

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: P251805

Luminaire Tested: **LD4B50D010TE EU4B30508035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251805
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 EU4B30508035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4078.0 lumens
Efficiency: N/A
Efficacy: 69.4 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

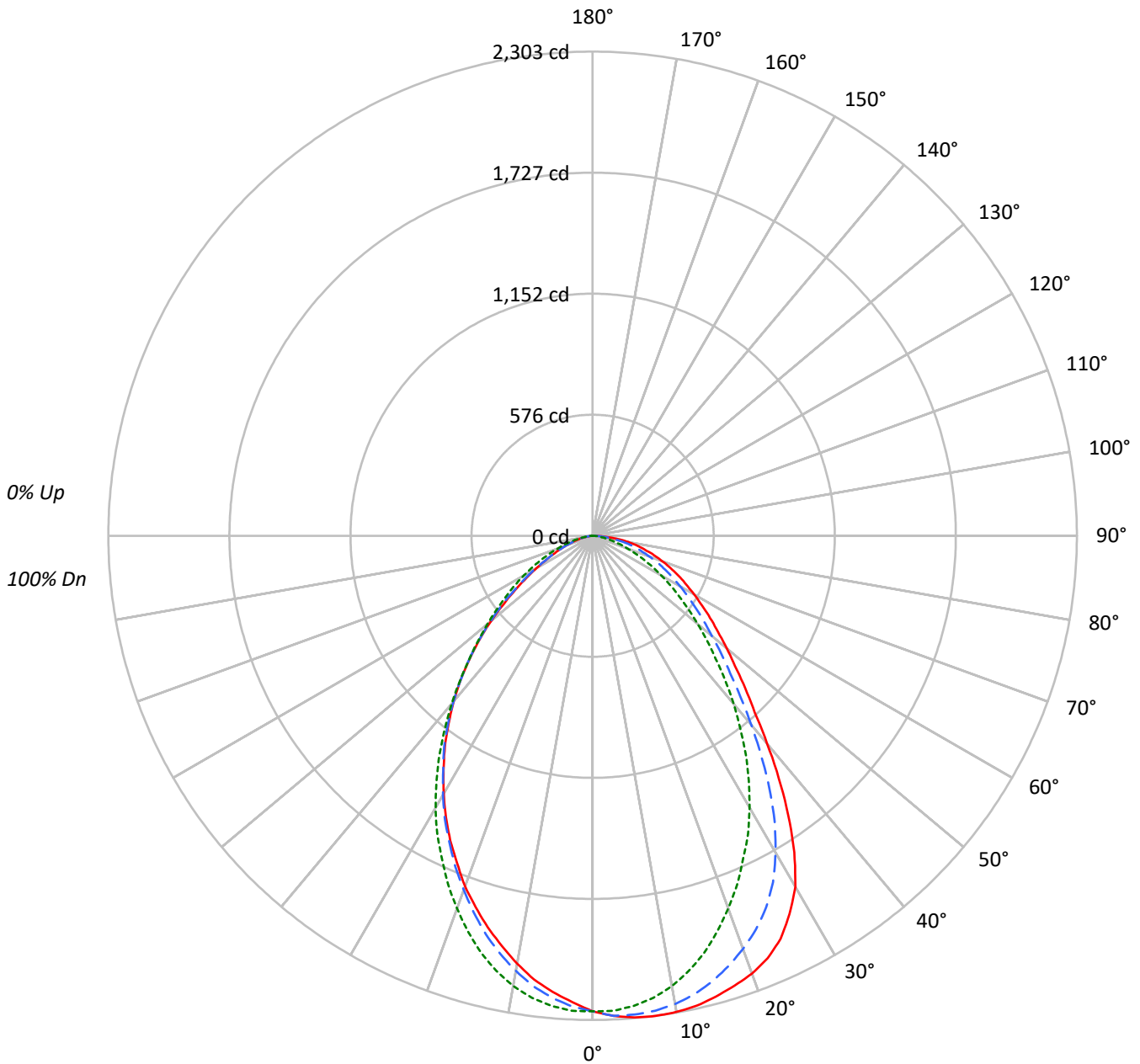
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	220411	220411	220411
5°	225000	219551	213084
10°	227602	215202	204534
15°	228893	207129	194487
20°	229869	195592	184038
25°	227486	182215	172107
30°	216922	167981	159361
35°	192905	151097	145720
40°	164232	132795	130581
45°	141465	114134	113652
50°	126085	98658	95489
55°	115881	85126	76257
60°	108510	73249	59683
65°	104303	61779	46536
70°	100131	49581	37670
75°	96961	39312	28806
80°	97656	27332	17567
85°	81741	19457	7827



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.7	5.2
10°-20°	582.0	14.3
20°-30°	814.0	20.0
30°-40°	836.7	20.5
40°-50°	679.1	16.7
50°-60°	478.2	11.7
60°-70°	294.4	7.2
70°-80°	147.0	3.6
80°-90°	34.9	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°	1607.7	39.4
0°-40°	2444.4	59.9
0°-60°	3601.7	88.3
0°-90°	4078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4078.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2262	2262	2262	2262	2262	
5°	2300	2286	2244	2206	2178	219
15°	2269	2196	2053	1962	1928	641
25°	2116	1952	1694	1611	1600	967
35°	1621	1465	1270	1232	1225	1008
45°	1026	926	828	828	825	798
55°	682	598	501	459	449	613
65°	452	379	268	205	202	447
75°	258	202	104	76	76	275
85°	73	49	17	10	7	85
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°	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6
2.5°	2286.0	2289.5	2279.0	2289.5	2275.5	2282.5	2286.0	2279.0	2272.1	2286.0	2286.0
5°	2299.9	2299.9	2289.5	2303.4	2286.0	2289.5	2296.4	2286.0	2275.5	2289.5	2286.0
7.5°	2303.4	2303.4	2289.5	2303.4	2286.0	2289.5	2292.9	2282.5	2272.1	2282.5	2279.0
10°	2299.9	2296.4	2286.0	2299.9	2282.5	2282.5	2286.0	2275.5	2258.2	2268.6	2261.6
12.5°	2289.5	2289.5	2275.5	2289.5	2265.1	2265.1	2268.6	2254.7	2240.8	2240.8	2233.8
15°	2268.6	2268.6	2254.7	2265.1	2244.2	2244.2	2240.8	2226.8	2209.4	2209.4	2195.5
17.5°	2244.2	2244.2	2230.3	2240.8	2216.4	2216.4	2212.9	2192.0	2167.7	2164.2	2146.8
20°	2216.4	2216.4	2199.0	2206.0	2178.1	2178.1	2174.6	2150.3	2122.5	2115.5	2091.1
22.5°	2174.6	2174.6	2157.2	2160.7	2132.9	2129.4	2125.9	2098.1	2070.3	2059.8	2028.5
25°	2115.5	2112.0	2098.1	2098.1	2070.3	2063.3	2056.3	2028.5	2000.7	1979.8	1952.0
27.5°	2028.5	2032.0	2014.6	2018.1	1983.3	1976.3	1972.8	1938.0	1906.7	1885.9	1858.0
30°	1927.6	1917.2	1899.8	1899.8	1871.9	1868.5	1861.5	1830.2	1795.4	1771.0	1739.7
32.5°	1784.9	1781.5	1764.1	1764.1	1732.8	1732.8	1718.8	1687.5	1656.2	1642.3	1611.0
35°	1621.4	1617.9	1604.0	1604.0	1576.2	1579.7	1565.7	1541.4	1510.1	1489.2	1464.8
37.5°	1454.4	1450.9	1437.0	1440.5	1416.1	1416.1	1405.7	1381.3	1357.0	1346.5	1315.2
40°	1290.9	1287.4	1270.0	1280.4	1259.6	1252.6	1249.1	1231.7	1203.9	1190.0	1172.6
42.5°	1141.3	1144.7	1127.3	1134.3	1116.9	1109.9	1106.5	1092.5	1071.7	1057.7	1040.4
45°	1026.4	1019.5	1012.5	1012.5	995.1	991.6	988.2	970.8	956.8	942.9	925.5
47.5°	918.6	911.6	904.7	908.1	894.2	890.7	883.8	869.9	852.5	845.5	828.1
50°	831.6	828.1	817.7	817.7	803.7	800.3	793.3	782.9	765.5	755.0	741.1
52.5°	751.6	751.6	741.1	737.6	727.2	723.7	720.2	706.3	692.4	678.5	664.6
55°	682.0	678.5	671.5	671.5	657.6	654.1	650.7	636.7	622.8	612.4	598.5
57.5°	615.9	615.9	608.9	608.9	598.5	591.5	591.5	577.6	560.2	553.2	535.8
60°	556.7	556.7	549.8	549.8	539.3	539.3	532.4	518.4	508.0	494.1	480.2
62.5°	501.0	504.5	497.6	494.1	483.6	480.2	480.2	469.7	452.3	441.9	428.0
65°	452.3	448.8	445.4	441.9	431.4	428.0	428.0	414.1	403.6	389.7	379.3
67.5°	400.1	400.1	393.2	393.2	386.2	382.7	375.8	365.3	354.9	344.5	334.0
70°	351.4	351.4	347.9	347.9	337.5	334.0	330.5	320.1	309.7	299.2	285.3
72.5°	306.2	302.7	299.2	299.2	292.3	288.8	285.3	274.9	264.4	254.0	243.6
75°	257.5	257.5	254.0	254.0	247.0	243.6	243.6	236.6	222.7	215.7	201.8
77.5°	215.7	215.7	212.2	212.2	205.3	205.3	201.8	191.4	184.4	174.0	167.0
80°	174.0	170.5	170.5	167.0	160.1	160.1	156.6	153.1	142.7	135.7	125.3
82.5°	121.8	121.8	121.8	118.3	114.8	114.8	111.3	104.4	97.4	93.9	83.5
85°	73.1	73.1	69.6	66.1	69.6	66.1	62.6	59.2	55.7	52.2	48.7
87.5°	31.3	31.3	27.8	27.8	27.8	27.8	27.8	24.4	20.9	20.9	17.4
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°	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6
2.5°	2265.1	2275.5	2272.1	2268.6	2261.6	2261.6	2261.6	2258.2	2261.6	2261.6	2254.7
5°	2265.1	2272.1	2268.6	2261.6	2254.7	2254.7	2251.2	2244.2	2244.2	2244.2	2230.3
7.5°	2254.7	2261.6	2251.2	2244.2	2237.3	2230.3	2230.3	2219.9	2219.9	2216.4	2202.5
10°	2233.8	2237.3	2223.4	2216.4	2206.0	2202.5	2195.5	2181.6	2178.1	2174.6	2160.7
12.5°	2202.5	2206.0	2188.6	2174.6	2160.7	2157.2	2150.3	2132.9	2125.9	2119.0	2101.6
15°	2157.2	2157.2	2136.4	2119.0	2105.1	2101.6	2084.2	2066.8	2059.8	2052.9	2028.5
17.5°	2105.1	2101.6	2073.7	2056.3	2038.9	2032.0	2014.6	1993.7	1979.8	1972.8	1952.0
20°	2049.4	2038.9	2007.6	1990.2	1969.4	1958.9	1941.5	1913.7	1899.8	1885.9	1865.0
22.5°	1983.3	1969.4	1934.6	1910.2	1889.3	1878.9	1854.5	1830.2	1809.3	1795.4	1771.0
25°	1903.2	1885.9	1847.6	1816.3	1798.9	1788.4	1764.1	1736.2	1715.4	1694.5	1673.6
27.5°	1809.3	1788.4	1750.2	1718.8	1701.4	1684.0	1666.6	1635.3	1617.9	1600.5	1576.2
30°	1694.5	1670.1	1635.3	1607.5	1586.6	1572.7	1551.8	1524.0	1503.1	1492.7	1468.3
32.5°	1569.2	1541.4	1510.1	1482.2	1471.8	1454.4	1437.0	1409.2	1391.8	1381.3	1363.9
35°	1430.0	1409.2	1374.4	1353.5	1336.1	1329.1	1315.2	1287.4	1280.4	1270.0	1249.1
37.5°	1283.9	1266.5	1242.2	1224.8	1210.8	1203.9	1190.0	1172.6	1162.1	1151.7	1141.3
40°	1148.2	1134.3	1113.4	1099.5	1082.1	1071.7	1071.7	1050.8	1043.8	1043.8	1033.4
42.5°	1016.0	1009.0	991.6	970.8	967.3	956.8	953.4	942.9	936.0	932.5	929.0
45°	904.7	894.2	876.8	866.4	855.9	855.9	845.5	835.1	831.6	828.1	824.6
47.5°	807.2	793.3	779.4	769.0	762.0	758.5	748.1	741.1	737.6	737.6	734.2
50°	720.2	709.8	695.9	685.4	678.5	671.5	664.6	657.6	654.1	650.7	650.7
52.5°	647.2	633.3	619.3	608.9	598.5	595.0	588.0	581.1	577.6	574.1	570.6
55°	581.1	570.6	553.2	542.8	532.4	532.4	521.9	511.5	504.5	501.0	497.6
57.5°	518.4	508.0	490.6	480.2	473.2	466.2	459.3	452.3	445.4	438.4	431.4
60°	462.8	452.3	434.9	421.0	417.5	410.6	403.6	389.7	382.7	375.8	368.8
62.5°	410.6	396.7	382.7	368.8	365.3	358.4	347.9	337.5	327.1	320.1	309.7
65°	361.9	351.4	334.0	323.6	313.1	309.7	299.2	285.3	274.9	267.9	257.5
67.5°	316.6	302.7	285.3	274.9	267.9	261.0	250.5	240.1	229.6	219.2	208.8
70°	271.4	261.0	243.6	233.1	226.2	219.2	208.8	194.8	184.4	174.0	167.0
72.5°	229.6	215.7	201.8	191.4	184.4	177.5	167.0	156.6	146.1	139.2	128.7
75°	191.4	177.5	167.0	153.1	149.6	142.7	132.2	121.8	111.3	104.4	97.4
77.5°	153.1	142.7	128.7	121.8	114.8	107.9	100.9	90.5	83.5	73.1	66.1
80°	114.8	104.4	93.9	87.0	80.0	76.5	69.6	62.6	55.7	48.7	45.2
82.5°	76.5	69.6	59.2	55.7	52.2	48.7	41.8	38.3	34.8	31.3	27.8
85°	41.8	38.3	34.8	27.8	27.8	24.4	20.9	20.9	17.4	17.4	13.9
87.5°	17.4	13.9	13.9	10.4	10.4	10.4	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°	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6
2.5°	2258.2	2244.2	2244.2	2244.2	2233.8	2237.3	2240.8	2244.2	2240.8	2230.3	2240.8
5°	2233.8	2219.9	2219.9	2212.9	2206.0	2206.0	2206.0	2209.4	2206.0	2195.5	2199.0
7.5°	2202.5	2185.1	2181.6	2174.6	2167.7	2164.2	2164.2	2164.2	2160.7	2146.8	2153.8
10°	2153.8	2136.4	2129.4	2125.9	2115.5	2112.0	2108.5	2105.1	2101.6	2087.7	2094.6
12.5°	2094.6	2080.7	2066.8	2063.3	2052.9	2045.9	2042.4	2042.4	2035.5	2021.5	2028.5
15°	2025.0	2004.2	1993.7	1986.8	1976.3	1969.4	1962.4	1965.9	1962.4	1948.5	1952.0
17.5°	1941.5	1920.6	1910.2	1906.7	1892.8	1885.9	1882.4	1882.4	1878.9	1865.0	1868.5
20°	1851.1	1830.2	1823.2	1816.3	1809.3	1802.3	1798.9	1795.4	1791.9	1778.0	1788.4
22.5°	1760.6	1736.2	1725.8	1725.8	1711.9	1708.4	1704.9	1708.4	1704.9	1691.0	1698.0
25°	1666.6	1642.3	1635.3	1624.9	1617.9	1614.5	1614.5	1614.5	1611.0	1604.0	1611.0
27.5°	1562.3	1544.9	1534.4	1531.0	1524.0	1520.5	1517.0	1520.5	1520.5	1510.1	1517.0
30°	1457.9	1444.0	1437.0	1433.5	1423.1	1419.6	1423.1	1423.1	1423.1	1412.6	1423.1
32.5°	1353.5	1343.1	1339.6	1329.1	1322.2	1322.2	1322.2	1325.7	1322.2	1315.2	1325.7
35°	1249.1	1235.2	1231.7	1228.2	1228.2	1221.3	1228.2	1224.8	1231.7	1221.3	1228.2
37.5°	1137.8	1130.8	1127.3	1127.3	1120.4	1123.9	1123.9	1123.9	1130.8	1120.4	1127.3
40°	1033.4	1026.4	1026.4	1026.4	1023.0	1023.0	1023.0	1026.4	1029.9	1023.0	1029.9
42.5°	929.0	925.5	925.5	922.0	918.6	922.0	925.5	925.5	929.0	922.0	925.5
45°	828.1	824.6	828.1	824.6	824.6	821.1	824.6	828.1	828.1	824.6	824.6
47.5°	734.2	734.2	730.7	730.7	730.7	730.7	730.7	730.7	730.7	723.7	730.7
50°	650.7	643.7	647.2	643.7	643.7	640.2	640.2	636.7	633.3	629.8	629.8
52.5°	570.6	563.7	563.7	560.2	556.7	556.7	553.2	549.8	546.3	539.3	539.3
55°	494.1	487.1	483.6	480.2	476.7	473.2	469.7	466.2	459.3	455.8	455.8
57.5°	424.5	417.5	410.6	410.6	403.6	400.1	393.2	386.2	382.7	375.8	375.8
60°	361.9	354.9	344.5	341.0	337.5	330.5	320.1	316.6	313.1	306.2	309.7
62.5°	302.7	292.3	281.8	278.4	274.9	267.9	261.0	254.0	250.5	254.0	254.0
65°	247.0	236.6	229.6	222.7	219.2	212.2	208.8	205.3	205.3	205.3	208.8
67.5°	198.3	187.9	180.9	177.5	170.5	167.0	167.0	167.0	167.0	167.0	167.0
70°	156.6	149.6	142.7	135.7	135.7	132.2	132.2	132.2	132.2	132.2	132.2
72.5°	118.3	111.3	107.9	107.9	104.4	104.4	104.4	104.4	100.9	100.9	104.4
75°	87.0	83.5	80.0	80.0	80.0	76.5	76.5	76.5	76.5	76.5	76.5
77.5°	62.6	59.2	59.2	55.7	55.7	55.7	55.7	55.7	55.7	52.2	52.2
80°	41.8	38.3	38.3	38.3	38.3	34.8	34.8	34.8	34.8	34.8	34.8
82.5°	24.4	24.4	24.4	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
85°	13.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
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: P251805

CATALOG NUMBER: LD4B50D010TE EU4B30508035 4LBLWW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6	2261.6
2.5°	2219.9	2233.8	2237.3	2226.8	2230.3	2223.4	2226.8	2219.9
5°	2181.6	2192.0	2195.5	2188.6	2188.6	2181.6	2185.1	2178.1
7.5°	2132.9	2143.3	2146.8	2139.9	2139.9	2132.9	2132.9	2129.4
10°	2077.2	2080.7	2087.7	2077.2	2080.7	2073.7	2073.7	2066.8
12.5°	2007.6	2014.6	2021.5	2011.1	2011.1	2007.6	2007.6	1997.2
15°	1934.6	1941.5	1945.0	1938.0	1938.0	1934.6	1931.1	1927.6
17.5°	1858.0	1861.5	1868.5	1858.0	1865.0	1858.0	1858.0	1851.1
20°	1771.0	1781.5	1784.9	1774.5	1778.0	1774.5	1774.5	1774.5
22.5°	1687.5	1694.5	1698.0	1691.0	1694.5	1687.5	1691.0	1684.0
25°	1600.5	1604.0	1607.5	1600.5	1607.5	1604.0	1600.5	1600.5
27.5°	1510.1	1513.6	1517.0	1510.1	1517.0	1513.6	1517.0	1510.1
30°	1412.6	1419.6	1426.6	1419.6	1423.1	1419.6	1419.6	1416.1
32.5°	1315.2	1322.2	1329.1	1322.2	1329.1	1322.2	1325.7	1318.7
35°	1224.8	1228.2	1231.7	1224.8	1228.2	1228.2	1228.2	1224.8
37.5°	1123.9	1130.8	1130.8	1127.3	1134.3	1130.8	1130.8	1123.9
40°	1026.4	1029.9	1033.4	1026.4	1029.9	1026.4	1029.9	1026.4
42.5°	925.5	932.5	936.0	929.0	929.0	929.0	925.5	929.0
45°	821.1	828.1	835.1	824.6	828.1	828.1	828.1	824.6
47.5°	727.2	727.2	730.7	727.2	730.7	723.7	730.7	727.2
50°	629.8	629.8	636.7	629.8	629.8	629.8	629.8	629.8
52.5°	535.8	539.3	539.3	532.4	535.8	532.4	535.8	532.4
55°	448.8	448.8	452.3	448.8	448.8	448.8	448.8	448.8
57.5°	372.3	375.8	375.8	372.3	375.8	372.3	372.3	372.3
60°	309.7	309.7	309.7	306.2	309.7	306.2	309.7	306.2
62.5°	250.5	254.0	254.0	250.5	254.0	250.5	250.5	250.5
65°	205.3	205.3	205.3	205.3	205.3	205.3	205.3	201.8
67.5°	163.5	163.5	167.0	163.5	167.0	167.0	167.0	167.0
70°	132.2	132.2	132.2	132.2	132.2	132.2	132.2	132.2
72.5°	100.9	100.9	104.4	100.9	100.9	100.9	100.9	100.9
75°	76.5	76.5	76.5	76.5	76.5	73.1	73.1	76.5
77.5°	52.2	52.2	52.2	52.2	52.2	52.2	52.2	55.7
80°	34.8	34.8	34.8	34.8	31.3	31.3	34.8	31.3
82.5°	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
85°	10.4	10.4	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)