

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: P251705

Luminaire Tested: **LD4B30D010 EU4B30509027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251705
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: LD4B30D010 EU4B30509027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1939.0 lumens
Efficiency: N/A
Efficacy: 69.3 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

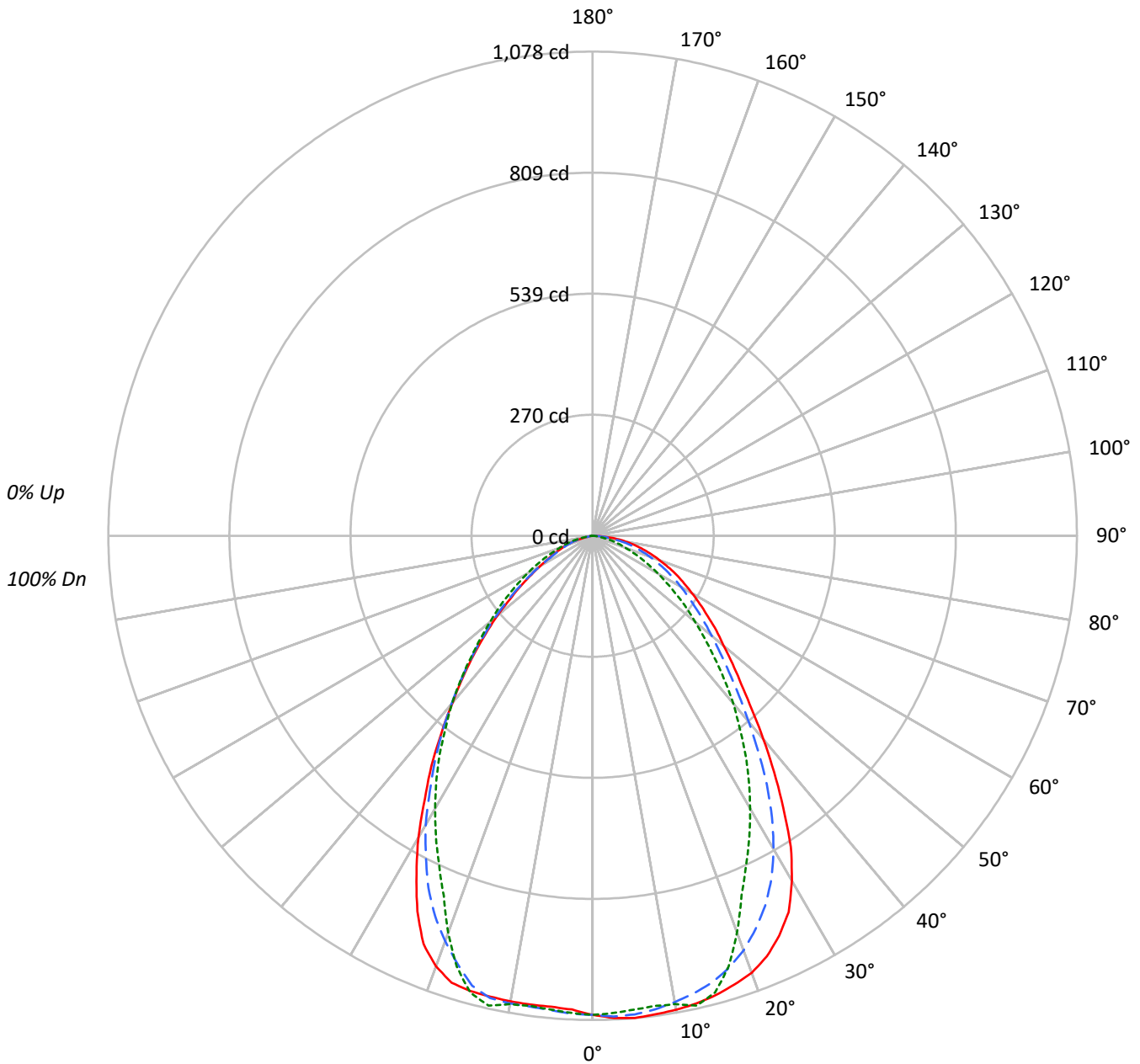
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				100				
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88				88				
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77				
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67				
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60				
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53				
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48				
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36				
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	103959	103959	103959
5°	105432	103593	102976
10°	106027	104790	104167
15°	106839	106203	105890
20°	107384	97490	105766
25°	105630	86951	99232
30°	99796	78853	87305
35°	88017	70528	74430
40°	75214	61881	61690
45°	64461	52815	51520
50°	57630	45061	41968
55°	53149	38536	33218
60°	49684	32629	26216
65°	47620	27050	21631
70°	45022	21827	18265
75°	43567	17660	12953
80°	42149	9653	3536
85°	36677	5256	1789



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.3	5.2
10°-20°	291.6	15.0
20°-30°	404.4	20.9
30°-40°	399.2	20.6
40°-50°	313.1	16.1
50°-60°	216.9	11.2
60°-70°	132.9	6.9
70°-80°	66.4	3.4
80°-90°	13.3	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°	797.3	41.1
0°-40°	1196.5	61.7
0°-60°	1726.4	89.0
0°-90°	1939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1939.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1067	1067	1067	1067	1067	
5°	1078	1070	1059	1060	1053	103
15°	1059	1029	1053	1037	1050	299
25°	982	909	809	865	923	450
35°	740	676	593	612	626	462
45°	468	429	383	378	374	366
55°	313	280	227	202	196	282
65°	206	178	117	88	94	204
75°	116	97	47	36	34	123
85°	33	19	5	2	2	37
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°	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7
2.5°	1074.5	1071.4	1069.8	1074.5	1073.0	1076.1	1074.5	1073.0	1069.8	1071.4	1071.4
5°	1077.7	1073.0	1071.4	1074.5	1074.5	1077.7	1076.1	1073.0	1069.8	1071.4	1069.8
7.5°	1074.5	1071.4	1071.4	1073.0	1071.4	1074.5	1071.4	1068.3	1065.2	1066.7	1063.6
10°	1071.4	1066.7	1066.7	1066.7	1066.7	1069.8	1066.7	1062.0	1057.3	1057.3	1054.2
12.5°	1066.7	1062.0	1062.0	1063.6	1060.5	1063.6	1060.5	1052.6	1048.0	1046.4	1043.3
15°	1058.9	1054.2	1054.2	1054.2	1051.1	1052.6	1048.0	1040.1	1033.9	1033.9	1029.2
17.5°	1048.0	1043.3	1041.7	1041.7	1037.0	1038.6	1033.9	1026.1	1016.7	1013.5	1008.8
20°	1035.4	1029.2	1026.1	1026.1	1021.4	1022.9	1016.7	1007.3	994.8	990.1	982.3
22.5°	1013.5	1010.4	1005.7	1004.2	999.5	997.9	991.6	979.1	968.2	960.4	947.8
25°	982.3	980.7	976.0	974.4	968.2	965.1	958.8	944.7	933.8	921.3	908.7
27.5°	944.7	938.5	935.3	930.6	924.4	922.8	915.0	902.5	885.3	877.5	861.8
30°	886.8	883.7	880.6	875.9	869.6	866.5	861.8	847.7	833.7	819.6	805.5
32.5°	821.2	814.9	810.2	811.8	804.0	800.8	793.0	780.5	768.0	758.6	743.0
35°	739.8	738.3	736.7	733.6	727.3	725.7	719.5	710.1	696.0	685.1	675.7
37.5°	663.2	658.5	655.4	655.4	649.1	649.1	644.4	633.5	625.6	617.8	605.3
40°	591.2	583.4	583.4	583.4	577.2	578.7	575.6	564.6	556.8	547.4	539.6
42.5°	524.0	520.8	519.3	516.2	513.0	513.0	509.9	503.6	495.8	489.6	481.7
45°	467.7	466.1	464.5	463.0	459.8	458.3	456.7	447.3	442.6	436.4	428.6
47.5°	422.3	419.2	417.6	416.1	412.9	411.4	408.2	402.0	397.3	391.0	384.8
50°	380.1	378.5	376.9	376.9	373.8	372.3	369.1	364.4	356.6	353.5	345.7
52.5°	347.2	344.1	341.0	341.0	337.8	337.8	333.2	328.5	320.6	317.5	311.3
55°	312.8	311.3	309.7	309.7	306.6	305.0	303.4	297.2	290.9	286.2	280.0
57.5°	283.1	281.5	280.0	280.0	276.8	275.3	273.7	269.0	262.8	259.6	251.8
60°	254.9	254.9	253.4	251.8	250.3	248.7	247.1	242.4	237.7	233.1	226.8
62.5°	229.9	228.4	226.8	225.2	225.2	223.7	222.1	215.8	212.7	208.0	201.8
65°	206.5	203.3	203.3	201.8	201.8	200.2	198.6	192.4	189.3	184.6	178.3
67.5°	181.4	179.9	178.3	178.3	176.7	176.7	175.2	170.5	165.8	162.7	156.4
70°	158.0	158.0	156.4	156.4	154.8	153.3	153.3	150.2	145.5	140.8	134.5
72.5°	137.6	136.1	134.5	134.5	132.9	132.9	131.4	128.3	125.1	122.0	114.2
75°	115.7	114.2	114.2	114.2	112.6	112.6	111.1	107.9	104.8	101.7	97.0
77.5°	95.4	95.4	93.8	93.8	92.3	92.3	92.3	89.2	86.0	82.9	76.6
80°	75.1	75.1	75.1	73.5	71.9	71.9	71.9	68.8	65.7	62.6	57.9
82.5°	54.7	53.2	53.2	51.6	50.1	50.1	50.1	46.9	45.4	40.7	37.5
85°	32.8	31.3	31.3	29.7	28.2	28.2	28.2	26.6	23.5	21.9	18.8
87.5°	12.5	12.5	12.5	12.5	12.5	10.9	10.9	9.4	9.4	7.8	7.8
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°	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7
2.5°	1071.4	1069.8	1069.8	1068.3	1069.8	1066.7	1066.7	1066.7	1066.7	1063.6	1063.6
5°	1068.3	1068.3	1066.7	1065.2	1066.7	1063.6	1065.2	1063.6	1063.6	1058.9	1058.9
7.5°	1062.0	1060.5	1057.3	1055.8	1057.3	1055.8	1055.8	1055.8	1058.9	1055.8	1055.8
10°	1051.1	1049.5	1046.4	1044.8	1044.8	1043.3	1046.4	1049.5	1055.8	1058.9	1065.2
12.5°	1040.1	1037.0	1035.4	1035.4	1037.0	1037.0	1043.3	1051.1	1066.7	1071.4	1077.7
15°	1026.1	1024.5	1024.5	1029.2	1035.4	1040.1	1052.6	1057.3	1058.9	1052.6	1049.5
17.5°	1007.3	1007.3	1008.8	1013.5	1018.2	1018.2	1019.8	1016.7	1013.5	1005.7	996.3
20°	976.0	974.4	971.3	971.3	971.3	965.1	968.2	957.2	949.4	940.0	926.0
22.5°	936.9	929.1	918.1	910.3	905.6	902.5	894.7	882.2	872.8	866.5	860.3
25°	894.7	882.2	866.5	854.0	846.2	844.6	833.7	822.7	816.5	808.6	805.5
27.5°	846.2	832.1	813.3	800.8	794.6	789.9	780.5	769.5	761.7	755.5	750.8
30°	789.9	775.8	760.2	744.5	738.3	730.4	721.1	713.2	705.4	700.7	697.6
32.5°	727.3	713.2	697.6	686.6	678.8	672.6	664.7	656.9	650.7	647.5	644.4
35°	663.2	649.1	636.6	625.6	619.4	614.7	608.4	599.1	594.4	592.8	589.7
37.5°	594.4	585.0	574.0	564.6	559.9	553.7	550.6	542.7	542.7	536.5	536.5
40°	530.2	524.0	513.0	505.2	502.1	497.4	492.7	489.6	488.0	486.4	484.9
42.5°	473.9	464.5	458.3	452.0	447.3	444.2	444.2	439.5	437.9	433.3	431.7
45°	422.3	417.6	406.7	402.0	400.4	395.7	394.2	391.0	386.3	383.2	381.6
47.5°	376.9	372.3	366.0	359.7	356.6	353.5	350.4	345.7	342.5	337.8	336.3
50°	339.4	331.6	325.3	320.6	315.9	314.4	311.3	305.0	301.9	297.2	297.2
52.5°	305.0	298.7	290.9	286.2	281.5	278.4	273.7	269.0	264.3	262.8	258.1
55°	275.3	267.5	259.6	253.4	248.7	244.0	242.4	236.2	229.9	226.8	223.7
57.5°	247.1	239.3	229.9	222.1	219.0	215.8	211.2	204.9	200.2	195.5	192.4
60°	219.0	212.7	203.3	195.5	192.4	187.7	183.0	176.7	172.1	167.4	164.2
62.5°	195.5	186.1	178.3	170.5	165.8	162.7	156.4	151.7	145.5	140.8	136.1
65°	172.1	162.7	154.8	147.0	143.9	139.2	134.5	128.3	122.0	117.3	111.1
67.5°	148.6	140.8	132.9	125.1	122.0	118.9	112.6	106.4	100.1	95.4	89.2
70°	128.3	120.4	112.6	106.4	103.2	100.1	93.8	87.6	82.9	76.6	71.9
72.5°	109.5	103.2	95.4	89.2	86.0	82.9	76.6	71.9	65.7	62.6	57.9
75°	90.7	84.5	78.2	71.9	68.8	65.7	61.0	56.3	51.6	46.9	43.8
77.5°	71.9	65.7	59.4	54.7	51.6	50.1	45.4	40.7	36.0	32.8	28.2
80°	53.2	46.9	42.2	37.5	34.4	32.8	28.2	25.0	21.9	17.2	15.6
82.5°	32.8	28.2	25.0	21.9	20.3	18.8	15.6	12.5	10.9	9.4	7.8
85°	17.2	15.6	12.5	10.9	9.4	9.4	7.8	6.3	4.7	4.7	3.1
87.5°	6.3	4.7	4.7	3.1	3.1	3.1	3.1	1.6	1.6	1.6	1.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7
2.5°	1060.5	1062.0	1063.6	1065.2	1063.6	1063.6	1066.7	1060.5	1065.2	1065.2	1058.9
5°	1057.3	1060.5	1058.9	1062.0	1058.9	1058.9	1060.5	1057.3	1060.5	1060.5	1055.8
7.5°	1054.2	1057.3	1057.3	1058.9	1057.3	1057.3	1058.9	1054.2	1057.3	1057.3	1052.6
10°	1068.3	1071.4	1069.8	1068.3	1063.6	1060.5	1062.0	1054.2	1057.3	1057.3	1052.6
12.5°	1073.0	1071.4	1065.2	1062.0	1058.9	1055.8	1057.3	1051.1	1054.2	1054.2	1051.1
15°	1041.7	1038.6	1033.9	1035.4	1032.3	1030.7	1033.9	1030.7	1037.0	1040.1	1037.0
17.5°	988.5	987.0	983.8	983.8	983.8	985.4	990.1	990.1	999.5	1005.7	1008.8
20°	919.7	918.1	919.7	922.8	924.4	930.6	941.6	947.8	960.4	971.3	979.1
22.5°	857.1	860.3	865.0	871.2	872.8	880.6	894.7	900.9	916.6	929.1	936.9
25°	804.0	808.6	811.8	816.5	818.0	827.4	839.9	847.7	865.0	874.3	883.7
27.5°	750.8	757.0	758.6	764.8	764.8	774.2	785.2	793.0	804.0	813.3	821.2
30°	699.2	700.7	705.4	707.0	710.1	719.5	725.7	730.4	743.0	747.6	752.3
32.5°	642.8	649.1	652.2	653.8	652.2	660.1	666.3	669.4	674.1	680.4	683.5
35°	589.7	592.8	594.4	597.5	599.1	600.6	603.7	605.3	611.6	613.1	614.7
37.5°	536.5	541.2	539.6	541.2	541.2	542.7	545.9	544.3	549.0	550.6	549.0
40°	483.3	483.3	486.4	484.9	486.4	484.9	488.0	488.0	488.0	489.6	488.0
42.5°	430.1	431.7	430.1	433.3	430.1	431.7	431.7	430.1	431.7	430.1	430.1
45°	381.6	381.6	381.6	381.6	378.5	378.5	381.6	380.1	378.5	376.9	375.4
47.5°	334.7	336.3	333.2	334.7	333.2	331.6	330.0	330.0	328.5	325.3	323.8
50°	295.6	292.5	290.9	292.5	290.9	289.4	287.8	284.7	283.1	280.0	278.4
52.5°	256.5	253.4	250.3	250.3	248.7	245.6	244.0	240.9	239.3	236.2	236.2
55°	222.1	219.0	215.8	214.3	211.2	208.0	206.5	203.3	201.8	198.6	195.5
57.5°	189.3	184.6	181.4	179.9	178.3	173.6	172.1	168.9	165.8	162.7	161.1
60°	159.5	154.8	150.2	148.6	147.0	142.3	140.8	136.1	134.5	131.4	129.8
62.5°	131.4	128.3	122.0	120.4	117.3	114.2	109.5	107.9	106.4	107.9	107.9
65°	106.4	101.7	97.0	95.4	92.3	89.2	87.6	86.0	87.6	87.6	89.2
67.5°	84.5	79.8	75.1	75.1	73.5	70.4	70.4	70.4	71.9	71.9	73.5
70°	67.3	64.1	61.0	59.4	59.4	57.9	59.4	59.4	61.0	61.0	61.0
72.5°	53.2	51.6	50.1	48.5	48.5	48.5	48.5	48.5	48.5	48.5	50.1
75°	40.7	39.1	37.5	37.5	36.0	36.0	36.0	36.0	36.0	36.0	34.4
77.5°	26.6	25.0	23.5	23.5	21.9	20.3	20.3	18.8	18.8	18.8	18.8
80°	14.1	12.5	10.9	9.4	9.4	7.8	7.8	7.8	7.8	6.3	6.3
82.5°	6.3	4.7	4.7	4.7	4.7	3.1	3.1	3.1	3.1	3.1	3.1
85°	3.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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: P251705

CATALOG NUMBER: LD4B30D010 EU4B30509027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7	1066.7
2.5°	1062.0	1058.9	1062.0	1063.6	1060.5	1058.9	1062.0	1055.8
5°	1060.5	1055.8	1057.3	1058.9	1055.8	1054.2	1057.3	1052.6
7.5°	1057.3	1055.8	1057.3	1058.9	1054.2	1054.2	1057.3	1052.6
10°	1057.3	1054.2	1055.8	1058.9	1055.8	1055.8	1058.9	1052.6
12.5°	1055.8	1051.1	1055.8	1057.3	1054.2	1054.2	1057.3	1051.1
15°	1044.8	1044.8	1046.4	1049.5	1048.0	1049.5	1054.2	1049.5
17.5°	1021.4	1024.5	1030.7	1035.4	1038.6	1041.7	1046.4	1043.3
20°	993.2	997.9	1005.7	1010.4	1016.7	1018.2	1026.1	1019.8
22.5°	949.4	958.8	965.1	969.7	974.4	979.1	985.4	983.8
25°	896.2	902.5	907.2	911.9	918.1	921.3	924.4	922.8
27.5°	832.1	835.2	841.5	844.6	847.7	850.9	857.1	849.3
30°	761.7	763.3	766.4	771.1	771.1	774.2	777.4	775.8
32.5°	689.8	689.8	692.9	696.0	694.5	696.0	702.3	694.5
35°	619.4	617.8	622.5	624.1	624.1	622.5	627.2	625.6
37.5°	550.6	552.1	553.7	555.3	552.1	555.3	555.3	552.1
40°	488.0	486.4	489.6	491.1	489.6	491.1	491.1	484.9
42.5°	431.7	428.6	430.1	431.7	430.1	431.7	430.1	427.0
45°	376.9	375.4	375.4	376.9	373.8	373.8	373.8	373.8
47.5°	325.3	323.8	325.3	325.3	322.2	322.2	323.8	322.2
50°	278.4	276.8	276.8	276.8	275.3	275.3	276.8	276.8
52.5°	236.2	233.1	233.1	233.1	233.1	233.1	234.6	231.5
55°	193.9	193.9	193.9	193.9	195.5	195.5	195.5	195.5
57.5°	159.5	161.1	161.1	162.7	161.1	162.7	162.7	161.1
60°	132.9	131.4	132.9	132.9	134.5	134.5	134.5	134.5
62.5°	109.5	109.5	109.5	111.1	111.1	111.1	112.6	111.1
65°	90.7	90.7	92.3	92.3	92.3	93.8	93.8	93.8
67.5°	75.1	75.1	75.1	75.1	76.6	76.6	78.2	76.6
70°	62.6	62.6	62.6	62.6	62.6	64.1	64.1	64.1
72.5°	50.1	50.1	50.1	50.1	51.6	51.6	51.6	51.6
75°	34.4	34.4	34.4	36.0	34.4	34.4	34.4	34.4
77.5°	17.2	17.2	17.2	17.2	17.2	15.6	15.6	15.6
80°	6.3	6.3	6.3	6.3	6.3	6.3	4.7	6.3
82.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	1.6
85°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)