.2	936.2	941.5
37.5°	872.2	866.8	864.2	864.2	858.8	861.5	861.5	861.5	866.8	858.8	864.2
40°	792.1	786.8	786.8	786.8	784.1	784.1	784.1	786.8	789.5	784.1	789.5
42.5°	712.1	709.5	709.5	706.8	704.1	706.8	709.5	709.5	712.1	706.8	709.5
45°	634.8	632.1	634.8	632.1	632.1	629.5	632.1	634.8	634.8	632.1	632.1
47.5°	562.8	562.8	560.1	560.1	560.1	560.1	560.1	560.1	560.1	554.8	560.1
50°	498.8	493.4	496.1	493.4	493.4	490.8	490.8	488.1	485.4	482.8	482.8
52.5°	437.4	432.1	432.1	429.4	426.7	426.7	424.1	421.4	418.7	413.4	413.4
55°	378.7	373.4	370.7	368.1	365.4	362.7	360.1	357.4	352.1	349.4	349.4
57.5°	325.4	320.1	314.7	314.7	309.4	306.7	301.4	296.1	293.4	288.1	288.1
60°	277.4	272.1	264.0	261.4	258.7	253.4	245.4	242.7	240.0	234.7	237.4
62.5°	232.0	224.0	216.0	213.4	210.7	205.4	200.0	194.7	192.0	194.7	194.7
65°	189.4	181.4	176.0	170.7	168.0	162.7	160.0	157.4	157.4	157.4	160.0
67.5°	152.0	144.0	138.7	136.0	130.7	128.0	128.0	128.0	128.0	128.0	128.0
70°	120.0	114.7	109.4	104.0	104.0	101.4	101.4	101.4	101.4	101.4	101.4
72.5°	90.7	85.3	82.7	82.7	80.0	80.0	80.0	80.0	77.3	77.3	80.0
75°	66.7	64.0	61.3	61.3	61.3	58.7	58.7	58.7	58.7	58.7	58.7
77.5°	48.0	45.3	45.3	42.7	42.7	42.7	42.7	42.7	42.7	40.0	40.0
80°	32.0	29.3	29.3	29.3	29.3	26.7	26.7	26.7	26.7	26.7	26.7
82.5°	18.7	18.7	18.7	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
85°	10.7	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
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: P251791

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7	1733.7
2.5°	1701.7	1712.3	1715.0	1707.0	1709.7	1704.3	1707.0	1701.7
5°	1672.3	1680.3	1683.0	1677.6	1677.6	1672.3	1675.0	1669.6
7.5°	1635.0	1643.0	1645.6	1640.3	1640.3	1635.0	1635.0	1632.3
10°	1592.3	1595.0	1600.3	1592.3	1595.0	1589.6	1589.6	1584.3
12.5°	1539.0	1544.3	1549.6	1541.6	1541.6	1539.0	1539.0	1531.0
15°	1482.9	1488.3	1490.9	1485.6	1485.6	1482.9	1480.3	1477.6
17.5°	1424.3	1426.9	1432.3	1424.3	1429.6	1424.3	1424.3	1418.9
20°	1357.6	1365.6	1368.3	1360.3	1362.9	1360.3	1360.3	1360.3
22.5°	1293.6	1298.9	1301.6	1296.2	1298.9	1293.6	1296.2	1290.9
25°	1226.9	1229.6	1232.2	1226.9	1232.2	1229.6	1226.9	1226.9
27.5°	1157.6	1160.2	1162.9	1157.6	1162.9	1160.2	1162.9	1157.6
30°	1082.9	1088.2	1093.5	1088.2	1090.9	1088.2	1088.2	1085.5
32.5°	1008.2	1013.5	1018.9	1013.5	1018.9	1013.5	1016.2	1010.9
35°	938.8	941.5	944.2	938.8	941.5	941.5	941.5	938.8
37.5°	861.5	866.8	866.8	864.2	869.5	866.8	866.8	861.5
40°	786.8	789.5	792.1	786.8	789.5	786.8	789.5	786.8
42.5°	709.5	714.8	717.5	712.1	712.1	712.1	709.5	712.1
45°	629.5	634.8	640.1	632.1	634.8	634.8	634.8	632.1
47.5°	557.4	557.4	560.1	557.4	560.1	554.8	560.1	557.4
50°	482.8	482.8	488.1	482.8	482.8	482.8	482.8	482.8
52.5°	410.7	413.4	413.4	408.1	410.7	408.1	410.7	408.1
55°	344.1	344.1	346.7	344.1	344.1	344.1	344.1	344.1
57.5°	285.4	288.1	288.1	285.4	288.1	285.4	285.4	285.4
60°	237.4	237.4	237.4	234.7	237.4	234.7	237.4	234.7
62.5°	192.0	194.7	194.7	192.0	194.7	192.0	192.0	192.0
65°	157.4	157.4	157.4	157.4	157.4	157.4	157.4	154.7
67.5°	125.4	125.4	128.0	125.4	128.0	128.0	128.0	128.0
70°	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4
72.5°	77.3	77.3	80.0	77.3	77.3	77.3	77.3	77.3
75°	58.7	58.7	58.7	58.7	58.7	56.0	56.0	58.7
77.5°	40.0	40.0	40.0	40.0	40.0	40.0	40.0	42.7
80°	26.7	26.7	26.7	26.7	24.0	24.0	26.7	24.0
82.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
85°	8.0	8.0	5.3	5.3	5.3	5.3	5.3	5.3
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



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)