

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: P251728

Luminaire Tested: **LD4B50D010TE EU4B30508040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251728
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 EU4B30508040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4357.0 lumens
Efficiency: N/A
Efficacy: 74.1 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

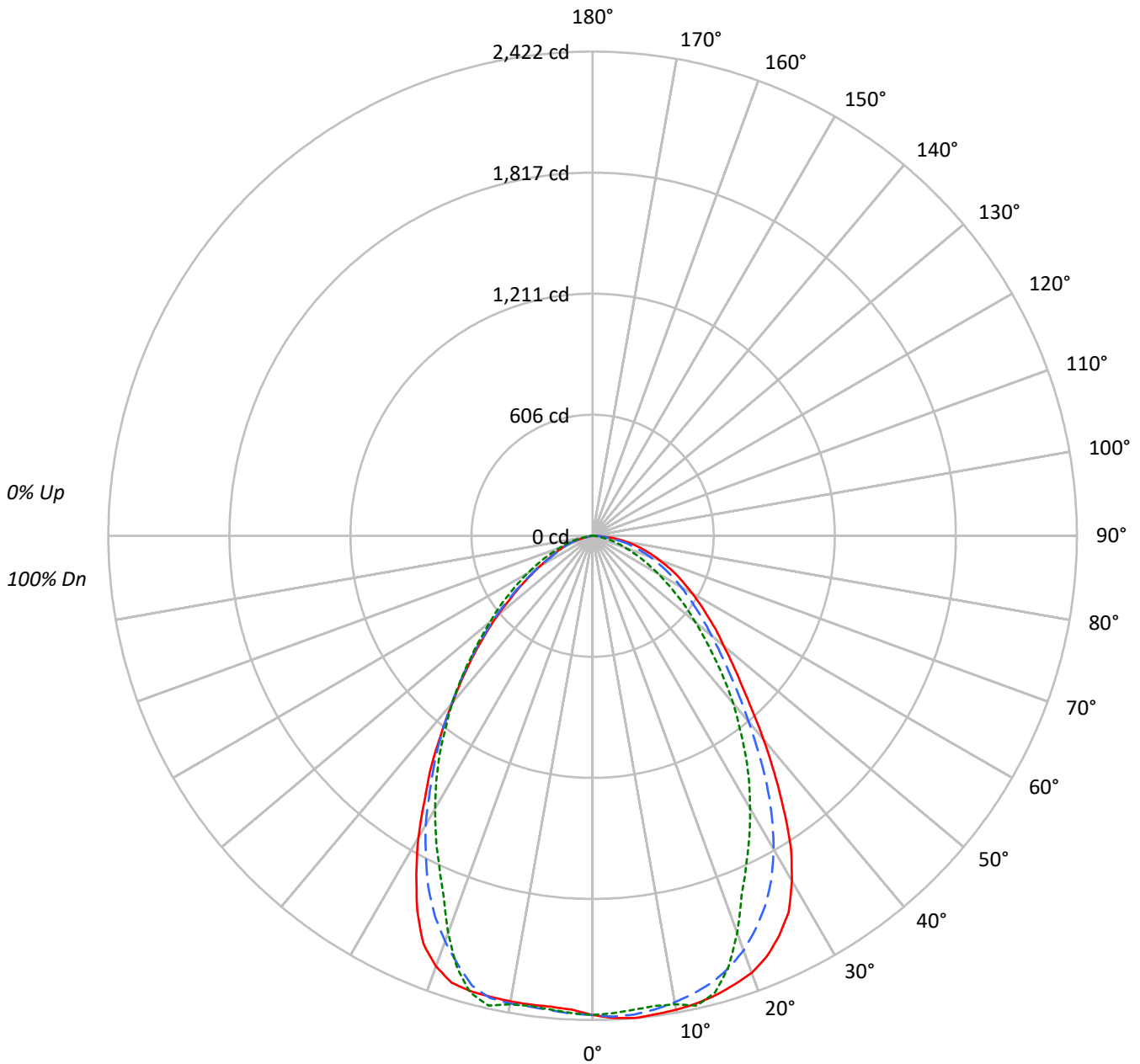
Input Watts (W): 58.77
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	233607	233607	233607
5°	236906	232778	231398
10°	238250	235469	234074
15°	240072	238649	237943
20°	241308	219072	237658
25°	237347	195388	222981
30°	224260	177186	196171
35°	197783	158474	167254
40°	169015	139054	138609
45°	144842	118682	115774
50°	129482	101250	94321
55°	119432	86588	74643
60°	111667	73308	58923
65°	106978	60788	48635
70°	101157	49068	41061
75°	97940	39688	29107
80°	94681	21720	7913
85°	82524	11741	3914



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.7	5.2
10°-20°	655.1	15.0
20°-30°	908.7	20.9
30°-40°	896.9	20.6
40°-50°	703.5	16.1
50°-60°	487.3	11.2
60°-70°	298.6	6.9
70°-80°	149.2	3.4
80°-90°	29.9	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°	1791.6	41.1
0°-40°	2688.5	61.7
0°-60°	3879.3	89.0
0°-90°	4357.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4357.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2397	2397	2397	2397	2397	
5°	2422	2404	2379	2383	2365	230
15°	2379	2313	2365	2330	2358	672
25°	2207	2042	1817	1944	2074	1010
35°	1662	1518	1332	1374	1406	1037
45°	1051	963	861	850	840	821
55°	703	629	510	453	439	633
65°	464	401	264	197	211	458
75°	260	218	105	81	77	276
85°	74	42	10	4	4	84
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°	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0
2.5°	2414.5	2407.5	2404.0	2414.5	2411.0	2418.0	2414.5	2411.0	2404.0	2407.5	2407.5
5°	2421.6	2411.0	2407.5	2414.5	2414.5	2421.6	2418.0	2411.0	2404.0	2407.5	2404.0
7.5°	2414.5	2407.5	2407.5	2411.0	2407.5	2414.5	2407.5	2400.5	2393.4	2397.0	2389.9
10°	2407.5	2397.0	2397.0	2397.0	2397.0	2404.0	2397.0	2386.4	2375.9	2375.9	2368.8
12.5°	2397.0	2386.4	2386.4	2389.9	2382.9	2389.9	2382.9	2365.3	2354.8	2351.3	2344.2
15°	2379.4	2368.8	2368.8	2368.8	2361.8	2365.3	2354.8	2337.2	2323.2	2323.2	2312.6
17.5°	2354.8	2344.2	2340.7	2340.7	2330.2	2333.7	2323.2	2305.6	2284.5	2277.5	2266.9
20°	2326.7	2312.6	2305.6	2305.6	2295.0	2298.5	2284.5	2263.4	2235.3	2224.7	2207.2
22.5°	2277.5	2270.4	2259.9	2256.4	2245.8	2242.3	2228.3	2200.1	2175.5	2158.0	2129.8
25°	2207.2	2203.7	2193.1	2189.6	2175.5	2168.5	2154.4	2122.8	2098.2	2070.1	2042.0
27.5°	2122.8	2108.8	2101.7	2091.2	2077.1	2073.6	2056.0	2027.9	1989.3	1971.7	1936.5
30°	1992.8	1985.7	1978.7	1968.2	1954.1	1947.1	1936.5	1904.9	1873.3	1841.7	1810.0
32.5°	1845.2	1831.1	1820.6	1824.1	1806.5	1799.5	1781.9	1753.8	1725.7	1704.6	1669.4
35°	1662.4	1658.9	1655.4	1648.3	1634.3	1630.8	1616.7	1595.6	1564.0	1539.4	1518.3
37.5°	1490.2	1479.6	1472.6	1472.6	1458.6	1458.6	1448.0	1423.4	1405.8	1388.3	1360.2
40°	1328.5	1310.9	1310.9	1310.9	1296.9	1300.4	1293.4	1268.8	1251.2	1230.1	1212.5
42.5°	1177.4	1170.4	1166.8	1159.8	1152.8	1152.8	1145.8	1131.7	1114.1	1100.1	1082.5
45°	1050.9	1047.4	1043.8	1040.3	1033.3	1029.8	1026.3	1005.2	994.6	980.6	963.0
47.5°	948.9	941.9	938.4	934.9	927.9	924.3	917.3	903.3	892.7	878.6	864.6
50°	854.0	850.5	847.0	847.0	840.0	836.5	829.4	818.9	801.3	794.3	776.7
52.5°	780.2	773.2	766.2	766.2	759.2	759.2	748.6	738.1	720.5	713.5	699.4
55°	702.9	699.4	695.9	695.9	688.9	685.3	681.8	667.8	653.7	643.2	629.1
57.5°	636.1	632.6	629.1	629.1	622.1	618.6	615.1	604.5	590.5	583.4	565.9
60°	572.9	572.9	569.4	565.9	562.3	558.8	555.3	544.8	534.2	523.7	509.6
62.5°	516.6	513.1	509.6	506.1	506.1	502.6	499.1	485.0	478.0	467.4	453.4
65°	463.9	456.9	456.9	453.4	453.4	449.9	446.4	432.3	425.3	414.7	400.7
67.5°	407.7	404.2	400.7	400.7	397.1	397.1	393.6	383.1	372.5	365.5	351.5
70°	355.0	355.0	351.5	351.5	347.9	344.4	344.4	337.4	326.9	316.3	302.3
72.5°	309.3	305.8	302.3	302.3	298.7	298.7	295.2	288.2	281.2	274.1	256.6
75°	260.1	256.6	256.6	256.6	253.1	253.1	249.5	242.5	235.5	228.4	217.9
77.5°	214.4	214.4	210.9	210.9	207.4	207.4	207.4	200.3	193.3	186.3	172.2
80°	168.7	168.7	168.7	165.2	161.7	161.7	161.7	154.6	147.6	140.6	130.0
82.5°	123.0	119.5	119.5	116.0	112.5	112.5	112.5	105.4	101.9	91.4	84.4
85°	73.8	70.3	70.3	66.8	63.3	63.3	63.3	59.7	52.7	49.2	42.2
87.5°	28.1	28.1	28.1	28.1	28.1	24.6	24.6	21.1	21.1	17.6	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°	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0
2.5°	2407.5	2404.0	2404.0	2400.5	2404.0	2397.0	2397.0	2397.0	2397.0	2389.9	2389.9
5°	2400.5	2400.5	2397.0	2393.4	2397.0	2389.9	2393.4	2389.9	2389.9	2379.4	2379.4
7.5°	2386.4	2382.9	2375.9	2372.4	2375.9	2372.4	2372.4	2372.4	2379.4	2372.4	2372.4
10°	2361.8	2358.3	2351.3	2347.8	2347.8	2344.2	2351.3	2358.3	2372.4	2379.4	2393.4
12.5°	2337.2	2330.2	2326.7	2326.7	2330.2	2330.2	2344.2	2361.8	2397.0	2407.5	2421.6
15°	2305.6	2302.1	2302.1	2312.6	2326.7	2337.2	2365.3	2375.9	2379.4	2365.3	2358.3
17.5°	2263.4	2263.4	2266.9	2277.5	2288.0	2288.0	2291.5	2284.5	2277.5	2259.9	2238.8
20°	2193.1	2189.6	2182.6	2182.6	2182.6	2168.5	2175.5	2150.9	2133.4	2112.3	2080.6
22.5°	2105.2	2087.7	2063.1	2045.5	2035.0	2027.9	2010.4	1982.2	1961.1	1947.1	1933.0
25°	2010.4	1982.2	1947.1	1919.0	1901.4	1897.9	1873.3	1848.7	1834.6	1817.0	1810.0
27.5°	1901.4	1869.8	1827.6	1799.5	1785.4	1774.9	1753.8	1729.2	1711.6	1697.6	1687.0
30°	1774.9	1743.2	1708.1	1672.9	1658.9	1641.3	1620.2	1602.7	1585.1	1574.5	1567.5
32.5°	1634.3	1602.7	1567.5	1542.9	1525.3	1511.3	1493.7	1476.1	1462.1	1455.0	1448.0
35°	1490.2	1458.6	1430.4	1405.8	1391.8	1381.2	1367.2	1346.1	1335.5	1332.0	1325.0
37.5°	1335.5	1314.5	1289.9	1268.8	1258.2	1244.2	1237.1	1219.6	1219.6	1205.5	1205.5
40°	1191.4	1177.4	1152.8	1135.2	1128.2	1117.6	1107.1	1100.1	1096.6	1093.0	1089.5
42.5°	1064.9	1043.8	1029.8	1015.7	1005.2	998.1	998.1	987.6	984.1	973.5	970.0
45°	948.9	938.4	913.8	903.3	899.7	889.2	885.7	878.6	868.1	861.1	857.6
47.5°	847.0	836.5	822.4	808.4	801.3	794.3	787.3	776.7	769.7	759.2	755.6
50°	762.7	745.1	731.0	720.5	709.9	706.4	699.4	685.3	678.3	667.8	667.8
52.5°	685.3	671.3	653.7	643.2	632.6	625.6	615.1	604.5	594.0	590.5	579.9
55°	618.6	601.0	583.4	569.4	558.8	548.3	544.8	530.7	516.6	509.6	502.6
57.5°	555.3	537.7	516.6	499.1	492.0	485.0	474.5	460.4	449.9	439.3	432.3
60°	492.0	478.0	456.9	439.3	432.3	421.8	411.2	397.1	386.6	376.1	369.0
62.5°	439.3	418.2	400.7	383.1	372.5	365.5	351.5	340.9	326.9	316.3	305.8
65°	386.6	365.5	347.9	330.4	323.3	312.8	302.3	288.2	274.1	263.6	249.5
67.5°	333.9	316.3	298.7	281.2	274.1	267.1	253.1	239.0	224.9	214.4	200.3
70°	288.2	270.6	253.1	239.0	232.0	224.9	210.9	196.8	186.3	172.2	161.7
72.5°	246.0	232.0	214.4	200.3	193.3	186.3	172.2	161.7	147.6	140.6	130.0
75°	203.8	189.8	175.7	161.7	154.6	147.6	137.1	126.5	116.0	105.4	98.4
77.5°	161.7	147.6	133.6	123.0	116.0	112.5	101.9	91.4	80.8	73.8	63.3
80°	119.5	105.4	94.9	84.4	77.3	73.8	63.3	56.2	49.2	38.7	35.1
82.5°	73.8	63.3	56.2	49.2	45.7	42.2	35.1	28.1	24.6	21.1	17.6
85°	38.7	35.1	28.1	24.6	21.1	21.1	17.6	14.1	10.5	10.5	7.0
87.5°	14.1	10.5	10.5	7.0	7.0	7.0	7.0	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	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°	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0
2.5°	2382.9	2386.4	2389.9	2393.4	2389.9	2389.9	2397.0	2382.9	2393.4	2393.4	2379.4
5°	2375.9	2382.9	2379.4	2386.4	2379.4	2379.4	2382.9	2375.9	2382.9	2382.9	2372.4
7.5°	2368.8	2375.9	2375.9	2379.4	2375.9	2375.9	2379.4	2368.8	2375.9	2375.9	2365.3
10°	2400.5	2407.5	2404.0	2400.5	2389.9	2382.9	2386.4	2368.8	2375.9	2375.9	2365.3
12.5°	2411.0	2407.5	2393.4	2386.4	2379.4	2372.4	2375.9	2361.8	2368.8	2368.8	2361.8
15°	2340.7	2333.7	2323.2	2326.7	2319.6	2316.1	2323.2	2316.1	2330.2	2337.2	2330.2
17.5°	2221.2	2217.7	2210.7	2210.7	2210.7	2214.2	2224.7	2224.7	2245.8	2259.9	2266.9
20°	2066.6	2063.1	2066.6	2073.6	2077.1	2091.2	2115.8	2129.8	2158.0	2182.6	2200.1
22.5°	1926.0	1933.0	1943.6	1957.6	1961.1	1978.7	2010.4	2024.4	2059.6	2087.7	2105.2
25°	1806.5	1817.0	1824.1	1834.6	1838.1	1859.2	1887.3	1904.9	1943.6	1964.7	1985.7
27.5°	1687.0	1701.1	1704.6	1718.6	1718.6	1739.7	1764.3	1781.9	1806.5	1827.6	1845.2
30°	1571.0	1574.5	1585.1	1588.6	1595.6	1616.7	1630.8	1641.3	1669.4	1680.0	1690.5
32.5°	1444.5	1458.6	1465.6	1469.1	1465.6	1483.2	1497.2	1504.2	1514.8	1528.9	1535.9
35°	1325.0	1332.0	1335.5	1342.6	1346.1	1349.6	1356.6	1360.2	1374.2	1377.7	1381.2
37.5°	1205.5	1216.1	1212.5	1216.1	1216.1	1219.6	1226.6	1223.1	1233.6	1237.1	1233.6
40°	1086.0	1086.0	1093.0	1089.5	1093.0	1089.5	1096.6	1096.6	1096.6	1100.1	1096.6
42.5°	966.5	970.0	966.5	973.5	966.5	970.0	970.0	966.5	970.0	966.5	966.5
45°	857.6	857.6	857.6	857.6	850.5	850.5	857.6	854.0	850.5	847.0	843.5
47.5°	752.1	755.6	748.6	752.1	748.6	745.1	741.6	741.6	738.1	731.0	727.5
50°	664.3	657.2	653.7	657.2	653.7	650.2	646.7	639.7	636.1	629.1	625.6
52.5°	576.4	569.4	562.3	562.3	558.8	551.8	548.3	541.2	537.7	530.7	530.7
55°	499.1	492.0	485.0	481.5	474.5	467.4	463.9	456.9	453.4	446.4	439.3
57.5°	425.3	414.7	407.7	404.2	400.7	390.1	386.6	379.6	372.5	365.5	362.0
60°	358.5	347.9	337.4	333.9	330.4	319.8	316.3	305.8	302.3	295.2	291.7
62.5°	295.2	288.2	274.1	270.6	263.6	256.6	246.0	242.5	239.0	242.5	242.5
65°	239.0	228.4	217.9	214.4	207.4	200.3	196.8	193.3	196.8	196.8	200.3
67.5°	189.8	179.2	168.7	168.7	165.2	158.2	158.2	158.2	161.7	161.7	165.2
70°	151.1	144.1	137.1	133.6	133.6	130.0	133.6	133.6	137.1	137.1	137.1
72.5°	119.5	116.0	112.5	109.0	109.0	109.0	109.0	109.0	109.0	109.0	112.5
75°	91.4	87.9	84.4	84.4	80.8	80.8	80.8	80.8	80.8	80.8	77.3
77.5°	59.7	56.2	52.7	52.7	49.2	45.7	45.7	42.2	42.2	42.2	42.2
80°	31.6	28.1	24.6	21.1	21.1	17.6	17.6	17.6	17.6	14.1	14.1
82.5°	14.1	10.5	10.5	10.5	10.5	7.0	7.0	7.0	7.0	7.0	7.0
85°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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: P251728

CATALOG NUMBER: LD4B50D010TE EU4B30508040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0	2397.0
2.5°	2386.4	2379.4	2386.4	2389.9	2382.9	2379.4	2386.4	2372.4
5°	2382.9	2372.4	2375.9	2379.4	2372.4	2368.8	2375.9	2365.3
7.5°	2375.9	2372.4	2375.9	2379.4	2368.8	2368.8	2375.9	2365.3
10°	2375.9	2368.8	2372.4	2379.4	2372.4	2372.4	2379.4	2365.3
12.5°	2372.4	2361.8	2372.4	2375.9	2368.8	2368.8	2375.9	2361.8
15°	2347.8	2347.8	2351.3	2358.3	2354.8	2358.3	2368.8	2358.3
17.5°	2295.0	2302.1	2316.1	2326.7	2333.7	2340.7	2351.3	2344.2
20°	2231.8	2242.3	2259.9	2270.4	2284.5	2288.0	2305.6	2291.5
22.5°	2133.4	2154.4	2168.5	2179.1	2189.6	2200.1	2214.2	2210.7
25°	2013.9	2027.9	2038.5	2049.0	2063.1	2070.1	2077.1	2073.6
27.5°	1869.8	1876.8	1890.9	1897.9	1904.9	1911.9	1926.0	1908.4
30°	1711.6	1715.1	1722.2	1732.7	1732.7	1739.7	1746.8	1743.2
32.5°	1549.9	1549.9	1557.0	1564.0	1560.5	1564.0	1578.1	1560.5
35°	1391.8	1388.3	1398.8	1402.3	1402.3	1398.8	1409.4	1405.8
37.5°	1237.1	1240.7	1244.2	1247.7	1240.7	1247.7	1247.7	1240.7
40°	1096.6	1093.0	1100.1	1103.6	1100.1	1103.6	1103.6	1089.5
42.5°	970.0	963.0	966.5	970.0	966.5	970.0	966.5	959.5
45°	847.0	843.5	843.5	847.0	840.0	840.0	840.0	840.0
47.5°	731.0	727.5	731.0	731.0	724.0	724.0	727.5	724.0
50°	625.6	622.1	622.1	622.1	618.6	618.6	622.1	622.1
52.5°	530.7	523.7	523.7	523.7	523.7	523.7	527.2	520.2
55°	435.8	435.8	435.8	435.8	439.3	439.3	439.3	439.3
57.5°	358.5	362.0	362.0	365.5	362.0	365.5	365.5	362.0
60°	298.7	295.2	298.7	298.7	302.3	302.3	302.3	302.3
62.5°	246.0	246.0	246.0	249.5	249.5	249.5	253.1	249.5
65°	203.8	203.8	207.4	207.4	207.4	210.9	210.9	210.9
67.5°	168.7	168.7	168.7	168.7	172.2	172.2	175.7	172.2
70°	140.6	140.6	140.6	140.6	140.6	144.1	144.1	144.1
72.5°	112.5	112.5	112.5	112.5	116.0	116.0	116.0	116.0
75°	77.3	77.3	77.3	80.8	77.3	77.3	77.3	77.3
77.5°	38.7	38.7	38.7	38.7	38.7	35.1	35.1	35.1
80°	14.1	14.1	14.1	14.1	14.1	14.1	10.5	14.1
82.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)