

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: P251914

Luminaire Tested: **LD4B15D010 EU4B10209030 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251914
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209030 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE 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: 1103.0 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

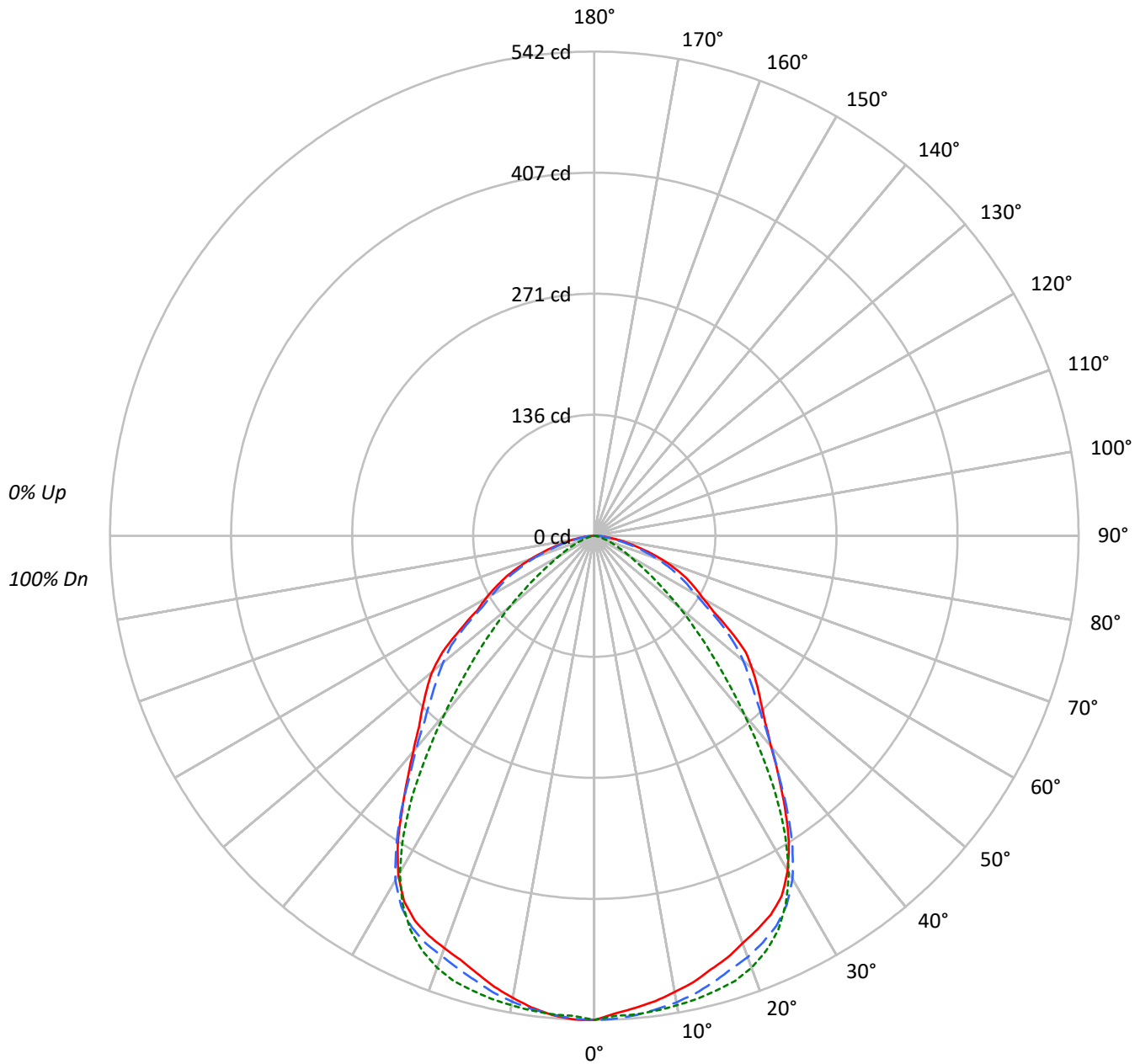
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10
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	104	101	98	100	98	95	96	94	92	93	91	89	88		
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76		
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66		
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58		
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51		
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46		
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41		
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37		
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34		
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52822	52822	52822
5°	51879	52613	52691
10°	51321	52806	51984
15°	50731	53172	51154
20°	50332	53360	50933
25°	50304	52358	51110
30°	48694	48975	49358
35°	44247	42165	44639
40°	39146	33205	40101
45°	36317	25277	37461
50°	34887	18710	35903
55°	31587	12896	31162
60°	27464	8771	27308
65°	26543	6342	25182
70°	23993	4274	21371
75°	19769	2824	16945
80°	15883	1852	12628
85°	13083	895	8387



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.2	4.6
10°-20°	146.3	13.3
20°-30°	221.0	20.0
30°-40°	231.3	21.0
40°-50°	187.3	17.0
50°-60°	136.3	12.4
60°-70°	84.0	7.6
70°-80°	38.0	3.4
80°-90°	7.7	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°	418.4	37.9
0°-40°	649.7	58.9
0°-60°	973.3	88.2
0°-90°	1103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1103.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	542	542	542	542	542	
5°	530	539	538	538	539	50
15°	503	517	527	515	507	142
25°	468	482	487	484	475	214
35°	372	377	354	377	375	232
45°	264	255	183	258	272	205
55°	186	174	76	176	183	166
65°	115	103	28	102	109	113
75°	52	45	8	39	45	57
85°	12	9	1	7	8	13
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°	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0
2.5°	535.3	535.3	540.3	546.1	541.1	536.1	539.5	537.8	543.6	543.6	541.1
5°	530.3	532.0	536.1	541.1	537.0	532.0	536.1	534.5	540.3	540.3	538.6
7.5°	525.3	526.1	531.1	537.0	532.8	527.8	531.1	530.3	535.3	536.1	534.5
10°	518.6	519.5	524.5	530.3	526.1	522.0	525.3	524.5	531.1	531.1	530.3
12.5°	512.0	512.8	517.8	522.8	518.6	514.5	517.8	517.8	524.5	525.3	524.5
15°	502.8	504.5	508.6	513.6	511.1	506.1	509.5	509.5	515.3	517.0	517.0
17.5°	495.3	496.1	500.3	505.3	501.9	497.8	501.1	501.1	507.0	508.6	508.6
20°	485.3	486.9	491.1	496.1	493.6	490.3	492.8	492.8	499.4	501.1	501.9
22.5°	476.9	478.6	481.9	488.6	484.4	481.9	485.3	484.4	491.9	492.8	492.8
25°	467.8	469.4	473.6	477.8	475.3	472.8	475.3	475.3	481.1	481.9	481.9
27.5°	454.4	455.3	459.4	463.6	461.1	457.8	461.1	460.3	466.1	466.9	466.1
30°	432.7	434.4	436.1	441.9	439.4	436.9	440.2	438.6	444.4	444.4	443.6
32.5°	405.2	405.2	408.6	412.7	409.4	407.7	410.2	411.1	415.2	415.2	412.7
35°	371.9	373.5	376.0	378.5	376.0	374.4	376.9	376.0	381.0	379.4	376.9
37.5°	338.5	339.4	341.9	345.2	341.9	339.4	340.2	339.4	343.5	343.5	339.4
40°	307.7	309.3	311.0	314.3	311.0	309.3	310.2	307.7	312.7	311.0	308.5
42.5°	282.7	283.5	286.0	287.7	284.3	283.5	284.3	282.7	285.2	283.5	278.5
45°	263.5	263.5	264.3	266.8	263.5	262.6	262.6	261.0	263.5	260.1	255.1
47.5°	246.8	247.6	248.5	250.1	247.6	245.1	246.0	242.6	244.3	241.8	235.1
50°	230.1	231.8	232.6	234.3	231.8	230.1	231.0	227.6	227.6	223.5	217.6
52.5°	213.5	214.3	213.5	215.1	213.5	211.0	211.8	208.5	208.5	203.4	197.6
55°	185.9	186.8	187.6	189.3	187.6	185.1	186.8	184.3	184.3	180.9	174.3
57.5°	158.4	159.3	160.1	160.9	160.9	159.3	160.1	158.4	157.6	155.1	150.1
60°	140.9	140.9	140.9	141.7	140.9	140.1	140.1	138.4	138.4	135.1	130.1
62.5°	127.6	128.4	128.4	129.2	128.4	127.6	126.7	125.1	124.2	120.9	116.7
65°	115.1	115.1	114.2	115.9	115.1	114.2	114.2	112.6	110.9	107.6	103.4
67.5°	100.1	100.9	100.1	100.9	100.9	100.1	99.2	97.6	96.7	94.2	89.2
70°	84.2	84.2	84.2	85.0	84.2	84.2	85.0	82.5	81.7	78.4	74.2
72.5°	68.4	69.2	69.2	68.4	69.2	67.5	67.5	67.5	66.7	63.4	59.2
75°	52.5	53.4	53.4	54.2	53.4	52.5	52.5	51.7	50.9	48.4	45.0
77.5°	39.2	39.2	40.0	40.0	40.0	39.2	39.2	37.5	37.5	35.9	32.5
80°	28.3	28.3	27.5	28.3	28.3	27.5	27.5	26.7	26.7	25.0	22.5
82.5°	18.3	19.2	19.2	19.2	19.2	18.3	18.3	18.3	17.5	16.7	15.0
85°	11.7	11.7	11.7	11.7	12.5	11.7	12.5	11.7	11.7	10.0	9.2
87.5°	5.0	5.0	5.0	5.8	5.8	5.0	5.0	5.0	5.0	5.0	4.2
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°	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0
2.5°	541.1	542.0	539.5	542.8	540.3	541.1	542.0	541.1	537.8	537.8	547.0
5°	537.8	539.5	537.0	541.1	539.5	539.5	541.1	540.3	537.0	537.8	546.1
7.5°	534.5	537.0	535.3	539.5	537.0	537.0	538.6	538.6	535.3	536.1	543.6
10°	529.5	532.8	532.0	536.1	533.6	533.6	536.1	536.1	532.8	533.6	541.1
12.5°	525.3	528.6	527.8	532.0	530.3	531.1	532.0	533.6	529.5	531.1	537.8
15°	518.6	522.0	522.0	526.1	524.5	526.1	527.8	530.3	527.0	527.0	533.6
17.5°	511.1	515.3	515.3	518.6	518.6	519.5	522.8	525.3	522.0	522.8	528.6
20°	502.8	507.8	507.8	512.0	511.1	512.8	515.3	517.8	514.5	514.5	521.1
22.5°	494.4	498.6	499.4	501.9	501.9	502.8	505.3	507.0	502.8	502.8	509.5
25°	482.8	486.9	487.8	489.4	487.8	487.8	489.4	491.1	486.9	486.9	492.8
27.5°	466.9	471.1	471.1	470.3	468.6	469.4	468.6	469.4	465.3	464.4	470.3
30°	443.6	446.1	446.1	445.3	442.7	442.7	440.2	441.1	435.2	435.2	440.2
32.5°	411.9	414.4	412.7	411.1	407.7	406.1	404.4	403.6	397.7	397.7	403.6
35°	374.4	376.0	373.5	370.2	366.0	363.5	361.0	357.7	353.5	354.4	357.7
37.5°	336.0	336.0	332.7	326.0	322.7	318.5	314.3	314.3	307.7	306.8	309.3
40°	303.5	300.2	294.3	285.2	279.3	275.2	269.3	266.0	261.0	261.0	265.1
42.5°	274.3	267.7	260.1	247.6	241.8	236.8	229.3	226.0	220.1	219.3	221.8
45°	248.5	241.8	231.0	217.6	210.1	204.3	193.4	189.3	184.3	183.4	185.1
47.5°	227.6	220.1	206.8	189.3	181.8	174.3	163.4	157.6	153.4	150.9	153.4
50°	209.3	199.3	185.1	166.8	156.8	150.1	136.7	130.9	125.1	123.4	124.2
52.5°	189.3	179.3	164.3	145.1	135.9	125.9	113.4	105.1	100.1	97.6	100.1
55°	167.6	157.6	142.6	123.4	113.4	104.2	90.9	84.2	78.4	75.9	78.4
57.5°	144.2	135.1	121.7	102.6	93.4	85.0	72.5	65.9	60.0	58.4	60.0
60°	124.2	116.7	103.4	85.0	77.5	68.4	57.5	50.9	45.9	45.0	45.9
62.5°	110.9	102.6	90.1	72.5	65.0	57.5	47.5	40.9	36.7	35.9	36.7
65°	97.6	88.4	76.7	61.7	54.2	48.4	38.4	32.5	28.3	27.5	28.3
67.5°	82.5	74.2	64.2	50.9	45.0	39.2	30.9	25.0	21.7	20.8	21.7
70°	68.4	60.9	50.9	40.9	35.0	30.9	23.3	19.2	15.8	15.0	15.8
72.5°	54.2	47.5	39.2	30.9	27.5	23.3	18.3	14.2	11.7	10.8	11.7
75°	41.7	36.7	30.0	22.5	20.0	17.5	12.5	10.0	8.3	7.5	8.3
77.5°	29.2	25.8	20.8	16.7	14.2	12.5	9.2	6.7	5.8	5.0	5.8
80°	20.0	17.5	14.2	10.8	9.2	7.5	5.8	4.2	3.3	3.3	3.3
82.5°	13.3	10.8	8.3	6.7	5.8	5.0	3.3	2.5	2.5	1.7	1.7
85°	7.5	6.7	5.0	4.2	3.3	2.5	1.7	1.7	0.8	0.8	0.8
87.5°	3.3	2.5	1.7	1.7	0.8	0.8	0.8	0.8	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0
2.5°	544.5	542.0	545.3	542.0	540.3	542.0	540.3	545.3	541.1	537.8	541.1
5°	543.6	540.3	543.6	541.1	538.6	539.5	537.8	542.8	537.8	535.3	537.0
7.5°	542.0	539.5	541.1	538.6	536.1	537.0	535.3	539.5	534.5	532.0	533.6
10°	539.5	537.0	537.8	536.1	533.6	533.6	532.0	535.3	529.5	526.1	527.8
12.5°	536.1	532.8	534.5	532.0	528.6	528.6	527.0	529.5	523.6	520.3	521.1
15°	532.0	528.6	528.6	526.1	522.8	522.8	519.5	522.0	515.3	512.0	512.0
17.5°	527.0	522.8	522.8	520.3	516.1	515.3	512.8	515.3	507.8	504.5	504.5
20°	519.5	516.1	515.3	513.6	509.5	508.6	505.3	506.1	500.3	497.8	496.9
22.5°	509.5	506.1	507.0	504.5	501.1	500.3	496.9	499.4	493.6	491.1	491.9
25°	491.9	490.3	491.9	491.1	488.6	488.6	486.9	488.6	483.6	481.9	482.8
27.5°	471.9	471.1	471.9	471.9	470.3	470.3	470.3	472.8	467.8	466.9	466.9
30°	442.7	442.7	443.6	444.4	444.4	446.1	445.3	448.6	445.3	443.6	445.3
32.5°	404.4	407.7	410.2	410.2	410.2	411.9	413.6	416.1	412.7	413.6	413.6
35°	361.0	363.5	365.2	369.4	366.9	372.7	374.4	377.7	376.9	378.5	377.7
37.5°	312.7	316.0	319.3	325.2	324.3	331.0	334.4	341.0	339.4	342.7	344.4
40°	267.7	272.7	277.7	281.8	285.2	291.8	298.5	306.8	309.3	311.8	312.7
42.5°	224.3	229.3	237.6	243.5	248.5	259.3	268.5	278.5	281.0	286.0	287.7
45°	189.3	193.4	203.4	211.0	215.1	231.0	241.8	254.3	258.5	264.3	266.8
47.5°	156.8	164.3	174.3	183.4	189.3	205.9	220.1	233.5	239.3	246.0	249.3
50°	128.4	136.7	150.1	158.4	166.8	185.1	200.9	215.1	221.0	228.5	231.8
52.5°	105.1	114.2	126.7	135.9	145.1	164.3	180.9	194.3	201.8	206.8	211.8
55°	82.5	92.6	105.1	115.1	122.6	143.4	157.6	170.9	175.9	180.1	182.6
57.5°	64.2	71.7	84.2	92.6	101.7	120.1	134.2	144.2	148.4	153.4	155.1
60°	50.0	57.5	69.2	77.5	85.9	103.4	117.6	127.6	131.7	135.9	138.4
62.5°	40.0	47.5	58.4	65.9	73.4	89.2	101.7	111.7	116.7	120.9	123.4
65°	31.7	38.4	47.5	55.0	60.9	75.0	87.5	96.7	101.7	105.9	108.4
67.5°	25.0	30.9	39.2	44.2	50.0	61.7	72.5	80.9	85.0	90.1	92.6
70°	19.2	23.3	30.9	35.0	39.2	49.2	57.5	65.9	70.0	73.4	75.0
72.5°	14.2	17.5	23.3	26.7	29.2	37.5	44.2	50.0	53.4	56.7	58.4
75°	10.0	12.5	16.7	19.2	20.8	26.7	32.5	36.7	39.2	41.7	44.2
77.5°	6.7	8.3	10.8	12.5	14.2	18.3	21.7	25.0	27.5	30.0	30.9
80°	4.2	5.8	7.5	8.3	9.2	11.7	15.0	16.7	18.3	20.0	20.8
82.5°	2.5	3.3	4.2	5.0	5.8	7.5	9.2	10.8	11.7	13.3	14.2
85°	0.8	1.7	1.7	2.5	2.5	4.2	5.0	5.8	6.7	7.5	8.3
87.5°	0.0	0.0	0.8	0.8	0.8	0.8	1.7	1.7	1.7	1.7	1.7
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	542.0	542.0	542.0	542.0	542.0	542.0	542.0	542.0
2.5°	544.5	542.0	540.3	539.5	545.3	537.8	541.1	542.0
5°	541.1	538.6	537.0	536.1	541.1	534.5	537.0	538.6
7.5°	536.1	534.5	532.0	531.1	536.1	528.6	532.0	532.8
10°	530.3	527.8	526.1	525.3	529.5	522.0	525.3	525.3
12.5°	522.8	521.1	517.8	517.8	521.1	514.5	517.0	517.0
15°	512.8	511.1	507.8	507.8	511.1	504.5	507.0	507.0
17.5°	504.5	502.8	500.3	499.4	502.8	496.1	498.6	497.8
20°	497.8	496.1	492.8	492.8	495.3	488.6	491.1	491.1
22.5°	491.9	491.1	487.8	487.8	491.1	484.4	486.1	484.4
25°	482.8	481.9	478.6	479.4	481.1	474.4	476.9	475.3
27.5°	467.8	467.8	464.4	463.6	466.1	460.3	461.9	461.1
30°	444.4	445.3	441.1	441.1	441.9	436.9	439.4	438.6
32.5°	412.7	413.6	410.2	409.4	411.9	407.7	409.4	409.4
35°	377.7	378.5	376.0	376.0	378.5	376.0	376.0	375.2
37.5°	342.7	344.4	342.7	343.5	345.2	342.7	344.4	343.5
40°	314.3	316.0	313.5	315.2	316.8	314.3	316.8	315.2
42.5°	288.5	291.0	289.3	291.0	292.7	291.0	292.7	290.2
45°	269.3	271.0	270.2	271.0	272.7	271.8	272.7	271.8
47.5°	251.0	254.3	252.6	254.3	256.8	255.1	256.8	254.3
50°	234.3	236.8	236.0	237.6	238.5	237.6	239.3	236.8
52.5°	212.6	215.1	214.3	214.3	216.0	214.3	216.0	214.3
55°	184.3	185.1	185.1	185.9	185.1	184.3	185.1	183.4
57.5°	156.8	158.4	155.9	158.4	157.6	156.8	156.8	155.1
60°	139.2	141.7	140.1	141.7	140.9	140.9	140.9	140.1
62.5°	125.1	126.7	125.1	125.9	125.9	125.9	125.1	124.2
65°	109.2	111.7	110.1	110.9	110.1	109.2	110.1	109.2
67.5°	93.4	94.2	94.2	93.4	93.4	93.4	93.4	91.7
70°	75.9	76.7	75.9	77.5	76.7	75.9	76.7	75.0
72.5°	59.2	60.0	59.2	60.0	59.2	59.2	59.2	59.2
75°	44.2	45.0	45.0	45.0	45.0	45.0	43.4	45.0
77.5°	31.7	31.7	31.7	32.5	31.7	31.7	31.7	31.7
80°	21.7	21.7	21.7	22.5	21.7	22.5	21.7	22.5
82.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
85°	7.5	8.3	8.3	7.5	7.5	7.5	7.5	7.5
87.5°	1.7	0.8	0.8	0.8	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



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)