

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: P251947

Luminaire Tested: **LD4B40D010 EU4B30508030 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251947
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30508030 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE 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: 3529.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

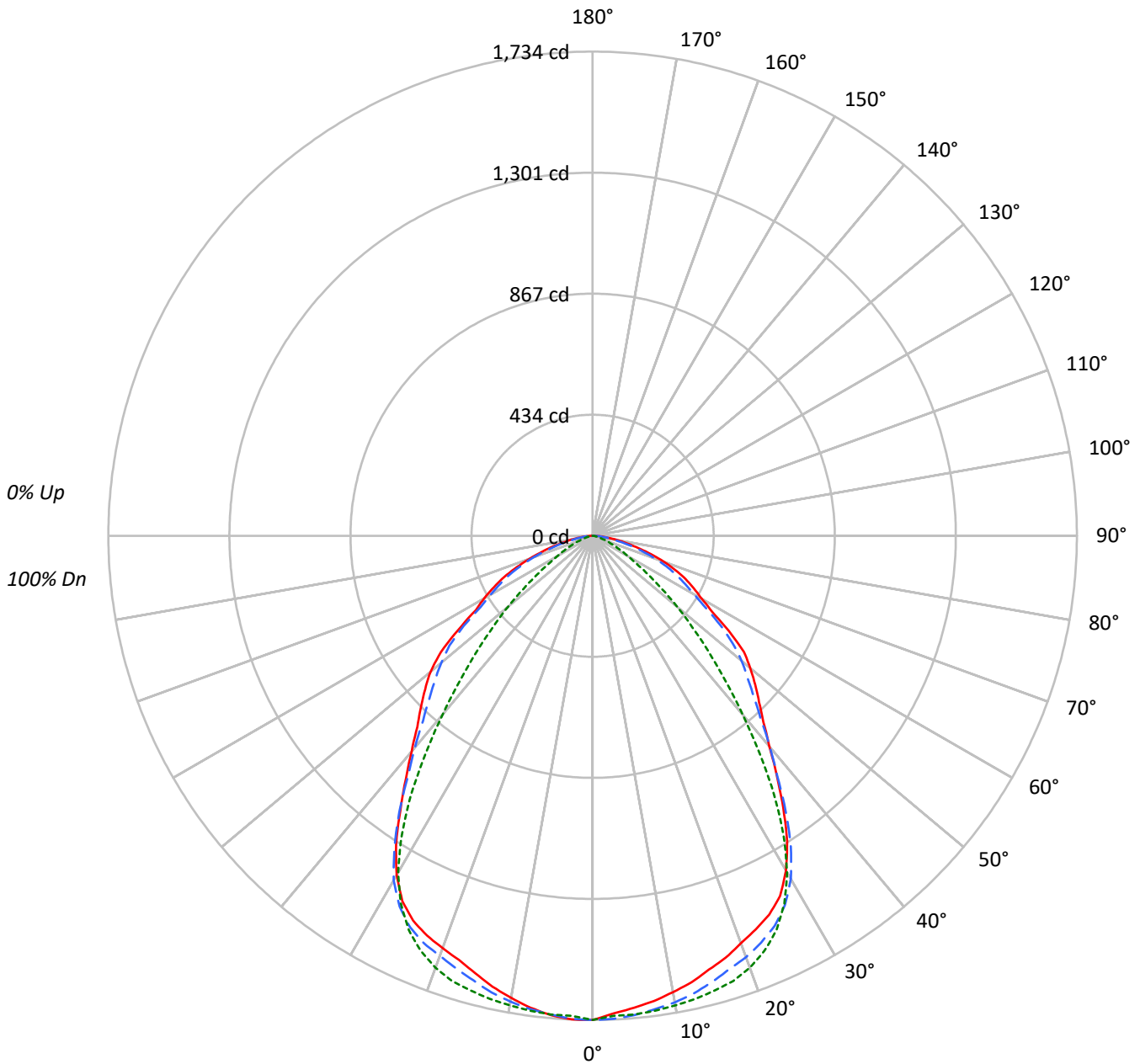
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89				88
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78				76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68				66
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60				58
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53				51
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48				46
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43				41
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39				37
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36				34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33				31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	168992	168992	168992
5°	165989	168337	168591
10°	164207	168957	166325
15°	162301	170111	163653
20°	161024	170711	162964
25°	160934	167526	163515
30°	155805	156705	157909
35°	141556	134893	142829
40°	125238	106231	128291
45°	116188	80890	119868
50°	111636	59859	114866
55°	101081	41255	99722
60°	87868	28087	87361
65°	84886	20293	80597
70°	76765	13678	68416
75°	63298	9037	54261
80°	50904	6005	40409
85°	41709	3019	26837



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.7	4.6
10°-20°	468.0	13.3
20°-30°	707.1	20.0
30°-40°	740.0	21.0
40°-50°	599.3	17.0
50°-60°	435.9	12.4
60°-70°	268.9	7.6
70°-80°	121.5	3.4
80°-90°	24.7	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°	1338.8	37.9
0°-40°	2078.8	58.9
0°-60°	3114.0	88.2
0°-90°	3529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3529.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1734	1734	1734	1734	1734	
5°	1697	1723	1721	1721	1723	161
15°	1609	1654	1686	1649	1622	455
25°	1497	1542	1558	1547	1521	686
35°	1190	1206	1134	1206	1200	742
45°	843	816	587	827	870	655
55°	595	558	243	563	587	531
65°	368	331	88	326	350	360
75°	168	144	24	125	144	182
85°	37	29	3	21	24	43
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°	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0
2.5°	1712.7	1712.7	1728.7	1747.4	1731.3	1715.3	1726.0	1720.7	1739.3	1739.3	1731.3
5°	1696.7	1702.0	1715.3	1731.3	1718.0	1702.0	1715.3	1710.0	1728.7	1728.7	1723.3
7.5°	1680.7	1683.3	1699.3	1718.0	1704.7	1688.7	1699.3	1696.7	1712.7	1715.3	1710.0
10°	1659.3	1662.0	1678.0	1696.7	1683.3	1670.0	1680.7	1678.0	1699.3	1699.3	1696.7
12.5°	1638.0	1640.6	1656.6	1672.7	1659.3	1646.0	1656.6	1656.6	1678.0	1680.7	1678.0
15°	1608.6	1614.0	1627.3	1643.3	1635.3	1619.3	1630.0	1630.0	1648.6	1654.0	1654.0
17.5°	1584.6	1587.3	1600.6	1616.6	1606.0	1592.6	1603.3	1603.3	1622.0	1627.3	1627.3
20°	1552.6	1557.9	1571.3	1587.3	1579.3	1568.6	1576.6	1576.6	1598.0	1603.3	1606.0
22.5°	1525.9	1531.3	1541.9	1563.3	1549.9	1541.9	1552.6	1549.9	1574.0	1576.6	1576.6
25°	1496.6	1501.9	1515.3	1528.6	1520.6	1512.6	1520.6	1520.6	1539.3	1541.9	1541.9
27.5°	1453.9	1456.6	1469.9	1483.2	1475.2	1464.6	1475.2	1472.6	1491.3	1493.9	1491.3
30°	1384.5	1389.9	1395.2	1413.9	1405.9	1397.9	1408.6	1403.2	1421.9	1421.9	1419.2
32.5°	1296.5	1296.5	1307.2	1320.5	1309.8	1304.5	1312.5	1315.2	1328.5	1328.5	1320.5
35°	1189.8	1195.1	1203.1	1211.1	1203.1	1197.8	1205.8	1203.1	1219.1	1213.8	1205.8
37.5°	1083.1	1085.8	1093.8	1104.4	1093.8	1085.8	1088.4	1085.8	1099.1	1099.1	1085.8
40°	984.4	989.7	995.1	1005.7	995.1	989.7	992.4	984.4	1000.4	995.1	987.1
42.5°	904.4	907.0	915.0	920.4	909.7	907.0	909.7	904.4	912.4	907.0	891.0
45°	843.0	843.0	845.7	853.7	843.0	840.3	840.3	835.0	843.0	832.3	816.3
47.5°	789.6	792.3	795.0	800.3	792.3	784.3	787.0	776.3	781.6	773.6	752.3
50°	736.3	741.6	744.3	749.6	741.6	736.3	739.0	728.3	728.3	714.9	696.3
52.5°	682.9	685.6	682.9	688.3	682.9	674.9	677.6	666.9	666.9	650.9	632.2
55°	594.9	597.6	600.2	605.6	600.2	592.2	597.6	589.6	589.6	578.9	557.6
57.5°	506.9	509.5	512.2	514.9	514.9	509.5	512.2	506.9	504.2	496.2	480.2
60°	450.8	450.8	450.8	453.5	450.8	448.2	448.2	442.8	442.8	432.2	416.2
62.5°	408.2	410.8	410.8	413.5	410.8	408.2	405.5	400.2	397.5	386.8	373.5
65°	368.1	368.1	365.5	370.8	368.1	365.5	365.5	360.1	354.8	344.1	330.8
67.5°	320.1	322.8	320.1	322.8	322.8	320.1	317.5	312.1	309.5	301.5	285.4
70°	269.4	269.4	269.4	272.1	269.4	269.4	272.1	264.1	261.4	250.8	237.4
72.5°	218.8	221.4	221.4	218.8	221.4	216.1	216.1	216.1	213.4	202.7	189.4
75°	168.1	170.7	170.7	173.4	170.7	168.1	168.1	165.4	162.7	154.7	144.1
77.5°	125.4	125.4	128.1	128.1	128.1	125.4	125.4	120.0	120.0	114.7	104.0
80°	90.7	90.7	88.0	90.7	90.7	88.0	88.0	85.4	85.4	80.0	72.0
82.5°	58.7	61.4	61.4	61.4	61.4	58.7	58.7	58.7	56.0	53.4	48.0
85°	37.3	37.3	37.3	37.3	40.0	37.3	40.0	37.3	37.3	32.0	29.3
87.5°	16.0	16.0	16.0	18.7	18.7	16.0	16.0	16.0	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0
2.5°	1731.3	1734.0	1726.0	1736.7	1728.7	1731.3	1734.0	1731.3	1720.7	1720.7	1750.0
5°	1720.7	1726.0	1718.0	1731.3	1726.0	1726.0	1731.3	1728.7	1718.0	1720.7	1747.4
7.5°	1710.0	1718.0	1712.7	1726.0	1718.0	1718.0	1723.3	1723.3	1712.7	1715.3	1739.3
10°	1694.0	1704.7	1702.0	1715.3	1707.3	1707.3	1715.3	1715.3	1704.7	1707.3	1731.3
12.5°	1680.7	1691.3	1688.7	1702.0	1696.7	1699.3	1702.0	1707.3	1694.0	1699.3	1720.7
15°	1659.3	1670.0	1670.0	1683.3	1678.0	1683.3	1688.7	1696.7	1686.0	1686.0	1707.3
17.5°	1635.3	1648.6	1648.6	1659.3	1659.3	1662.0	1672.7	1680.7	1670.0	1672.7	1691.3
20°	1608.6	1624.6	1624.6	1638.0	1635.3	1640.6	1648.6	1656.6	1646.0	1646.0	1667.3
22.5°	1582.0	1595.3	1598.0	1606.0	1606.0	1608.6	1616.6	1622.0	1608.6	1608.6	1630.0
25°	1544.6	1557.9	1560.6	1565.9	1560.6	1560.6	1565.9	1571.3	1557.9	1557.9	1576.6
27.5°	1493.9	1507.3	1507.3	1504.6	1499.3	1501.9	1499.3	1501.9	1488.6	1485.9	1504.6
30°	1419.2	1427.2	1427.2	1424.6	1416.6	1416.6	1408.6	1411.2	1392.5	1392.5	1408.6
32.5°	1317.8	1325.9	1320.5	1315.2	1304.5	1299.2	1293.8	1291.2	1272.5	1272.5	1291.2
35°	1197.8	1203.1	1195.1	1184.5	1171.1	1163.1	1155.1	1144.4	1131.1	1133.8	1144.4
37.5°	1075.1	1075.1	1064.4	1043.1	1032.4	1019.1	1005.7	1005.7	984.4	981.7	989.7
40°	971.0	960.4	941.7	912.4	893.7	880.3	861.7	851.0	835.0	835.0	848.3
42.5°	877.7	856.3	832.3	792.3	773.6	757.6	733.6	722.9	704.3	701.6	709.6
45°	795.0	773.6	739.0	696.3	672.3	653.6	618.9	605.6	589.6	586.9	592.2
47.5°	728.3	704.3	661.6	605.6	581.6	557.6	522.9	504.2	490.9	482.9	490.9
50°	669.6	637.6	592.2	533.5	501.5	480.2	437.5	418.8	400.2	394.8	397.5
52.5°	605.6	573.6	525.5	464.2	434.8	402.8	362.8	336.1	320.1	312.1	320.1
55°	536.2	504.2	456.2	394.8	362.8	333.5	290.8	269.4	250.8	242.8	250.8
57.5°	461.5	432.2	389.5	328.1	298.8	272.1	232.1	210.7	192.1	186.7	192.1
60°	397.5	373.5	330.8	272.1	248.1	218.8	184.1	162.7	146.7	144.1	146.7
62.5°	354.8	328.1	288.1	232.1	208.1	184.1	152.1	130.7	117.4	114.7	117.4
65°	312.1	282.8	245.4	197.4	173.4	154.7	122.7	104.0	90.7	88.0	90.7
67.5°	264.1	237.4	205.4	162.7	144.1	125.4	98.7	80.0	69.4	66.7	69.4
70°	218.8	194.7	162.7	130.7	112.0	98.7	74.7	61.4	50.7	48.0	50.7
72.5°	173.4	152.1	125.4	98.7	88.0	74.7	58.7	45.4	37.3	34.7	37.3
75°	133.4	117.4	96.0	72.0	64.0	56.0	40.0	32.0	26.7	24.0	26.7
77.5°	93.4	82.7	66.7	53.4	45.4	40.0	29.3	21.3	18.7	16.0	18.7
80°	64.0	56.0	45.4	34.7	29.3	24.0	18.7	13.3	10.7	10.7	10.7
82.5°	42.7	34.7	26.7	21.3	18.7	16.0	10.7	8.0	8.0	5.3	5.3
85°	24.0	21.3	16.0	13.3	10.7	8.0	5.3	5.3	2.7	2.7	2.7
87.5°	10.7	8.0	5.3	5.3	2.7	2.7	2.7	2.7	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0
2.5°	1742.0	1734.0	1744.7	1734.0	1728.7	1734.0	1728.7	1744.7	1731.3	1720.7	1731.3
5°	1739.3	1728.7	1739.3	1731.3	1723.3	1726.0	1720.7	1736.7	1720.7	1712.7	1718.0
7.5°	1734.0	1726.0	1731.3	1723.3	1715.3	1718.0	1712.7	1726.0	1710.0	1702.0	1707.3
10°	1726.0	1718.0	1720.7	1715.3	1707.3	1707.3	1702.0	1712.7	1694.0	1683.3	1688.7
12.5°	1715.3	1704.7	1710.0	1702.0	1691.3	1691.3	1686.0	1694.0	1675.3	1664.7	1667.3
15°	1702.0	1691.3	1691.3	1683.3	1672.7	1672.7	1662.0	1670.0	1648.6	1638.0	1638.0
17.5°	1686.0	1672.7	1672.7	1664.7	1651.3	1648.6	1640.6	1648.6	1624.6	1614.0	1614.0
20°	1662.0	1651.3	1648.6	1643.3	1630.0	1627.3	1616.6	1619.3	1600.6	1592.6	1590.0
22.5°	1630.0	1619.3	1622.0	1614.0	1603.3	1600.6	1590.0	1598.0	1579.3	1571.3	1574.0
25°	1574.0	1568.6	1574.0	1571.3	1563.3	1563.3	1557.9	1563.3	1547.3	1541.9	1544.6
27.5°	1509.9	1507.3	1509.9	1509.9	1504.6	1504.6	1504.6	1512.6	1496.6	1493.9	1493.9
30°	1416.6	1416.6	1419.2	1421.9	1421.9	1427.2	1424.6	1435.2	1424.6	1419.2	1424.6
32.5°	1293.8	1304.5	1312.5	1312.5	1312.5	1317.8	1323.2	1331.2	1320.5	1323.2	1323.2
35°	1155.1	1163.1	1168.5	1181.8	1173.8	1192.5	1197.8	1208.5	1205.8	1211.1	1208.5
37.5°	1000.4	1011.1	1021.7	1040.4	1037.7	1059.1	1069.8	1091.1	1085.8	1096.4	1101.8
40°	856.3	872.3	888.3	901.7	912.4	933.7	955.0	981.7	989.7	997.7	1000.4
42.5°	717.6	733.6	760.3	779.0	795.0	829.7	859.0	891.0	899.0	915.0	920.4
45°	605.6	618.9	650.9	674.9	688.3	739.0	773.6	813.7	827.0	845.7	853.7
47.5°	501.5	525.5	557.6	586.9	605.6	658.9	704.3	747.0	765.6	787.0	797.6
50°	410.8	437.5	480.2	506.9	533.5	592.2	642.9	688.3	706.9	731.0	741.6
52.5°	336.1	365.5	405.5	434.8	464.2	525.5	578.9	621.6	645.6	661.6	677.6
55°	264.1	296.1	336.1	368.1	392.2	458.8	504.2	546.9	562.9	576.2	584.2
57.5°	205.4	229.4	269.4	296.1	325.5	384.2	429.5	461.5	474.9	490.9	496.2
60°	160.1	184.1	221.4	248.1	274.8	330.8	376.1	408.2	421.5	434.8	442.8
62.5°	128.1	152.1	186.7	210.7	234.8	285.4	325.5	357.5	373.5	386.8	394.8
65°	101.4	122.7	152.1	176.1	194.7	240.1	280.1	309.5	325.5	338.8	346.8
67.5°	80.0	98.7	125.4	141.4	160.1	197.4	232.1	258.8	272.1	288.1	296.1
70°	61.4	74.7	98.7	112.0	125.4	157.4	184.1	210.7	224.1	234.8	240.1
72.5°	45.4	56.0	74.7	85.4	93.4	120.0	141.4	160.1	170.7	181.4	186.7
75°	32.0	40.0	53.4	61.4	66.7	85.4	104.0	117.4	125.4	133.4	141.4
77.5°	21.3	26.7	34.7	40.0	45.4	58.7	69.4	80.0	88.0	96.0	98.7
80°	13.3	18.7	24.0	26.7	29.3	37.3	48.0	53.4	58.7	64.0	66.7
82.5°	8.0	10.7	13.3	16.0	18.7	24.0	29.3	34.7	37.3	42.7	45.4
85°	2.7	5.3	5.3	8.0	8.0	13.3	16.0	18.7	21.3	24.0	26.7
87.5°	0.0	0.0	2.7	2.7	2.7	2.7	5.3	5.3	5.3	5.3	5.3
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: P251947

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBDW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0	1734.0
2.5°	1742.0	1734.0	1728.7	1726.0	1744.7	1720.7	1731.3	1734.0
5°	1731.3	1723.3	1718.0	1715.3	1731.3	1710.0	1718.0	1723.3
7.5°	1715.3	1710.0	1702.0	1699.3	1715.3	1691.3	1702.0	1704.7
10°	1696.7	1688.7	1683.3	1680.7	1694.0	1670.0	1680.7	1680.7
12.5°	1672.7	1667.3	1656.6	1656.6	1667.3	1646.0	1654.0	1654.0
15°	1640.6	1635.3	1624.6	1624.6	1635.3	1614.0	1622.0	1622.0
17.5°	1614.0	1608.6	1600.6	1598.0	1608.6	1587.3	1595.3	1592.6
20°	1592.6	1587.3	1576.6	1576.6	1584.6	1563.3	1571.3	1571.3
22.5°	1574.0	1571.3	1560.6	1560.6	1571.3	1549.9	1555.3	1549.9
25°	1544.6	1541.9	1531.3	1533.9	1539.3	1517.9	1525.9	1520.6
27.5°	1496.6	1496.6	1485.9	1483.2	1491.3	1472.6	1477.9	1475.2
30°	1421.9	1424.6	1411.2	1411.2	1413.9	1397.9	1405.9	1403.2
32.5°	1320.5	1323.2	1312.5	1309.8	1317.8	1304.5	1309.8	1309.8
35°	1208.5	1211.1	1203.1	1203.1	1211.1	1203.1	1203.1	1200.5
37.5°	1096.4	1101.8	1096.4	1099.1	1104.4	1096.4	1101.8	1099.1
40°	1005.7	1011.1	1003.1	1008.4	1013.7	1005.7	1013.7	1008.4
42.5°	923.0	931.0	925.7	931.0	936.4	931.0	936.4	928.4
45°	861.7	867.0	864.3	867.0	872.3	869.7	872.3	869.7
47.5°	803.0	813.7	808.3	813.7	821.7	816.3	821.7	813.7
50°	749.6	757.6	755.0	760.3	763.0	760.3	765.6	757.6
52.5°	680.3	688.3	685.6	685.6	690.9	685.6	690.9	685.6
55°	589.6	592.2	592.2	594.9	592.2	589.6	592.2	586.9
57.5°	501.5	506.9	498.9	506.9	504.2	501.5	501.5	496.2
60°	445.5	453.5	448.2	453.5	450.8	450.8	450.8	448.2
62.5°	400.2	405.5	400.2	402.8	402.8	402.8	400.2	397.5
65°	349.5	357.5	352.1	354.8	352.1	349.5	352.1	349.5
67.5°	298.8	301.5	301.5	298.8	298.8	298.8	298.8	293.4
70°	242.8	245.4	242.8	248.1	245.4	242.8	245.4	240.1
72.5°	189.4	192.1	189.4	192.1	189.4	189.4	189.4	189.4
75°	141.4	144.1	144.1	144.1	144.1	144.1	138.7	144.1
77.5°	101.4	101.4	101.4	104.0	101.4	101.4	101.4	101.4
80°	69.4	69.4	69.4	72.0	69.4	72.0	69.4	72.0
82.5°	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4
85°	24.0	26.7	26.7	24.0	24.0	24.0	24.0	24.0
87.5°	5.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)