

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: P251959

Luminaire Tested: **LD4B50D010TE EU4B30508027 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251959
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: LD4B50D010TE EU4B30508027 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4293.0 lumens
Efficiency: N/A
Efficacy: 73.0 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

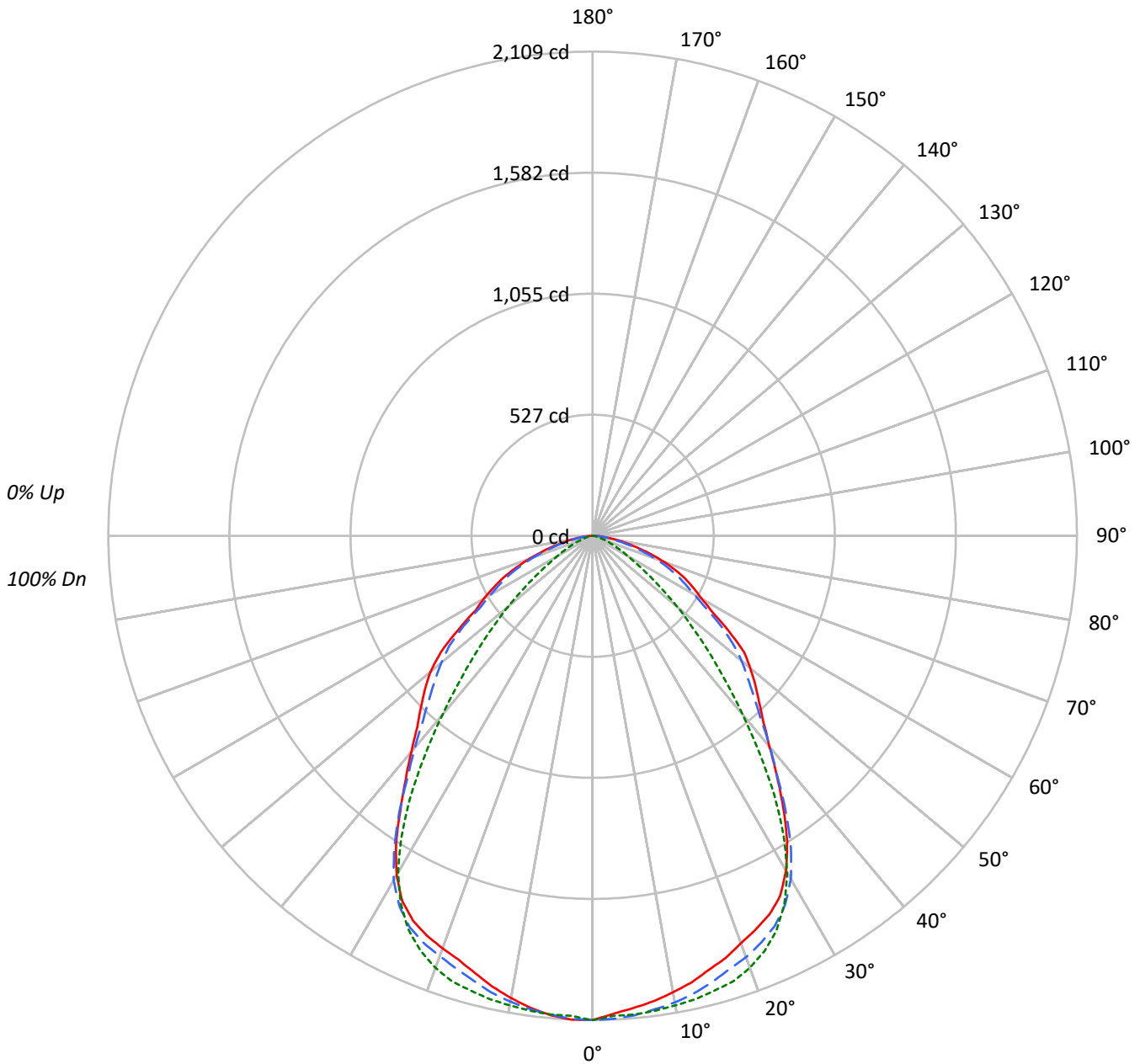
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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								
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°	205578	205578	205578
5°	201922	204778	205092
10°	199754	205543	202327
15°	197443	206938	199078
20°	195882	207664	198247
25°	195775	203797	198915
30°	189543	190634	192097
35°	172203	164089	173750
40°	152349	129233	156064
45°	141341	98408	145820
50°	135804	72822	139746
55°	122966	50175	121318
60°	106892	34149	106268
65°	103265	24698	98030
70°	93406	16641	83233
75°	77004	10995	65971
80°	61905	7296	49165
85°	50767	3578	32652



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.1	4.6
10°-20°	569.3	13.3
20°-30°	860.2	20.0
30°-40°	900.2	21.0
40°-50°	729.1	17.0
50°-60°	530.3	12.4
60°-70°	327.1	7.6
70°-80°	147.8	3.4
80°-90°	30.0	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°	1628.6	37.9
0°-40°	2528.8	58.9
0°-60°	3788.1	88.2
0°-90°	4293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4293.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2109	2109	2109	2109	2109	
5°	2064	2096	2093	2093	2096	196
15°	1957	2012	2051	2006	1973	553
25°	1821	1876	1895	1882	1850	834
35°	1447	1467	1379	1467	1460	902
45°	1026	993	714	1006	1058	797
55°	724	678	295	685	714	646
65°	448	402	107	396	425	438
75°	204	175	29	152	175	222
85°	45	36	3	26	29	52
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°	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4
2.5°	2083.5	2083.5	2102.9	2125.6	2106.2	2086.7	2099.7	2093.2	2115.9	2115.9	2106.2
5°	2064.0	2070.5	2086.7	2106.2	2089.9	2070.5	2086.7	2080.2	2102.9	2102.9	2096.4
7.5°	2044.5	2047.8	2067.2	2089.9	2073.7	2054.2	2067.2	2064.0	2083.5	2086.7	2080.2
10°	2018.5	2021.8	2041.3	2064.0	2047.8	2031.5	2044.5	2041.3	2067.2	2067.2	2064.0
12.5°	1992.6	1995.8	2015.3	2034.8	2018.5	2002.3	2015.3	2015.3	2041.3	2044.5	2041.3
15°	1956.9	1963.4	1979.6	1999.1	1989.3	1969.9	1982.8	1982.8	2005.6	2012.1	2012.1
17.5°	1927.7	1930.9	1947.2	1966.6	1953.6	1937.4	1950.4	1950.4	1973.1	1979.6	1979.6
20°	1888.7	1895.2	1911.5	1930.9	1921.2	1908.2	1917.9	1917.9	1943.9	1950.4	1953.6
22.5°	1856.3	1862.8	1875.8	1901.7	1885.5	1875.8	1888.7	1885.5	1914.7	1917.9	1917.9
25°	1820.6	1827.1	1843.3	1859.5	1849.8	1840.1	1849.8	1849.8	1872.5	1875.8	1875.8
27.5°	1768.7	1771.9	1788.1	1804.4	1794.6	1781.6	1794.6	1791.4	1814.1	1817.3	1814.1
30°	1684.3	1690.8	1697.3	1720.0	1710.2	1700.5	1713.5	1707.0	1729.7	1729.7	1726.5
32.5°	1577.2	1577.2	1590.2	1606.4	1593.4	1586.9	1596.7	1599.9	1616.1	1616.1	1606.4
35°	1447.4	1453.9	1463.6	1473.3	1463.6	1457.1	1466.9	1463.6	1483.1	1476.6	1466.9
37.5°	1317.6	1320.8	1330.6	1343.5	1330.6	1320.8	1324.1	1320.8	1337.0	1337.0	1320.8
40°	1197.5	1204.0	1210.5	1223.5	1210.5	1204.0	1207.2	1197.5	1217.0	1210.5	1200.7
42.5°	1100.1	1103.4	1113.1	1119.6	1106.6	1103.4	1106.6	1100.1	1109.9	1103.4	1083.9
45°	1025.5	1025.5	1028.7	1038.5	1025.5	1022.3	1022.3	1015.8	1025.5	1012.5	993.0
47.5°	960.6	963.8	967.1	973.6	963.8	954.1	957.3	944.4	950.9	941.1	915.2
50°	895.7	902.2	905.4	911.9	902.2	895.7	898.9	886.0	886.0	869.7	847.0
52.5°	830.8	834.0	830.8	837.3	830.8	821.0	824.3	811.3	811.3	791.8	769.1
55°	723.7	726.9	730.2	736.7	730.2	720.4	726.9	717.2	717.2	704.2	678.3
57.5°	616.6	619.8	623.1	626.3	626.3	619.8	623.1	616.6	613.4	603.6	584.1
60°	548.4	548.4	548.4	551.7	548.4	545.2	545.2	538.7	538.7	525.7	506.3
62.5°	496.5	499.8	499.8	503.0	499.8	496.5	493.3	486.8	483.5	470.6	454.3
65°	447.8	447.8	444.6	451.1	447.8	444.6	444.6	438.1	431.6	418.6	402.4
67.5°	389.4	392.7	389.4	392.7	392.7	389.4	386.2	379.7	376.4	366.7	347.2
70°	327.8	327.8	327.8	331.0	327.8	327.8	331.0	321.3	318.0	305.1	288.8
72.5°	266.1	269.4	269.4	266.1	269.4	262.9	262.9	262.9	259.6	246.6	230.4
75°	204.5	207.7	207.7	210.9	207.7	204.5	204.5	201.2	198.0	188.2	175.2
77.5°	152.5	152.5	155.8	155.8	155.8	152.5	152.5	146.0	146.0	139.5	126.6
80°	110.3	110.3	107.1	110.3	110.3	107.1	107.1	103.8	103.8	97.4	87.6
82.5°	71.4	74.6	74.6	74.6	74.6	71.4	71.4	71.4	68.2	64.9	58.4
85°	45.4	45.4	45.4	45.4	48.7	45.4	48.7	45.4	45.4	38.9	35.7
87.5°	19.5	19.5	19.5	22.7	22.7	19.5	19.5	19.5	19.5	19.5	16.2
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°	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4
2.5°	2106.2	2109.4	2099.7	2112.7	2102.9	2106.2	2109.4	2106.2	2093.2	2093.2	2128.9
5°	2093.2	2099.7	2089.9	2106.2	2099.7	2099.7	2106.2	2102.9	2089.9	2093.2	2125.6
7.5°	2080.2	2089.9	2083.5	2099.7	2089.9	2089.9	2096.4	2096.4	2083.5	2086.7	2115.9
10°	2060.7	2073.7	2070.5	2086.7	2077.0	2077.0	2086.7	2086.7	2073.7	2077.0	2106.2
12.5°	2044.5	2057.5	2054.2	2070.5	2064.0	2067.2	2070.5	2077.0	2060.7	2067.2	2093.2
15°	2018.5	2031.5	2031.5	2047.8	2041.3	2047.8	2054.2	2064.0	2051.0	2051.0	2077.0
17.5°	1989.3	2005.6	2005.6	2018.5	2018.5	2021.8	2034.8	2044.5	2031.5	2034.8	2057.5
20°	1956.9	1976.4	1976.4	1992.6	1989.3	1995.8	2005.6	2015.3	2002.3	2002.3	2028.3
22.5°	1924.4	1940.7	1943.9	1953.6	1953.6	1956.9	1966.6	1973.1	1956.9	1956.9	1982.8
25°	1879.0	1895.2	1898.5	1905.0	1898.5	1898.5	1905.0	1911.5	1895.2	1895.2	1917.9
27.5°	1817.3	1833.6	1833.6	1830.3	1823.8	1827.1	1823.8	1827.1	1810.8	1807.6	1830.3
30°	1726.5	1736.2	1736.2	1733.0	1723.2	1723.2	1713.5	1716.7	1694.0	1694.0	1713.5
32.5°	1603.2	1612.9	1606.4	1599.9	1586.9	1580.4	1573.9	1570.7	1548.0	1548.0	1570.7
35°	1457.1	1463.6	1453.9	1440.9	1424.7	1414.9	1405.2	1392.2	1376.0	1379.2	1392.2
37.5°	1307.8	1307.8	1294.9	1268.9	1255.9	1239.7	1223.5	1223.5	1197.5	1194.3	1204.0
40°	1181.3	1168.3	1145.6	1109.9	1087.2	1070.9	1048.2	1035.2	1015.8	1015.8	1032.0
42.5°	1067.7	1041.7	1012.5	963.8	941.1	921.7	892.4	879.5	856.7	853.5	863.2
45°	967.1	941.1	898.9	847.0	817.8	795.1	752.9	736.7	717.2	714.0	720.4
47.5°	886.0	856.7	804.8	736.7	707.5	678.3	636.1	613.4	597.1	587.4	597.1
50°	814.6	775.6	720.4	649.1	610.1	584.1	532.2	509.5	486.8	480.3	483.5
52.5°	736.7	697.7	639.3	564.7	529.0	490.0	441.4	408.9	389.4	379.7	389.4
55°	652.3	613.4	554.9	480.3	441.4	405.7	353.7	327.8	305.1	295.3	305.1
57.5°	561.4	525.7	473.8	399.2	363.5	331.0	282.3	256.4	233.7	227.2	233.7
60°	483.5	454.3	402.4	331.0	301.8	266.1	223.9	198.0	178.5	175.2	178.5
62.5°	431.6	399.2	350.5	282.3	253.1	223.9	185.0	159.0	142.8	139.5	142.8
65°	379.7	344.0	298.6	240.1	210.9	188.2	149.3	126.6	110.3	107.1	110.3
67.5°	321.3	288.8	249.9	198.0	175.2	152.5	120.1	97.4	84.4	81.1	84.4
70°	266.1	236.9	198.0	159.0	136.3	120.1	90.9	74.6	61.7	58.4	61.7
72.5°	210.9	185.0	152.5	120.1	107.1	90.9	71.4	55.2	45.4	42.2	45.4
75°	162.3	142.8	116.8	87.6	77.9	68.2	48.7	38.9	32.5	29.2	32.5
77.5°	113.6	100.6	81.1	64.9	55.2	48.7	35.7	26.0	22.7	19.5	22.7
80°	77.9	68.2	55.2	42.2	35.7	29.2	22.7	16.2	13.0	13.0	13.0
82.5°	51.9	42.2	32.5	26.0	22.7	19.5	13.0	9.7	9.7	6.5	6.5
85°	29.2	26.0	19.5	16.2	13.0	9.7	6.5	6.5	3.2	3.2	3.2
87.5°	13.0	9.7	6.5	6.5	3.2	3.2	3.2	3.2	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°	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4
2.5°	2119.1	2109.4	2122.4	2109.4	2102.9	2109.4	2102.9	2122.4	2106.2	2093.2	2106.2
5°	2115.9	2102.9	2115.9	2106.2	2096.4	2099.7	2093.2	2112.7	2093.2	2083.5	2089.9
7.5°	2109.4	2099.7	2106.2	2096.4	2086.7	2089.9	2083.5	2099.7	2080.2	2070.5	2077.0
10°	2099.7	2089.9	2093.2	2086.7	2077.0	2077.0	2070.5	2083.5	2060.7	2047.8	2054.2
12.5°	2086.7	2073.7	2080.2	2070.5	2057.5	2057.5	2051.0	2060.7	2038.0	2025.0	2028.3
15°	2070.5	2057.5	2057.5	2047.8	2034.8	2034.8	2021.8	2031.5	2005.6	1992.6	1992.6
17.5°	2051.0	2034.8	2034.8	2025.0	2008.8	2005.6	1995.8	2005.6	1976.4	1963.4	1963.4
20°	2021.8	2008.8	2005.6	1999.1	1982.8	1979.6	1966.6	1969.9	1947.2	1937.4	1934.2
22.5°	1982.8	1969.9	1973.1	1963.4	1950.4	1947.2	1934.2	1943.9	1921.2	1911.5	1914.7
25°	1914.7	1908.2	1914.7	1911.5	1901.7	1901.7	1895.2	1901.7	1882.2	1875.8	1879.0
27.5°	1836.8	1833.6	1836.8	1836.8	1830.3	1830.3	1830.3	1840.1	1820.6	1817.3	1817.3
30°	1723.2	1723.2	1726.5	1729.7	1729.7	1736.2	1733.0	1745.9	1733.0	1726.5	1733.0
32.5°	1573.9	1586.9	1596.7	1596.7	1596.7	1603.2	1609.6	1619.4	1606.4	1609.6	1609.6
35°	1405.2	1414.9	1421.4	1437.6	1427.9	1450.6	1457.1	1470.1	1466.9	1473.3	1470.1
37.5°	1217.0	1229.9	1242.9	1265.6	1262.4	1288.4	1301.3	1327.3	1320.8	1333.8	1340.3
40°	1041.7	1061.2	1080.7	1096.9	1109.9	1135.8	1161.8	1194.3	1204.0	1213.7	1217.0
42.5°	873.0	892.4	924.9	947.6	967.1	1009.3	1045.0	1083.9	1093.6	1113.1	1119.6
45°	736.7	752.9	791.8	821.0	837.3	898.9	941.1	989.8	1006.0	1028.7	1038.5
47.5°	610.1	639.3	678.3	714.0	736.7	801.6	856.7	908.7	931.4	957.3	970.3
50°	499.8	532.2	584.1	616.6	649.1	720.4	782.1	837.3	860.0	889.2	902.2
52.5°	408.9	444.6	493.3	529.0	564.7	639.3	704.2	756.1	785.4	804.8	824.3
55°	321.3	360.2	408.9	447.8	477.1	558.2	613.4	665.3	684.7	701.0	710.7
57.5°	249.9	279.1	327.8	360.2	395.9	467.3	522.5	561.4	577.7	597.1	603.6
60°	194.7	223.9	269.4	301.8	334.3	402.4	457.6	496.5	512.7	529.0	538.7
62.5°	155.8	185.0	227.2	256.4	285.6	347.2	395.9	434.9	454.3	470.6	480.3
65°	123.3	149.3	185.0	214.2	236.9	292.1	340.8	376.4	395.9	412.1	421.9
67.5°	97.4	120.1	152.5	172.0	194.7	240.1	282.3	314.8	331.0	350.5	360.2
70°	74.6	90.9	120.1	136.3	152.5	191.5	223.9	256.4	272.6	285.6	292.1
72.5°	55.2	68.2	90.9	103.8	113.6	146.0	172.0	194.7	207.7	220.7	227.2
75°	38.9	48.7	64.9	74.6	81.1	103.8	126.6	142.8	152.5	162.3	172.0
77.5°	26.0	32.5	42.2	48.7	55.2	71.4	84.4	97.4	107.1	116.8	120.1
80°	16.2	22.7	29.2	32.5	35.7	45.4	58.4	64.9	71.4	77.9	81.1
82.5°	9.7	13.0	16.2	19.5	22.7	29.2	35.7	42.2	45.4	51.9	55.2
85°	3.2	6.5	6.5	9.7	9.7	16.2	19.5	22.7	26.0	29.2	32.5
87.5°	0.0	0.0	3.2	3.2	3.2	3.2	6.5	6.5	6.5	6.5	6.5
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: P251959

CATALOG NUMBER: LD4B50D010TE EU4B30508027 4LBDW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4	2109.4
2.5°	2119.1	2109.4	2102.9	2099.7	2122.4	2093.2	2106.2	2109.4
5°	2106.2	2096.4	2089.9	2086.7	2106.2	2080.2	2089.9	2096.4
7.5°	2086.7	2080.2	2070.5	2067.2	2086.7	2057.5	2070.5	2073.7
10°	2064.0	2054.2	2047.8	2044.5	2060.7	2031.5	2044.5	2044.5
12.5°	2034.8	2028.3	2015.3	2015.3	2028.3	2002.3	2012.1	2012.1
15°	1995.8	1989.3	1976.4	1976.4	1989.3	1963.4	1973.1	1973.1
17.5°	1963.4	1956.9	1947.2	1943.9	1956.9	1930.9	1940.7	1937.4
20°	1937.4	1930.9	1917.9	1917.9	1927.7	1901.7	1911.5	1911.5
22.5°	1914.7	1911.5	1898.5	1898.5	1911.5	1885.5	1892.0	1885.5
25°	1879.0	1875.8	1862.8	1866.0	1872.5	1846.5	1856.3	1849.8
27.5°	1820.6	1820.6	1807.6	1804.4	1814.1	1791.4	1797.9	1794.6
30°	1729.7	1733.0	1716.7	1716.7	1720.0	1700.5	1710.2	1707.0
32.5°	1606.4	1609.6	1596.7	1593.4	1603.2	1586.9	1593.4	1593.4
35°	1470.1	1473.3	1463.6	1463.6	1473.3	1463.6	1463.6	1460.4
37.5°	1333.8	1340.3	1333.8	1337.0	1343.5	1333.8	1340.3	1337.0
40°	1223.5	1229.9	1220.2	1226.7	1233.2	1223.5	1233.2	1226.7
42.5°	1122.9	1132.6	1126.1	1132.6	1139.1	1132.6	1139.1	1129.3
45°	1048.2	1054.7	1051.5	1054.7	1061.2	1058.0	1061.2	1058.0
47.5°	976.8	989.8	983.3	989.8	999.5	993.0	999.5	989.8
50°	911.9	921.7	918.4	924.9	928.1	924.9	931.4	921.7
52.5°	827.5	837.3	834.0	834.0	840.5	834.0	840.5	834.0
55°	717.2	720.4	720.4	723.7	720.4	717.2	720.4	714.0
57.5°	610.1	616.6	606.9	616.6	613.4	610.1	610.1	603.6
60°	542.0	551.7	545.2	551.7	548.4	548.4	548.4	545.2
62.5°	486.8	493.3	486.8	490.0	490.0	490.0	486.8	483.5
65°	425.1	434.9	428.4	431.6	428.4	425.1	428.4	425.1
67.5°	363.5	366.7	366.7	363.5	363.5	363.5	363.5	357.0
70°	295.3	298.6	295.3	301.8	298.6	295.3	298.6	292.1
72.5°	230.4	233.7	230.4	233.7	230.4	230.4	230.4	230.4
75°	172.0	175.2	175.2	175.2	175.2	175.2	168.8	175.2
77.5°	123.3	123.3	123.3	126.6	123.3	123.3	123.3	123.3
80°	84.4	84.4	84.4	87.6	84.4	87.6	84.4	87.6
82.5°	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2
85°	29.2	32.5	32.5	29.2	29.2	29.2	29.2	29.2
87.5°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)