

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: P251751

Luminaire Tested: **LD4B15D010 EU4B10208027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251751
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: LD4B15D010 EU4B10208027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1094.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

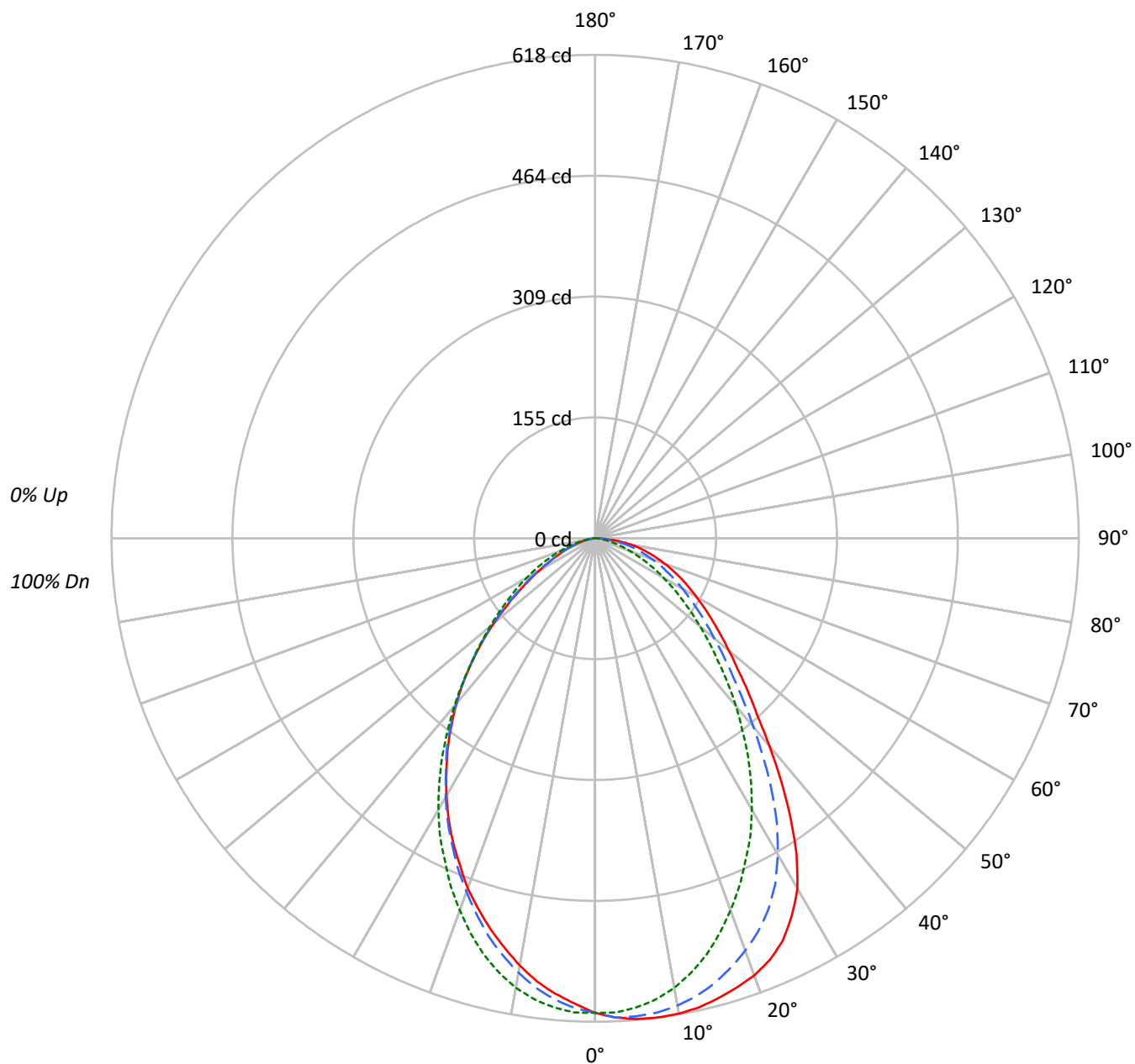
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	111	107	103	100	108	104	101	98	100	98	95		96	94	92		93
2	102	95	89	85	100	93	88	84	90	85	82		87	83	80		84
3	94	85	78	73	92	84	77	72	81	75	71		78	74	70		76
4	88	77	69	63	85	76	69	63	73	67	62		71	66	61		69
5	81	70	62	56	79	69	61	56	67	60	55		65	59	55		63
6	76	64	56	50	74	63	55	50	61	54	49		60	54	49		58
7	71	59	51	45	69	58	50	45	56	50	45		55	49	44		54
8	66	54	46	41	65	53	46	41	52	45	41		51	45	40		50
9	62	50	42	37	61	49	42	37	48	42	37		47	41	37		46
10	59	46	39	34	57	46	39	34	45	39	34		44	38	34		43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	59128	59128	59128
5°	60361	58904	57162
10°	61059	57734	54874
15°	61405	55563	52173
20°	61668	52468	49367
25°	61025	48885	46175
30°	58192	45059	42752
35°	51754	40535	39095
40°	44057	35622	35037
45°	37957	30625	30487
50°	33826	26472	25608
55°	31094	22836	20458
60°	29101	19648	16003
65°	27972	16581	12476
70°	26871	13307	10116
75°	26020	10543	7719
80°	26210	7352	4714
85°	21917	5256	2125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.8	5.2
10°-20°	156.1	14.3
20°-30°	218.4	20.0
30°-40°	224.5	20.5
40°-50°	182.2	16.7
50°-60°	128.3	11.7
60°-70°	79.0	7.2
70°-80°	39.4	3.6
80°-90°	9.4	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°	431.3	39.4
0°-40°	655.8	59.9
0°-60°	966.2	88.3
0°-90°	1094.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1094.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	607	607	607	607	607	
5°	617	613	602	592	584	59
15°	609	589	551	526	517	172
25°	568	524	455	432	429	259
35°	435	393	341	330	329	270
45°	275	248	222	222	221	214
55°	183	160	134	123	120	164
65°	121	102	72	55	54	120
75°	69	54	28	20	20	74
85°	20	13	5	3	2	23
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°	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7
2.5°	613.3	614.2	611.4	614.2	610.5	612.3	613.3	611.4	609.5	613.3	613.3
5°	617.0	617.0	614.2	617.9	613.3	614.2	616.1	613.3	610.5	614.2	613.3
7.5°	617.9	617.9	614.2	617.9	613.3	614.2	615.1	612.3	609.5	612.3	611.4
10°	617.0	616.1	613.3	617.0	612.3	612.3	613.3	610.5	605.8	608.6	606.7
12.5°	614.2	614.2	610.5	614.2	607.7	607.7	608.6	604.9	601.1	601.1	599.3
15°	608.6	608.6	604.9	607.7	602.1	602.1	601.1	597.4	592.7	592.7	589.0
17.5°	602.1	602.1	598.3	601.1	594.6	594.6	593.7	588.1	581.5	580.6	575.9
20°	594.6	594.6	589.9	591.8	584.3	584.3	583.4	576.9	569.4	567.5	561.0
22.5°	583.4	583.4	578.7	579.7	572.2	571.3	570.3	562.9	555.4	552.6	544.2
25°	567.5	566.6	562.9	562.9	555.4	553.5	551.7	544.2	536.7	531.1	523.7
27.5°	544.2	545.1	540.5	541.4	532.1	530.2	529.3	519.9	511.5	505.9	498.4
30°	517.1	514.3	509.6	509.6	502.2	501.2	499.4	491.0	481.6	475.1	466.7
32.5°	478.8	477.9	473.2	473.2	464.8	464.8	461.1	452.7	444.3	440.6	432.2
35°	435.0	434.0	430.3	430.3	422.8	423.8	420.0	413.5	405.1	399.5	393.0
37.5°	390.2	389.2	385.5	386.4	379.9	379.9	377.1	370.6	364.0	361.2	352.8
40°	346.3	345.4	340.7	343.5	337.9	336.0	335.1	330.4	323.0	319.2	314.6
42.5°	306.2	307.1	302.4	304.3	299.6	297.8	296.8	293.1	287.5	283.8	279.1
45°	275.4	273.5	271.6	271.6	267.0	266.0	265.1	260.4	256.7	253.0	248.3
47.5°	246.4	244.6	242.7	243.6	239.9	239.0	237.1	233.4	228.7	226.8	222.2
50°	223.1	222.2	219.4	219.4	215.6	214.7	212.8	210.0	205.4	202.6	198.8
52.5°	201.6	201.6	198.8	197.9	195.1	194.2	193.2	189.5	185.8	182.0	178.3
55°	183.0	182.0	180.2	180.2	176.4	175.5	174.6	170.8	167.1	164.3	160.5
57.5°	165.2	165.2	163.3	163.3	160.5	158.7	158.7	154.9	150.3	148.4	143.7
60°	149.3	149.3	147.5	147.5	144.7	144.7	142.8	139.1	136.3	132.5	128.8
62.5°	134.4	135.3	133.5	132.5	129.7	128.8	128.8	126.0	121.3	118.5	114.8
65°	121.3	120.4	119.5	118.5	115.7	114.8	114.8	111.1	108.3	104.5	101.7
67.5°	107.3	107.3	105.5	105.5	103.6	102.7	100.8	98.0	95.2	92.4	89.6
70°	94.3	94.3	93.3	93.3	90.5	89.6	88.7	85.9	83.1	80.3	76.5
72.5°	82.1	81.2	80.3	80.3	78.4	77.5	76.5	73.7	70.9	68.1	65.3
75°	69.1	69.1	68.1	68.1	66.3	65.3	65.3	63.5	59.7	57.9	54.1
77.5°	57.9	57.9	56.9	56.9	55.1	55.1	54.1	51.3	49.5	46.7	44.8
80°	46.7	45.7	45.7	44.8	42.9	42.9	42.0	41.1	38.3	36.4	33.6
82.5°	32.7	32.7	32.7	31.7	30.8	30.8	29.9	28.0	26.1	25.2	22.4
85°	19.6	19.6	18.7	17.7	18.7	17.7	16.8	15.9	14.9	14.0	13.1
87.5°	8.4	8.4	7.5	7.5	7.5	7.5	7.5	6.5	5.6	5.6	4.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7
2.5°	607.7	610.5	609.5	608.6	606.7	606.7	606.7	605.8	606.7	606.7	604.9
5°	607.7	609.5	608.6	606.7	604.9	604.9	603.9	602.1	602.1	602.1	598.3
7.5°	604.9	606.7	603.9	602.1	600.2	598.3	598.3	595.5	595.5	594.6	590.9
10°	599.3	600.2	596.5	594.6	591.8	590.9	589.0	585.3	584.3	583.4	579.7
12.5°	590.9	591.8	587.1	583.4	579.7	578.7	576.9	572.2	570.3	568.5	563.8
15°	578.7	578.7	573.1	568.5	564.7	563.8	559.1	554.5	552.6	550.7	544.2
17.5°	564.7	563.8	556.3	551.7	547.0	545.1	540.5	534.9	531.1	529.3	523.7
20°	549.8	547.0	538.6	533.9	528.3	525.5	520.8	513.4	509.6	505.9	500.3
22.5°	532.1	528.3	519.0	512.4	506.8	504.0	497.5	491.0	485.4	481.6	475.1
25°	510.6	505.9	495.6	487.2	482.6	479.8	473.2	465.8	460.2	454.6	449.0
27.5°	485.4	479.8	469.5	461.1	456.4	451.8	447.1	438.7	434.0	429.4	422.8
30°	454.6	448.0	438.7	431.2	425.6	421.9	416.3	408.8	403.2	400.4	393.9
32.5°	421.0	413.5	405.1	397.6	394.8	390.2	385.5	378.0	373.4	370.6	365.9
35°	383.6	378.0	368.7	363.1	358.4	356.6	352.8	345.4	343.5	340.7	335.1
37.5°	344.4	339.8	333.2	328.6	324.8	323.0	319.2	314.6	311.8	309.0	306.2
40°	308.0	304.3	298.7	295.0	290.3	287.5	287.5	281.9	280.0	280.0	277.2
42.5°	272.6	270.7	266.0	260.4	259.5	256.7	255.8	253.0	251.1	250.2	249.2
45°	242.7	239.9	235.2	232.4	229.6	229.6	226.8	224.0	223.1	222.2	221.2
47.5°	216.6	212.8	209.1	206.3	204.4	203.5	200.7	198.8	197.9	197.9	197.0
50°	193.2	190.4	186.7	183.9	182.0	180.2	178.3	176.4	175.5	174.6	174.6
52.5°	173.6	169.9	166.1	163.3	160.5	159.6	157.7	155.9	154.9	154.0	153.1
55°	155.9	153.1	148.4	145.6	142.8	142.8	140.0	137.2	135.3	134.4	133.5
57.5°	139.1	136.3	131.6	128.8	126.9	125.1	123.2	121.3	119.5	117.6	115.7
60°	124.1	121.3	116.7	112.9	112.0	110.1	108.3	104.5	102.7	100.8	98.9
62.5°	110.1	106.4	102.7	98.9	98.0	96.1	93.3	90.5	87.7	85.9	83.1
65°	97.1	94.3	89.6	86.8	84.0	83.1	80.3	76.5	73.7	71.9	69.1
67.5°	84.9	81.2	76.5	73.7	71.9	70.0	67.2	64.4	61.6	58.8	56.0
70°	72.8	70.0	65.3	62.5	60.7	58.8	56.0	52.3	49.5	46.7	44.8
72.5°	61.6	57.9	54.1	51.3	49.5	47.6	44.8	42.0	39.2	37.3	34.5
75°	51.3	47.6	44.8	41.1	40.1	38.3	35.5	32.7	29.9	28.0	26.1
77.5°	41.1	38.3	34.5	32.7	30.8	28.9	27.1	24.3	22.4	19.6	17.7
80°	30.8	28.0	25.2	23.3	21.5	20.5	18.7	16.8	14.9	13.1	12.1
82.5°	20.5	18.7	15.9	14.9	14.0	13.1	11.2	10.3	9.3	8.4	7.5
85°	11.2	10.3	9.3	7.5	7.5	6.5	5.6	5.6	4.7	4.7	3.7
87.5°	4.7	3.7	3.7	2.8	2.8	2.8	1.9	1.9	1.9	0.9	0.9
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°	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7
2.5°	605.8	602.1	602.1	602.1	599.3	600.2	601.1	602.1	601.1	598.3	601.1
5°	599.3	595.5	595.5	593.7	591.8	591.8	591.8	592.7	591.8	589.0	589.9
7.5°	590.9	586.2	585.3	583.4	581.5	580.6	580.6	580.6	579.7	575.9	577.8
10°	577.8	573.1	571.3	570.3	567.5	566.6	565.7	564.7	563.8	560.1	561.9
12.5°	561.9	558.2	554.5	553.5	550.7	548.9	547.9	547.9	546.1	542.3	544.2
15°	543.3	537.7	534.9	533.0	530.2	528.3	526.5	527.4	526.5	522.7	523.7
17.5°	520.8	515.2	512.4	511.5	507.8	505.9	505.0	505.0	504.0	500.3	501.2
20°	496.6	491.0	489.1	487.2	485.4	483.5	482.6	481.6	480.7	477.0	479.8
22.5°	472.3	465.8	463.0	463.0	459.2	458.3	457.4	458.3	457.4	453.6	455.5
25°	447.1	440.6	438.7	435.9	434.0	433.1	433.1	433.1	432.2	430.3	432.2
27.5°	419.1	414.4	411.6	410.7	408.8	407.9	407.0	407.9	407.9	405.1	407.0
30°	391.1	387.4	385.5	384.6	381.8	380.8	381.8	381.8	381.8	379.0	381.8
32.5°	363.1	360.3	359.4	356.6	354.7	354.7	354.7	355.6	354.7	352.8	355.6
35°	335.1	331.4	330.4	329.5	329.5	327.6	329.5	328.6	330.4	327.6	329.5
37.5°	305.2	303.4	302.4	302.4	300.6	301.5	301.5	301.5	303.4	300.6	302.4
40°	277.2	275.4	275.4	275.4	274.4	274.4	274.4	275.4	276.3	274.4	276.3
42.5°	249.2	248.3	248.3	247.4	246.4	247.4	248.3	248.3	249.2	247.4	248.3
45°	222.2	221.2	222.2	221.2	221.2	220.3	221.2	222.2	222.2	221.2	221.2
47.5°	197.0	197.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	194.2	196.0
50°	174.6	172.7	173.6	172.7	172.7	171.7	171.7	170.8	169.9	168.9	168.9
52.5°	153.1	151.2	151.2	150.3	149.3	149.3	148.4	147.5	146.5	144.7	144.7
55°	132.5	130.7	129.7	128.8	127.9	126.9	126.0	125.1	123.2	122.3	122.3
57.5°	113.9	112.0	110.1	110.1	108.3	107.3	105.5	103.6	102.7	100.8	100.8
60°	97.1	95.2	92.4	91.5	90.5	88.7	85.9	84.9	84.0	82.1	83.1
62.5°	81.2	78.4	75.6	74.7	73.7	71.9	70.0	68.1	67.2	68.1	68.1
65°	66.3	63.5	61.6	59.7	58.8	56.9	56.0	55.1	55.1	55.1	56.0
67.5°	53.2	50.4	48.5	47.6	45.7	44.8	44.8	44.8	44.8	44.8	44.8
70°	42.0	40.1	38.3	36.4	36.4	35.5	35.5	35.5	35.5	35.5	35.5
72.5°	31.7	29.9	28.9	28.9	28.0	28.0	28.0	28.0	27.1	27.1	28.0
75°	23.3	22.4	21.5	21.5	21.5	20.5	20.5	20.5	20.5	20.5	20.5
77.5°	16.8	15.9	15.9	14.9	14.9	14.9	14.9	14.9	14.9	14.0	14.0
80°	11.2	10.3	10.3	10.3	10.3	9.3	9.3	9.3	9.3	9.3	9.3
82.5°	6.5	6.5	6.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
85°	3.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	606.7	606.7	606.7	606.7	606.7	606.7	606.7	606.7
2.5°	595.5	599.3	600.2	597.4	598.3	596.5	597.4	595.5
5°	585.3	588.1	589.0	587.1	587.1	585.3	586.2	584.3
7.5°	572.2	575.0	575.9	574.1	574.1	572.2	572.2	571.3
10°	557.3	558.2	560.1	557.3	558.2	556.3	556.3	554.5
12.5°	538.6	540.5	542.3	539.5	539.5	538.6	538.6	535.8
15°	519.0	520.8	521.8	519.9	519.9	519.0	518.0	517.1
17.5°	498.4	499.4	501.2	498.4	500.3	498.4	498.4	496.6
20°	475.1	477.9	478.8	476.0	477.0	476.0	476.0	476.0
22.5°	452.7	454.6	455.5	453.6	454.6	452.7	453.6	451.8
25°	429.4	430.3	431.2	429.4	431.2	430.3	429.4	429.4
27.5°	405.1	406.0	407.0	405.1	407.0	406.0	407.0	405.1
30°	379.0	380.8	382.7	380.8	381.8	380.8	380.8	379.9
32.5°	352.8	354.7	356.6	354.7	356.6	354.7	355.6	353.8
35°	328.6	329.5	330.4	328.6	329.5	329.5	329.5	328.6
37.5°	301.5	303.4	303.4	302.4	304.3	303.4	303.4	301.5
40°	275.4	276.3	277.2	275.4	276.3	275.4	276.3	275.4
42.5°	248.3	250.2	251.1	249.2	249.2	249.2	248.3	249.2
45°	220.3	222.2	224.0	221.2	222.2	222.2	222.2	221.2
47.5°	195.1	195.1	196.0	195.1	196.0	194.2	196.0	195.1
50°	168.9	168.9	170.8	168.9	168.9	168.9	168.9	168.9
52.5°	143.7	144.7	144.7	142.8	143.7	142.8	143.7	142.8
55°	120.4	120.4	121.3	120.4	120.4	120.4	120.4	120.4
57.5°	99.9	100.8	100.8	99.9	100.8	99.9	99.9	99.9
60°	83.1	83.1	83.1	82.1	83.1	82.1	83.1	82.1
62.5°	67.2	68.1	68.1	67.2	68.1	67.2	67.2	67.2
65°	55.1	55.1	55.1	55.1	55.1	55.1	55.1	54.1
67.5°	43.9	43.9	44.8	43.9	44.8	44.8	44.8	44.8
70°	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
72.5°	27.1	27.1	28.0	27.1	27.1	27.1	27.1	27.1
75°	20.5	20.5	20.5	20.5	20.5	19.6	19.6	20.5
77.5°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.9
80°	9.3	9.3	9.3	9.3	8.4	8.4	9.3	8.4
82.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
85°	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9
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)