

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: P251757

Luminaire Tested: **LD4B15D010 EU4B10209027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251757
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 EU4B10209027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 939.0 lumens
Efficiency: N/A
Efficacy: 65.3 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

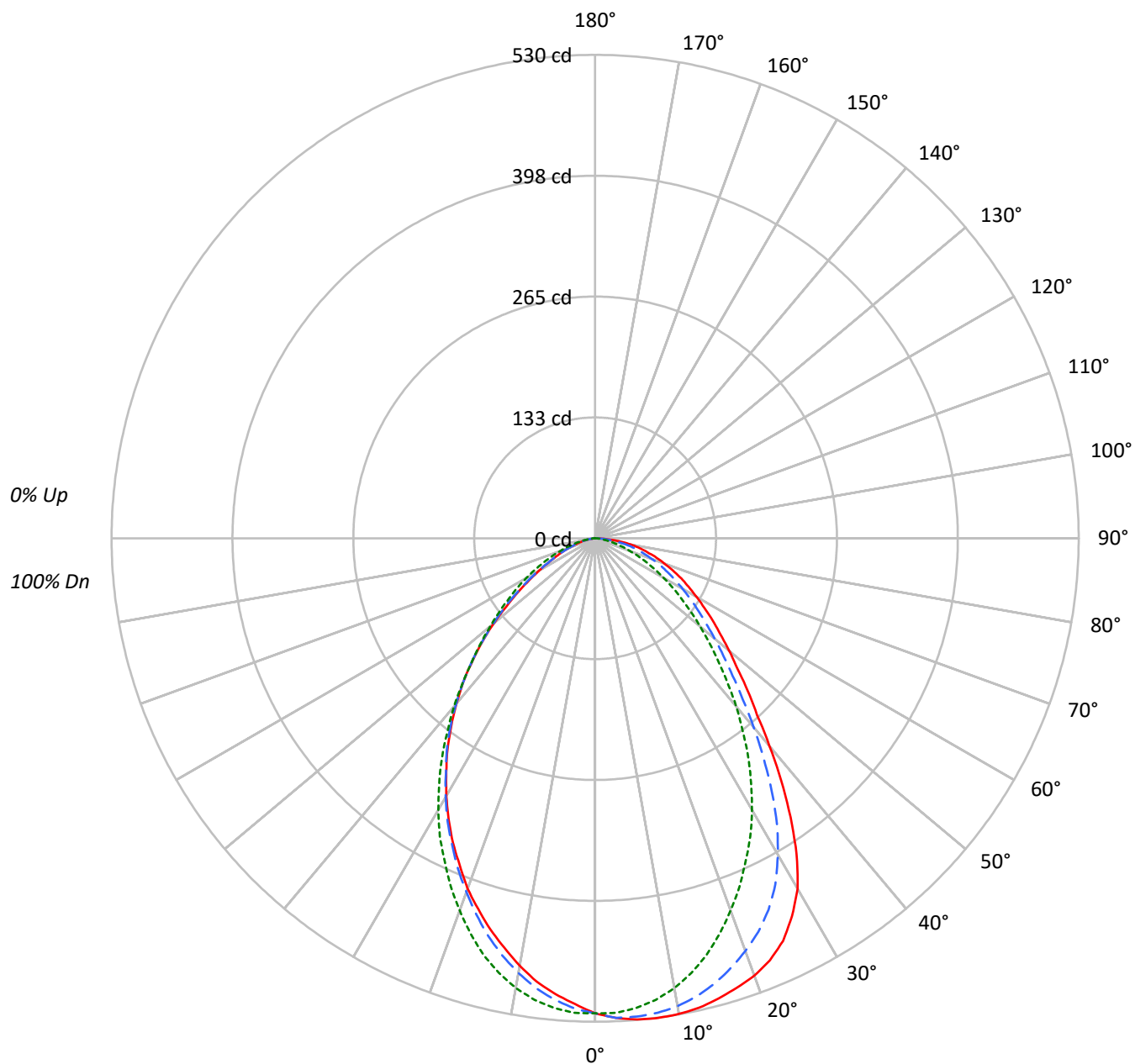
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	111	107	103	100		108	104	101	98		100	98	95		96	94	92		93	91	90
2	102	95	89	85		100	93	88	84		90	85	82		87	83	80		84	81	78
3	94	85	78	73		92	84	77	72		81	75	71		78	74	70		76	72	69
4	88	77	69	63		85	76	69	63		73	67	62		71	66	61		69	64	61
5	81	70	62	56		79	69	61	56		67	60	55		65	59	55		63	58	54
6	76	64	56	50		74	63	55	50		61	54	49		60	54	49		58	53	49
7	71	59	51	45		69	58	50	45		56	50	45		55	49	44		54	48	44
8	66	54	46	41		65	53	46	41		52	45	41		51	45	40		50	44	40
9	62	50	42	37		61	49	42	37		48	42	37		47	41	37		46	41	37
10	59	46	39	34		57	46	39	34		45	39	34		44	38	34		43	38	34

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	50756	50756	50756
5°	51811	50559	49062
10°	52410	49550	47096
15°	52708	47694	44788
20°	52925	45032	42377
25°	52379	41959	39626
30°	49954	38678	36698
35°	44413	34788	33551
40°	37811	30584	30063
45°	32568	26284	26173
50°	29035	22712	21985
55°	26676	19608	17569
60°	24988	16860	13742
65°	24029	14228	10723
70°	23052	11426	8662
75°	22329	9037	6627
80°	22506	6286	4041
85°	18786	4473	1789



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.8	5.2
10°-20°	134.0	14.3
20°-30°	187.4	20.0
30°-40°	192.6	20.5
40°-50°	156.4	16.7
50°-60°	110.1	11.7
60°-70°	67.8	7.2
70°-80°	33.8	3.6
80°-90°	8.0	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°	370.2	39.4
0°-40°	562.8	59.9
0°-60°	829.3	88.3
0°-90°	939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	939.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	521	521	521	521	521	
5°	530	526	517	508	502	51
15°	522	506	473	452	444	148
25°	487	450	390	371	368	223
35°	373	337	292	284	282	232
45°	236	213	191	191	190	184
55°	157	138	115	106	103	141
65°	104	87	62	47	46	103
75°	59	46	24	18	18	63
85°	17	11	4	2	2	20
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°	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8
2.5°	526.4	527.2	524.8	527.2	524.0	525.6	526.4	524.8	523.2	526.4	526.4
5°	529.6	529.6	527.2	530.4	526.4	527.2	528.8	526.4	524.0	527.2	526.4
7.5°	530.4	530.4	527.2	530.4	526.4	527.2	528.0	525.6	523.2	525.6	524.8
10°	529.6	528.8	526.4	529.6	525.6	525.6	526.4	524.0	520.0	522.4	520.8
12.5°	527.2	527.2	524.0	527.2	521.6	521.6	522.4	519.2	516.0	516.0	514.4
15°	522.4	522.4	519.2	521.6	516.8	516.8	516.0	512.8	508.7	508.7	505.5
17.5°	516.8	516.8	513.6	516.0	510.3	510.3	509.5	504.7	499.1	498.3	494.3
20°	510.3	510.3	506.3	507.9	501.5	501.5	500.7	495.1	488.7	487.1	481.5
22.5°	500.7	500.7	496.7	497.5	491.1	490.3	489.5	483.1	476.7	474.3	467.1
25°	487.1	486.3	483.1	483.1	476.7	475.1	473.5	467.1	460.7	455.9	449.5
27.5°	467.1	467.9	463.9	464.7	456.7	455.1	454.3	446.3	439.0	434.2	427.8
30°	443.9	441.4	437.4	437.4	431.0	430.2	428.6	421.4	413.4	407.8	400.6
32.5°	411.0	410.2	406.2	406.2	399.0	399.0	395.8	388.6	381.4	378.2	370.9
35°	373.3	372.5	369.3	369.3	362.9	363.7	360.5	354.9	347.7	342.9	337.3
37.5°	334.9	334.1	330.9	331.7	326.1	326.1	323.7	318.1	312.5	310.1	302.8
40°	297.2	296.4	292.4	294.8	290.0	288.4	287.6	283.6	277.2	274.0	270.0
42.5°	262.8	263.6	259.6	261.2	257.2	255.6	254.8	251.6	246.8	243.6	239.6
45°	236.3	234.7	233.1	233.1	229.1	228.3	227.5	223.5	220.3	217.1	213.1
47.5°	211.5	209.9	208.3	209.1	205.9	205.1	203.5	200.3	196.3	194.7	190.7
50°	191.5	190.7	188.3	188.3	185.1	184.3	182.7	180.3	176.3	173.9	170.7
52.5°	173.1	173.1	170.7	169.8	167.4	166.6	165.8	162.6	159.4	156.2	153.0
55°	157.0	156.2	154.6	154.6	151.4	150.6	149.8	146.6	143.4	141.0	137.8
57.5°	141.8	141.8	140.2	140.2	137.8	136.2	136.2	133.0	129.0	127.4	123.4
60°	128.2	128.2	126.6	126.6	124.2	124.2	122.6	119.4	117.0	113.8	110.6
62.5°	115.4	116.2	114.6	113.8	111.4	110.6	110.6	108.2	104.2	101.7	98.5
65°	104.2	103.4	102.6	101.7	99.3	98.5	98.5	95.3	92.9	89.7	87.3
67.5°	92.1	92.1	90.5	90.5	88.9	88.1	86.5	84.1	81.7	79.3	76.9
70°	80.9	80.9	80.1	80.1	77.7	76.9	76.1	73.7	71.3	68.9	65.7
72.5°	70.5	69.7	68.9	68.9	67.3	66.5	65.7	63.3	60.9	58.5	56.1
75°	59.3	59.3	58.5	58.5	56.9	56.1	56.1	54.5	51.3	49.7	46.5
77.5°	49.7	49.7	48.9	48.9	47.3	47.3	46.5	44.1	42.5	40.1	38.5
80°	40.1	39.3	39.3	38.5	36.9	36.9	36.1	35.3	32.8	31.2	28.8
82.5°	28.0	28.0	28.0	27.2	26.4	26.4	25.6	24.0	22.4	21.6	19.2
85°	16.8	16.8	16.0	15.2	16.0	15.2	14.4	13.6	12.8	12.0	11.2
87.5°	7.2	7.2	6.4	6.4	6.4	6.4	6.4	5.6	4.8	4.8	4.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8
2.5°	521.6	524.0	523.2	522.4	520.8	520.8	520.8	520.0	520.8	520.8	519.2
5°	521.6	523.2	522.4	520.8	519.2	519.2	518.4	516.8	516.8	516.8	513.6
7.5°	519.2	520.8	518.4	516.8	515.2	513.6	513.6	511.1	511.1	510.3	507.1
10°	514.4	515.2	512.0	510.3	507.9	507.1	505.5	502.3	501.5	500.7	497.5
12.5°	507.1	507.9	503.9	500.7	497.5	496.7	495.1	491.1	489.5	487.9	483.9
15°	496.7	496.7	491.9	487.9	484.7	483.9	479.9	475.9	474.3	472.7	467.1
17.5°	484.7	483.9	477.5	473.5	469.5	467.9	463.9	459.1	455.9	454.3	449.5
20°	471.9	469.5	462.3	458.3	453.5	451.1	447.1	440.6	437.4	434.2	429.4
22.5°	456.7	453.5	445.5	439.8	435.0	432.6	427.0	421.4	416.6	413.4	407.8
25°	438.2	434.2	425.4	418.2	414.2	411.8	406.2	399.8	395.0	390.2	385.4
27.5°	416.6	411.8	403.0	395.8	391.8	387.8	383.8	376.6	372.5	368.5	362.9
30°	390.2	384.6	376.6	370.1	365.3	362.1	357.3	350.9	346.1	343.7	338.1
32.5°	361.3	354.9	347.7	341.3	338.9	334.9	330.9	324.5	320.5	318.1	314.1
35°	329.3	324.5	316.5	311.7	307.7	306.0	302.8	296.4	294.8	292.4	287.6
37.5°	295.6	291.6	286.0	282.0	278.8	277.2	274.0	270.0	267.6	265.2	262.8
40°	264.4	261.2	256.4	253.2	249.2	246.8	246.8	242.0	240.4	240.4	237.9
42.5°	233.9	232.3	228.3	223.5	222.7	220.3	219.5	217.1	215.5	214.7	213.9
45°	208.3	205.9	201.9	199.5	197.1	197.1	194.7	192.3	191.5	190.7	189.9
47.5°	185.9	182.7	179.5	177.1	175.5	174.7	172.3	170.7	169.8	169.8	169.0
50°	165.8	163.4	160.2	157.8	156.2	154.6	153.0	151.4	150.6	149.8	149.8
52.5°	149.0	145.8	142.6	140.2	137.8	137.0	135.4	133.8	133.0	132.2	131.4
55°	133.8	131.4	127.4	125.0	122.6	122.6	120.2	117.8	116.2	115.4	114.6
57.5°	119.4	117.0	113.0	110.6	109.0	107.4	105.8	104.2	102.6	100.9	99.3
60°	106.6	104.2	100.1	96.9	96.1	94.5	92.9	89.7	88.1	86.5	84.9
62.5°	94.5	91.3	88.1	84.9	84.1	82.5	80.1	77.7	75.3	73.7	71.3
65°	83.3	80.9	76.9	74.5	72.1	71.3	68.9	65.7	63.3	61.7	59.3
67.5°	72.9	69.7	65.7	63.3	61.7	60.1	57.7	55.3	52.9	50.5	48.1
70°	62.5	60.1	56.1	53.7	52.1	50.5	48.1	44.9	42.5	40.1	38.5
72.5°	52.9	49.7	46.5	44.1	42.5	40.9	38.5	36.1	33.6	32.0	29.6
75°	44.1	40.9	38.5	35.3	34.5	32.8	30.4	28.0	25.6	24.0	22.4
77.5°	35.3	32.8	29.6	28.0	26.4	24.8	23.2	20.8	19.2	16.8	15.2
80°	26.4	24.0	21.6	20.0	18.4	17.6	16.0	14.4	12.8	11.2	10.4
82.5°	17.6	16.0	13.6	12.8	12.0	11.2	9.6	8.8	8.0	7.2	6.4
85°	9.6	8.8	8.0	6.4	6.4	5.6	4.8	4.8	4.0	4.0	3.2
87.5°	4.0	3.2	3.2	2.4	2.4	2.4	1.6	1.6	1.6	0.8	0.8
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°	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8
2.5°	520.0	516.8	516.8	516.8	514.4	515.2	516.0	516.8	516.0	513.6	516.0
5°	514.4	511.1	511.1	509.5	507.9	507.9	507.9	508.7	507.9	505.5	506.3
7.5°	507.1	503.1	502.3	500.7	499.1	498.3	498.3	498.3	497.5	494.3	495.9
10°	495.9	491.9	490.3	489.5	487.1	486.3	485.5	484.7	483.9	480.7	482.3
12.5°	482.3	479.1	475.9	475.1	472.7	471.1	470.3	470.3	468.7	465.5	467.1
15°	466.3	461.5	459.1	457.5	455.1	453.5	451.9	452.7	451.9	448.7	449.5
17.5°	447.1	442.2	439.8	439.0	435.8	434.2	433.4	433.4	432.6	429.4	430.2
20°	426.2	421.4	419.8	418.2	416.6	415.0	414.2	413.4	412.6	409.4	411.8
22.5°	405.4	399.8	397.4	397.4	394.2	393.4	392.6	393.4	392.6	389.4	391.0
25°	383.8	378.2	376.6	374.1	372.5	371.7	371.7	371.7	370.9	369.3	370.9
27.5°	359.7	355.7	353.3	352.5	350.9	350.1	349.3	350.1	350.1	347.7	349.3
30°	335.7	332.5	330.9	330.1	327.7	326.9	327.7	327.7	327.7	325.3	327.7
32.5°	311.7	309.3	308.5	306.0	304.4	304.4	304.4	305.2	304.4	302.8	305.2
35°	287.6	284.4	283.6	282.8	282.8	281.2	282.8	282.0	283.6	281.2	282.8
37.5°	262.0	260.4	259.6	259.6	258.0	258.8	258.8	258.8	260.4	258.0	259.6
40°	237.9	236.3	236.3	236.3	235.5	235.5	235.5	236.3	237.1	235.5	237.1
42.5°	213.9	213.1	213.1	212.3	211.5	212.3	213.1	213.1	213.9	212.3	213.1
45°	190.7	189.9	190.7	189.9	189.9	189.1	189.9	190.7	190.7	189.9	189.9
47.5°	169.0	169.0	168.2	168.2	168.2	168.2	168.2	168.2	168.2	166.6	168.2
50°	149.8	148.2	149.0	148.2	148.2	147.4	147.4	146.6	145.8	145.0	145.0
52.5°	131.4	129.8	129.8	129.0	128.2	128.2	127.4	126.6	125.8	124.2	124.2
55°	113.8	112.2	111.4	110.6	109.8	109.0	108.2	107.4	105.8	105.0	105.0
57.5°	97.7	96.1	94.5	94.5	92.9	92.1	90.5	88.9	88.1	86.5	86.5
60°	83.3	81.7	79.3	78.5	77.7	76.1	73.7	72.9	72.1	70.5	71.3
62.5°	69.7	67.3	64.9	64.1	63.3	61.7	60.1	58.5	57.7	58.5	58.5
65°	56.9	54.5	52.9	51.3	50.5	48.9	48.1	47.3	47.3	47.3	48.1
67.5°	45.7	43.3	41.7	40.9	39.3	38.5	38.5	38.5	38.5	38.5	38.5
70°	36.1	34.5	32.8	31.2	31.2	30.4	30.4	30.4	30.4	30.4	30.4
72.5°	27.2	25.6	24.8	24.8	24.0	24.0	24.0	24.0	23.2	23.2	24.0
75°	20.0	19.2	18.4	18.4	18.4	17.6	17.6	17.6	17.6	17.6	17.6
77.5°	14.4	13.6	13.6	12.8	12.8	12.8	12.8	12.8	12.8	12.0	12.0
80°	9.6	8.8	8.8	8.8	8.8	8.0	8.0	8.0	8.0	8.0	8.0
82.5°	5.6	5.6	5.6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
85°	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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°	520.8	520.8	520.8	520.8	520.8	520.8	520.8	520.8
2.5°	511.1	514.4	515.2	512.8	513.6	512.0	512.8	511.1
5°	502.3	504.7	505.5	503.9	503.9	502.3	503.1	501.5
7.5°	491.1	493.5	494.3	492.7	492.7	491.1	491.1	490.3
10°	478.3	479.1	480.7	478.3	479.1	477.5	477.5	475.9
12.5°	462.3	463.9	465.5	463.1	463.1	462.3	462.3	459.9
15°	445.5	447.1	447.9	446.3	446.3	445.5	444.7	443.9
17.5°	427.8	428.6	430.2	427.8	429.4	427.8	427.8	426.2
20°	407.8	410.2	411.0	408.6	409.4	408.6	408.6	408.6
22.5°	388.6	390.2	391.0	389.4	390.2	388.6	389.4	387.8
25°	368.5	369.3	370.1	368.5	370.1	369.3	368.5	368.5
27.5°	347.7	348.5	349.3	347.7	349.3	348.5	349.3	347.7
30°	325.3	326.9	328.5	326.9	327.7	326.9	326.9	326.1
32.5°	302.8	304.4	306.0	304.4	306.0	304.4	305.2	303.6
35°	282.0	282.8	283.6	282.0	282.8	282.8	282.8	282.0
37.5°	258.8	260.4	260.4	259.6	261.2	260.4	260.4	258.8
40°	236.3	237.1	237.9	236.3	237.1	236.3	237.1	236.3
42.5°	213.1	214.7	215.5	213.9	213.9	213.9	213.1	213.9
45°	189.1	190.7	192.3	189.9	190.7	190.7	190.7	189.9
47.5°	167.4	167.4	168.2	167.4	168.2	166.6	168.2	167.4
50°	145.0	145.0	146.6	145.0	145.0	145.0	145.0	145.0
52.5°	123.4	124.2	124.2	122.6	123.4	122.6	123.4	122.6
55°	103.4	103.4	104.2	103.4	103.4	103.4	103.4	103.4
57.5°	85.7	86.5	86.5	85.7	86.5	85.7	85.7	85.7
60°	71.3	71.3	71.3	70.5	71.3	70.5	71.3	70.5
62.5°	57.7	58.5	58.5	57.7	58.5	57.7	57.7	57.7
65°	47.3	47.3	47.3	47.3	47.3	47.3	47.3	46.5
67.5°	37.7	37.7	38.5	37.7	38.5	38.5	38.5	38.5
70°	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
72.5°	23.2	23.2	24.0	23.2	23.2	23.2	23.2	23.2
75°	17.6	17.6	17.6	17.6	17.6	16.8	16.8	17.6
77.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.8
80°	8.0	8.0	8.0	8.0	7.2	7.2	8.0	7.2
82.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
85°	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6
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)