

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: P251713

Luminaire Tested: **LD4B40D010 EU4B30508030 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251713  
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 EU4B30508030 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3307.0 lumens  
Efficiency: N/A  
Efficacy: 76.9 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

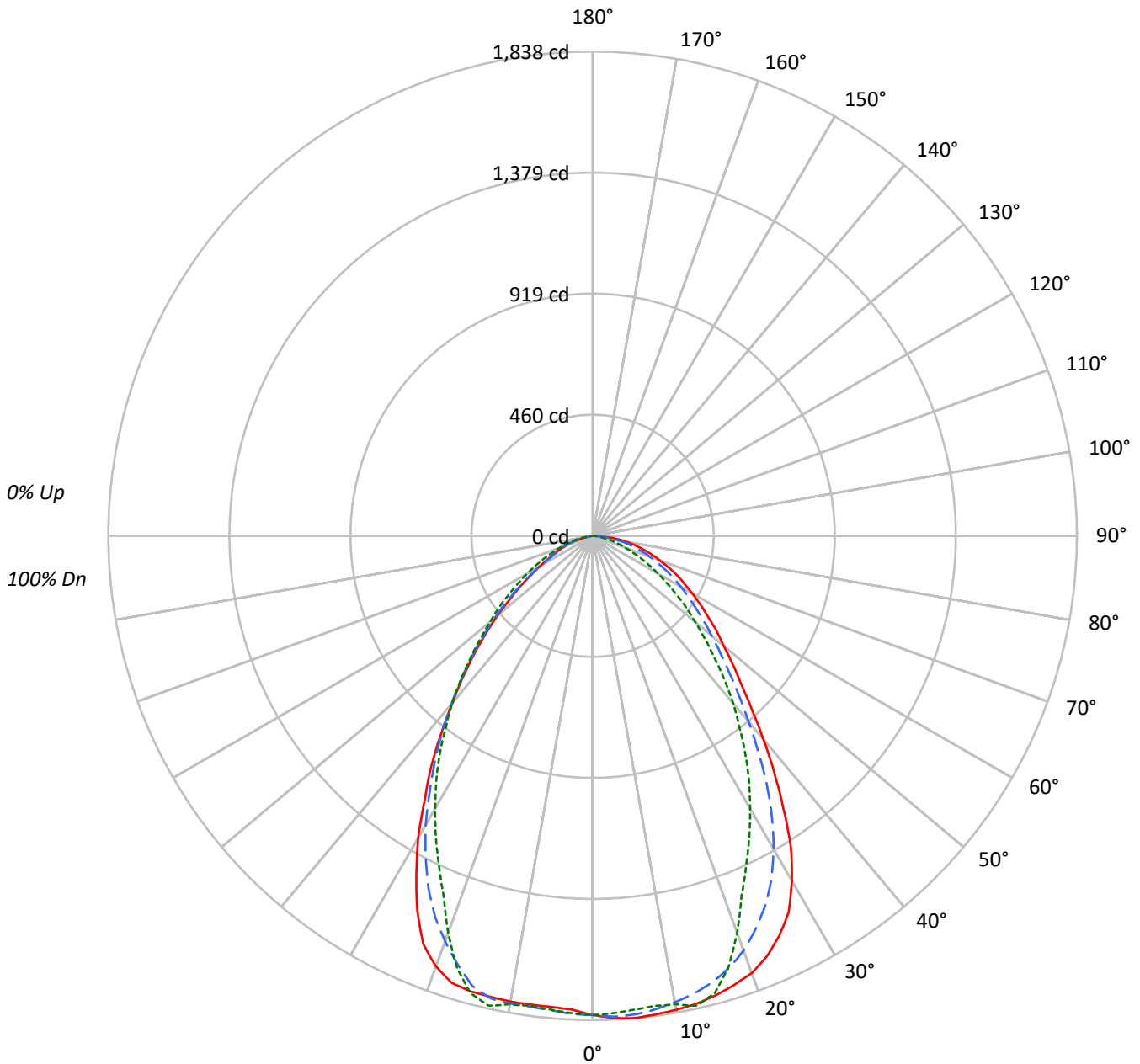
Input Watts (W): 43.02  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	177305	177305	177305
5°	179812	176682	175635
10°	180832	178725	177666
15°	182218	181139	180604
20°	183157	166272	180388
25°	180150	148310	169246
30°	170209	134490	148895
35°	150122	120283	126946
40°	128291	105544	105213
45°	109930	90083	87878
50°	98279	76840	71594
55°	90649	65722	56666
60°	84750	55629	44714
65°	81196	46144	36920
70°	76765	37243	31173
75°	74331	30124	22103
80°	71839	16444	6005
85°	62620	8946	3019



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.8	5.2
10°-20°	497.2	15.0
20°-30°	689.7	20.9
30°-40°	680.8	20.6
40°-50°	534.0	16.1
50°-60°	369.9	11.2
60°-70°	226.6	6.9
70°-80°	113.3	3.4
80°-90°	22.7	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°	1359.8	41.1
0°-40°	2040.6	61.7
0°-60°	2944.4	89.0
0°-90°	3307.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3307.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1819	1819	1819	1819	1819	
5°	1838	1825	1806	1809	1795	175
15°	1806	1755	1795	1769	1790	510
25°	1675	1550	1379	1475	1574	767
35°	1262	1152	1011	1043	1067	787
45°	798	731	654	646	638	624
55°	534	478	387	344	334	480
65°	352	304	200	149	160	348
75°	197	165	80	61	59	209
85°	56	32	8	3	3	64
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°	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3
2.5°	1832.6	1827.3	1824.6	1832.6	1830.0	1835.3	1832.6	1830.0	1824.6	1827.3	1827.3
5°	1838.0	1830.0	1827.3	1832.6	1832.6	1838.0	1835.3	1830.0	1824.6	1827.3	1824.6
7.5°	1832.6	1827.3	1827.3	1830.0	1827.3	1832.6	1827.3	1822.0	1816.6	1819.3	1814.0
10°	1827.3	1819.3	1819.3	1819.3	1819.3	1824.6	1819.3	1811.3	1803.3	1803.3	1798.0
12.5°	1819.3	1811.3	1811.3	1814.0	1808.6	1814.0	1808.6	1795.3	1787.3	1784.6	1779.3
15°	1806.0	1798.0	1798.0	1798.0	1792.6	1795.3	1787.3	1774.0	1763.3	1763.3	1755.3
17.5°	1787.3	1779.3	1776.6	1776.6	1768.6	1771.3	1763.3	1750.0	1733.9	1728.6	1720.6
20°	1766.0	1755.3	1750.0	1750.0	1742.0	1744.6	1733.9	1717.9	1696.6	1688.6	1675.3
22.5°	1728.6	1723.3	1715.3	1712.6	1704.6	1701.9	1691.3	1669.9	1651.3	1637.9	1616.6
25°	1675.3	1672.6	1664.6	1661.9	1651.3	1645.9	1635.2	1611.2	1592.6	1571.2	1549.9
27.5°	1611.2	1600.6	1595.2	1587.2	1576.6	1573.9	1560.6	1539.2	1509.9	1496.5	1469.9
30°	1512.5	1507.2	1501.9	1493.9	1483.2	1477.9	1469.9	1445.8	1421.8	1397.8	1373.8
32.5°	1400.5	1389.8	1381.8	1384.5	1371.2	1365.8	1352.5	1331.1	1309.8	1293.8	1267.1
35°	1261.8	1259.1	1256.4	1251.1	1240.4	1237.8	1227.1	1211.1	1187.1	1168.4	1152.4
37.5°	1131.1	1123.1	1117.7	1117.7	1107.1	1107.1	1099.1	1080.4	1067.0	1053.7	1032.4
40°	1008.4	995.0	995.0	995.0	984.3	987.0	981.7	963.0	949.7	933.7	920.3
42.5°	893.6	888.3	885.6	880.3	875.0	875.0	869.6	859.0	845.6	835.0	821.6
45°	797.6	794.9	792.3	789.6	784.3	781.6	778.9	762.9	754.9	744.3	730.9
47.5°	720.3	714.9	712.3	709.6	704.2	701.6	696.2	685.6	677.6	666.9	656.2
50°	648.2	645.6	642.9	642.9	637.6	634.9	629.6	621.6	608.2	602.9	589.5
52.5°	592.2	586.9	581.5	581.5	576.2	576.2	568.2	560.2	546.9	541.5	530.9
55°	533.5	530.9	528.2	528.2	522.9	520.2	517.5	506.8	496.2	488.2	477.5
57.5°	482.8	480.2	477.5	477.5	472.2	469.5	466.8	458.8	448.2	442.8	429.5
60°	434.8	434.8	432.2	429.5	426.8	424.2	421.5	413.5	405.5	397.5	386.8
62.5°	392.1	389.5	386.8	384.1	384.1	381.5	378.8	368.1	362.8	354.8	344.1
65°	352.1	346.8	346.8	344.1	344.1	341.5	338.8	328.1	322.8	314.8	304.1
67.5°	309.4	306.8	304.1	304.1	301.4	301.4	298.8	290.8	282.8	277.4	266.8
70°	269.4	269.4	266.8	266.8	264.1	261.4	261.4	256.1	248.1	240.1	229.4
72.5°	234.7	232.1	229.4	229.4	226.7	226.7	224.1	218.7	213.4	208.1	194.7
75°	197.4	194.7	194.7	194.7	192.1	192.1	189.4	184.1	178.7	173.4	165.4
77.5°	162.7	162.7	160.1	160.1	157.4	157.4	157.4	152.1	146.7	141.4	130.7
80°	128.0	128.0	128.0	125.4	122.7	122.7	122.7	117.4	112.0	106.7	98.7
82.5°	93.4	90.7	90.7	88.0	85.4	85.4	85.4	80.0	77.4	69.4	64.0
85°	56.0	53.4	53.4	50.7	48.0	48.0	48.0	45.3	40.0	37.3	32.0
87.5°	21.3	21.3	21.3	21.3	21.3	18.7	18.7	16.0	16.0	13.3	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°	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3
2.5°	1827.3	1824.6	1824.6	1822.0	1824.6	1819.3	1819.3	1819.3	1819.3	1814.0	1814.0
5°	1822.0	1822.0	1819.3	1816.6	1819.3	1814.0	1816.6	1814.0	1814.0	1806.0	1806.0
7.5°	1811.3	1808.6	1803.3	1800.6	1803.3	1800.6	1800.6	1800.6	1806.0	1800.6	1800.6
10°	1792.6	1790.0	1784.6	1782.0	1782.0	1779.3	1784.6	1790.0	1800.6	1806.0	1816.6
12.5°	1774.0	1768.6	1766.0	1766.0	1768.6	1768.6	1779.3	1792.6	1819.3	1827.3	1838.0
15°	1750.0	1747.3	1747.3	1755.3	1766.0	1774.0	1795.3	1803.3	1806.0	1795.3	1790.0
17.5°	1717.9	1717.9	1720.6	1728.6	1736.6	1736.6	1739.3	1733.9	1728.6	1715.3	1699.3
20°	1664.6	1661.9	1656.6	1656.6	1656.6	1645.9	1651.3	1632.6	1619.2	1603.2	1579.2
22.5°	1597.9	1584.6	1565.9	1552.5	1544.5	1539.2	1525.9	1504.5	1488.5	1477.9	1467.2
25°	1525.9	1504.5	1477.9	1456.5	1443.2	1440.5	1421.8	1403.2	1392.5	1379.2	1373.8
27.5°	1443.2	1419.2	1387.2	1365.8	1355.1	1347.1	1331.1	1312.5	1299.1	1288.5	1280.5
30°	1347.1	1323.1	1296.5	1269.8	1259.1	1245.8	1229.8	1216.4	1203.1	1195.1	1189.8
32.5°	1240.4	1216.4	1189.8	1171.1	1157.7	1147.1	1133.7	1120.4	1109.7	1104.4	1099.1
35°	1131.1	1107.1	1085.7	1067.0	1056.4	1048.4	1037.7	1021.7	1013.7	1011.0	1005.7
37.5°	1013.7	997.7	979.0	963.0	955.0	944.3	939.0	925.7	925.7	915.0	915.0
40°	904.3	893.6	875.0	861.6	856.3	848.3	840.3	835.0	832.3	829.6	827.0
42.5°	808.3	792.3	781.6	770.9	762.9	757.6	757.6	749.6	746.9	738.9	736.3
45°	720.3	712.3	693.6	685.6	682.9	674.9	672.2	666.9	658.9	653.6	650.9
47.5°	642.9	634.9	624.2	613.6	608.2	602.9	597.5	589.5	584.2	576.2	573.5
50°	578.9	565.5	554.9	546.9	538.9	536.2	530.9	520.2	514.8	506.8	506.8
52.5°	520.2	509.5	496.2	488.2	480.2	474.8	466.8	458.8	450.8	448.2	440.2
55°	469.5	456.2	442.8	432.2	424.2	416.1	413.5	402.8	392.1	386.8	381.5
57.5°	421.5	408.1	392.1	378.8	373.5	368.1	360.1	349.5	341.5	333.5	328.1
60°	373.5	362.8	346.8	333.5	328.1	320.1	312.1	301.4	293.4	285.4	280.1
62.5°	333.5	317.4	304.1	290.8	282.8	277.4	266.8	258.8	248.1	240.1	232.1
65°	293.4	277.4	264.1	250.8	245.4	237.4	229.4	218.7	208.1	200.1	189.4
67.5°	253.4	240.1	226.7	213.4	208.1	202.7	192.1	181.4	170.7	162.7	152.1
70°	218.7	205.4	192.1	181.4	176.1	170.7	160.1	149.4	141.4	130.7	122.7
72.5°	186.7	176.1	162.7	152.1	146.7	141.4	130.7	122.7	112.0	106.7	98.7
75°	154.7	144.1	133.4	122.7	117.4	112.0	104.0	96.0	88.0	80.0	74.7
77.5°	122.7	112.0	101.4	93.4	88.0	85.4	77.4	69.4	61.4	56.0	48.0
80°	90.7	80.0	72.0	64.0	58.7	56.0	48.0	42.7	37.3	29.3	26.7
82.5°	56.0	48.0	42.7	37.3	34.7	32.0	26.7	21.3	18.7	16.0	13.3
85°	29.3	26.7	21.3	18.7	16.0	16.0	13.3	10.7	8.0	8.0	5.3
87.5°	10.7	8.0	8.0	5.3	5.3	5.3	5.3	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	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°	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3
2.5°	1808.6	1811.3	1814.0	1816.6	1814.0	1814.0	1819.3	1808.6	1816.6	1816.6	1806.0
5°	1803.3	1808.6	1806.0	1811.3	1806.0	1806.0	1808.6	1803.3	1808.6	1808.6	1800.6
7.5°	1798.0	1803.3	1803.3	1806.0	1803.3	1803.3	1806.0	1798.0	1803.3	1803.3	1795.3
10°	1822.0	1827.3	1824.6	1822.0	1814.0	1808.6	1811.3	1798.0	1803.3	1803.3	1795.3
12.5°	1830.0	1827.3	1816.6	1811.3	1806.0	1800.6	1803.3	1792.6	1798.0	1798.0	1792.6
15°	1776.6	1771.3	1763.3	1766.0	1760.6	1758.0	1763.3	1758.0	1768.6	1774.0	1768.6
17.5°	1685.9	1683.3	1677.9	1677.9	1677.9	1680.6	1688.6	1688.6	1704.6	1715.3	1720.6
20°	1568.6	1565.9	1568.6	1573.9	1576.6	1587.2	1605.9	1616.6	1637.9	1656.6	1669.9
22.5°	1461.9	1467.2	1475.2	1485.9	1488.5	1501.9	1525.9	1536.5	1563.2	1584.6	1597.9
25°	1371.2	1379.2	1384.5	1392.5	1395.2	1411.2	1432.5	1445.8	1475.2	1491.2	1507.2
27.5°	1280.5	1291.1	1293.8	1304.5	1304.5	1320.5	1339.1	1352.5	1371.2	1387.2	1400.5
30°	1192.4	1195.1	1203.1	1205.8	1211.1	1227.1	1237.8	1245.8	1267.1	1275.1	1283.1
32.5°	1096.4	1107.1	1112.4	1115.1	1112.4	1125.7	1136.4	1141.7	1149.7	1160.4	1165.7
35°	1005.7	1011.0	1013.7	1019.0	1021.7	1024.4	1029.7	1032.4	1043.0	1045.7	1048.4
37.5°	915.0	923.0	920.3	923.0	923.0	925.7	931.0	928.3	936.3	939.0	936.3
40°	824.3	824.3	829.6	827.0	829.6	827.0	832.3	832.3	832.3	835.0	832.3
42.5°	733.6	736.3	733.6	738.9	733.6	736.3	736.3	733.6	736.3	733.6	733.6
45°	650.9	650.9	650.9	650.9	645.6	645.6	650.9	648.2	645.6	642.9	640.2
47.5°	570.9	573.5	568.2	570.9	568.2	565.5	562.9	562.9	560.2	554.9	552.2
50°	504.2	498.8	496.2	498.8	496.2	493.5	490.8	485.5	482.8	477.5	474.8
52.5°	437.5	432.2	426.8	426.8	424.2	418.8	416.1	410.8	408.1	402.8	402.8
55°	378.8	373.5	368.1	365.5	360.1	354.8	352.1	346.8	344.1	338.8	333.5
57.5°	322.8	314.8	309.4	306.8	304.1	296.1	293.4	288.1	282.8	277.4	274.8
60°	272.1	264.1	256.1	253.4	250.8	242.8	240.1	232.1	229.4	224.1	221.4
62.5°	224.1	218.7	208.1	205.4	200.1	194.7	186.7	184.1	181.4	184.1	184.1
65°	181.4	173.4	165.4	162.7	157.4	152.1	149.4	146.7	149.4	149.4	152.1
67.5°	144.1	136.0	128.0	128.0	125.4	120.0	120.0	120.0	122.7	122.7	125.4
70°	114.7	109.4	104.0	101.4	101.4	98.7	101.4	101.4	104.0	104.0	104.0
72.5°	90.7	88.0	85.4	82.7	82.7	82.7	82.7	82.7	82.7	82.7	85.4
75°	69.4	66.7	64.0	64.0	61.4	61.4	61.4	61.4	61.4	61.4	58.7
77.5°	45.3	42.7	40.0	40.0	37.3	34.7	34.7	32.0	32.0	32.0	32.0
80°	24.0	21.3	18.7	16.0	16.0	13.3	13.3	13.3	13.3	10.7	10.7
82.5°	10.7	8.0	8.0	8.0	8.0	5.3	5.3	5.3	5.3	5.3	5.3
85°	5.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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: P251713

CATALOG NUMBER: LD4B40D010 EU4B30508030 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3	1819.3
2.5°	1811.3	1806.0	1811.3	1814.0	1808.6	1806.0	1811.3	1800.6
5°	1808.6	1800.6	1803.3	1806.0	1800.6	1798.0	1803.3	1795.3
7.5°	1803.3	1800.6	1803.3	1806.0	1798.0	1798.0	1803.3	1795.3
10°	1803.3	1798.0	1800.6	1806.0	1800.6	1800.6	1806.0	1795.3
12.5°	1800.6	1792.6	1800.6	1803.3	1798.0	1798.0	1803.3	1792.6
15°	1782.0	1782.0	1784.6	1790.0	1787.3	1790.0	1798.0	1790.0
17.5°	1742.0	1747.3	1758.0	1766.0	1771.3	1776.6	1784.6	1779.3
20°	1693.9	1701.9	1715.3	1723.3	1733.9	1736.6	1750.0	1739.3
22.5°	1619.2	1635.2	1645.9	1653.9	1661.9	1669.9	1680.6	1677.9
25°	1528.5	1539.2	1547.2	1555.2	1565.9	1571.2	1576.6	1573.9
27.5°	1419.2	1424.5	1435.2	1440.5	1445.8	1451.2	1461.9	1448.5
30°	1299.1	1301.8	1307.1	1315.1	1315.1	1320.5	1325.8	1323.1
32.5°	1176.4	1176.4	1181.8	1187.1	1184.4	1187.1	1197.8	1184.4
35°	1056.4	1053.7	1061.7	1064.4	1064.4	1061.7	1069.7	1067.0
37.5°	939.0	941.7	944.3	947.0	941.7	947.0	947.0	941.7
40°	832.3	829.6	835.0	837.6	835.0	837.6	837.6	827.0
42.5°	736.3	730.9	733.6	736.3	733.6	736.3	733.6	728.3
45°	642.9	640.2	640.2	642.9	637.6	637.6	637.6	637.6
47.5°	554.9	552.2	554.9	554.9	549.5	549.5	552.2	549.5
50°	474.8	472.2	472.2	472.2	469.5	469.5	472.2	472.2
52.5°	402.8	397.5	397.5	397.5	397.5	397.5	400.1	394.8
55°	330.8	330.8	330.8	330.8	333.5	333.5	333.5	333.5
57.5°	272.1	274.8	274.8	277.4	274.8	277.4	277.4	274.8
60°	226.7	224.1	226.7	226.7	229.4	229.4	229.4	229.4
62.5°	186.7	186.7	186.7	189.4	189.4	189.4	192.1	189.4
65°	154.7	154.7	157.4	157.4	157.4	160.1	160.1	160.1
67.5°	128.0	128.0	128.0	128.0	130.7	130.7	133.4	130.7
70°	106.7	106.7	106.7	106.7	106.7	109.4	109.4	109.4
72.5°	85.4	85.4	85.4	85.4	88.0	88.0	88.0	88.0
75°	58.7	58.7	58.7	61.4	58.7	58.7	58.7	58.7
77.5°	29.3	29.3	29.3	29.3	29.3	26.7	26.7	26.7
80°	10.7	10.7	10.7	10.7	10.7	10.7	8.0	10.7
82.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	2.7
85°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)