

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: P274347

Luminaire Tested: **LD4B15DE010W2N2050 EU4B1020W2N902050 4LBLWWOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274347
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: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBLWW0LI
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH SPECULAR FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1002.0 lumens
Efficiency: N/A
Efficacy: 45.5 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

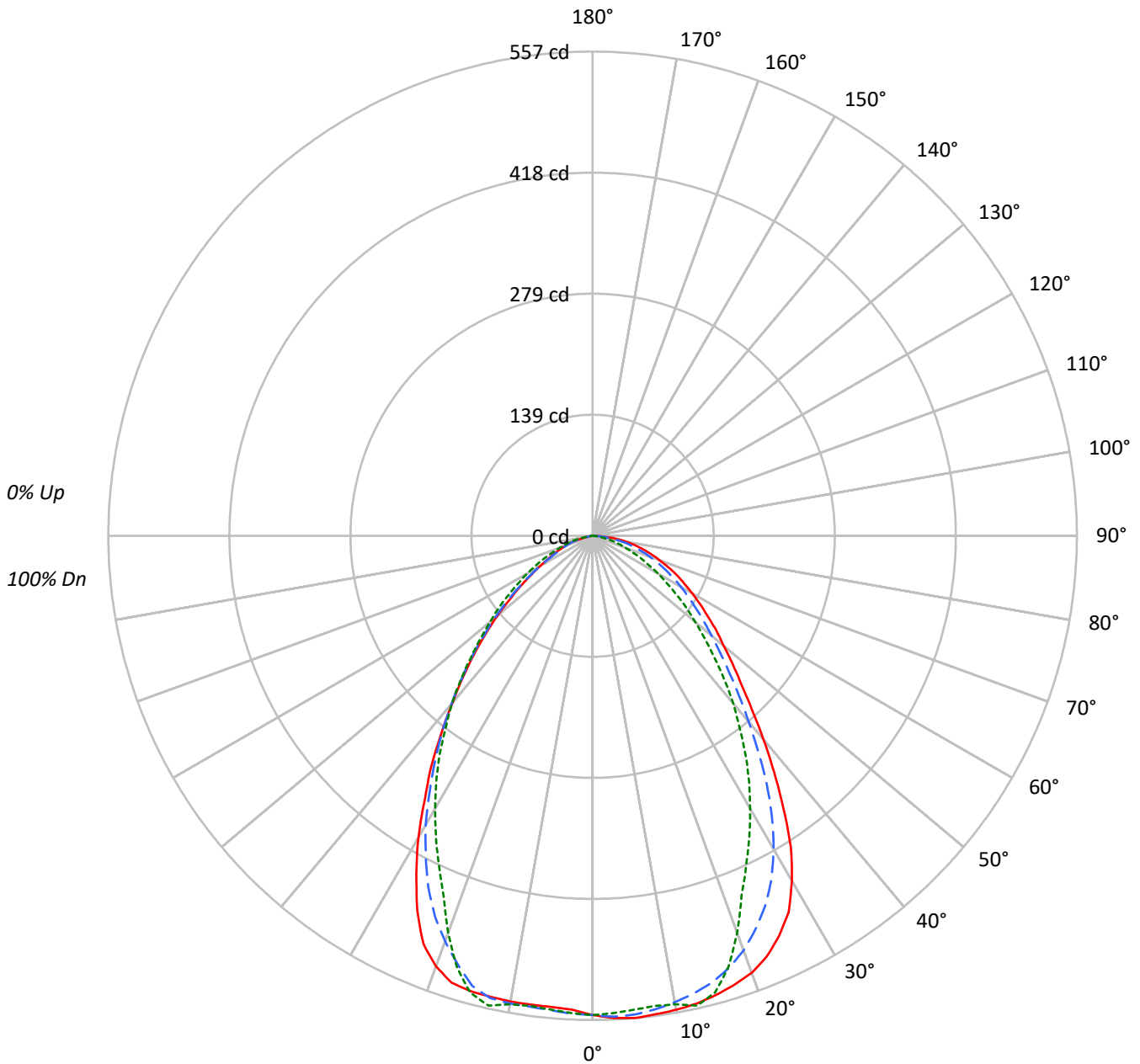
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P274347

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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																			
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53																			
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	53729	53729	53729
5°	54482	53533	53220
10°	54795	54152	53835
15°	55210	54887	54726
20°	55497	50384	54657
25°	54584	44938	51283
30°	51575	40749	45115
35°	45484	36442	38464
40°	38866	31984	31882
45°	33313	27290	26628
50°	29778	23289	21697
55°	27475	19914	17161
60°	25690	16860	13547
65°	24606	13975	11184
70°	23252	11284	9432
75°	22518	9112	6703
80°	21776	4995	1796
85°	19010	2684	895



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	5.2
10°-20°	150.7	15.0
20°-30°	209.0	20.9
30°-40°	206.3	20.6
40°-50°	161.8	16.1
50°-60°	112.1	11.2
60°-70°	68.7	6.9
70°-80°	34.3	3.4
80°-90°	6.9	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°	412.0	41.1
0°-40°	618.3	61.7
0°-60°	892.2	89.0
0°-90°	1002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1002.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	551	551	551	551	551	
5°	557	553	547	548	544	53
15°	547	532	544	536	542	155
25°	508	470	418	447	477	232
35°	382	349	306	316	323	239
45°	242	222	198	196	193	189
55°	162	145	117	104	101	146
65°	107	92	61	45	48	105
75°	60	50	24	19	18	63
85°	17	10	2	1	1	19
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°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	555.3	553.7	552.9	555.3	554.5	556.1	555.3	554.5	552.9	553.7	553.7
5°	556.9	554.5	553.7	555.3	555.3	556.9	556.1	554.5	552.9	553.7	552.9
7.5°	555.3	553.7	553.7	554.5	553.7	555.3	553.7	552.1	550.4	551.3	549.6
10°	553.7	551.3	551.3	551.3	551.3	552.9	551.3	548.8	546.4	546.4	544.8
12.5°	551.3	548.8	548.8	549.6	548.0	549.6	548.0	544.0	541.6	540.7	539.1
15°	547.2	544.8	544.8	544.8	543.2	544.0	541.6	537.5	534.3	534.3	531.9
17.5°	541.6	539.1	538.3	538.3	535.9	536.7	534.3	530.2	525.4	523.8	521.3
20°	535.1	531.9	530.2	530.2	527.8	528.6	525.4	520.5	514.1	511.6	507.6
22.5°	523.8	522.2	519.7	518.9	516.5	515.7	512.5	506.0	500.3	496.3	489.8
25°	507.6	506.8	504.4	503.6	500.3	498.7	495.5	488.2	482.5	476.1	469.6
27.5°	488.2	485.0	483.4	480.9	477.7	476.9	472.9	466.4	457.5	453.5	445.4
30°	458.3	456.7	455.1	452.6	449.4	447.8	445.4	438.1	430.8	423.5	416.3
32.5°	424.4	421.1	418.7	419.5	415.5	413.8	409.8	403.3	396.9	392.0	383.9
35°	382.3	381.5	380.7	379.1	375.9	375.0	371.8	367.0	359.7	354.0	349.2
37.5°	342.7	340.3	338.7	338.7	335.4	335.4	333.0	327.4	323.3	319.3	312.8
40°	305.5	301.5	301.5	301.5	298.3	299.1	297.5	291.8	287.8	282.9	278.9
42.5°	270.8	269.2	268.4	266.7	265.1	265.1	263.5	260.3	256.2	253.0	249.0
45°	241.7	240.9	240.1	239.3	237.6	236.8	236.0	231.2	228.7	225.5	221.5
47.5°	218.2	216.6	215.8	215.0	213.4	212.6	211.0	207.7	205.3	202.1	198.8
50°	196.4	195.6	194.8	194.8	193.2	192.4	190.8	188.3	184.3	182.7	178.6
52.5°	179.4	177.8	176.2	176.2	174.6	174.6	172.2	169.7	165.7	164.1	160.8
55°	161.7	160.8	160.0	160.0	158.4	157.6	156.8	153.6	150.3	147.9	144.7
57.5°	146.3	145.5	144.7	144.7	143.1	142.3	141.5	139.0	135.8	134.2	130.1
60°	131.8	131.8	130.9	130.1	129.3	128.5	127.7	125.3	122.9	120.4	117.2
62.5°	118.8	118.0	117.2	116.4	116.4	115.6	114.8	111.5	109.9	107.5	104.3
65°	106.7	105.1	105.1	104.3	104.3	103.5	102.7	99.4	97.8	95.4	92.1
67.5°	93.8	93.0	92.1	92.1	91.3	91.3	90.5	88.1	85.7	84.1	80.8
70°	81.6	81.6	80.8	80.8	80.0	79.2	79.2	77.6	75.2	72.7	69.5
72.5°	71.1	70.3	69.5	69.5	68.7	68.7	67.9	66.3	64.7	63.0	59.0
75°	59.8	59.0	59.0	59.0	58.2	58.2	57.4	55.8	54.2	52.5	50.1
77.5°	49.3	49.3	48.5	48.5	47.7	47.7	47.7	46.1	44.5	42.8	39.6
80°	38.8	38.8	38.8	38.0	37.2	37.2	37.2	35.6	33.9	32.3	29.9
82.5°	28.3	27.5	27.5	26.7	25.9	25.9	25.9	24.2	23.4	21.0	19.4
85°	17.0	16.2	16.2	15.4	14.5	14.5	14.5	13.7	12.1	11.3	9.7
87.5°	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.8	4.8	4.0	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°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	553.7	552.9	552.9	552.1	552.9	551.3	551.3	551.3	551.3	549.6	549.6
5°	552.1	552.1	551.3	550.4	551.3	549.6	550.4	549.6	549.6	547.2	547.2
7.5°	548.8	548.0	546.4	545.6	546.4	545.6	545.6	545.6	547.2	545.6	545.6
10°	543.2	542.4	540.7	539.9	539.9	539.1	540.7	542.4	545.6	547.2	550.4
12.5°	537.5	535.9	535.1	535.1	535.9	535.9	539.1	543.2	551.3	553.7	556.9
15°	530.2	529.4	529.4	531.9	535.1	537.5	544.0	546.4	547.2	544.0	542.4
17.5°	520.5	520.5	521.3	523.8	526.2	526.2	527.0	525.4	523.8	519.7	514.9
20°	504.4	503.6	501.9	501.9	501.9	498.7	500.3	494.7	490.6	485.8	478.5
22.5°	484.2	480.1	474.5	470.4	468.0	466.4	462.3	455.9	451.0	447.8	444.6
25°	462.3	455.9	447.8	441.3	437.3	436.5	430.8	425.2	421.9	417.9	416.3
27.5°	437.3	430.0	420.3	413.8	410.6	408.2	403.3	397.7	393.6	390.4	388.0
30°	408.2	400.9	392.8	384.7	381.5	377.5	372.6	368.6	364.5	362.1	360.5
32.5°	375.9	368.6	360.5	354.8	350.8	347.6	343.5	339.5	336.2	334.6	333.0
35°	342.7	335.4	329.0	323.3	320.1	317.7	314.4	309.6	307.2	306.3	304.7
37.5°	307.2	302.3	296.6	291.8	289.4	286.1	284.5	280.5	280.5	277.2	277.2
40°	274.0	270.8	265.1	261.1	259.5	257.0	254.6	253.0	252.2	251.4	250.6
42.5°	244.9	240.1	236.8	233.6	231.2	229.6	229.6	227.1	226.3	223.9	223.1
45°	218.2	215.8	210.2	207.7	206.9	204.5	203.7	202.1	199.6	198.0	197.2
47.5°	194.8	192.4	189.1	185.9	184.3	182.7	181.1	178.6	177.0	174.6	173.8
50°	175.4	171.4	168.1	165.7	163.3	162.5	160.8	157.6	156.0	153.6	153.6
52.5°	157.6	154.4	150.3	147.9	145.5	143.9	141.5	139.0	136.6	135.8	133.4
55°	142.3	138.2	134.2	130.9	128.5	126.1	125.3	122.1	118.8	117.2	115.6
57.5°	127.7	123.7	118.8	114.8	113.2	111.5	109.1	105.9	103.5	101.0	99.4
60°	113.2	109.9	105.1	101.0	99.4	97.0	94.6	91.3	88.9	86.5	84.9
62.5°	101.0	96.2	92.1	88.1	85.7	84.1	80.8	78.4	75.2	72.7	70.3
65°	88.9	84.1	80.0	76.0	74.4	71.9	69.5	66.3	63.0	60.6	57.4
67.5°	76.8	72.7	68.7	64.7	63.0	61.4	58.2	55.0	51.7	49.3	46.1
70°	66.3	62.2	58.2	55.0	53.3	51.7	48.5	45.3	42.8	39.6	37.2
72.5°	56.6	53.3	49.3	46.1	44.5	42.8	39.6	37.2	33.9	32.3	29.9
75°	46.9	43.6	40.4	37.2	35.6	33.9	31.5	29.1	26.7	24.2	22.6
77.5°	37.2	33.9	30.7	28.3	26.7	25.9	23.4	21.0	18.6	17.0	14.5
80°	27.5	24.2	21.8	19.4	17.8	17.0	14.5	12.9	11.3	8.9	8.1
82.5°	17.0	14.5	12.9	11.3	10.5	9.7	8.1	6.5	5.7	4.8	4.0
85°	8.9	8.1	6.5	5.7	4.8	4.8	4.0	3.2	2.4	2.4	1.6
87.5°	3.2	2.4	2.4	1.6	1.6	1.6	1.6	0.8	0.8	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°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	548.0	548.8	549.6	550.4	549.6	549.6	551.3	548.0	550.4	550.4	547.2
5°	546.4	548.0	547.2	548.8	547.2	547.2	548.0	546.4	548.0	548.0	545.6
7.5°	544.8	546.4	546.4	547.2	546.4	546.4	547.2	544.8	546.4	546.4	544.0
10°	552.1	553.7	552.9	552.1	549.6	548.0	548.8	544.8	546.4	546.4	544.0
12.5°	554.5	553.7	550.4	548.8	547.2	545.6	546.4	543.2	544.8	544.8	543.2
15°	538.3	536.7	534.3	535.1	533.5	532.7	534.3	532.7	535.9	537.5	535.9
17.5°	510.8	510.0	508.4	508.4	508.4	509.2	511.6	511.6	516.5	519.7	521.3
20°	475.3	474.5	475.3	476.9	477.7	480.9	486.6	489.8	496.3	501.9	506.0
22.5°	442.9	444.6	447.0	450.2	451.0	455.1	462.3	465.6	473.7	480.1	484.2
25°	415.5	417.9	419.5	421.9	422.7	427.6	434.1	438.1	447.0	451.8	456.7
27.5°	388.0	391.2	392.0	395.3	395.3	400.1	405.8	409.8	415.5	420.3	424.4
30°	361.3	362.1	364.5	365.3	367.0	371.8	375.0	377.5	383.9	386.4	388.8
32.5°	332.2	335.4	337.1	337.9	337.1	341.1	344.3	345.9	348.4	351.6	353.2
35°	304.7	306.3	307.2	308.8	309.6	310.4	312.0	312.8	316.0	316.9	317.7
37.5°	277.2	279.7	278.9	279.7	279.7	280.5	282.1	281.3	283.7	284.5	283.7
40°	249.8	249.8	251.4	250.6	251.4	250.6	252.2	252.2	252.2	253.0	252.2
42.5°	222.3	223.1	222.3	223.9	222.3	223.1	223.1	222.3	223.1	222.3	222.3
45°	197.2	197.2	197.2	197.2	195.6	195.6	197.2	196.4	195.6	194.8	194.0
47.5°	173.0	173.8	172.2	173.0	172.2	171.4	170.5	170.5	169.7	168.1	167.3
50°	152.8	151.2	150.3	151.2	150.3	149.5	148.7	147.1	146.3	144.7	143.9
52.5°	132.6	130.9	129.3	129.3	128.5	126.9	126.1	124.5	123.7	122.1	122.1
55°	114.8	113.2	111.5	110.7	109.1	107.5	106.7	105.1	104.3	102.7	101.0
57.5°	97.8	95.4	93.8	93.0	92.1	89.7	88.9	87.3	85.7	84.1	83.3
60°	82.4	80.0	77.6	76.8	76.0	73.6	72.7	70.3	69.5	67.9	67.1
62.5°	67.9	66.3	63.0	62.2	60.6	59.0	56.6	55.8	55.0	55.8	55.8
65°	55.0	52.5	50.1	49.3	47.7	46.1	45.3	44.5	45.3	45.3	46.1
67.5°	43.6	41.2	38.8	38.8	38.0	36.4	36.4	36.4	37.2	37.2	38.0
70°	34.8	33.1	31.5	30.7	30.7	29.9	30.7	30.7	31.5	31.5	31.5
72.5°	27.5	26.7	25.9	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.9
75°	21.0	20.2	19.4	19.4	18.6	18.6	18.6	18.6	18.6	18.6	17.8
77.5°	13.7	12.9	12.1	12.1	11.3	10.5	10.5	9.7	9.7	9.7	9.7
80°	7.3	6.5	5.7	4.8	4.8	4.0	4.0	4.0	4.0	3.2	3.2
82.5°	3.2	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6
85°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	548.8	547.2	548.8	549.6	548.0	547.2	548.8	545.6
5°	548.0	545.6	546.4	547.2	545.6	544.8	546.4	544.0
7.5°	546.4	545.6	546.4	547.2	544.8	544.8	546.4	544.0
10°	546.4	544.8	545.6	547.2	545.6	545.6	547.2	544.0
12.5°	545.6	543.2	545.6	546.4	544.8	544.8	546.4	543.2
15°	539.9	539.9	540.7	542.4	541.6	542.4	544.8	542.4
17.5°	527.8	529.4	532.7	535.1	536.7	538.3	540.7	539.1
20°	513.3	515.7	519.7	522.2	525.4	526.2	530.2	527.0
22.5°	490.6	495.5	498.7	501.1	503.6	506.0	509.2	508.4
25°	463.2	466.4	468.8	471.2	474.5	476.1	477.7	476.9
27.5°	430.0	431.6	434.9	436.5	438.1	439.7	442.9	438.9
30°	393.6	394.4	396.1	398.5	398.5	400.1	401.7	400.9
32.5°	356.5	356.5	358.1	359.7	358.9	359.7	362.9	358.9
35°	320.1	319.3	321.7	322.5	322.5	321.7	324.1	323.3
37.5°	284.5	285.3	286.1	286.9	285.3	286.9	286.9	285.3
40°	252.2	251.4	253.0	253.8	253.0	253.8	253.8	250.6
42.5°	223.1	221.5	222.3	223.1	222.3	223.1	222.3	220.7
45°	194.8	194.0	194.0	194.8	193.2	193.2	193.2	193.2
47.5°	168.1	167.3	168.1	168.1	166.5	166.5	167.3	166.5
50°	143.9	143.1	143.1	143.1	142.3	142.3	143.1	143.1
52.5°	122.1	120.4	120.4	120.4	120.4	120.4	121.2	119.6
55°	100.2	100.2	100.2	100.2	101.0	101.0	101.0	101.0
57.5°	82.4	83.3	83.3	84.1	83.3	84.1	84.1	83.3
60°	68.7	67.9	68.7	68.7	69.5	69.5	69.5	69.5
62.5°	56.6	56.6	56.6	57.4	57.4	57.4	58.2	57.4
65°	46.9	46.9	47.7	47.7	47.7	48.5	48.5	48.5
67.5°	38.8	38.8	38.8	38.8	39.6	39.6	40.4	39.6
70°	32.3	32.3	32.3	32.3	32.3	33.1	33.1	33.1
72.5°	25.9	25.9	25.9	25.9	26.7	26.7	26.7	26.7
75°	17.8	17.8	17.8	18.6	17.8	17.8	17.8	17.8
77.5°	8.9	8.9	8.9	8.9	8.9	8.1	8.1	8.1
80°	3.2	3.2	3.2	3.2	3.2	3.2	2.4	3.2
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)