

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: P251708

Luminaire Tested: **LD4B30D010 EU4B30509040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251708
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 EU4B30509040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2049.0 lumens
Efficiency: N/A
Efficacy: 73.2 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

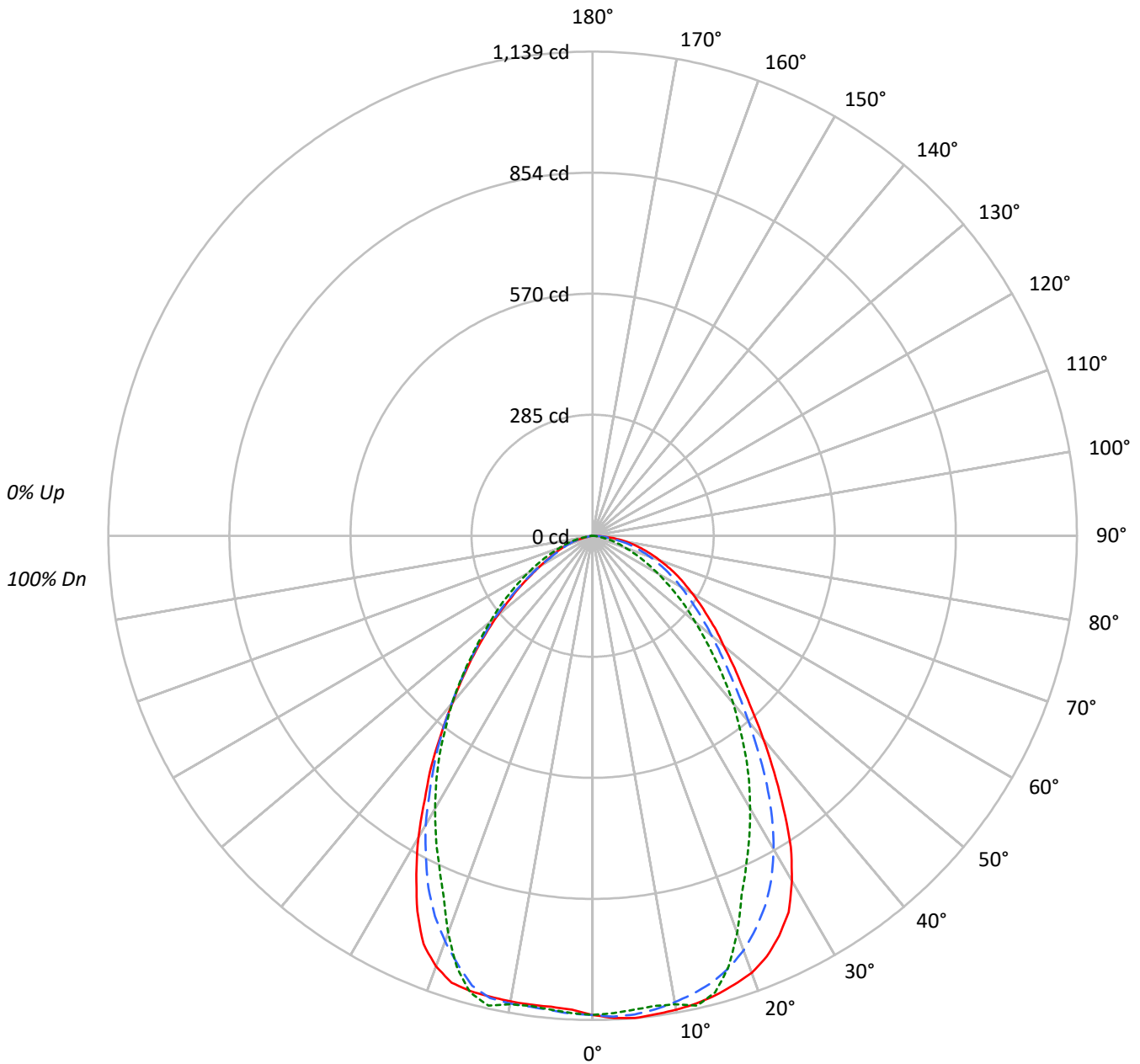
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	109855	109855	109855
5°	111409	109472	108826
10°	112044	110738	110085
15°	112903	112237	111904
20°	113482	103028	111771
25°	111619	91887	104866
30°	105468	83332	92256
35°	93014	74526	78654
40°	79489	65392	65189
45°	68114	55806	54441
50°	60890	47608	44363
55°	56173	40728	35104
60°	52510	34481	27698
65°	50318	28595	22876
70°	47558	23081	19319
75°	46052	18677	13706
80°	44506	10215	3704
85°	38802	5591	1901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.1	5.2
10°-20°	308.1	15.0
20°-30°	427.3	20.9
30°-40°	421.8	20.6
40°-50°	330.9	16.1
50°-60°	229.2	11.2
60°-70°	140.4	6.9
70°-80°	70.2	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°	842.5	41.1
0°-40°	1264.3	61.7
0°-60°	1824.3	89.0
0°-90°	2049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2049.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1127	1127	1127	1127	1127	
5°	1139	1130	1119	1121	1112	108
15°	1119	1088	1112	1096	1109	316
25°	1038	960	854	914	975	475
35°	782	714	626	646	661	488
45°	494	453	405	400	395	386
55°	331	296	240	213	207	298
65°	218	188	124	93	99	216
75°	122	102	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°	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2
2.5°	1135.5	1132.2	1130.5	1135.5	1133.8	1137.2	1135.5	1133.8	1130.5	1132.2	1132.2
5°	1138.8	1133.8	1132.2	1135.5	1135.5	1138.8	1137.2	1133.8	1130.5	1132.2	1130.5
7.5°	1135.5	1132.2	1132.2	1133.8	1132.2	1135.5	1132.2	1128.9	1125.6	1127.2	1123.9
10°	1132.2	1127.2	1127.2	1127.2	1127.2	1130.5	1127.2	1122.3	1117.3	1117.3	1114.0
12.5°	1127.2	1122.3	1122.3	1123.9	1120.6	1123.9	1120.6	1112.4	1107.4	1105.7	1102.4
15°	1119.0	1114.0	1114.0	1114.0	1110.7	1112.4	1107.4	1099.1	1092.5	1092.5	1087.6
17.5°	1107.4	1102.4	1100.8	1100.8	1095.8	1097.5	1092.5	1084.3	1074.3	1071.0	1066.1
20°	1094.2	1087.6	1084.3	1084.3	1079.3	1081.0	1074.3	1064.4	1051.2	1046.2	1038.0
22.5°	1071.0	1067.7	1062.8	1061.1	1056.2	1054.5	1047.9	1034.7	1023.1	1014.8	1001.6
25°	1038.0	1036.3	1031.4	1029.7	1023.1	1019.8	1013.2	998.3	986.7	973.5	960.3
27.5°	998.3	991.7	988.4	983.4	976.8	975.2	966.9	953.7	935.5	927.2	910.7
30°	937.2	933.9	930.5	925.6	919.0	915.7	910.7	895.8	881.0	866.1	851.2
32.5°	867.7	861.1	856.2	857.8	849.6	846.3	838.0	824.8	811.5	801.6	785.1
35°	781.8	780.1	778.5	775.2	768.6	766.9	760.3	750.4	735.5	723.9	714.0
37.5°	700.8	695.8	692.5	692.5	685.9	685.9	681.0	669.4	661.1	652.9	639.6
40°	624.8	616.5	616.5	616.5	609.9	611.6	608.2	596.7	588.4	578.5	570.2
42.5°	553.7	550.4	548.7	545.4	542.1	542.1	538.8	532.2	523.9	517.3	509.1
45°	494.2	492.5	490.9	489.2	485.9	484.3	482.6	472.7	467.8	461.1	452.9
47.5°	446.3	443.0	441.3	439.7	436.3	434.7	431.4	424.8	419.8	413.2	406.6
50°	401.6	400.0	398.3	398.3	395.0	393.4	390.1	385.1	376.8	373.5	365.3
52.5°	366.9	363.6	360.3	360.3	357.0	357.0	352.1	347.1	338.8	335.5	328.9
55°	330.6	328.9	327.3	327.3	324.0	322.3	320.7	314.0	307.4	302.5	295.9
57.5°	299.2	297.5	295.9	295.9	292.6	290.9	289.2	284.3	277.7	274.4	266.1
60°	269.4	269.4	267.8	266.1	264.5	262.8	261.1	256.2	251.2	246.3	239.7
62.5°	243.0	241.3	239.7	238.0	238.0	236.4	234.7	228.1	224.8	219.8	213.2
65°	218.2	214.9	214.9	213.2	213.2	211.6	209.9	203.3	200.0	195.0	188.4
67.5°	191.7	190.1	188.4	188.4	186.8	186.8	185.1	180.2	175.2	171.9	165.3
70°	166.9	166.9	165.3	165.3	163.6	162.0	162.0	158.7	153.7	148.8	142.1
72.5°	145.4	143.8	142.1	142.1	140.5	140.5	138.8	135.5	132.2	128.9	120.7
75°	122.3	120.7	120.7	120.7	119.0	119.0	117.4	114.0	110.7	107.4	102.5
77.5°	100.8	100.8	99.2	99.2	97.5	97.5	97.5	94.2	90.9	87.6	81.0
80°	79.3	79.3	79.3	77.7	76.0	76.0	76.0	72.7	69.4	66.1	61.2
82.5°	57.8	56.2	56.2	54.5	52.9	52.9	52.9	49.6	47.9	43.0	39.7
85°	34.7	33.1	33.1	31.4	29.8	29.8	29.8	28.1	24.8	23.1	19.8
87.5°	13.2	13.2	13.2	13.2	13.2	11.6	11.6	9.9	9.9	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°	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2
2.5°	1132.2	1130.5	1130.5	1128.9	1130.5	1127.2	1127.2	1127.2	1127.2	1123.9	1123.9
5°	1128.9	1128.9	1127.2	1125.6	1127.2	1123.9	1125.6	1123.9	1123.9	1119.0	1119.0
7.5°	1122.3	1120.6	1117.3	1115.7	1117.3	1115.7	1115.7	1115.7	1119.0	1115.7	1115.7
10°	1110.7	1109.1	1105.7	1104.1	1104.1	1102.4	1105.7	1109.1	1115.7	1119.0	1125.6
12.5°	1099.1	1095.8	1094.2	1094.2	1095.8	1095.8	1102.4	1110.7	1127.2	1132.2	1138.8
15°	1084.3	1082.6	1082.6	1087.6	1094.2	1099.1	1112.4	1117.3	1119.0	1112.4	1109.1
17.5°	1064.4	1064.4	1066.1	1071.0	1076.0	1076.0	1077.7	1074.3	1071.0	1062.8	1052.9
20°	1031.4	1029.7	1026.4	1026.4	1026.4	1019.8	1023.1	1011.5	1003.3	993.4	978.5
22.5°	990.0	981.8	970.2	962.0	957.0	953.7	945.4	932.2	922.3	915.7	909.1
25°	945.4	932.2	915.7	902.4	894.2	892.5	881.0	869.4	862.8	854.5	851.2
27.5°	894.2	879.3	859.5	846.3	839.6	834.7	824.8	813.2	804.9	798.3	793.4
30°	834.7	819.8	803.3	786.8	780.1	771.9	762.0	753.7	745.4	740.5	737.2
32.5°	768.6	753.7	737.2	725.6	717.3	710.7	702.5	694.2	687.6	684.3	681.0
35°	700.8	685.9	672.7	661.1	654.5	649.6	643.0	633.0	628.1	626.4	623.1
37.5°	628.1	618.2	606.6	596.7	591.7	585.1	581.8	573.5	573.5	566.9	566.9
40°	560.3	553.7	542.1	533.9	530.6	525.6	520.6	517.3	515.7	514.0	512.4
42.5°	500.8	490.9	484.3	477.7	472.7	469.4	469.4	464.4	462.8	457.8	456.2
45°	446.3	441.3	429.7	424.8	423.1	418.2	416.5	413.2	408.3	404.9	403.3
47.5°	398.3	393.4	386.8	380.2	376.8	373.5	370.2	365.3	362.0	357.0	355.4
50°	358.7	350.4	343.8	338.8	333.9	332.2	328.9	322.3	319.0	314.0	314.0
52.5°	322.3	315.7	307.4	302.5	297.5	294.2	289.2	284.3	279.3	277.7	272.7
55°	290.9	282.6	274.4	267.8	262.8	257.8	256.2	249.6	243.0	239.7	236.4
57.5°	261.1	252.9	243.0	234.7	231.4	228.1	223.1	216.5	211.6	206.6	203.3
60°	231.4	224.8	214.9	206.6	203.3	198.3	193.4	186.8	181.8	176.9	173.5
62.5°	206.6	196.7	188.4	180.2	175.2	171.9	165.3	160.3	153.7	148.8	143.8
65°	181.8	171.9	163.6	155.4	152.1	147.1	142.1	135.5	128.9	124.0	117.4
67.5°	157.0	148.8	140.5	132.2	128.9	125.6	119.0	112.4	105.8	100.8	94.2
70°	135.5	127.3	119.0	112.4	109.1	105.8	99.2	92.6	87.6	81.0	76.0
72.5°	115.7	109.1	100.8	94.2	90.9	87.6	81.0	76.0	69.4	66.1	61.2
75°	95.9	89.3	82.6	76.0	72.7	69.4	64.5	59.5	54.5	49.6	46.3
77.5°	76.0	69.4	62.8	57.8	54.5	52.9	47.9	43.0	38.0	34.7	29.8
80°	56.2	49.6	44.6	39.7	36.4	34.7	29.8	26.4	23.1	18.2	16.5
82.5°	34.7	29.8	26.4	23.1	21.5	19.8	16.5	13.2	11.6	9.9	8.3
85°	18.2	16.5	13.2	11.6	9.9	9.9	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°	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2
2.5°	1120.6	1122.3	1123.9	1125.6	1123.9	1123.9	1127.2	1120.6	1125.6	1125.6	1119.0
5°	1117.3	1120.6	1119.0	1122.3	1119.0	1119.0	1120.6	1117.3	1120.6	1120.6	1115.7
7.5°	1114.0	1117.3	1117.3	1119.0	1117.3	1117.3	1119.0	1114.0	1117.3	1117.3	1112.4
10°	1128.9	1132.2	1130.5	1128.9	1123.9	1120.6	1122.3	1114.0	1117.3	1117.3	1112.4
12.5°	1133.8	1132.2	1125.6	1122.3	1119.0	1115.7	1117.3	1110.7	1114.0	1114.0	1110.7
15°	1100.8	1097.5	1092.5	1094.2	1090.9	1089.2	1092.5	1089.2	1095.8	1099.1	1095.8
17.5°	1044.6	1042.9	1039.6	1039.6	1039.6	1041.3	1046.2	1046.2	1056.2	1062.8	1066.1
20°	971.9	970.2	971.9	975.2	976.8	983.4	995.0	1001.6	1014.8	1026.4	1034.7
22.5°	905.8	909.1	914.0	920.6	922.3	930.5	945.4	952.0	968.6	981.8	990.0
25°	849.6	854.5	857.8	862.8	864.4	874.4	887.6	895.8	914.0	923.9	933.9
27.5°	793.4	800.0	801.6	808.2	808.2	818.2	829.7	838.0	849.6	859.5	867.7
30°	738.8	740.5	745.4	747.1	750.4	760.3	766.9	771.9	785.1	790.1	795.0
32.5°	679.3	685.9	689.2	690.9	689.2	697.5	704.1	707.4	712.4	719.0	722.3
35°	623.1	626.4	628.1	631.4	633.0	634.7	638.0	639.6	646.3	647.9	649.6
37.5°	566.9	571.9	570.2	571.9	571.9	573.5	576.8	575.2	580.1	581.8	580.1
40°	510.7	510.7	514.0	512.4	514.0	512.4	515.7	515.7	515.7	517.3	515.7
42.5°	454.5	456.2	454.5	457.8	454.5	456.2	456.2	454.5	456.2	454.5	454.5
45°	403.3	403.3	403.3	403.3	400.0	400.0	403.3	401.6	400.0	398.3	396.7
47.5°	353.7	355.4	352.1	353.7	352.1	350.4	348.7	348.7	347.1	343.8	342.1
50°	312.4	309.1	307.4	309.1	307.4	305.8	304.1	300.8	299.2	295.9	294.2
52.5°	271.1	267.8	264.5	264.5	262.8	259.5	257.8	254.5	252.9	249.6	249.6
55°	234.7	231.4	228.1	226.4	223.1	219.8	218.2	214.9	213.2	209.9	206.6
57.5°	200.0	195.0	191.7	190.1	188.4	183.5	181.8	178.5	175.2	171.9	170.2
60°	168.6	163.6	158.7	157.0	155.4	150.4	148.8	143.8	142.1	138.8	137.2
62.5°	138.8	135.5	128.9	127.3	124.0	120.7	115.7	114.0	112.4	114.0	114.0
65°	112.4	107.4	102.5	100.8	97.5	94.2	92.6	90.9	92.6	92.6	94.2
67.5°	89.3	84.3	79.3	79.3	77.7	74.4	74.4	74.4	76.0	76.0	77.7
70°	71.1	67.8	64.5	62.8	62.8	61.2	62.8	62.8	64.5	64.5	64.5
72.5°	56.2	54.5	52.9	51.2	51.2	51.2	51.2	51.2	51.2	51.2	52.9
75°	43.0	41.3	39.7	39.7	38.0	38.0	38.0	38.0	38.0	38.0	36.4
77.5°	28.1	26.4	24.8	24.8	23.1	21.5	21.5	19.8	19.8	19.8	19.8
80°	14.9	13.2	11.6	9.9	9.9	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: P251708

CATALOG NUMBER: LD4B30D010 EU4B30509040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2	1127.2
2.5°	1122.3	1119.0	1122.3	1123.9	1120.6	1119.0	1122.3	1115.7
5°	1120.6	1115.7	1117.3	1119.0	1115.7	1114.0	1117.3	1112.4
7.5°	1117.3	1115.7	1117.3	1119.0	1114.0	1114.0	1117.3	1112.4
10°	1117.3	1114.0	1115.7	1119.0	1115.7	1115.7	1119.0	1112.4
12.5°	1115.7	1110.7	1115.7	1117.3	1114.0	1114.0	1117.3	1110.7
15°	1104.1	1104.1	1105.7	1109.1	1107.4	1109.1	1114.0	1109.1
17.5°	1079.3	1082.6	1089.2	1094.2	1097.5	1100.8	1105.7	1102.4
20°	1049.6	1054.5	1062.8	1067.7	1074.3	1076.0	1084.3	1077.7
22.5°	1003.3	1013.2	1019.8	1024.8	1029.7	1034.7	1041.3	1039.6
25°	947.1	953.7	958.6	963.6	970.2	973.5	976.8	975.2
27.5°	879.3	882.6	889.2	892.5	895.8	899.1	905.8	897.5
30°	804.9	806.6	809.9	814.8	814.8	818.2	821.5	819.8
32.5°	728.9	728.9	732.2	735.5	733.9	735.5	742.1	733.9
35°	654.5	652.9	657.8	659.5	659.5	657.8	662.8	661.1
37.5°	581.8	583.5	585.1	586.8	583.5	586.8	586.8	583.5
40°	515.7	514.0	517.3	519.0	517.3	519.0	519.0	512.4
42.5°	456.2	452.9	454.5	456.2	454.5	456.2	454.5	451.2
45°	398.3	396.7	396.7	398.3	395.0	395.0	395.0	395.0
47.5°	343.8	342.1	343.8	343.8	340.5	340.5	342.1	340.5
50°	294.2	292.6	292.6	292.6	290.9	290.9	292.6	292.6
52.5°	249.6	246.3	246.3	246.3	246.3	246.3	247.9	244.6
55°	205.0	205.0	205.0	205.0	206.6	206.6	206.6	206.6
57.5°	168.6	170.2	170.2	171.9	170.2	171.9	171.9	170.2
60°	140.5	138.8	140.5	140.5	142.1	142.1	142.1	142.1
62.5°	115.7	115.7	115.7	117.4	117.4	117.4	119.0	117.4
65°	95.9	95.9	97.5	97.5	97.5	99.2	99.2	99.2
67.5°	79.3	79.3	79.3	79.3	81.0	81.0	82.6	81.0
70°	66.1	66.1	66.1	66.1	66.1	67.8	67.8	67.8
72.5°	52.9	52.9	52.9	52.9	54.5	54.5	54.5	54.5
75°	36.4	36.4	36.4	38.0	36.4	36.4	36.4	36.4
77.5°	18.2	18.2	18.2	18.2	18.2	16.5	16.5	16.5
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)