

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: P251709

Luminaire Tested: **LD4B30D010 EU4B30509050 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251709
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 EU4B30509050 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2058.0 lumens
Efficiency: N/A
Efficacy: 73.5 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

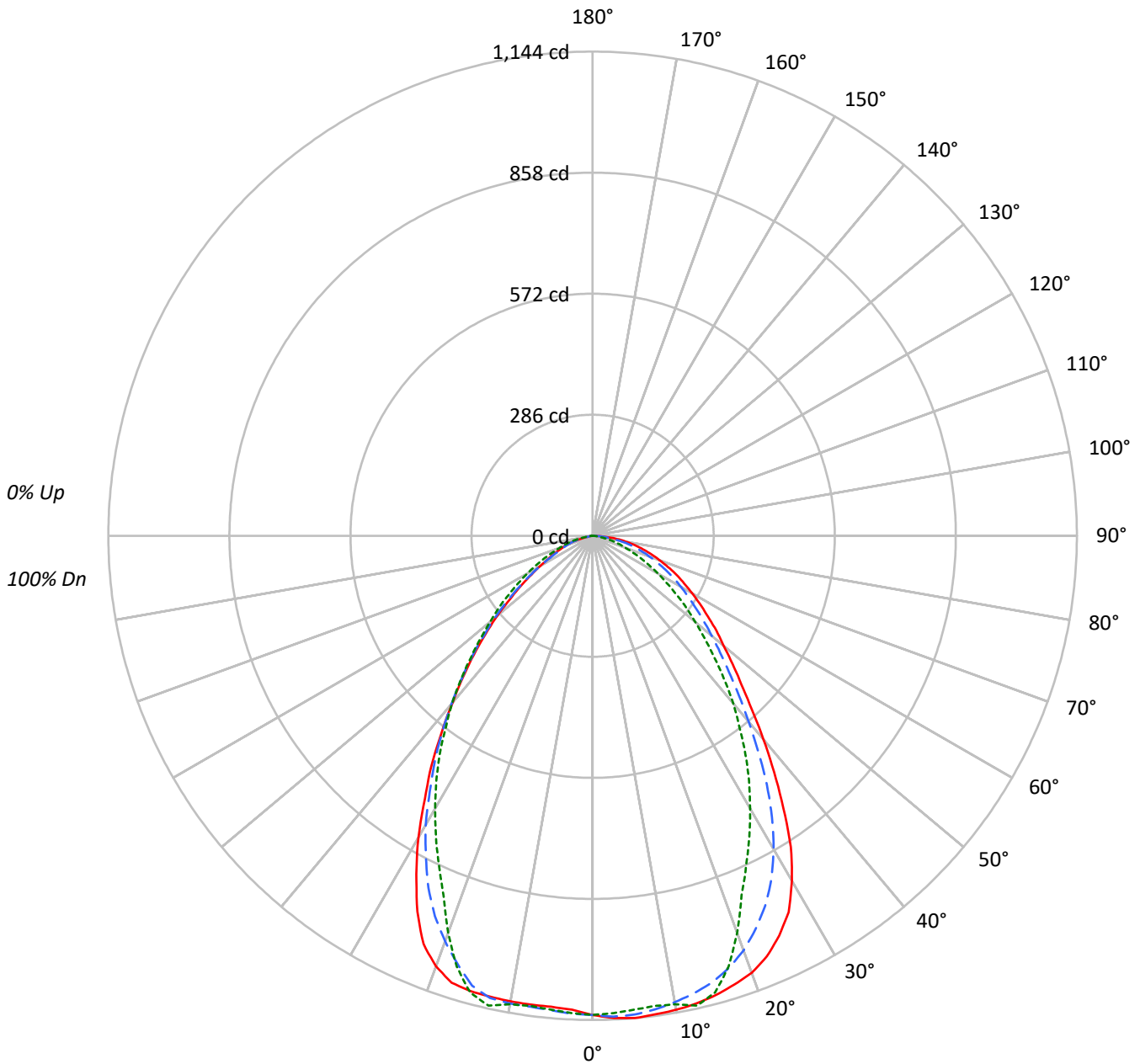
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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°	110342	110342	110342
5°	111898	109952	109296
10°	112539	111223	110560
15°	113397	112721	112388
20°	113980	103474	112259
25°	112103	92296	105329
30°	105929	83692	92661
35°	93419	74859	78999
40°	79832	65685	65469
45°	68417	56054	54690
50°	61163	47820	44545
55°	56411	40898	35257
60°	52744	34617	27834
65°	50526	28710	22968
70°	47786	23166	19405
75°	46240	18752	13744
80°	44731	10271	3704
85°	39025	5591	1901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	5.2
10°-20°	309.4	15.0
20°-30°	429.2	20.9
30°-40°	423.7	20.6
40°-50°	332.3	16.1
50°-60°	230.2	11.2
60°-70°	141.0	6.9
70°-80°	70.5	3.4
80°-90°	14.1	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°	846.2	41.1
0°-40°	1269.9	61.7
0°-60°	1832.4	89.0
0°-90°	2058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2058.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1132	1132	1132	1132	1132	
5°	1144	1136	1124	1126	1117	109
15°	1124	1092	1117	1101	1114	317
25°	1042	964	858	918	980	477
35°	785	717	629	649	664	490
45°	496	455	407	402	397	388
55°	332	297	241	214	208	299
65°	219	189	124	93	100	216
75°	123	103	50	38	36	130
85°	35	20	5	2	2	40
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°	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2
2.5°	1140.5	1137.2	1135.5	1140.5	1138.8	1142.1	1140.5	1138.8	1135.5	1137.2	1137.2
5°	1143.8	1138.8	1137.2	1140.5	1140.5	1143.8	1142.1	1138.8	1135.5	1137.2	1135.5
7.5°	1140.5	1137.2	1137.2	1138.8	1137.2	1140.5	1137.2	1133.8	1130.5	1132.2	1128.9
10°	1137.2	1132.2	1132.2	1132.2	1132.2	1135.5	1132.2	1127.2	1122.2	1122.2	1118.9
12.5°	1132.2	1127.2	1127.2	1128.9	1125.5	1128.9	1125.5	1117.2	1112.3	1110.6	1107.3
15°	1123.9	1118.9	1118.9	1118.9	1115.6	1117.2	1112.3	1104.0	1097.3	1097.3	1092.3
17.5°	1112.3	1107.3	1105.6	1105.6	1100.6	1102.3	1097.3	1089.0	1079.1	1075.7	1070.8
20°	1099.0	1092.3	1089.0	1089.0	1084.0	1085.7	1079.1	1069.1	1055.8	1050.8	1042.5
22.5°	1075.7	1072.4	1067.4	1065.8	1060.8	1059.1	1052.5	1039.2	1027.6	1019.3	1006.0
25°	1042.5	1040.9	1035.9	1034.2	1027.6	1024.3	1017.6	1002.7	991.1	977.8	964.5
27.5°	1002.7	996.1	992.7	987.8	981.1	979.5	971.2	957.9	939.6	931.3	914.7
30°	941.3	938.0	934.6	929.7	923.0	919.7	914.7	899.8	884.8	869.9	855.0
32.5°	871.6	864.9	859.9	861.6	853.3	850.0	841.7	828.4	815.1	805.1	788.5
35°	785.2	783.6	781.9	778.6	771.9	770.3	763.6	753.7	738.7	727.1	717.2
37.5°	703.9	698.9	695.6	695.6	688.9	688.9	684.0	672.3	664.0	655.7	642.5
40°	627.5	619.2	619.2	619.2	612.6	614.2	610.9	599.3	591.0	581.0	572.7
42.5°	556.1	552.8	551.2	547.8	544.5	544.5	541.2	534.6	526.3	519.6	511.3
45°	496.4	494.7	493.0	491.4	488.1	486.4	484.7	474.8	469.8	463.2	454.9
47.5°	448.2	444.9	443.2	441.6	438.3	436.6	433.3	426.6	421.7	415.0	408.4
50°	403.4	401.7	400.1	400.1	396.8	395.1	391.8	386.8	378.5	375.2	366.9
52.5°	368.5	365.2	361.9	361.9	358.6	358.6	353.6	348.6	340.3	337.0	330.4
55°	332.0	330.4	328.7	328.7	325.4	323.7	322.1	315.4	308.8	303.8	297.2
57.5°	300.5	298.8	297.2	297.2	293.8	292.2	290.5	285.5	278.9	275.6	267.3
60°	270.6	270.6	268.9	267.3	265.6	264.0	262.3	257.3	252.3	247.4	240.7
62.5°	244.0	242.4	240.7	239.1	239.1	237.4	235.7	229.1	225.8	220.8	214.2
65°	219.1	215.8	215.8	214.2	214.2	212.5	210.8	204.2	200.9	195.9	189.3
67.5°	192.6	190.9	189.3	189.3	187.6	187.6	185.9	181.0	176.0	172.7	166.0
70°	167.7	167.7	166.0	166.0	164.3	162.7	162.7	159.4	154.4	149.4	142.8
72.5°	146.1	144.4	142.8	142.8	141.1	141.1	139.4	136.1	132.8	129.5	121.2
75°	122.8	121.2	121.2	121.2	119.5	119.5	117.9	114.5	111.2	107.9	102.9
77.5°	101.3	101.3	99.6	99.6	97.9	97.9	97.9	94.6	91.3	88.0	81.3
80°	79.7	79.7	79.7	78.0	76.4	76.4	76.4	73.0	69.7	66.4	61.4
82.5°	58.1	56.4	56.4	54.8	53.1	53.1	53.1	49.8	48.1	43.2	39.8
85°	34.9	33.2	33.2	31.5	29.9	29.9	29.9	28.2	24.9	23.2	19.9
87.5°	13.3	13.3	13.3	13.3	13.3	11.6	11.6	10.0	10.0	8.3	8.3
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°	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2
2.5°	1137.2	1135.5	1135.5	1133.8	1135.5	1132.2	1132.2	1132.2	1132.2	1128.9	1128.9
5°	1133.8	1133.8	1132.2	1130.5	1132.2	1128.9	1130.5	1128.9	1128.9	1123.9	1123.9
7.5°	1127.2	1125.5	1122.2	1120.6	1122.2	1120.6	1120.6	1120.6	1123.9	1120.6	1120.6
10°	1115.6	1113.9	1110.6	1108.9	1108.9	1107.3	1110.6	1113.9	1120.6	1123.9	1130.5
12.5°	1104.0	1100.6	1099.0	1099.0	1100.6	1100.6	1107.3	1115.6	1132.2	1137.2	1143.8
15°	1089.0	1087.4	1087.4	1092.3	1099.0	1104.0	1117.2	1122.2	1123.9	1117.2	1113.9
17.5°	1069.1	1069.1	1070.8	1075.7	1080.7	1080.7	1082.4	1079.1	1075.7	1067.4	1057.5
20°	1035.9	1034.2	1030.9	1030.9	1030.9	1024.3	1027.6	1016.0	1007.7	997.7	982.8
22.5°	994.4	986.1	974.5	966.2	961.2	957.9	949.6	936.3	926.3	919.7	913.1
25°	949.6	936.3	919.7	906.4	898.1	896.5	884.8	873.2	866.6	858.3	855.0
27.5°	898.1	883.2	863.3	850.0	843.3	838.3	828.4	816.8	808.5	801.8	796.8
30°	838.3	823.4	806.8	790.2	783.6	775.3	765.3	757.0	748.7	743.7	740.4
32.5°	771.9	757.0	740.4	728.8	720.5	713.8	705.5	697.2	690.6	687.3	684.0
35°	703.9	688.9	675.7	664.0	657.4	652.4	645.8	635.8	630.8	629.2	625.9
37.5°	630.8	620.9	609.3	599.3	594.3	587.7	584.4	576.1	576.1	569.4	569.4
40°	562.8	556.1	544.5	536.2	532.9	527.9	522.9	519.6	518.0	516.3	514.6
42.5°	503.0	493.0	486.4	479.8	474.8	471.5	471.5	466.5	464.8	459.8	458.2
45°	448.2	443.2	431.6	426.6	425.0	420.0	418.3	415.0	410.0	406.7	405.1
47.5°	400.1	395.1	388.5	381.8	378.5	375.2	371.9	366.9	363.6	358.6	356.9
50°	360.2	351.9	345.3	340.3	335.3	333.7	330.4	323.7	320.4	315.4	315.4
52.5°	323.7	317.1	308.8	303.8	298.8	295.5	290.5	285.5	280.6	278.9	273.9
55°	292.2	283.9	275.6	268.9	264.0	259.0	257.3	250.7	244.0	240.7	237.4
57.5°	262.3	254.0	244.0	235.7	232.4	229.1	224.1	217.5	212.5	207.5	204.2
60°	232.4	225.8	215.8	207.5	204.2	199.2	194.2	187.6	182.6	177.6	174.3
62.5°	207.5	197.6	189.3	181.0	176.0	172.7	166.0	161.0	154.4	149.4	144.4
65°	182.6	172.7	164.3	156.0	152.7	147.7	142.8	136.1	129.5	124.5	117.9
67.5°	157.7	149.4	141.1	132.8	129.5	126.2	119.5	112.9	106.2	101.3	94.6
70°	136.1	127.8	119.5	112.9	109.6	106.2	99.6	93.0	88.0	81.3	76.4
72.5°	116.2	109.6	101.3	94.6	91.3	88.0	81.3	76.4	69.7	66.4	61.4
75°	96.3	89.6	83.0	76.4	73.0	69.7	64.7	59.8	54.8	49.8	46.5
77.5°	76.4	69.7	63.1	58.1	54.8	53.1	48.1	43.2	38.2	34.9	29.9
80°	56.4	49.8	44.8	39.8	36.5	34.9	29.9	26.6	23.2	18.3	16.6
82.5°	34.9	29.9	26.6	23.2	21.6	19.9	16.6	13.3	11.6	10.0	8.3
85°	18.3	16.6	13.3	11.6	10.0	10.0	8.3	6.6	5.0	5.0	3.3
87.5°	6.6	5.0	5.0	3.3	3.3	3.3	3.3	1.7	1.7	1.7	1.7
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°	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2
2.5°	1125.5	1127.2	1128.9	1130.5	1128.9	1128.9	1132.2	1125.5	1130.5	1130.5	1123.9
5°	1122.2	1125.5	1123.9	1127.2	1123.9	1123.9	1125.5	1122.2	1125.5	1125.5	1120.6
7.5°	1118.9	1122.2	1122.2	1123.9	1122.2	1122.2	1123.9	1118.9	1122.2	1122.2	1117.2
10°	1133.8	1137.2	1135.5	1133.8	1128.9	1125.5	1127.2	1118.9	1122.2	1122.2	1117.2
12.5°	1138.8	1137.2	1130.5	1127.2	1123.9	1120.6	1122.2	1115.6	1118.9	1118.9	1115.6
15°	1105.6	1102.3	1097.3	1099.0	1095.7	1094.0	1097.3	1094.0	1100.6	1104.0	1100.6
17.5°	1049.2	1047.5	1044.2	1044.2	1044.2	1045.9	1050.8	1050.8	1060.8	1067.4	1070.8
20°	976.1	974.5	976.1	979.5	981.1	987.8	999.4	1006.0	1019.3	1030.9	1039.2
22.5°	909.7	913.1	918.0	924.7	926.3	934.6	949.6	956.2	972.8	986.1	994.4
25°	853.3	858.3	861.6	866.6	868.2	878.2	891.5	899.8	918.0	928.0	938.0
27.5°	796.8	803.5	805.1	811.8	811.8	821.7	833.4	841.7	853.3	863.3	871.6
30°	742.1	743.7	748.7	750.4	753.7	763.6	770.3	775.3	788.5	793.5	798.5
32.5°	682.3	688.9	692.3	693.9	692.3	700.6	707.2	710.5	715.5	722.1	725.5
35°	625.9	629.2	630.8	634.2	635.8	637.5	640.8	642.5	649.1	650.8	652.4
37.5°	569.4	574.4	572.7	574.4	574.4	576.1	579.4	577.7	582.7	584.4	582.7
40°	513.0	513.0	516.3	514.6	516.3	514.6	518.0	518.0	518.0	519.6	518.0
42.5°	456.5	458.2	456.5	459.8	456.5	458.2	458.2	456.5	458.2	456.5	456.5
45°	405.1	405.1	405.1	405.1	401.7	401.7	405.1	403.4	401.7	400.1	398.4
47.5°	355.3	356.9	353.6	355.3	353.6	351.9	350.3	350.3	348.6	345.3	343.6
50°	313.8	310.4	308.8	310.4	308.8	307.1	305.5	302.1	300.5	297.2	295.5
52.5°	272.3	268.9	265.6	265.6	264.0	260.6	259.0	255.7	254.0	250.7	250.7
55°	235.7	232.4	229.1	227.4	224.1	220.8	219.1	215.8	214.2	210.8	207.5
57.5°	200.9	195.9	192.6	190.9	189.3	184.3	182.6	179.3	176.0	172.7	171.0
60°	169.3	164.3	159.4	157.7	156.0	151.1	149.4	144.4	142.8	139.4	137.8
62.5°	139.4	136.1	129.5	127.8	124.5	121.2	116.2	114.5	112.9	114.5	114.5
65°	112.9	107.9	102.9	101.3	97.9	94.6	93.0	91.3	93.0	93.0	94.6
67.5°	89.6	84.7	79.7	79.7	78.0	74.7	74.7	74.7	76.4	76.4	78.0
70°	71.4	68.1	64.7	63.1	63.1	61.4	63.1	63.1	64.7	64.7	64.7
72.5°	56.4	54.8	53.1	51.5	51.5	51.5	51.5	51.5	51.5	51.5	53.1
75°	43.2	41.5	39.8	39.8	38.2	38.2	38.2	38.2	38.2	38.2	36.5
77.5°	28.2	26.6	24.9	24.9	23.2	21.6	21.6	19.9	19.9	19.9	19.9
80°	14.9	13.3	11.6	10.0	10.0	8.3	8.3	8.3	8.3	6.6	6.6
82.5°	6.6	5.0	5.0	5.0	5.0	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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: P251709

CATALOG NUMBER: LD4B30D010 EU4B30509050 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2	1132.2
2.5°	1127.2	1123.9	1127.2	1128.9	1125.5	1123.9	1127.2	1120.6
5°	1125.5	1120.6	1122.2	1123.9	1120.6	1118.9	1122.2	1117.2
7.5°	1122.2	1120.6	1122.2	1123.9	1118.9	1118.9	1122.2	1117.2
10°	1122.2	1118.9	1120.6	1123.9	1120.6	1120.6	1123.9	1117.2
12.5°	1120.6	1115.6	1120.6	1122.2	1118.9	1118.9	1122.2	1115.6
15°	1108.9	1108.9	1110.6	1113.9	1112.3	1113.9	1118.9	1113.9
17.5°	1084.0	1087.4	1094.0	1099.0	1102.3	1105.6	1110.6	1107.3
20°	1054.2	1059.1	1067.4	1072.4	1079.1	1080.7	1089.0	1082.4
22.5°	1007.7	1017.6	1024.3	1029.3	1034.2	1039.2	1045.9	1044.2
25°	951.2	957.9	962.9	967.8	974.5	977.8	981.1	979.5
27.5°	883.2	886.5	893.1	896.5	899.8	903.1	909.7	901.4
30°	808.5	810.1	813.4	818.4	818.4	821.7	825.1	823.4
32.5°	732.1	732.1	735.4	738.7	737.1	738.7	745.4	737.1
35°	657.4	655.7	660.7	662.4	662.4	660.7	665.7	664.0
37.5°	584.4	586.0	587.7	589.3	586.0	589.3	589.3	586.0
40°	518.0	516.3	519.6	521.3	519.6	521.3	521.3	514.6
42.5°	458.2	454.9	456.5	458.2	456.5	458.2	456.5	453.2
45°	400.1	398.4	398.4	400.1	396.8	396.8	396.8	396.8
47.5°	345.3	343.6	345.3	345.3	342.0	342.0	343.6	342.0
50°	295.5	293.8	293.8	293.8	292.2	292.2	293.8	293.8
52.5°	250.7	247.4	247.4	247.4	247.4	247.4	249.0	245.7
55°	205.9	205.9	205.9	205.9	207.5	207.5	207.5	207.5
57.5°	169.3	171.0	171.0	172.7	171.0	172.7	172.7	171.0
60°	141.1	139.4	141.1	141.1	142.8	142.8	142.8	142.8
62.5°	116.2	116.2	116.2	117.9	117.9	117.9	119.5	117.9
65°	96.3	96.3	97.9	97.9	97.9	99.6	99.6	99.6
67.5°	79.7	79.7	79.7	79.7	81.3	81.3	83.0	81.3
70°	66.4	66.4	66.4	66.4	66.4	68.1	68.1	68.1
72.5°	53.1	53.1	53.1	53.1	54.8	54.8	54.8	54.8
75°	36.5	36.5	36.5	38.2	36.5	36.5	36.5	36.5
77.5°	18.3	18.3	18.3	18.3	18.3	16.6	16.6	16.6
80°	6.6	6.6	6.6	6.6	6.6	6.6	5.0	6.6
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.7
85°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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)