

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: P251962

Luminaire Tested: **LD4B50D010TE EU4B30508040 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251962
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 EU4B30508040 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE 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: 4649.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

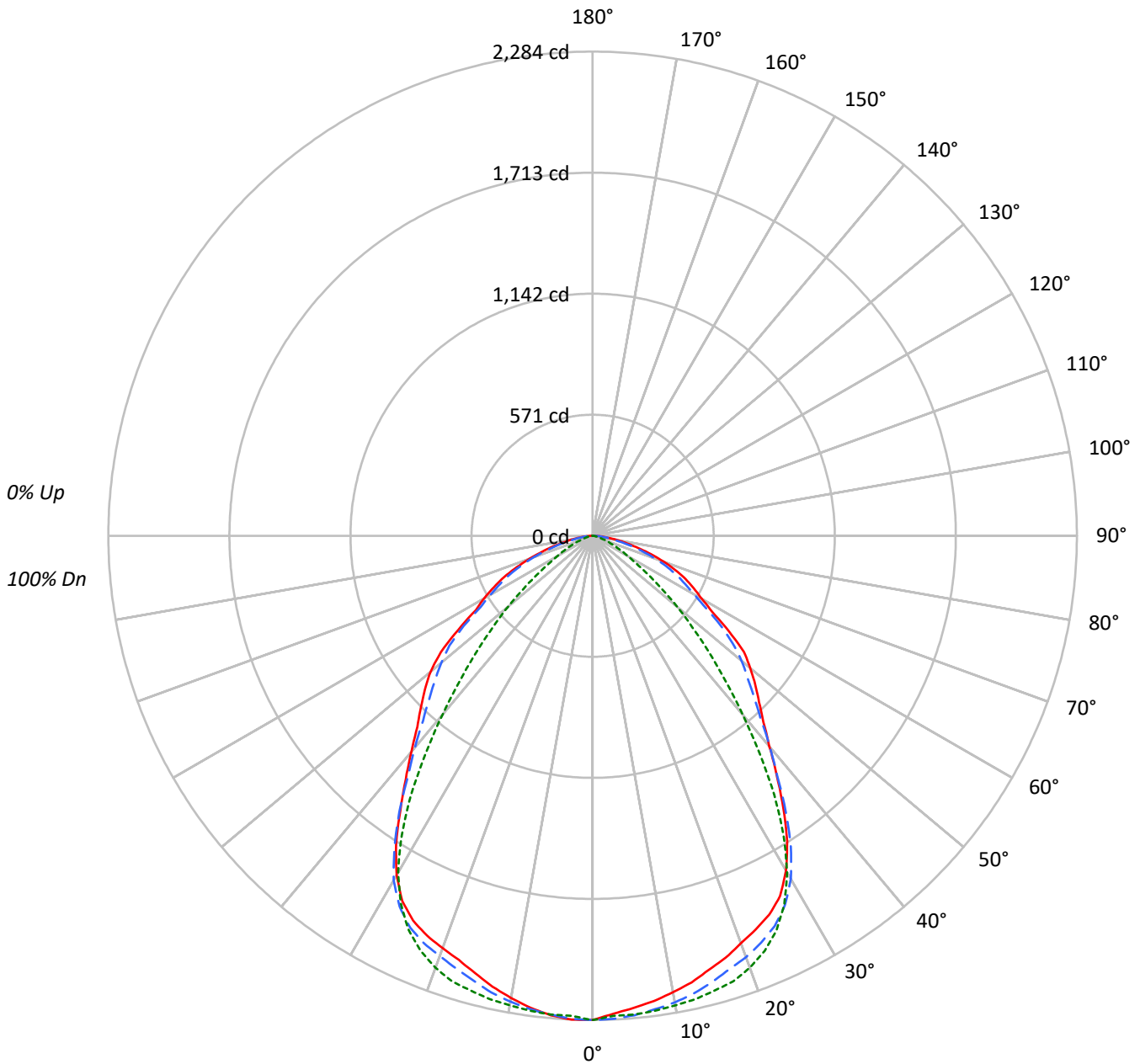
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	222623	222623	222623
5°	218661	221762	222104
10°	216320	222584	219101
15°	213819	224100	215585
20°	212134	224891	214685
25°	212012	220701	215410
30°	205264	206445	208032
35°	186480	177700	188158
40°	164982	139945	169002
45°	153056	106567	157908
50°	147069	78856	151330
55°	133161	54338	131377
60°	115761	36995	115078
65°	111844	26750	106171
70°	101157	18037	90129
75°	83368	11899	71469
80°	67068	7913	53262
85°	55016	3914	35335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.6	4.6
10°-20°	616.6	13.3
20°-30°	931.5	20.0
30°-40°	974.8	21.0
40°-50°	789.5	17.0
50°-60°	574.3	12.4
60°-70°	354.2	7.6
70°-80°	160.0	3.4
80°-90°	32.5	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°	1763.7	37.9
0°-40°	2738.5	58.9
0°-60°	4102.3	88.2
0°-90°	4649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4649.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2284	2284	2284	2284	2284	
5°	2235	2270	2267	2267	2270	212
15°	2119	2179	2221	2172	2137	599
25°	1972	2031	2052	2038	2003	903
35°	1567	1588	1494	1588	1582	977
45°	1110	1075	773	1090	1146	863
55°	784	734	320	742	773	699
65°	485	436	116	429	460	475
75°	221	190	32	165	190	240
85°	49	39	4	28	32	56
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°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2256.2	2256.2	2277.3	2301.9	2280.8	2259.7	2273.8	2266.8	2291.4	2291.4	2280.8
5°	2235.1	2242.2	2259.7	2280.8	2263.3	2242.2	2259.7	2252.7	2277.3	2277.3	2270.3
7.5°	2214.0	2217.6	2238.7	2263.3	2245.7	2224.6	2238.7	2235.1	2256.2	2259.7	2252.7
10°	2185.9	2189.4	2210.5	2235.1	2217.6	2200.0	2214.0	2210.5	2238.7	2238.7	2235.1
12.5°	2157.8	2161.3	2182.4	2203.5	2185.9	2168.4	2182.4	2182.4	2210.5	2214.0	2210.5
15°	2119.2	2126.2	2143.8	2164.8	2154.3	2133.2	2147.3	2147.3	2171.9	2178.9	2178.9
17.5°	2087.5	2091.0	2108.6	2129.7	2115.6	2098.1	2112.1	2112.1	2136.7	2143.8	2143.8
20°	2045.4	2052.4	2070.0	2091.0	2080.5	2066.4	2077.0	2077.0	2105.1	2112.1	2115.6
22.5°	2010.2	2017.2	2031.3	2059.4	2041.8	2031.3	2045.4	2041.8	2073.5	2077.0	2077.0
25°	1971.6	1978.6	1996.2	2013.7	2003.2	1992.6	2003.2	2003.2	2027.8	2031.3	2031.3
27.5°	1915.3	1918.8	1936.4	1954.0	1943.4	1929.4	1943.4	1939.9	1964.5	1968.0	1964.5
30°	1824.0	1831.0	1838.0	1862.6	1852.1	1841.5	1855.6	1848.6	1873.2	1873.2	1869.6
32.5°	1708.0	1708.0	1722.0	1739.6	1725.6	1718.5	1729.1	1732.6	1750.2	1750.2	1739.6
35°	1567.4	1574.4	1585.0	1595.5	1585.0	1577.9	1588.5	1585.0	1606.1	1599.0	1588.5
37.5°	1426.8	1430.3	1440.9	1454.9	1440.9	1430.3	1433.9	1430.3	1447.9	1447.9	1430.3
40°	1296.8	1303.8	1310.9	1324.9	1310.9	1303.8	1307.3	1296.8	1317.9	1310.9	1300.3
42.5°	1191.4	1194.9	1205.4	1212.5	1198.4	1194.9	1198.4	1191.4	1201.9	1194.9	1173.8
45°	1110.5	1110.5	1114.1	1124.6	1110.5	1107.0	1107.0	1100.0	1110.5	1096.5	1075.4
47.5°	1040.3	1043.8	1047.3	1054.3	1043.8	1033.2	1036.7	1022.7	1029.7	1019.2	991.1
50°	970.0	977.0	980.5	987.5	977.0	970.0	973.5	959.4	959.4	941.8	917.2
52.5°	899.7	903.2	899.7	906.7	899.7	889.1	892.6	878.6	878.6	857.5	832.9
55°	783.7	787.2	790.7	797.8	790.7	780.2	787.2	776.7	776.7	762.6	734.5
57.5°	667.7	671.2	674.8	678.3	678.3	671.2	674.8	667.7	664.2	653.7	632.6
60°	593.9	593.9	593.9	597.4	593.9	590.4	590.4	583.4	583.4	569.3	548.2
62.5°	537.7	541.2	541.2	544.7	541.2	537.7	534.2	527.2	523.6	509.6	492.0
65°	485.0	485.0	481.5	488.5	485.0	481.5	481.5	474.4	467.4	453.4	435.8
67.5°	421.7	425.2	421.7	425.2	425.2	421.7	418.2	411.2	407.7	397.1	376.0
70°	355.0	355.0	355.0	358.5	355.0	355.0	358.5	347.9	344.4	330.4	312.8
72.5°	288.2	291.7	291.7	288.2	291.7	284.7	284.7	284.7	281.1	267.1	249.5
75°	221.4	224.9	224.9	228.4	224.9	221.4	221.4	217.9	214.4	203.8	189.8
77.5°	165.2	165.2	168.7	168.7	168.7	165.2	165.2	158.1	158.1	151.1	137.1
80°	119.5	119.5	116.0	119.5	119.5	116.0	116.0	112.5	112.5	105.4	94.9
82.5°	77.3	80.8	80.8	80.8	80.8	77.3	77.3	77.3	73.8	70.3	63.3
85°	49.2	49.2	49.2	49.2	52.7	49.2	52.7	49.2	49.2	42.2	38.7
87.5°	21.1	21.1	21.1	24.6	24.6	21.1	21.1	21.1	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°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2280.8	2284.3	2273.8	2287.9	2277.3	2280.8	2284.3	2280.8	2266.8	2266.8	2305.4
5°	2266.8	2273.8	2263.3	2280.8	2273.8	2273.8	2280.8	2277.3	2263.3	2266.8	2301.9
7.5°	2252.7	2263.3	2256.2	2273.8	2263.3	2263.3	2270.3	2270.3	2256.2	2259.7	2291.4
10°	2231.6	2245.7	2242.2	2259.7	2249.2	2249.2	2259.7	2259.7	2245.7	2249.2	2280.8
12.5°	2214.0	2228.1	2224.6	2242.2	2235.1	2238.7	2242.2	2249.2	2231.6	2238.7	2266.8
15°	2185.9	2200.0	2200.0	2217.6	2210.5	2217.6	2224.6	2235.1	2221.1	2221.1	2249.2
17.5°	2154.3	2171.9	2171.9	2185.9	2185.9	2189.4	2203.5	2214.0	2200.0	2203.5	2228.1
20°	2119.2	2140.2	2140.2	2157.8	2154.3	2161.3	2171.9	2182.4	2168.4	2168.4	2196.5
22.5°	2084.0	2101.6	2105.1	2115.6	2115.6	2119.2	2129.7	2136.7	2119.2	2119.2	2147.3
25°	2034.8	2052.4	2055.9	2062.9	2055.9	2055.9	2062.9	2070.0	2052.4	2052.4	2077.0
27.5°	1968.0	1985.6	1985.6	1982.1	1975.1	1978.6	1975.1	1978.6	1961.0	1957.5	1982.1
30°	1869.6	1880.2	1880.2	1876.7	1866.1	1866.1	1855.6	1859.1	1834.5	1834.5	1855.6
32.5°	1736.1	1746.6	1739.6	1732.6	1718.5	1711.5	1704.5	1701.0	1676.4	1676.4	1701.0
35°	1577.9	1585.0	1574.4	1560.4	1542.8	1532.3	1521.7	1507.7	1490.1	1493.6	1507.7
37.5°	1416.3	1416.3	1402.2	1374.1	1360.1	1342.5	1324.9	1324.9	1296.8	1293.3	1303.8
40°	1279.2	1265.2	1240.6	1201.9	1177.3	1159.7	1135.1	1121.1	1100.0	1100.0	1117.6
42.5°	1156.2	1128.1	1096.5	1043.8	1019.2	998.1	966.5	952.4	927.8	924.3	934.8
45°	1047.3	1019.2	973.5	917.2	885.6	861.0	815.3	797.8	776.7	773.2	780.2
47.5°	959.4	927.8	871.6	797.8	766.1	734.5	688.8	664.2	646.6	636.1	646.6
50°	882.1	839.9	780.2	702.9	660.7	632.6	576.4	551.8	527.2	520.1	523.6
52.5°	797.8	755.6	692.3	611.5	572.8	530.7	478.0	442.8	421.7	411.2	421.7
55°	706.4	664.2	601.0	520.1	478.0	439.3	383.1	355.0	330.4	319.8	330.4
57.5°	608.0	569.3	513.1	432.3	393.6	358.5	305.7	277.6	253.0	246.0	253.0
60°	523.6	492.0	435.8	358.5	326.8	288.2	242.5	214.4	193.3	189.8	193.3
62.5°	467.4	432.3	379.6	305.7	274.1	242.5	200.3	172.2	154.6	151.1	154.6
65°	411.2	372.5	323.3	260.1	228.4	203.8	161.7	137.1	119.5	116.0	119.5
67.5°	347.9	312.8	270.6	214.4	189.8	165.2	130.0	105.4	91.4	87.9	91.4
70°	288.2	256.5	214.4	172.2	147.6	130.0	98.4	80.8	66.8	63.3	66.8
72.5°	228.4	200.3	165.2	130.0	116.0	98.4	77.3	59.7	49.2	45.7	49.2
75°	175.7	154.6	126.5	94.9	84.3	73.8	52.7	42.2	35.1	31.6	35.1
77.5°	123.0	108.9	87.9	70.3	59.7	52.7	38.7	28.1	24.6	21.1	24.6
80°	84.3	73.8	59.7	45.7	38.7	31.6	24.6	17.6	14.1	14.1	14.1
82.5°	56.2	45.7	35.1	28.1	24.6	21.1	14.1	10.5	10.5	7.0	7.0
85°	31.6	28.1	21.1	17.6	14.1	10.5	7.0	7.0	3.5	3.5	3.5
87.5°	14.1	10.5	7.0	7.0	3.5	3.5	3.5	3.5	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°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2294.9	2284.3	2298.4	2284.3	2277.3	2284.3	2277.3	2298.4	2280.8	2266.8	2280.8
5°	2291.4	2277.3	2291.4	2280.8	2270.3	2273.8	2266.8	2287.9	2266.8	2256.2	2263.3
7.5°	2284.3	2273.8	2280.8	2270.3	2259.7	2263.3	2256.2	2273.8	2252.7	2242.2	2249.2
10°	2273.8	2263.3	2266.8	2259.7	2249.2	2249.2	2242.2	2256.2	2231.6	2217.6	2224.6
12.5°	2259.7	2245.7	2252.7	2242.2	2228.1	2228.1	2221.1	2231.6	2207.0	2193.0	2196.5
15°	2242.2	2228.1	2228.1	2217.6	2203.5	2203.5	2189.4	2200.0	2171.9	2157.8	2157.8
17.5°	2221.1	2203.5	2203.5	2193.0	2175.4	2171.9	2161.3	2171.9	2140.2	2126.2	2126.2
20°	2189.4	2175.4	2171.9	2164.8	2147.3	2143.8	2129.7	2133.2	2108.6	2098.1	2094.6
22.5°	2147.3	2133.2	2136.7	2126.2	2112.1	2108.6	2094.6	2105.1	2080.5	2070.0	2073.5
25°	2073.5	2066.4	2073.5	2070.0	2059.4	2059.4	2052.4	2059.4	2038.3	2031.3	2034.8
27.5°	1989.1	1985.6	1989.1	1989.1	1982.1	1982.1	1982.1	1992.6	1971.6	1968.0	1968.0
30°	1866.1	1866.1	1869.6	1873.2	1873.2	1880.2	1876.7	1890.7	1876.7	1869.6	1876.7
32.5°	1704.5	1718.5	1729.1	1729.1	1729.1	1736.1	1743.1	1753.7	1739.6	1743.1	1743.1
35°	1521.7	1532.3	1539.3	1556.9	1546.3	1570.9	1577.9	1592.0	1588.5	1595.5	1592.0
37.5°	1317.9	1331.9	1346.0	1370.6	1367.1	1395.2	1409.3	1437.4	1430.3	1444.4	1451.4
40°	1128.1	1149.2	1170.3	1187.9	1201.9	1230.0	1258.1	1293.3	1303.8	1314.4	1317.9
42.5°	945.4	966.5	1001.6	1026.2	1047.3	1093.0	1131.6	1173.8	1184.3	1205.4	1212.5
45°	797.8	815.3	857.5	889.1	906.7	973.5	1019.2	1071.9	1089.5	1114.1	1124.6
47.5°	660.7	692.3	734.5	773.2	797.8	868.0	927.8	984.0	1008.6	1036.7	1050.8
50°	541.2	576.4	632.6	667.7	702.9	780.2	847.0	906.7	931.3	962.9	977.0
52.5°	442.8	481.5	534.2	572.8	611.5	692.3	762.6	818.8	850.5	871.6	892.6
55°	347.9	390.1	442.8	485.0	516.6	604.5	664.2	720.4	741.5	759.1	769.6
57.5°	270.6	302.2	355.0	390.1	428.8	506.1	565.8	608.0	625.6	646.6	653.7
60°	210.9	242.5	291.7	326.8	362.0	435.8	495.5	537.7	555.3	572.8	583.4
62.5°	168.7	200.3	246.0	277.6	309.3	376.0	428.8	470.9	492.0	509.6	520.1
65°	133.5	161.7	200.3	231.9	256.5	316.3	369.0	407.7	428.8	446.3	456.9
67.5°	105.4	130.0	165.2	186.3	210.9	260.1	305.7	340.9	358.5	379.6	390.1
70°	80.8	98.4	130.0	147.6	165.2	207.3	242.5	277.6	295.2	309.3	316.3
72.5°	59.7	73.8	98.4	112.5	123.0	158.1	186.3	210.9	224.9	239.0	246.0
75°	42.2	52.7	70.3	80.8	87.9	112.5	137.1	154.6	165.2	175.7	186.3
77.5°	28.1	35.1	45.7	52.7	59.7	77.3	91.4	105.4	116.0	126.5	130.0
80°	17.6	24.6	31.6	35.1	38.7	49.2	63.3	70.3	77.3	84.3	87.9
82.5°	10.5	14.1	17.6	21.1	24.6	31.6	38.7	45.7	49.2	56.2	59.7
85°	3.5	7.0	7.0	10.5	10.5	17.6	21.1	24.6	28.1	31.6	35.1
87.5°	0.0	0.0	3.5	3.5	3.5	3.5	7.0	7.0	7.0	7.0	7.0
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: P251962

CATALOG NUMBER: LD4B50D010TE EU4B30508040 4LBDW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2294.9	2284.3	2277.3	2273.8	2298.4	2266.8	2280.8	2284.3
5°	2280.8	2270.3	2263.3	2259.7	2280.8	2252.7	2263.3	2270.3
7.5°	2259.7	2252.7	2242.2	2238.7	2259.7	2228.1	2242.2	2245.7
10°	2235.1	2224.6	2217.6	2214.0	2231.6	2200.0	2214.0	2214.0
12.5°	2203.5	2196.5	2182.4	2182.4	2196.5	2168.4	2178.9	2178.9
15°	2161.3	2154.3	2140.2	2140.2	2154.3	2126.2	2136.7	2136.7
17.5°	2126.2	2119.2	2108.6	2105.1	2119.2	2091.0	2101.6	2098.1
20°	2098.1	2091.0	2077.0	2077.0	2087.5	2059.4	2070.0	2070.0
22.5°	2073.5	2070.0	2055.9	2055.9	2070.0	2041.8	2048.9	2041.8
25°	2034.8	2031.3	2017.2	2020.8	2027.8	1999.7	2010.2	2003.2
27.5°	1971.6	1971.6	1957.5	1954.0	1964.5	1939.9	1947.0	1943.4
30°	1873.2	1876.7	1859.1	1859.1	1862.6	1841.5	1852.1	1848.6
32.5°	1739.6	1743.1	1729.1	1725.6	1736.1	1718.5	1725.6	1725.6
35°	1592.0	1595.5	1585.0	1585.0	1595.5	1585.0	1585.0	1581.5
37.5°	1444.4	1451.4	1444.4	1447.9	1454.9	1444.4	1451.4	1447.9
40°	1324.9	1331.9	1321.4	1328.4	1335.5	1324.9	1335.5	1328.4
42.5°	1216.0	1226.5	1219.5	1226.5	1233.5	1226.5	1233.5	1223.0
45°	1135.1	1142.2	1138.7	1142.2	1149.2	1145.7	1149.2	1145.7
47.5°	1057.8	1071.9	1064.9	1071.9	1082.4	1075.4	1082.4	1071.9
50°	987.5	998.1	994.6	1001.6	1005.1	1001.6	1008.6	998.1
52.5°	896.2	906.7	903.2	903.2	910.2	903.2	910.2	903.2
55°	776.7	780.2	780.2	783.7	780.2	776.7	780.2	773.2
57.5°	660.7	667.7	657.2	667.7	664.2	660.7	660.7	653.7
60°	586.9	597.4	590.4	597.4	593.9	593.9	593.9	590.4
62.5°	527.2	534.2	527.2	530.7	530.7	530.7	527.2	523.6
65°	460.4	470.9	463.9	467.4	463.9	460.4	463.9	460.4
67.5°	393.6	397.1	397.1	393.6	393.6	393.6	393.6	386.6
70°	319.8	323.3	319.8	326.8	323.3	319.8	323.3	316.3
72.5°	249.5	253.0	249.5	253.0	249.5	249.5	249.5	249.5
75°	186.3	189.8	189.8	189.8	189.8	189.8	182.7	189.8
77.5°	133.5	133.5	133.5	137.1	133.5	133.5	133.5	133.5
80°	91.4	91.4	91.4	94.9	91.4	94.9	91.4	94.9
82.5°	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
85°	31.6	35.1	35.1	31.6	31.6	31.6	31.6	31.6
87.5°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)