

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: P251784

Luminaire Tested: **LD4B30D010 EU4B30509030 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251784  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B30D010 EU4B30509030 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1906.0 lumens  
Efficiency: N/A  
Efficacy: 68.1 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

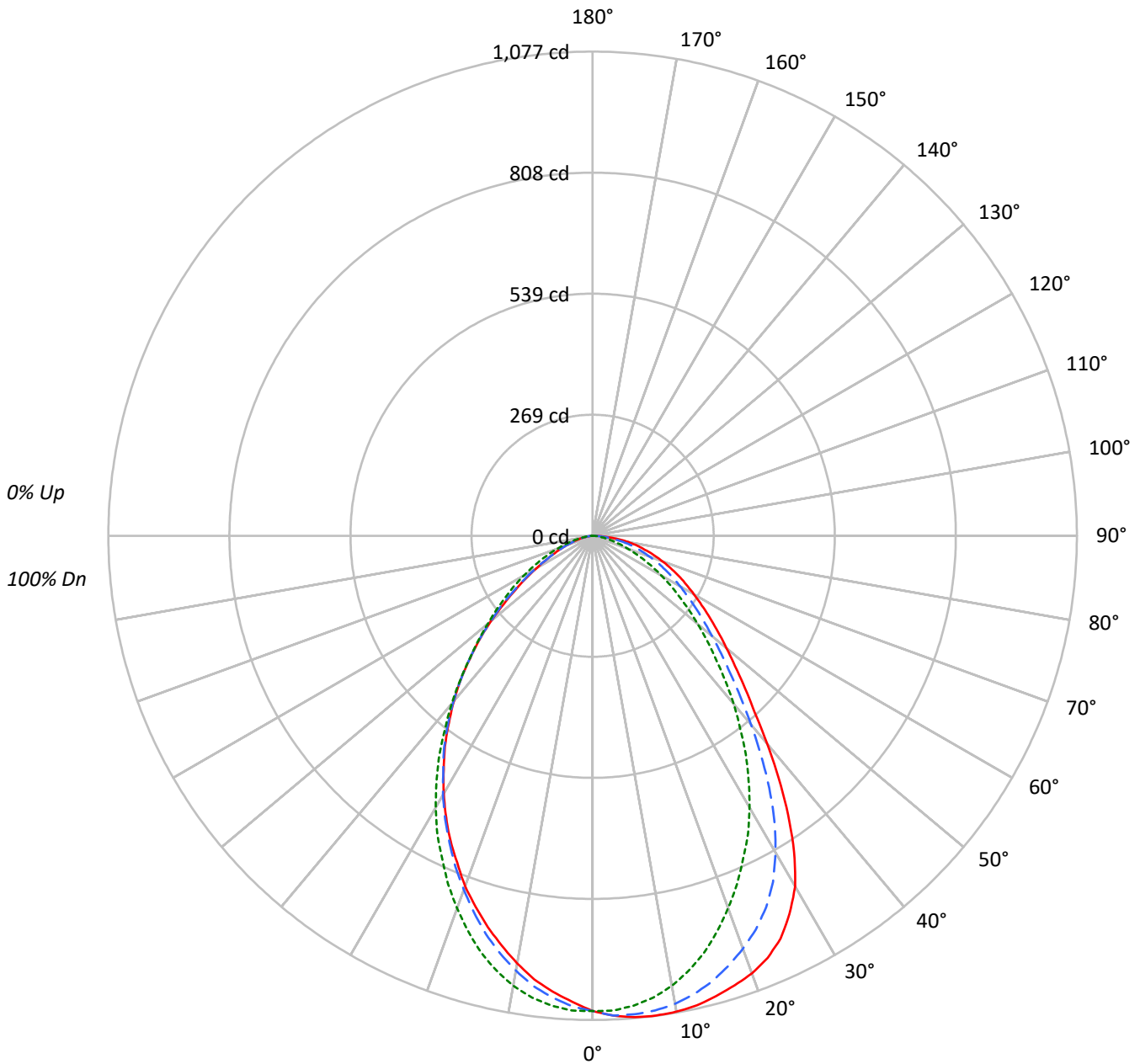
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	101	98	100	98	95	96	94	92	93	91	90	88			88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76			76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67			67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	103023	103023	103023
5°	105158	102614	99591
10°	106374	100584	95597
15°	106980	96810	90897
20°	107436	91412	86019
25°	106329	85166	80446
30°	101383	78516	74487
35°	90159	70623	68101
40°	76753	62072	61029
45°	66115	53339	53118
50°	58934	46107	44621
55°	54151	39794	35648
60°	50717	34227	27893
65°	48750	28872	21746
70°	46817	23166	17610
75°	45299	18376	13480
80°	45629	12796	8194
85°	38243	9057	3690



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.0	5.2
10°-20°	272.0	14.3
20°-30°	380.4	20.0
30°-40°	391.0	20.5
40°-50°	317.4	16.7
50°-60°	223.5	11.7
60°-70°	137.6	7.2
70°-80°	68.7	3.6
80°-90°	16.3	0.9
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°	751.4	39.4
0°-40°	1142.5	59.9
0°-60°	1683.4	88.3
0°-90°	1906.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1906.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1057	1057	1057	1057	1057	
5°	1075	1068	1049	1031	1018	103
15°	1060	1026	960	917	901	300
25°	989	912	792	753	748	452
35°	758	685	594	576	572	471
45°	480	433	387	387	385	373
55°	319	280	234	215	210	286
65°	211	177	125	96	94	209
75°	120	94	49	36	36	128
85°	34	23	8	5	3	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°	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1
2.5°	1068.4	1070.1	1065.2	1070.1	1063.6	1066.8	1068.4	1065.2	1061.9	1068.4	1068.4
5°	1074.9	1074.9	1070.1	1076.6	1068.4	1070.1	1073.3	1068.4	1063.6	1070.1	1068.4
7.5°	1076.6	1076.6	1070.1	1076.6	1068.4	1070.1	1071.7	1066.8	1061.9	1066.8	1065.2
10°	1074.9	1073.3	1068.4	1074.9	1066.8	1066.8	1068.4	1063.6	1055.4	1060.3	1057.1
12.5°	1070.1	1070.1	1063.6	1070.1	1058.7	1058.7	1060.3	1053.8	1047.3	1047.3	1044.0
15°	1060.3	1060.3	1053.8	1058.7	1048.9	1048.9	1047.3	1040.8	1032.7	1032.7	1026.2
17.5°	1048.9	1048.9	1042.4	1047.3	1035.9	1035.9	1034.3	1024.5	1013.1	1011.5	1003.4
20°	1035.9	1035.9	1027.8	1031.0	1018.0	1018.0	1016.4	1005.0	992.0	988.8	977.4
22.5°	1016.4	1016.4	1008.3	1009.9	996.9	995.3	993.6	980.6	967.6	962.7	948.1
25°	988.8	987.1	980.6	980.6	967.6	964.4	961.1	948.1	935.1	925.3	912.3
27.5°	948.1	949.7	941.6	943.2	927.0	923.7	922.1	905.8	891.2	881.4	868.4
30°	900.9	896.1	887.9	887.9	874.9	873.3	870.0	855.4	839.1	827.8	813.1
32.5°	834.3	832.6	824.5	824.5	809.9	809.9	803.4	788.7	774.1	767.6	752.9
35°	757.8	756.2	749.7	749.7	736.7	738.3	731.8	720.4	705.8	696.0	684.6
37.5°	679.8	678.1	671.6	673.3	661.9	661.9	657.0	645.6	634.2	629.4	614.7
40°	603.3	601.7	593.6	598.5	588.7	585.4	583.8	575.7	562.7	556.2	548.0
42.5°	533.4	535.0	526.9	530.2	522.0	518.8	517.1	510.6	500.9	494.4	486.2
45°	479.7	476.5	473.2	473.2	465.1	463.5	461.9	453.7	447.2	440.7	432.6
47.5°	429.3	426.1	422.8	424.4	417.9	416.3	413.1	406.6	398.4	395.2	387.0
50°	388.7	387.0	382.2	382.2	375.7	374.0	370.8	365.9	357.8	352.9	346.4
52.5°	351.3	351.3	346.4	344.8	339.9	338.3	336.6	330.1	323.6	317.1	310.6
55°	318.7	317.1	313.9	313.9	307.4	305.7	304.1	297.6	291.1	286.2	279.7
57.5°	287.8	287.8	284.6	284.6	279.7	276.5	276.5	270.0	261.8	258.6	250.4
60°	260.2	260.2	256.9	256.9	252.1	252.1	248.8	242.3	237.4	230.9	224.4
62.5°	234.2	235.8	232.6	230.9	226.0	224.4	224.4	219.5	211.4	206.5	200.0
65°	211.4	209.8	208.2	206.5	201.7	200.0	200.0	193.5	188.6	182.1	177.3
67.5°	187.0	187.0	183.8	183.8	180.5	178.9	175.6	170.8	165.9	161.0	156.1
70°	164.3	164.3	162.6	162.6	157.7	156.1	154.5	149.6	144.7	139.9	133.4
72.5°	143.1	141.5	139.9	139.9	136.6	135.0	133.4	128.5	123.6	118.7	113.8
75°	120.3	120.3	118.7	118.7	115.5	113.8	113.8	110.6	104.1	100.8	94.3
77.5°	100.8	100.8	99.2	99.2	95.9	95.9	94.3	89.4	86.2	81.3	78.1
80°	81.3	79.7	79.7	78.1	74.8	74.8	73.2	71.6	66.7	63.4	58.5
82.5°	56.9	56.9	56.9	55.3	53.7	53.7	52.0	48.8	45.5	43.9	39.0
85°	34.2	34.2	32.5	30.9	32.5	30.9	29.3	27.6	26.0	24.4	22.8
87.5°	14.6	14.6	13.0	13.0	13.0	13.0	13.0	11.4	9.8	9.8	8.1
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°	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1
2.5°	1058.7	1063.6	1061.9	1060.3	1057.1	1057.1	1057.1	1055.4	1057.1	1057.1	1053.8
5°	1058.7	1061.9	1060.3	1057.1	1053.8	1053.8	1052.2	1048.9	1048.9	1048.9	1042.4
7.5°	1053.8	1057.1	1052.2	1048.9	1045.7	1042.4	1042.4	1037.5	1037.5	1035.9	1029.4
10°	1044.0	1045.7	1039.2	1035.9	1031.0	1029.4	1026.2	1019.7	1018.0	1016.4	1009.9
12.5°	1029.4	1031.0	1022.9	1016.4	1009.9	1008.3	1005.0	996.9	993.6	990.4	982.2
15°	1008.3	1008.3	998.5	990.4	983.9	982.2	974.1	966.0	962.7	959.5	948.1
17.5°	983.9	982.2	969.2	961.1	953.0	949.7	941.6	931.8	925.3	922.1	912.3
20°	957.9	953.0	938.3	930.2	920.5	915.6	907.4	894.4	887.9	881.4	871.7
22.5°	927.0	920.5	904.2	892.8	883.0	878.2	866.8	855.4	845.6	839.1	827.8
25°	889.6	881.4	863.5	848.9	840.8	835.9	824.5	811.5	801.7	792.0	782.2
27.5°	845.6	835.9	818.0	803.4	795.2	787.1	779.0	764.3	756.2	748.1	736.7
30°	792.0	780.6	764.3	751.3	741.6	735.1	725.3	712.3	702.5	697.7	686.3
32.5°	733.4	720.4	705.8	692.8	687.9	679.8	671.6	658.6	650.5	645.6	637.5
35°	668.4	658.6	642.4	632.6	624.5	621.2	614.7	601.7	598.5	593.6	583.8
37.5°	600.1	592.0	580.6	572.4	565.9	562.7	556.2	548.0	543.2	538.3	533.4
40°	536.7	530.2	520.4	513.9	505.8	500.9	500.9	491.1	487.9	487.9	483.0
42.5°	474.9	471.6	463.5	453.7	452.1	447.2	445.6	440.7	437.5	435.8	434.2
45°	422.8	417.9	409.8	404.9	400.1	400.1	395.2	390.3	388.7	387.0	385.4
47.5°	377.3	370.8	364.3	359.4	356.1	354.5	349.6	346.4	344.8	344.8	343.1
50°	336.6	331.8	325.2	320.4	317.1	313.9	310.6	307.4	305.7	304.1	304.1
52.5°	302.5	296.0	289.5	284.6	279.7	278.1	274.8	271.6	270.0	268.3	266.7
55°	271.6	266.7	258.6	253.7	248.8	248.8	243.9	239.1	235.8	234.2	232.6
57.5°	242.3	237.4	229.3	224.4	221.2	217.9	214.7	211.4	208.2	204.9	201.7
60°	216.3	211.4	203.3	196.8	195.1	191.9	188.6	182.1	178.9	175.6	172.4
62.5°	191.9	185.4	178.9	172.4	170.8	167.5	162.6	157.7	152.9	149.6	144.7
65°	169.1	164.3	156.1	151.2	146.4	144.7	139.9	133.4	128.5	125.2	120.3
67.5°	148.0	141.5	133.4	128.5	125.2	122.0	117.1	112.2	107.3	102.5	97.6
70°	126.8	122.0	113.8	109.0	105.7	102.5	97.6	91.1	86.2	81.3	78.1
72.5°	107.3	100.8	94.3	89.4	86.2	82.9	78.1	73.2	68.3	65.0	60.2
75°	89.4	82.9	78.1	71.6	69.9	66.7	61.8	56.9	52.0	48.8	45.5
77.5°	71.6	66.7	60.2	56.9	53.7	50.4	47.2	42.3	39.0	34.2	30.9
80°	53.7	48.8	43.9	40.7	37.4	35.8	32.5	29.3	26.0	22.8	21.1
82.5°	35.8	32.5	27.6	26.0	24.4	22.8	19.5	17.9	16.3	14.6	13.0
85°	19.5	17.9	16.3	13.0	13.0	11.4	9.8	9.8	8.1	8.1	6.5
87.5°	8.1	6.5	6.5	4.9	4.9	4.9	3.3	3.3	3.3	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°	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1
2.5°	1055.4	1048.9	1048.9	1048.9	1044.0	1045.7	1047.3	1048.9	1047.3	1042.4	1047.3
5°	1044.0	1037.5	1037.5	1034.3	1031.0	1031.0	1031.0	1032.7	1031.0	1026.2	1027.8
7.5°	1029.4	1021.3	1019.7	1016.4	1013.1	1011.5	1011.5	1011.5	1009.9	1003.4	1006.6
10°	1006.6	998.5	995.3	993.6	988.8	987.1	985.5	983.9	982.2	975.7	979.0
12.5°	979.0	972.5	966.0	964.4	959.5	956.2	954.6	954.6	951.3	944.8	948.1
15°	946.5	936.7	931.8	928.6	923.7	920.5	917.2	918.8	917.2	910.7	912.3
17.5°	907.4	897.7	892.8	891.2	884.7	881.4	879.8	879.8	878.2	871.7	873.3
20°	865.2	855.4	852.1	848.9	845.6	842.4	840.8	839.1	837.5	831.0	835.9
22.5°	822.9	811.5	806.6	806.6	800.1	798.5	796.9	798.5	796.9	790.4	793.6
25°	779.0	767.6	764.3	759.5	756.2	754.6	754.6	754.6	752.9	749.7	752.9
27.5°	730.2	722.0	717.2	715.5	712.3	710.7	709.0	710.7	710.7	705.8	709.0
30°	681.4	674.9	671.6	670.0	665.1	663.5	665.1	665.1	665.1	660.3	665.1
32.5°	632.6	627.7	626.1	621.2	618.0	618.0	618.0	619.6	618.0	614.7	619.6
35°	583.8	577.3	575.7	574.1	574.1	570.8	574.1	572.4	575.7	570.8	574.1
37.5°	531.8	528.5	526.9	526.9	523.6	525.3	525.3	525.3	528.5	523.6	526.9
40°	483.0	479.7	479.7	479.7	478.1	478.1	478.1	479.7	481.4	478.1	481.4
42.5°	434.2	432.6	432.6	431.0	429.3	431.0	432.6	432.6	434.2	431.0	432.6
45°	387.0	385.4	387.0	385.4	385.4	383.8	385.4	387.0	387.0	385.4	385.4
47.5°	343.1	343.1	341.5	341.5	341.5	341.5	341.5	341.5	341.5	338.3	341.5
50°	304.1	300.9	302.5	300.9	300.9	299.2	299.2	297.6	296.0	294.3	294.3
52.5°	266.7	263.5	263.5	261.8	260.2	260.2	258.6	256.9	255.3	252.1	252.1
55°	230.9	227.7	226.0	224.4	222.8	221.2	219.5	217.9	214.7	213.0	213.0
57.5°	198.4	195.1	191.9	191.9	188.6	187.0	183.8	180.5	178.9	175.6	175.6
60°	169.1	165.9	161.0	159.4	157.7	154.5	149.6	148.0	146.4	143.1	144.7
62.5°	141.5	136.6	131.7	130.1	128.5	125.2	122.0	118.7	117.1	118.7	118.7
65°	115.5	110.6	107.3	104.1	102.5	99.2	97.6	95.9	95.9	95.9	97.6
67.5°	92.7	87.8	84.6	82.9	79.7	78.1	78.1	78.1	78.1	78.1	78.1
70°	73.2	69.9	66.7	63.4	63.4	61.8	61.8	61.8	61.8	61.8	61.8
72.5°	55.3	52.0	50.4	50.4	48.8	48.8	48.8	48.8	47.2	47.2	48.8
75°	40.7	39.0	37.4	37.4	37.4	35.8	35.8	35.8	35.8	35.8	35.8
77.5°	29.3	27.6	27.6	26.0	26.0	26.0	26.0	26.0	26.0	24.4	24.4
80°	19.5	17.9	17.9	17.9	17.9	16.3	16.3	16.3	16.3	16.3	16.3
82.5°	11.4	11.4	11.4	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
85°	6.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	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: P251784

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1	1057.1
2.5°	1037.5	1044.0	1045.7	1040.8	1042.4	1039.2	1040.8	1037.5
5°	1019.7	1024.5	1026.2	1022.9	1022.9	1019.7	1021.3	1018.0
7.5°	996.9	1001.8	1003.4	1000.1	1000.1	996.9	996.9	995.3
10°	970.9	972.5	975.7	970.9	972.5	969.2	969.2	966.0
12.5°	938.3	941.6	944.8	940.0	940.0	938.3	938.3	933.5
15°	904.2	907.4	909.1	905.8	905.8	904.2	902.6	900.9
17.5°	868.4	870.0	873.3	868.4	871.7	868.4	868.4	865.2
20°	827.8	832.6	834.3	829.4	831.0	829.4	829.4	829.4
22.5°	788.7	792.0	793.6	790.4	792.0	788.7	790.4	787.1
25°	748.1	749.7	751.3	748.1	751.3	749.7	748.1	748.1
27.5°	705.8	707.4	709.0	705.8	709.0	707.4	709.0	705.8
30°	660.3	663.5	666.8	663.5	665.1	663.5	663.5	661.9
32.5°	614.7	618.0	621.2	618.0	621.2	618.0	619.6	616.3
35°	572.4	574.1	575.7	572.4	574.1	574.1	574.1	572.4
37.5°	525.3	528.5	528.5	526.9	530.2	528.5	528.5	525.3
40°	479.7	481.4	483.0	479.7	481.4	479.7	481.4	479.7
42.5°	432.6	435.8	437.5	434.2	434.2	434.2	432.6	434.2
45°	383.8	387.0	390.3	385.4	387.0	387.0	387.0	385.4
47.5°	339.9	339.9	341.5	339.9	341.5	338.3	341.5	339.9
50°	294.3	294.3	297.6	294.3	294.3	294.3	294.3	294.3
52.5°	250.4	252.1	252.1	248.8	250.4	248.8	250.4	248.8
55°	209.8	209.8	211.4	209.8	209.8	209.8	209.8	209.8
57.5°	174.0	175.6	175.6	174.0	175.6	174.0	174.0	174.0
60°	144.7	144.7	144.7	143.1	144.7	143.1	144.7	143.1
62.5°	117.1	118.7	118.7	117.1	118.7	117.1	117.1	117.1
65°	95.9	95.9	95.9	95.9	95.9	95.9	95.9	94.3
67.5°	76.4	76.4	78.1	76.4	78.1	78.1	78.1	78.1
70°	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
72.5°	47.2	47.2	48.8	47.2	47.2	47.2	47.2	47.2
75°	35.8	35.8	35.8	35.8	35.8	34.2	34.2	35.8
77.5°	24.4	24.4	24.4	24.4	24.4	24.4	24.4	26.0
80°	16.3	16.3	16.3	16.3	14.6	14.6	16.3	14.6
82.5°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
85°	4.9	4.9	3.3	3.3	3.3	3.3	3.3	3.3
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)