

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: P251732

Luminaire Tested: **LD4B50D010TE EU4B30509030 4LBLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251732  
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: LD4B50D010TE EU4B30509030 4LBLWW1LI  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3593.0 lumens  
Efficiency: N/A  
Efficacy: 61.1 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

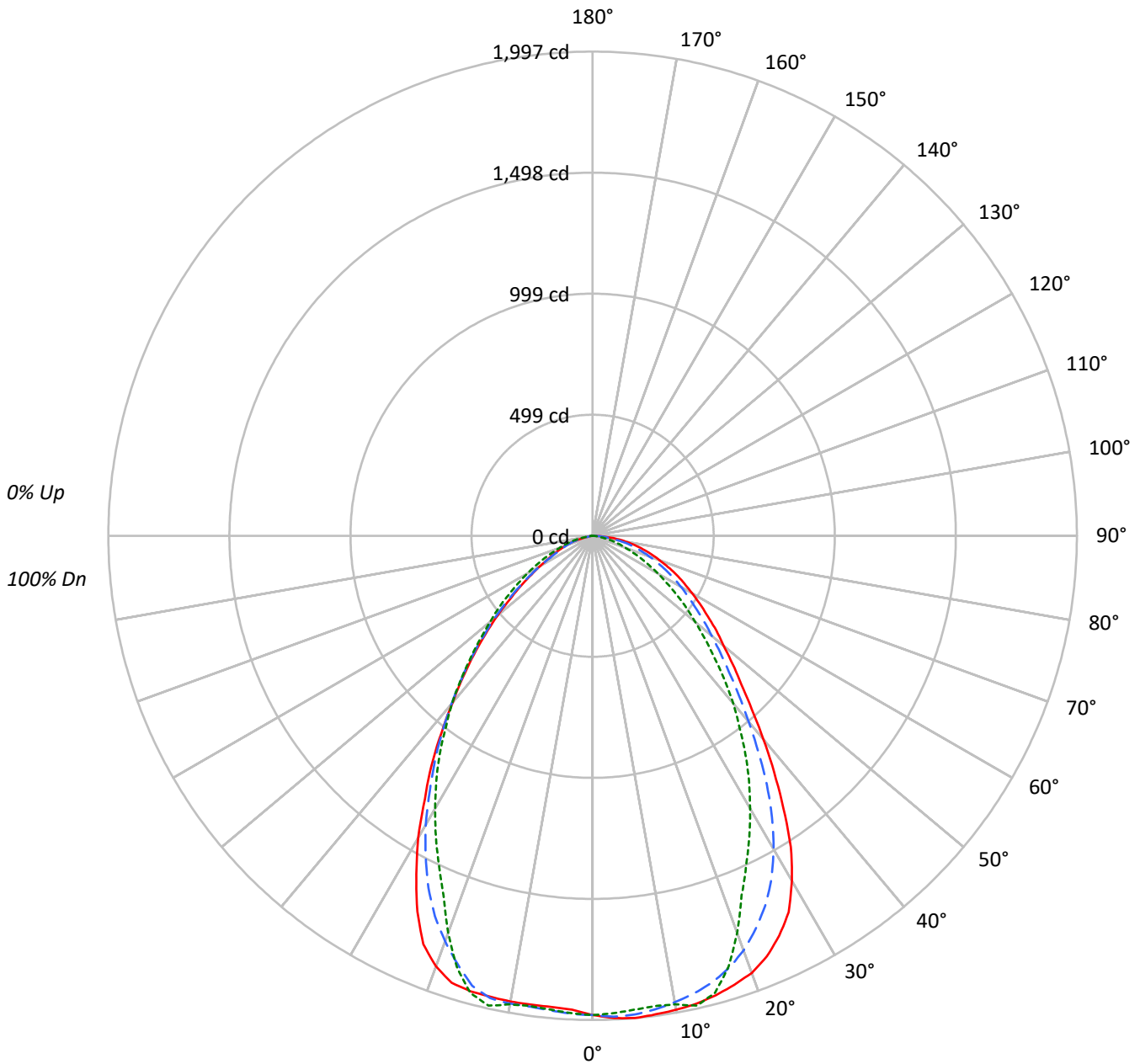
Input Watts (W): 58.77  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

### 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	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88	88	88	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77	77	77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67	67	67	67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60	60	60	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53	53	53	53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48	48	48	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43	43	43	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39	39	39	39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36	36	36	36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33	33	33	33

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

	0°	90°	180°
0°	192645	192645	192645
5°	195357	191963	190828
10°	196468	194182	193034
15°	197978	196808	196223
20°	198994	180657	195986
25°	195721	161128	183882
30°	184929	146115	161780
35°	163102	130693	137927
40°	139385	114678	114309
45°	119440	97871	95472
50°	106784	83496	77780
55°	98499	71414	61559
60°	92078	60444	48593
65°	88230	50134	40102
70°	83404	40463	33852
75°	80770	32722	24024
80°	78068	17904	6510
85°	68099	9728	3243



TEST NUMBER: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.8	5.2
10°-20°	540.3	15.0
20°-30°	749.4	20.9
30°-40°	739.6	20.6
40°-50°	580.2	16.1
50°-60°	401.8	11.2
60°-70°	246.2	6.9
70°-80°	123.1	3.4
80°-90°	24.6	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°	1477.4	41.1
0°-40°	2217.1	61.7
0°-60°	3199.1	89.0
0°-90°	3593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3593.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1977	1977	1977	1977	1977	
5°	1997	1982	1962	1965	1951	190
15°	1962	1907	1951	1922	1945	554
25°	1820	1684	1498	1603	1710	833
35°	1371	1252	1098	1133	1159	855
45°	867	794	710	701	693	677
55°	580	519	420	374	362	522
65°	383	330	217	162	174	378
75°	214	180	87	67	64	227
85°	61	35	9	3	3	69
90°	0	0	0	0	0	



TEST NUMBER: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7
2.5°	1991.1	1985.3	1982.4	1991.1	1988.2	1994.0	1991.1	1988.2	1982.4	1985.3	1985.3
5°	1996.9	1988.2	1985.3	1991.1	1991.1	1996.9	1994.0	1988.2	1982.4	1985.3	1982.4
7.5°	1991.1	1985.3	1985.3	1988.2	1985.3	1991.1	1985.3	1979.5	1973.8	1976.7	1970.9
10°	1985.3	1976.7	1976.7	1976.7	1976.7	1982.4	1976.7	1968.0	1959.3	1959.3	1953.5
12.5°	1976.7	1968.0	1968.0	1970.9	1965.1	1970.9	1965.1	1950.6	1941.9	1939.0	1933.2
15°	1962.2	1953.5	1953.5	1953.5	1947.7	1950.6	1941.9	1927.4	1915.8	1915.8	1907.1
17.5°	1941.9	1933.2	1930.3	1930.3	1921.6	1924.5	1915.8	1901.3	1883.9	1878.1	1869.4
20°	1918.7	1907.1	1901.3	1901.3	1892.6	1895.5	1883.9	1866.5	1843.3	1834.6	1820.1
22.5°	1878.1	1872.3	1863.6	1860.7	1852.0	1849.1	1837.5	1814.3	1794.1	1779.6	1756.4
25°	1820.1	1817.2	1808.5	1805.7	1794.1	1788.3	1776.7	1750.6	1730.3	1707.1	1683.9
27.5°	1750.6	1739.0	1733.2	1724.5	1712.9	1710.0	1695.5	1672.3	1640.4	1626.0	1597.0
30°	1643.3	1637.5	1631.8	1623.1	1611.5	1605.7	1597.0	1570.9	1544.8	1518.7	1492.6
32.5°	1521.6	1510.0	1501.3	1504.2	1489.7	1483.9	1469.4	1446.3	1423.1	1405.7	1376.7
35°	1370.9	1368.0	1365.1	1359.3	1347.7	1344.8	1333.2	1315.8	1289.8	1269.5	1252.1
37.5°	1228.9	1220.2	1214.4	1214.4	1202.8	1202.8	1194.1	1173.8	1159.3	1144.8	1121.6
40°	1095.6	1081.1	1081.1	1081.1	1069.5	1072.4	1066.6	1046.3	1031.8	1014.4	999.9
42.5°	970.9	965.1	962.2	956.4	950.6	950.6	944.9	933.3	918.8	907.2	892.7
45°	866.6	863.7	860.8	857.9	852.1	849.2	846.3	828.9	820.2	808.6	794.1
47.5°	782.5	776.7	773.9	771.0	765.2	762.3	756.5	744.9	736.2	724.6	713.0
50°	704.3	701.4	698.5	698.5	692.7	689.8	684.0	675.3	660.8	655.0	640.5
52.5°	643.4	637.6	631.8	631.8	626.0	626.0	617.3	608.6	594.2	588.4	576.8
55°	579.7	576.8	573.9	573.9	568.1	565.2	562.3	550.7	539.1	530.4	518.8
57.5°	524.6	521.7	518.8	518.8	513.0	510.1	507.2	498.5	486.9	481.1	466.6
60°	472.4	472.4	469.5	466.6	463.7	460.8	457.9	449.2	440.5	431.8	420.3
62.5°	426.1	423.2	420.3	417.4	417.4	414.5	411.6	400.0	394.2	385.5	373.9
65°	382.6	376.8	376.8	373.9	373.9	371.0	368.1	356.5	350.7	342.0	330.4
67.5°	336.2	333.3	330.4	330.4	327.5	327.5	324.6	315.9	307.2	301.4	289.8
70°	292.7	292.7	289.8	289.8	286.9	284.0	284.0	278.2	269.5	260.8	249.3
72.5°	255.1	252.2	249.3	249.3	246.4	246.4	243.5	237.7	231.9	226.1	211.6
75°	214.5	211.6	211.6	211.6	208.7	208.7	205.8	200.0	194.2	188.4	179.7
77.5°	176.8	176.8	173.9	173.9	171.0	171.0	171.0	165.2	159.4	153.6	142.0
80°	139.1	139.1	139.1	136.2	133.3	133.3	133.3	127.5	121.7	115.9	107.2
82.5°	101.4	98.5	98.5	95.6	92.7	92.7	92.7	86.9	84.1	75.4	69.6
85°	60.9	58.0	58.0	55.1	52.2	52.2	52.2	49.3	43.5	40.6	34.8
87.5°	23.2	23.2	23.2	23.2	23.2	20.3	20.3	17.4	17.4	14.5	14.5
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: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7
2.5°	1985.3	1982.4	1982.4	1979.5	1982.4	1976.7	1976.7	1976.7	1976.7	1970.9	1970.9
5°	1979.5	1979.5	1976.7	1973.8	1976.7	1970.9	1973.8	1970.9	1970.9	1962.2	1962.2
7.5°	1968.0	1965.1	1959.3	1956.4	1959.3	1956.4	1956.4	1956.4	1962.2	1956.4	1956.4
10°	1947.7	1944.8	1939.0	1936.1	1936.1	1933.2	1939.0	1944.8	1956.4	1962.2	1973.8
12.5°	1927.4	1921.6	1918.7	1918.7	1921.6	1921.6	1933.2	1947.7	1976.7	1985.3	1996.9
15°	1901.3	1898.4	1898.4	1907.1	1918.7	1927.4	1950.6	1959.3	1962.2	1950.6	1944.8
17.5°	1866.5	1866.5	1869.4	1878.1	1886.8	1886.8	1889.7	1883.9	1878.1	1863.6	1846.2
20°	1808.5	1805.7	1799.9	1799.9	1799.9	1788.3	1794.1	1773.8	1759.3	1741.9	1715.8
22.5°	1736.1	1721.6	1701.3	1686.8	1678.1	1672.3	1657.8	1634.6	1617.3	1605.7	1594.1
25°	1657.8	1634.6	1605.7	1582.5	1568.0	1565.1	1544.8	1524.5	1512.9	1498.4	1492.6
27.5°	1568.0	1541.9	1507.1	1483.9	1472.3	1463.6	1446.3	1426.0	1411.5	1399.9	1391.2
30°	1463.6	1437.6	1408.6	1379.6	1368.0	1353.5	1336.1	1321.6	1307.1	1298.4	1292.6
32.5°	1347.7	1321.6	1292.6	1272.4	1257.9	1246.3	1231.8	1217.3	1205.7	1199.9	1194.1
35°	1228.9	1202.8	1179.6	1159.3	1147.7	1139.0	1127.4	1110.1	1101.4	1098.5	1092.7
37.5°	1101.4	1084.0	1063.7	1046.3	1037.6	1026.0	1020.2	1005.7	1005.7	994.1	994.1
40°	982.5	970.9	950.6	936.2	930.4	921.7	913.0	907.2	904.3	901.4	898.5
42.5°	878.2	860.8	849.2	837.6	828.9	823.1	823.1	814.4	811.5	802.8	799.9
45°	782.5	773.9	753.6	744.9	742.0	733.3	730.4	724.6	715.9	710.1	707.2
47.5°	698.5	689.8	678.2	666.6	660.8	655.0	649.2	640.5	634.7	626.0	623.1
50°	628.9	614.4	602.8	594.2	585.5	582.6	576.8	565.2	559.4	550.7	550.7
52.5°	565.2	553.6	539.1	530.4	521.7	515.9	507.2	498.5	489.8	486.9	478.2
55°	510.1	495.6	481.1	469.5	460.8	452.1	449.2	437.6	426.1	420.3	414.5
57.5°	457.9	443.4	426.1	411.6	405.8	400.0	391.3	379.7	371.0	362.3	356.5
60°	405.8	394.2	376.8	362.3	356.5	347.8	339.1	327.5	318.8	310.1	304.3
62.5°	362.3	344.9	330.4	315.9	307.2	301.4	289.8	281.1	269.5	260.8	252.2
65°	318.8	301.4	286.9	272.4	266.6	258.0	249.3	237.7	226.1	217.4	205.8
67.5°	275.3	260.8	246.4	231.9	226.1	220.3	208.7	197.1	185.5	176.8	165.2
70°	237.7	223.2	208.7	197.1	191.3	185.5	173.9	162.3	153.6	142.0	133.3
72.5°	202.9	191.3	176.8	165.2	159.4	153.6	142.0	133.3	121.7	115.9	107.2
75°	168.1	156.5	144.9	133.3	127.5	121.7	113.0	104.3	95.6	86.9	81.2
77.5°	133.3	121.7	110.1	101.4	95.6	92.7	84.1	75.4	66.7	60.9	52.2
80°	98.5	86.9	78.3	69.6	63.8	60.9	52.2	46.4	40.6	31.9	29.0
82.5°	60.9	52.2	46.4	40.6	37.7	34.8	29.0	23.2	20.3	17.4	14.5
85°	31.9	29.0	23.2	20.3	17.4	17.4	14.5	11.6	8.7	8.7	5.8
87.5°	11.6	8.7	8.7	5.8	5.8	5.8	5.8	2.9	2.9	2.9	2.9
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: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7
2.5°	1965.1	1968.0	1970.9	1973.8	1970.9	1970.9	1976.7	1965.1	1973.8	1973.8	1962.2
5°	1959.3	1965.1	1962.2	1968.0	1962.2	1962.2	1965.1	1959.3	1965.1	1965.1	1956.4
7.5°	1953.5	1959.3	1959.3	1962.2	1959.3	1959.3	1962.2	1953.5	1959.3	1959.3	1950.6
10°	1979.5	1985.3	1982.4	1979.5	1970.9	1965.1	1968.0	1953.5	1959.3	1959.3	1950.6
12.5°	1988.2	1985.3	1973.8	1968.0	1962.2	1956.4	1959.3	1947.7	1953.5	1953.5	1947.7
15°	1930.3	1924.5	1915.8	1918.7	1912.9	1910.0	1915.8	1910.0	1921.6	1927.4	1921.6
17.5°	1831.7	1828.8	1823.0	1823.0	1823.0	1825.9	1834.6	1834.6	1852.0	1863.6	1869.4
20°	1704.2	1701.3	1704.2	1710.0	1712.9	1724.5	1744.8	1756.4	1779.6	1799.9	1814.3
22.5°	1588.3	1594.1	1602.8	1614.4	1617.3	1631.8	1657.8	1669.4	1698.4	1721.6	1736.1
25°	1489.7	1498.4	1504.2	1512.9	1515.8	1533.2	1556.4	1570.9	1602.8	1620.2	1637.5
27.5°	1391.2	1402.8	1405.7	1417.3	1417.3	1434.7	1455.0	1469.4	1489.7	1507.1	1521.6
30°	1295.5	1298.4	1307.1	1310.0	1315.8	1333.2	1344.8	1353.5	1376.7	1385.4	1394.1
32.5°	1191.2	1202.8	1208.6	1211.5	1208.6	1223.1	1234.7	1240.5	1249.2	1260.8	1266.6
35°	1092.7	1098.5	1101.4	1107.2	1110.1	1113.0	1118.7	1121.6	1133.2	1136.1	1139.0
37.5°	994.1	1002.8	999.9	1002.8	1002.8	1005.7	1011.5	1008.6	1017.3	1020.2	1017.3
40°	895.6	895.6	901.4	898.5	901.4	898.5	904.3	904.3	904.3	907.2	904.3
42.5°	797.0	799.9	797.0	802.8	797.0	799.9	799.9	797.0	799.9	797.0	797.0
45°	707.2	707.2	707.2	707.2	701.4	701.4	707.2	704.3	701.4	698.5	695.6
47.5°	620.2	623.1	617.3	620.2	617.3	614.4	611.5	611.5	608.6	602.8	600.0
50°	547.8	542.0	539.1	542.0	539.1	536.2	533.3	527.5	524.6	518.8	515.9
52.5°	475.3	469.5	463.7	463.7	460.8	455.0	452.1	446.3	443.4	437.6	437.6
55°	411.6	405.8	400.0	397.1	391.3	385.5	382.6	376.8	373.9	368.1	362.3
57.5°	350.7	342.0	336.2	333.3	330.4	321.7	318.8	313.0	307.2	301.4	298.5
60°	295.6	286.9	278.2	275.3	272.4	263.7	260.8	252.2	249.3	243.5	240.6
62.5°	243.5	237.7	226.1	223.2	217.4	211.6	202.9	200.0	197.1	200.0	200.0
65°	197.1	188.4	179.7	176.8	171.0	165.2	162.3	159.4	162.3	162.3	165.2
67.5°	156.5	147.8	139.1	139.1	136.2	130.4	130.4	130.4	133.3	133.3	136.2
70°	124.6	118.8	113.0	110.1	110.1	107.2	110.1	110.1	113.0	113.0	113.0
72.5°	98.5	95.6	92.7	89.8	89.8	89.8	89.8	89.8	89.8	89.8	92.7
75°	75.4	72.5	69.6	69.6	66.7	66.7	66.7	66.7	66.7	66.7	63.8
77.5°	49.3	46.4	43.5	43.5	40.6	37.7	37.7	34.8	34.8	34.8	34.8
80°	26.1	23.2	20.3	17.4	17.4	14.5	14.5	14.5	14.5	11.6	11.6
82.5°	11.6	8.7	8.7	8.7	8.7	5.8	5.8	5.8	5.8	5.8	5.8
85°	5.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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: P251732

CATALOG NUMBER: LD4B50D010TE EU4B30509030 4LBLWW1LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7	1976.7
2.5°	1968.0	1962.2	1968.0	1970.9	1965.1	1962.2	1968.0	1956.4
5°	1965.1	1956.4	1959.3	1962.2	1956.4	1953.5	1959.3	1950.6
7.5°	1959.3	1956.4	1959.3	1962.2	1953.5	1953.5	1959.3	1950.6
10°	1959.3	1953.5	1956.4	1962.2	1956.4	1956.4	1962.2	1950.6
12.5°	1956.4	1947.7	1956.4	1959.3	1953.5	1953.5	1959.3	1947.7
15°	1936.1	1936.1	1939.0	1944.8	1941.9	1944.8	1953.5	1944.8
17.5°	1892.6	1898.4	1910.0	1918.7	1924.5	1930.3	1939.0	1933.2
20°	1840.4	1849.1	1863.6	1872.3	1883.9	1886.8	1901.3	1889.7
22.5°	1759.3	1776.7	1788.3	1797.0	1805.7	1814.3	1825.9	1823.0
25°	1660.7	1672.3	1681.0	1689.7	1701.3	1707.1	1712.9	1710.0
27.5°	1541.9	1547.7	1559.3	1565.1	1570.9	1576.7	1588.3	1573.8
30°	1411.5	1414.4	1420.2	1428.9	1428.9	1434.7	1440.5	1437.6
32.5°	1278.2	1278.2	1284.0	1289.8	1286.9	1289.8	1301.3	1286.9
35°	1147.7	1144.8	1153.5	1156.4	1156.4	1153.5	1162.2	1159.3
37.5°	1020.2	1023.1	1026.0	1028.9	1023.1	1028.9	1028.9	1023.1
40°	904.3	901.4	907.2	910.1	907.2	910.1	910.1	898.5
42.5°	799.9	794.1	797.0	799.9	797.0	799.9	797.0	791.2
45°	698.5	695.6	695.6	698.5	692.7	692.7	692.7	692.7
47.5°	602.8	600.0	602.8	602.8	597.1	597.1	600.0	597.1
50°	515.9	513.0	513.0	513.0	510.1	510.1	513.0	513.0
52.5°	437.6	431.8	431.8	431.8	431.8	431.8	434.7	429.0
55°	359.4	359.4	359.4	359.4	362.3	362.3	362.3	362.3
57.5°	295.6	298.5	298.5	301.4	298.5	301.4	301.4	298.5
60°	246.4	243.5	246.4	246.4	249.3	249.3	249.3	249.3
62.5°	202.9	202.9	202.9	205.8	205.8	205.8	208.7	205.8
65°	168.1	168.1	171.0	171.0	171.0	173.9	173.9	173.9
67.5°	139.1	139.1	139.1	139.1	142.0	142.0	144.9	142.0
70°	115.9	115.9	115.9	115.9	115.9	118.8	118.8	118.8
72.5°	92.7	92.7	92.7	92.7	95.6	95.6	95.6	95.6
75°	63.8	63.8	63.8	66.7	63.8	63.8	63.8	63.8
77.5°	31.9	31.9	31.9	31.9	31.9	29.0	29.0	29.0
80°	11.6	11.6	11.6	11.6	11.6	11.6	8.7	11.6
82.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	2.9
85°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)