

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: P251806

Luminaire Tested: **LD4B50D010TE EU4B30508040 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251806
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: LD4B50D010TE EU4B30508040 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4118.0 lumens
Efficiency: N/A
Efficacy: 70.1 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

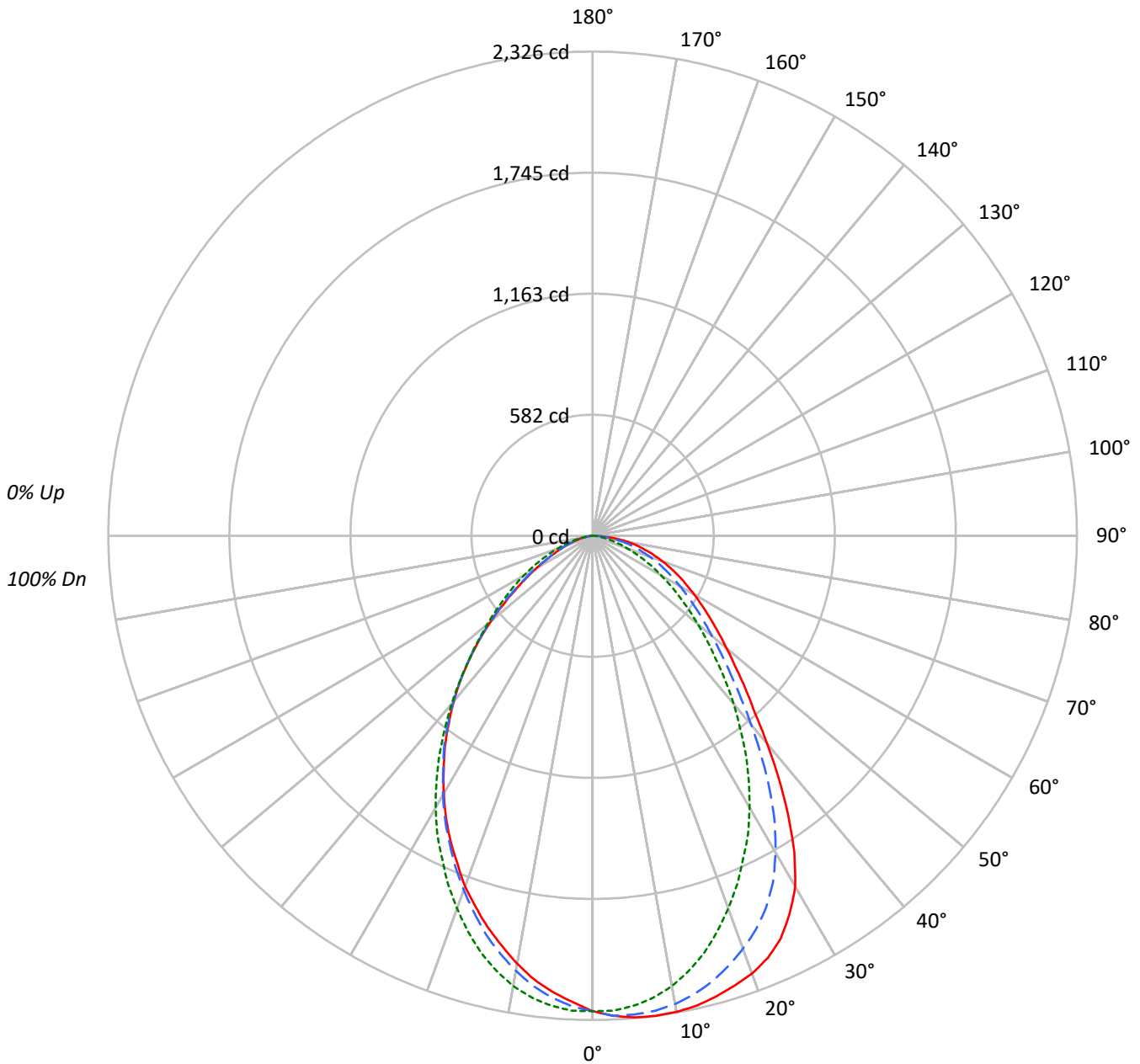
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	222575	222575	222575
5°	227211	221703	215178
10°	229838	217320	206543
15°	231133	209157	196394
20°	232119	197500	185843
25°	229712	184000	173795
30°	219049	169624	160925
35°	194797	152573	147147
40°	165835	134105	131866
45°	142857	115251	114768
50°	127314	99613	96429
55°	117019	85976	77005
60°	109582	73971	60268
65°	105341	62379	46997
70°	101128	50065	38041
75°	97903	39688	29107
80°	98610	27613	17735
85°	82524	19680	7827



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.8	5.2
10°-20°	587.8	14.3
20°-30°	822.0	20.0
30°-40°	844.9	20.5
40°-50°	685.8	16.7
50°-60°	482.8	11.7
60°-70°	297.3	7.2
70°-80°	148.5	3.6
80°-90°	35.3	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°	1623.5	39.4
0°-40°	2468.4	59.9
0°-60°	3637.0	88.3
0°-90°	4118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4118.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2284	2284	2284	2284	2284	
5°	2322	2308	2266	2228	2200	222
15°	2291	2217	2073	1982	1946	647
25°	2136	1971	1711	1627	1616	976
35°	1637	1479	1282	1244	1237	1018
45°	1036	935	836	836	833	806
55°	689	604	506	464	453	619
65°	457	383	270	207	204	452
75°	260	204	105	77	77	278
85°	74	49	18	10	7	86
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°	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8
2.5°	2308.4	2311.9	2301.4	2311.9	2297.9	2304.9	2308.4	2301.4	2294.4	2308.4	2308.4
5°	2322.5	2322.5	2311.9	2326.0	2308.4	2311.9	2319.0	2308.4	2297.9	2311.9	2308.4
7.5°	2326.0	2326.0	2311.9	2326.0	2308.4	2311.9	2315.4	2304.9	2294.4	2304.9	2301.4
10°	2322.5	2319.0	2308.4	2322.5	2304.9	2304.9	2308.4	2297.9	2280.3	2290.8	2283.8
12.5°	2311.9	2311.9	2297.9	2311.9	2287.3	2287.3	2290.8	2276.8	2262.7	2262.7	2255.7
15°	2290.8	2290.8	2276.8	2287.3	2266.2	2266.2	2262.7	2248.7	2231.1	2231.1	2217.1
17.5°	2266.2	2266.2	2252.2	2262.7	2238.1	2238.1	2234.6	2213.5	2188.9	2185.4	2167.9
20°	2238.1	2238.1	2220.6	2227.6	2199.5	2199.5	2196.0	2171.4	2143.3	2136.2	2111.7
22.5°	2196.0	2196.0	2178.4	2181.9	2153.8	2150.3	2146.8	2118.7	2090.6	2080.0	2048.4
25°	2136.2	2132.7	2118.7	2118.7	2090.6	2083.5	2076.5	2048.4	2020.3	1999.2	1971.1
27.5°	2048.4	2051.9	2034.4	2037.9	2002.7	1995.7	1992.2	1957.1	1925.4	1904.3	1876.2
30°	1946.5	1936.0	1918.4	1918.4	1890.3	1886.8	1879.8	1848.1	1813.0	1788.4	1756.8
32.5°	1802.5	1798.9	1781.4	1781.4	1749.8	1749.8	1735.7	1704.1	1672.5	1658.4	1626.8
35°	1637.3	1633.8	1619.8	1619.8	1591.6	1595.2	1581.1	1556.5	1524.9	1503.8	1479.2
37.5°	1468.7	1465.2	1451.1	1454.6	1430.0	1430.0	1419.5	1394.9	1370.3	1359.7	1328.1
40°	1303.5	1300.0	1282.4	1293.0	1271.9	1264.9	1261.4	1243.8	1215.7	1201.6	1184.1
42.5°	1152.4	1156.0	1138.4	1145.4	1127.9	1120.8	1117.3	1103.3	1082.2	1068.1	1050.6
45°	1036.5	1029.5	1022.4	1022.4	1004.9	1001.4	997.9	980.3	966.2	952.2	934.6
47.5°	927.6	920.6	913.5	917.0	903.0	899.5	892.4	878.4	860.8	853.8	836.2
50°	839.7	836.2	825.7	825.7	811.6	808.1	801.1	790.6	773.0	762.4	748.4
52.5°	758.9	758.9	748.4	744.9	734.3	730.8	727.3	713.3	699.2	685.1	671.1
55°	688.7	685.1	678.1	678.1	664.1	660.5	657.0	643.0	628.9	618.4	604.3
57.5°	621.9	621.9	614.9	614.9	604.3	597.3	597.3	583.3	565.7	558.7	541.1
60°	562.2	562.2	555.1	555.1	544.6	544.6	537.6	523.5	513.0	498.9	484.9
62.5°	506.0	509.5	502.4	498.9	488.4	484.9	484.9	474.3	456.8	446.2	432.2
65°	456.8	453.2	449.7	446.2	435.7	432.2	432.2	418.1	407.6	393.5	383.0
67.5°	404.1	404.1	397.0	397.0	390.0	386.5	379.5	368.9	358.4	347.8	337.3
70°	354.9	354.9	351.4	351.4	340.8	337.3	333.8	323.2	312.7	302.2	288.1
72.5°	309.2	305.7	302.2	302.2	295.1	291.6	288.1	277.6	267.0	256.5	245.9
75°	260.0	260.0	256.5	256.5	249.5	245.9	245.9	238.9	224.9	217.8	203.8
77.5°	217.8	217.8	214.3	214.3	207.3	207.3	203.8	193.2	186.2	175.7	168.7
80°	175.7	172.2	172.2	168.7	161.6	161.6	158.1	154.6	144.1	137.0	126.5
82.5°	123.0	123.0	123.0	119.5	115.9	115.9	112.4	105.4	98.4	94.9	84.3
85°	73.8	73.8	70.3	66.8	70.3	66.8	63.2	59.7	56.2	52.7	49.2
87.5°	31.6	31.6	28.1	28.1	28.1	28.1	28.1	24.6	21.1	21.1	17.6
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°	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8
2.5°	2287.3	2297.9	2294.4	2290.8	2283.8	2283.8	2283.8	2280.3	2283.8	2283.8	2276.8
5°	2287.3	2294.4	2290.8	2283.8	2276.8	2276.8	2273.3	2266.2	2266.2	2266.2	2252.2
7.5°	2276.8	2283.8	2273.3	2266.2	2259.2	2252.2	2252.2	2241.7	2241.7	2238.1	2224.1
10°	2255.7	2259.2	2245.2	2238.1	2227.6	2224.1	2217.1	2203.0	2199.5	2196.0	2181.9
12.5°	2224.1	2227.6	2210.0	2196.0	2181.9	2178.4	2171.4	2153.8	2146.8	2139.8	2122.2
15°	2178.4	2178.4	2157.3	2139.8	2125.7	2122.2	2104.6	2087.1	2080.0	2073.0	2048.4
17.5°	2125.7	2122.2	2094.1	2076.5	2058.9	2051.9	2034.4	2013.3	1999.2	1992.2	1971.1
20°	2069.5	2058.9	2027.3	2009.8	1988.7	1978.1	1960.6	1932.5	1918.4	1904.3	1883.3
22.5°	2002.7	1988.7	1953.5	1928.9	1907.9	1897.3	1872.7	1848.1	1827.1	1813.0	1788.4
25°	1921.9	1904.3	1865.7	1834.1	1816.5	1806.0	1781.4	1753.3	1732.2	1711.1	1690.0
27.5°	1827.1	1806.0	1767.3	1735.7	1718.1	1700.6	1683.0	1651.4	1633.8	1616.2	1591.6
30°	1711.1	1686.5	1651.4	1623.3	1602.2	1588.1	1567.0	1538.9	1517.9	1507.3	1482.7
32.5°	1584.6	1556.5	1524.9	1496.8	1486.2	1468.7	1451.1	1423.0	1405.4	1394.9	1377.3
35°	1444.1	1423.0	1387.9	1366.8	1349.2	1342.2	1328.1	1300.0	1293.0	1282.4	1261.4
37.5°	1296.5	1278.9	1254.3	1236.8	1222.7	1215.7	1201.6	1184.1	1173.5	1163.0	1152.4
40°	1159.5	1145.4	1124.3	1110.3	1092.7	1082.2	1082.2	1061.1	1054.1	1054.1	1043.5
42.5°	1026.0	1018.9	1001.4	980.3	976.8	966.2	962.7	952.2	945.1	941.6	938.1
45°	913.5	903.0	885.4	874.9	864.3	864.3	853.8	843.3	839.7	836.2	832.7
47.5°	815.1	801.1	787.0	776.5	769.5	766.0	755.4	748.4	744.9	744.9	741.4
50°	727.3	716.8	702.7	692.2	685.1	678.1	671.1	664.1	660.5	657.0	657.0
52.5°	653.5	639.5	625.4	614.9	604.3	600.8	593.8	586.8	583.3	579.7	576.2
55°	586.8	576.2	558.7	548.1	537.6	537.6	527.0	516.5	509.5	506.0	502.4
57.5°	523.5	513.0	495.4	484.9	477.8	470.8	463.8	456.8	449.7	442.7	435.7
60°	467.3	456.8	439.2	425.1	421.6	414.6	407.6	393.5	386.5	379.5	372.4
62.5°	414.6	400.5	386.5	372.4	368.9	361.9	351.4	340.8	330.3	323.2	312.7
65°	365.4	354.9	337.3	326.8	316.2	312.7	302.2	288.1	277.6	270.5	260.0
67.5°	319.7	305.7	288.1	277.6	270.5	263.5	253.0	242.4	231.9	221.4	210.8
70°	274.1	263.5	245.9	235.4	228.4	221.4	210.8	196.8	186.2	175.7	168.7
72.5°	231.9	217.8	203.8	193.2	186.2	179.2	168.7	158.1	147.6	140.5	130.0
75°	193.2	179.2	168.7	154.6	151.1	144.1	133.5	123.0	112.4	105.4	98.4
77.5°	154.6	144.1	130.0	123.0	115.9	108.9	101.9	91.4	84.3	73.8	66.8
80°	115.9	105.4	94.9	87.8	80.8	77.3	70.3	63.2	56.2	49.2	45.7
82.5°	77.3	70.3	59.7	56.2	52.7	49.2	42.2	38.6	35.1	31.6	28.1
85°	42.2	38.6	35.1	28.1	28.1	24.6	21.1	21.1	17.6	17.6	14.1
87.5°	17.6	14.1	14.1	10.5	10.5	10.5	7.0	7.0	7.0	3.5	3.5
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°	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8
2.5°	2280.3	2266.2	2266.2	2266.2	2255.7	2259.2	2262.7	2266.2	2262.7	2252.2	2262.7
5°	2255.7	2241.7	2241.7	2234.6	2227.6	2227.6	2227.6	2231.1	2227.6	2217.1	2220.6
7.5°	2224.1	2206.5	2203.0	2196.0	2188.9	2185.4	2185.4	2185.4	2181.9	2167.9	2174.9
10°	2174.9	2157.3	2150.3	2146.8	2136.2	2132.7	2129.2	2125.7	2122.2	2108.1	2115.2
12.5°	2115.2	2101.1	2087.1	2083.5	2073.0	2066.0	2062.5	2062.5	2055.4	2041.4	2048.4
15°	2044.9	2023.8	2013.3	2006.2	1995.7	1988.7	1981.6	1985.2	1981.6	1967.6	1971.1
17.5°	1960.6	1939.5	1928.9	1925.4	1911.4	1904.3	1900.8	1900.8	1897.3	1883.3	1886.8
20°	1869.2	1848.1	1841.1	1834.1	1827.1	1820.0	1816.5	1813.0	1809.5	1795.4	1806.0
22.5°	1777.9	1753.3	1742.7	1742.7	1728.7	1725.2	1721.6	1725.2	1721.6	1707.6	1714.6
25°	1683.0	1658.4	1651.4	1640.8	1633.8	1630.3	1630.3	1630.3	1626.8	1619.8	1626.8
27.5°	1577.6	1560.0	1549.5	1546.0	1538.9	1535.4	1531.9	1535.4	1535.4	1524.9	1531.9
30°	1472.2	1458.1	1451.1	1447.6	1437.0	1433.5	1437.0	1437.0	1437.0	1426.5	1437.0
32.5°	1366.8	1356.2	1352.7	1342.2	1335.2	1335.2	1335.2	1338.7	1335.2	1328.1	1338.7
35°	1261.4	1247.3	1243.8	1240.3	1240.3	1233.3	1240.3	1236.8	1243.8	1233.3	1240.3
37.5°	1148.9	1141.9	1138.4	1138.4	1131.4	1134.9	1134.9	1134.9	1141.9	1131.4	1138.4
40°	1043.5	1036.5	1036.5	1036.5	1033.0	1033.0	1033.0	1036.5	1040.0	1033.0	1040.0
42.5°	938.1	934.6	934.6	931.1	927.6	931.1	934.6	934.6	938.1	931.1	934.6
45°	836.2	832.7	836.2	832.7	832.7	829.2	832.7	836.2	836.2	832.7	832.7
47.5°	741.4	741.4	737.8	737.8	737.8	737.8	737.8	737.8	737.8	730.8	737.8
50°	657.0	650.0	653.5	650.0	650.0	646.5	646.5	643.0	639.5	636.0	636.0
52.5°	576.2	569.2	569.2	565.7	562.2	562.2	558.7	555.1	551.6	544.6	544.6
55°	498.9	491.9	488.4	484.9	481.4	477.8	474.3	470.8	463.8	460.3	460.3
57.5°	428.7	421.6	414.6	414.6	407.6	404.1	397.0	390.0	386.5	379.5	379.5
60°	365.4	358.4	347.8	344.3	340.8	333.8	323.2	319.7	316.2	309.2	312.7
62.5°	305.7	295.1	284.6	281.1	277.6	270.5	263.5	256.5	253.0	256.5	256.5
65°	249.5	238.9	231.9	224.9	221.4	214.3	210.8	207.3	207.3	207.3	210.8
67.5°	200.3	189.7	182.7	179.2	172.2	168.7	168.7	168.7	168.7	168.7	168.7
70°	158.1	151.1	144.1	137.0	137.0	133.5	133.5	133.5	133.5	133.5	133.5
72.5°	119.5	112.4	108.9	108.9	105.4	105.4	105.4	105.4	101.9	101.9	105.4
75°	87.8	84.3	80.8	80.8	80.8	77.3	77.3	77.3	77.3	77.3	77.3
77.5°	63.2	59.7	59.7	56.2	56.2	56.2	56.2	56.2	56.2	52.7	52.7
80°	42.2	38.6	38.6	38.6	38.6	35.1	35.1	35.1	35.1	35.1	35.1
82.5°	24.6	24.6	24.6	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
85°	14.1	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	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: P251806

CATALOG NUMBER: LD4B50D010TE EU4B30508040 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8	2283.8
2.5°	2241.7	2255.7	2259.2	2248.7	2252.2	2245.2	2248.7	2241.7
5°	2203.0	2213.5	2217.1	2210.0	2210.0	2203.0	2206.5	2199.5
7.5°	2153.8	2164.4	2167.9	2160.8	2160.8	2153.8	2153.8	2150.3
10°	2097.6	2101.1	2108.1	2097.6	2101.1	2094.1	2094.1	2087.1
12.5°	2027.3	2034.4	2041.4	2030.8	2030.8	2027.3	2027.3	2016.8
15°	1953.5	1960.6	1964.1	1957.1	1957.1	1953.5	1950.0	1946.5
17.5°	1876.2	1879.8	1886.8	1876.2	1883.3	1876.2	1876.2	1869.2
20°	1788.4	1798.9	1802.5	1791.9	1795.4	1791.9	1791.9	1791.9
22.5°	1704.1	1711.1	1714.6	1707.6	1711.1	1704.1	1707.6	1700.6
25°	1616.2	1619.8	1623.3	1616.2	1623.3	1619.8	1616.2	1616.2
27.5°	1524.9	1528.4	1531.9	1524.9	1531.9	1528.4	1531.9	1524.9
30°	1426.5	1433.5	1440.6	1433.5	1437.0	1433.5	1433.5	1430.0
32.5°	1328.1	1335.2	1342.2	1335.2	1342.2	1335.2	1338.7	1331.6
35°	1236.8	1240.3	1243.8	1236.8	1240.3	1240.3	1240.3	1236.8
37.5°	1134.9	1141.9	1141.9	1138.4	1145.4	1141.9	1141.9	1134.9
40°	1036.5	1040.0	1043.5	1036.5	1040.0	1036.5	1040.0	1036.5
42.5°	934.6	941.6	945.1	938.1	938.1	938.1	934.6	938.1
45°	829.2	836.2	843.3	832.7	836.2	836.2	836.2	832.7
47.5°	734.3	734.3	737.8	734.3	737.8	730.8	737.8	734.3
50°	636.0	636.0	643.0	636.0	636.0	636.0	636.0	636.0
52.5°	541.1	544.6	544.6	537.6	541.1	537.6	541.1	537.6
55°	453.2	453.2	456.8	453.2	453.2	453.2	453.2	453.2
57.5°	376.0	379.5	379.5	376.0	379.5	376.0	376.0	376.0
60°	312.7	312.7	312.7	309.2	312.7	309.2	312.7	309.2
62.5°	253.0	256.5	256.5	253.0	256.5	253.0	253.0	253.0
65°	207.3	207.3	207.3	207.3	207.3	207.3	207.3	203.8
67.5°	165.1	165.1	168.7	165.1	168.7	168.7	168.7	168.7
70°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
72.5°	101.9	101.9	105.4	101.9	101.9	101.9	101.9	101.9
75°	77.3	77.3	77.3	77.3	77.3	73.8	73.8	77.3
77.5°	52.7	52.7	52.7	52.7	52.7	52.7	52.7	56.2
80°	35.1	35.1	35.1	35.1	31.6	31.6	35.1	31.6
82.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
85°	10.5	10.5	7.0	7.0	7.0	7.0	7.0	7.0
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)