

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: P251676

Luminaire Tested: **LD4B15D010 EU4B10208040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251676
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: LD4B15D010 EU4B10208040 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: 1253.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

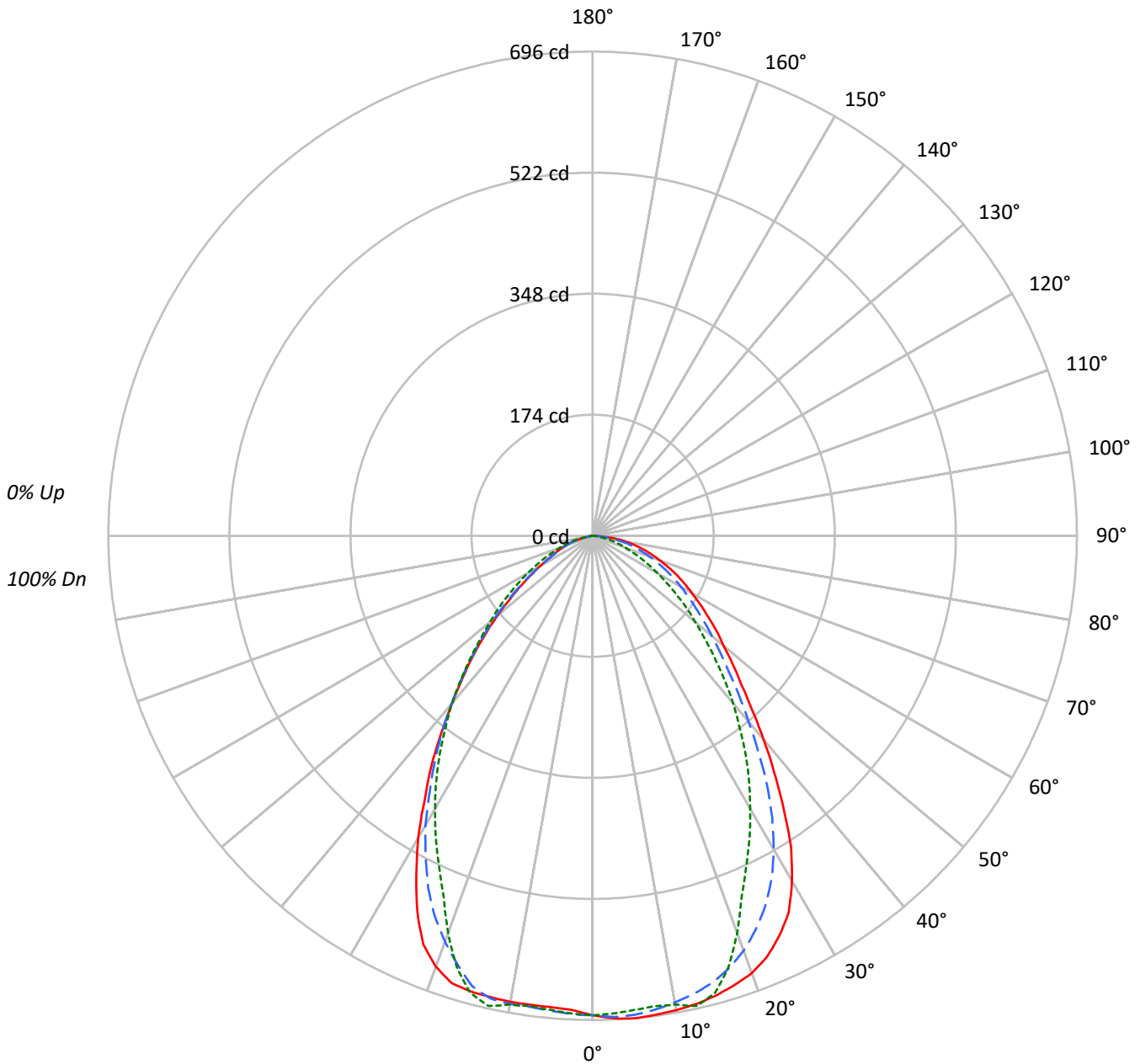
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	67178	67178	67178
5°	68129	66945	66544
10°	68521	67719	67314
15°	69043	68629	68428
20°	69394	63005	68347
25°	68251	56197	64122
30°	64494	50956	56414
35°	56882	45579	48101
40°	48612	39986	39859
45°	41651	34126	33299
50°	37237	29111	27124
55°	34339	24909	21460
60°	32122	21070	16938
65°	30763	17480	13975
70°	29093	14105	11797
75°	28166	11409	8359
80°	27220	6230	2245
85°	23706	3355	1118



TEST NUMBER: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.5	5.2
10°-20°	188.4	15.0
20°-30°	261.3	20.9
30°-40°	257.9	20.6
40°-50°	202.3	16.1
50°-60°	140.1	11.2
60°-70°	85.9	6.9
70°-80°	42.9	3.4
80°-90°	8.6	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°	515.2	41.1
0°-40°	773.2	61.7
0°-60°	1115.6	89.0
0°-90°	1253.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1253.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	689	689	689	689	689	
5°	696	691	684	685	680	66
15°	684	665	680	670	678	193
25°	635	587	523	559	596	290
35°	478	437	383	395	404	298
45°	302	277	248	245	242	236
55°	202	181	147	130	126	182
65°	133	115	76	57	61	132
75°	75	63	30	23	22	79
85°	21	12	3	1	1	24
90°	0	0	0	0	0	



TEST NUMBER: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3
2.5°	694.4	692.4	691.3	694.4	693.4	695.4	694.4	693.4	691.3	692.4	692.4
5°	696.4	693.4	692.4	694.4	694.4	696.4	695.4	693.4	691.3	692.4	691.3
7.5°	694.4	692.4	692.4	693.4	692.4	694.4	692.4	690.3	688.3	689.3	687.3
10°	692.4	689.3	689.3	689.3	689.3	691.3	689.3	686.3	683.3	683.3	681.2
12.5°	689.3	686.3	686.3	687.3	685.3	687.3	685.3	680.2	677.2	676.2	674.2
15°	684.3	681.2	681.2	681.2	679.2	680.2	677.2	672.1	668.1	668.1	665.1
17.5°	677.2	674.2	673.2	673.2	670.1	671.1	668.1	663.0	657.0	655.0	651.9
20°	669.1	665.1	663.0	663.0	660.0	661.0	657.0	650.9	642.8	639.8	634.7
22.5°	655.0	652.9	649.9	648.9	645.9	644.9	640.8	632.7	625.6	620.6	612.5
25°	634.7	633.7	630.7	629.7	625.6	623.6	619.6	610.5	603.4	595.3	587.2
27.5°	610.5	606.4	604.4	601.4	597.3	596.3	591.3	583.2	572.1	567.0	556.9
30°	573.1	571.1	569.0	566.0	562.0	559.9	556.9	547.8	538.7	529.6	520.5
32.5°	530.6	526.6	523.6	524.6	519.5	517.5	512.4	504.4	496.3	490.2	480.1
35°	478.1	477.1	476.1	474.0	470.0	469.0	464.9	458.9	449.8	442.7	436.6
37.5°	428.6	425.5	423.5	423.5	419.5	419.5	416.4	409.3	404.3	399.2	391.2
40°	382.1	377.0	377.0	377.0	373.0	374.0	372.0	364.9	359.8	353.8	348.7
42.5°	338.6	336.6	335.6	333.5	331.5	331.5	329.5	325.5	320.4	316.4	311.3
45°	302.2	301.2	300.2	299.2	297.2	296.1	295.1	289.1	286.0	282.0	276.9
47.5°	272.9	270.9	269.9	268.9	266.8	265.8	263.8	259.8	256.7	252.7	248.6
50°	245.6	244.6	243.6	243.6	241.6	240.6	238.5	235.5	230.4	228.4	223.4
52.5°	224.4	222.4	220.3	220.3	218.3	218.3	215.3	212.3	207.2	205.2	201.1
55°	202.1	201.1	200.1	200.1	198.1	197.1	196.1	192.0	188.0	185.0	180.9
57.5°	182.9	181.9	180.9	180.9	178.9	177.9	176.9	173.8	169.8	167.8	162.7
60°	164.8	164.8	163.7	162.7	161.7	160.7	159.7	156.7	153.6	150.6	146.6
62.5°	148.6	147.6	146.6	145.5	145.5	144.5	143.5	139.5	137.5	134.4	130.4
65°	133.4	131.4	131.4	130.4	130.4	129.4	128.4	124.3	122.3	119.3	115.2
67.5°	117.2	116.2	115.2	115.2	114.2	114.2	113.2	110.2	107.1	105.1	101.1
70°	102.1	102.1	101.1	101.1	100.1	99.1	99.1	97.0	94.0	91.0	86.9
72.5°	88.9	87.9	86.9	86.9	85.9	85.9	84.9	82.9	80.9	78.8	73.8
75°	74.8	73.8	73.8	73.8	72.8	72.8	71.8	69.7	67.7	65.7	62.7
77.5°	61.7	61.7	60.6	60.6	59.6	59.6	59.6	57.6	55.6	53.6	49.5
80°	48.5	48.5	48.5	47.5	46.5	46.5	46.5	44.5	42.5	40.4	37.4
82.5°	35.4	34.4	34.4	33.4	32.3	32.3	32.3	30.3	29.3	26.3	24.3
85°	21.2	20.2	20.2	19.2	18.2	18.2	18.2	17.2	15.2	14.2	12.1
87.5°	8.1	8.1	8.1	8.1	8.1	7.1	7.1	6.1	6.1	5.1	5.1
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: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3
2.5°	692.4	691.3	691.3	690.3	691.3	689.3	689.3	689.3	689.3	687.3	687.3
5°	690.3	690.3	689.3	688.3	689.3	687.3	688.3	687.3	687.3	684.3	684.3
7.5°	686.3	685.3	683.3	682.2	683.3	682.2	682.2	682.2	684.3	682.2	682.2
10°	679.2	678.2	676.2	675.2	675.2	674.2	676.2	678.2	682.2	684.3	688.3
12.5°	672.1	670.1	669.1	669.1	670.1	670.1	674.2	679.2	689.3	692.4	696.4
15°	663.0	662.0	662.0	665.1	669.1	672.1	680.2	683.3	684.3	680.2	678.2
17.5°	650.9	650.9	651.9	655.0	658.0	658.0	659.0	657.0	655.0	649.9	643.8
20°	630.7	629.7	627.7	627.7	627.7	623.6	625.6	618.6	613.5	607.5	598.4
22.5°	605.4	600.4	593.3	588.3	585.2	583.2	578.1	570.1	564.0	559.9	555.9
25°	578.1	570.1	559.9	551.9	546.8	545.8	538.7	531.6	527.6	522.6	520.5
27.5°	546.8	537.7	525.6	517.5	513.5	510.4	504.4	497.3	492.2	488.2	485.2
30°	510.4	501.3	491.2	481.1	477.1	472.0	466.0	460.9	455.8	452.8	450.8
32.5°	470.0	460.9	450.8	443.7	438.7	434.6	429.6	424.5	420.5	418.4	416.4
35°	428.6	419.5	411.4	404.3	400.3	397.2	393.2	387.1	384.1	383.1	381.0
37.5°	384.1	378.0	370.9	364.9	361.8	357.8	355.8	350.7	350.7	346.7	346.7
40°	342.6	338.6	331.5	326.5	324.4	321.4	318.4	316.4	315.4	314.3	313.3
42.5°	306.3	300.2	296.1	292.1	289.1	287.1	287.1	284.0	283.0	280.0	279.0
45°	272.9	269.9	262.8	259.8	258.7	255.7	254.7	252.7	249.7	247.6	246.6
47.5°	243.6	240.6	236.5	232.5	230.4	228.4	226.4	223.4	221.4	218.3	217.3
50°	219.3	214.3	210.2	207.2	204.2	203.2	201.1	197.1	195.1	192.0	192.0
52.5°	197.1	193.1	188.0	185.0	181.9	179.9	176.9	173.8	170.8	169.8	166.8
55°	177.9	172.8	167.8	163.7	160.7	157.7	156.7	152.6	148.6	146.6	144.5
57.5°	159.7	154.6	148.6	143.5	141.5	139.5	136.4	132.4	129.4	126.3	124.3
60°	141.5	137.5	131.4	126.3	124.3	121.3	118.3	114.2	111.2	108.1	106.1
62.5°	126.3	120.3	115.2	110.2	107.1	105.1	101.1	98.0	94.0	91.0	87.9
65°	111.2	105.1	100.1	95.0	93.0	90.0	86.9	82.9	78.8	75.8	71.8
67.5°	96.0	91.0	85.9	80.9	78.8	76.8	72.8	68.7	64.7	61.7	57.6
70°	82.9	77.8	72.8	68.7	66.7	64.7	60.6	56.6	53.6	49.5	46.5
72.5°	70.8	66.7	61.7	57.6	55.6	53.6	49.5	46.5	42.5	40.4	37.4
75°	58.6	54.6	50.5	46.5	44.5	42.5	39.4	36.4	33.4	30.3	28.3
77.5°	46.5	42.5	38.4	35.4	33.4	32.3	29.3	26.3	23.2	21.2	18.2
80°	34.4	30.3	27.3	24.3	22.2	21.2	18.2	16.2	14.2	11.1	10.1
82.5°	21.2	18.2	16.2	14.2	13.1	12.1	10.1	8.1	7.1	6.1	5.1
85°	11.1	10.1	8.1	7.1	6.1	6.1	5.1	4.0	3.0	3.0	2.0
87.5°	4.0	3.0	3.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
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: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3
2.5°	685.3	686.3	687.3	688.3	687.3	687.3	689.3	685.3	688.3	688.3	684.3
5°	683.3	685.3	684.3	686.3	684.3	684.3	685.3	683.3	685.3	685.3	682.2
7.5°	681.2	683.3	683.3	684.3	683.3	683.3	684.3	681.2	683.3	683.3	680.2
10°	690.3	692.4	691.3	690.3	687.3	685.3	686.3	681.2	683.3	683.3	680.2
12.5°	693.4	692.4	688.3	686.3	684.3	682.2	683.3	679.2	681.2	681.2	679.2
15°	673.2	671.1	668.1	669.1	667.1	666.1	668.1	666.1	670.1	672.1	670.1
17.5°	638.8	637.8	635.8	635.8	635.8	636.8	639.8	639.8	645.9	649.9	651.9
20°	594.3	593.3	594.3	596.3	597.3	601.4	608.5	612.5	620.6	627.7	632.7
22.5°	553.9	555.9	558.9	563.0	564.0	569.0	578.1	582.2	592.3	600.4	605.4
25°	519.5	522.6	524.6	527.6	528.6	534.7	542.8	547.8	558.9	565.0	571.1
27.5°	485.2	489.2	490.2	494.3	494.3	500.3	507.4	512.4	519.5	525.6	530.6
30°	451.8	452.8	455.8	456.9	458.9	464.9	469.0	472.0	480.1	483.1	486.2
32.5°	415.4	419.5	421.5	422.5	421.5	426.5	430.6	432.6	435.6	439.7	441.7
35°	381.0	383.1	384.1	386.1	387.1	388.1	390.1	391.2	395.2	396.2	397.2
37.5°	346.7	349.7	348.7	349.7	349.7	350.7	352.7	351.7	354.8	355.8	354.8
40°	312.3	312.3	314.3	313.3	314.3	313.3	315.4	315.4	315.4	316.4	315.4
42.5°	278.0	279.0	278.0	280.0	278.0	279.0	279.0	278.0	279.0	278.0	278.0
45°	246.6	246.6	246.6	246.6	244.6	244.6	246.6	245.6	244.6	243.6	242.6
47.5°	216.3	217.3	215.3	216.3	215.3	214.3	213.3	213.3	212.3	210.2	209.2
50°	191.0	189.0	188.0	189.0	188.0	187.0	186.0	184.0	182.9	180.9	179.9
52.5°	165.8	163.7	161.7	161.7	160.7	158.7	157.7	155.7	154.6	152.6	152.6
55°	143.5	141.5	139.5	138.5	136.4	134.4	133.4	131.4	130.4	128.4	126.3
57.5°	122.3	119.3	117.2	116.2	115.2	112.2	111.2	109.2	107.1	105.1	104.1
60°	103.1	100.1	97.0	96.0	95.0	92.0	91.0	87.9	86.9	84.9	83.9
62.5°	84.9	82.9	78.8	77.8	75.8	73.8	70.8	69.7	68.7	69.7	69.7
65°	68.7	65.7	62.7	61.7	59.6	57.6	56.6	55.6	56.6	56.6	57.6
67.5°	54.6	51.5	48.5	48.5	47.5	45.5	45.5	45.5	46.5	46.5	47.5
70°	43.5	41.4	39.4	38.4	38.4	37.4	38.4	38.4	39.4	39.4	39.4
72.5°	34.4	33.4	32.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	32.3
75°	26.3	25.3	24.3	24.3	23.2	23.2	23.2	23.2	23.2	23.2	22.2
77.5°	17.2	16.2	15.2	15.2	14.2	13.1	13.1	12.1	12.1	12.1	12.1
80°	9.1	8.1	7.1	6.1	6.1	5.1	5.1	5.1	5.1	4.0	4.0
82.5°	4.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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: P251676

CATALOG NUMBER: LD4B15D010 EU4B10208040 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	689.3	689.3	689.3	689.3	689.3	689.3	689.3	689.3
2.5°	686.3	684.3	686.3	687.3	685.3	684.3	686.3	682.2
5°	685.3	682.2	683.3	684.3	682.2	681.2	683.3	680.2
7.5°	683.3	682.2	683.3	684.3	681.2	681.2	683.3	680.2
10°	683.3	681.2	682.2	684.3	682.2	682.2	684.3	680.2
12.5°	682.2	679.2	682.2	683.3	681.2	681.2	683.3	679.2
15°	675.2	675.2	676.2	678.2	677.2	678.2	681.2	678.2
17.5°	660.0	662.0	666.1	669.1	671.1	673.2	676.2	674.2
20°	641.8	644.9	649.9	652.9	657.0	658.0	663.0	659.0
22.5°	613.5	619.6	623.6	626.7	629.7	632.7	636.8	635.8
25°	579.2	583.2	586.2	589.3	593.3	595.3	597.3	596.3
27.5°	537.7	539.7	543.8	545.8	547.8	549.8	553.9	548.8
30°	492.2	493.2	495.3	498.3	498.3	500.3	502.3	501.3
32.5°	445.7	445.7	447.8	449.8	448.8	449.8	453.8	448.8
35°	400.3	399.2	402.3	403.3	403.3	402.3	405.3	404.3
37.5°	355.8	356.8	357.8	358.8	356.8	358.8	358.8	356.8
40°	315.4	314.3	316.4	317.4	316.4	317.4	317.4	313.3
42.5°	279.0	276.9	278.0	279.0	278.0	279.0	278.0	275.9
45°	243.6	242.6	242.6	243.6	241.6	241.6	241.6	241.6
47.5°	210.2	209.2	210.2	210.2	208.2	208.2	209.2	208.2
50°	179.9	178.9	178.9	178.9	177.9	177.9	178.9	178.9
52.5°	152.6	150.6	150.6	150.6	150.6	150.6	151.6	149.6
55°	125.3	125.3	125.3	125.3	126.3	126.3	126.3	126.3
57.5°	103.1	104.1	104.1	105.1	104.1	105.1	105.1	104.1
60°	85.9	84.9	85.9	85.9	86.9	86.9	86.9	86.9
62.5°	70.8	70.8	70.8	71.8	71.8	71.8	72.8	71.8
65°	58.6	58.6	59.6	59.6	59.6	60.6	60.6	60.6
67.5°	48.5	48.5	48.5	48.5	49.5	49.5	50.5	49.5
70°	40.4	40.4	40.4	40.4	40.4	41.4	41.4	41.4
72.5°	32.3	32.3	32.3	32.3	33.4	33.4	33.4	33.4
75°	22.2	22.2	22.2	23.2	22.2	22.2	22.2	22.2
77.5°	11.1	11.1	11.1	11.1	11.1	10.1	10.1	10.1
80°	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)