

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: P251665

Luminaire Tested: **LD4B10D010 EU4B10209024 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251665
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: LD4B10D010 EU4B10209024 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 628.0 lumens
Efficiency: N/A
Efficacy: 62.5 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

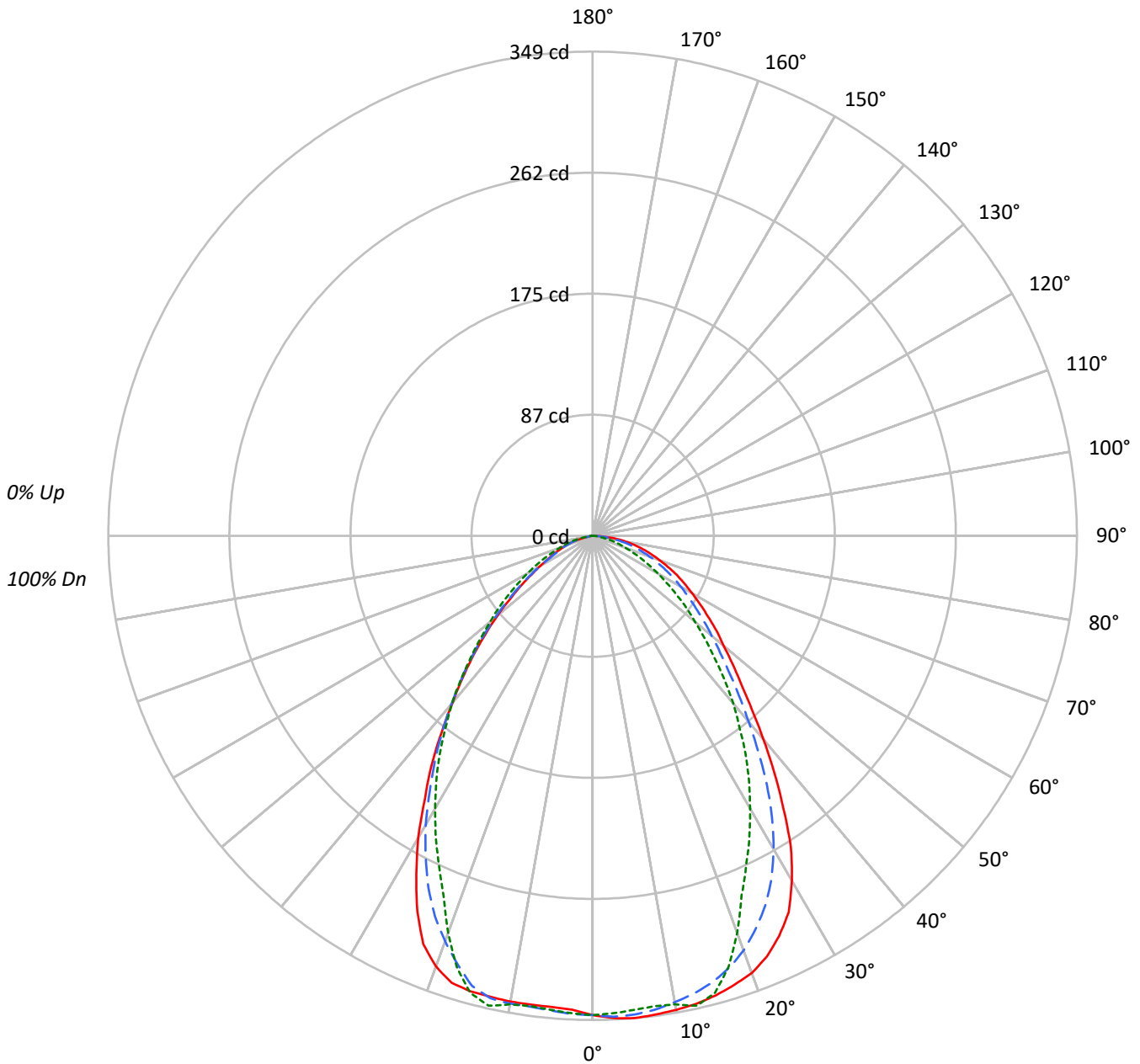
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	33672	33672	33672
5°	34143	33556	33350
10°	34340	33944	33736
15°	34607	34395	34295
20°	34785	31581	34256
25°	34206	28163	32142
30°	32320	25534	28280
35°	28506	22843	24104
40°	24363	20038	19974
45°	20881	17104	16691
50°	18664	14601	13600
55°	17212	12489	10755
60°	16100	10564	8498
65°	15428	8763	7010
70°	14589	7067	5927
75°	14121	5724	4180
80°	13638	3143	1122
85°	11853	1677	559



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.8	5.2
10°-20°	94.4	15.0
20°-30°	131.0	20.9
30°-40°	129.3	20.6
40°-50°	101.4	16.1
50°-60°	70.2	11.2
60°-70°	43.0	6.9
70°-80°	21.5	3.4
80°-90°	4.3	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°	258.2	41.1
0°-40°	387.5	61.7
0°-60°	559.2	89.0
0°-90°	628.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	628.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	346	346	346	346	346	
5°	349	346	343	344	341	33
15°	343	333	341	336	340	97
25°	318	294	262	280	299	146
35°	240	219	192	198	203	150
45°	152	139	124	123	121	118
55°	101	91	74	65	63	91
65°	67	58	38	28	30	66
75°	38	31	15	12	11	40
85°	11	6	2	0	0	12
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°	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5
2.5°	348.0	347.0	346.5	348.0	347.5	348.5	348.0	347.5	346.5	347.0	347.0
5°	349.0	347.5	347.0	348.0	348.0	349.0	348.5	347.5	346.5	347.0	346.5
7.5°	348.0	347.0	347.0	347.5	347.0	348.0	347.0	346.0	345.0	345.5	344.5
10°	347.0	345.5	345.5	345.5	345.5	346.5	345.5	344.0	342.4	342.4	341.4
12.5°	345.5	344.0	344.0	344.5	343.5	344.5	343.5	340.9	339.4	338.9	337.9
15°	343.0	341.4	341.4	341.4	340.4	340.9	339.4	336.9	334.8	334.8	333.3
17.5°	339.4	337.9	337.4	337.4	335.9	336.4	334.8	332.3	329.3	328.3	326.7
20°	335.4	333.3	332.3	332.3	330.8	331.3	329.3	326.2	322.2	320.7	318.1
22.5°	328.3	327.3	325.7	325.2	323.7	323.2	321.2	317.1	313.6	311.0	307.0
25°	318.1	317.6	316.1	315.6	313.6	312.6	310.5	306.0	302.4	298.4	294.3
27.5°	306.0	303.9	302.9	301.4	299.4	298.9	296.3	292.3	286.7	284.2	279.1
30°	287.2	286.2	285.2	283.7	281.7	280.6	279.1	274.6	270.0	265.4	260.9
32.5°	266.0	263.9	262.4	262.9	260.4	259.4	256.8	252.8	248.7	245.7	240.6
35°	239.6	239.1	238.6	237.6	235.6	235.1	233.0	230.0	225.4	221.9	218.8
37.5°	214.8	213.3	212.3	212.3	210.2	210.2	208.7	205.2	202.6	200.1	196.0
40°	191.5	189.0	189.0	189.0	186.9	187.4	186.4	182.9	180.3	177.3	174.8
42.5°	169.7	168.7	168.2	167.2	166.2	166.2	165.1	163.1	160.6	158.6	156.0
45°	151.5	151.0	150.5	149.9	148.9	148.4	147.9	144.9	143.4	141.3	138.8
47.5°	136.8	135.8	135.3	134.8	133.7	133.2	132.2	130.2	128.7	126.6	124.6
50°	123.1	122.6	122.1	122.1	121.1	120.6	119.6	118.0	115.5	114.5	112.0
52.5°	112.5	111.4	110.4	110.4	109.4	109.4	107.9	106.4	103.8	102.8	100.8
55°	101.3	100.8	100.3	100.3	99.3	98.8	98.3	96.3	94.2	92.7	90.7
57.5°	91.7	91.2	90.7	90.7	89.7	89.2	88.7	87.1	85.1	84.1	81.6
60°	82.6	82.6	82.1	81.6	81.1	80.5	80.0	78.5	77.0	75.5	73.5
62.5°	74.5	74.0	73.5	72.9	72.9	72.4	71.9	69.9	68.9	67.4	65.3
65°	66.9	65.9	65.9	65.3	65.3	64.8	64.3	62.3	61.3	59.8	57.8
67.5°	58.8	58.3	57.8	57.8	57.2	57.2	56.7	55.2	53.7	52.7	50.7
70°	51.2	51.2	50.7	50.7	50.2	49.6	49.6	48.6	47.1	45.6	43.6
72.5°	44.6	44.1	43.6	43.6	43.1	43.1	42.6	41.5	40.5	39.5	37.0
75°	37.5	37.0	37.0	37.0	36.5	36.5	36.0	35.0	33.9	32.9	31.4
77.5°	30.9	30.9	30.4	30.4	29.9	29.9	29.9	28.9	27.9	26.8	24.8
80°	24.3	24.3	24.3	23.8	23.3	23.3	23.3	22.3	21.3	20.3	18.7
82.5°	17.7	17.2	17.2	16.7	16.2	16.2	16.2	15.2	14.7	13.2	12.2
85°	10.6	10.1	10.1	9.6	9.1	9.1	9.1	8.6	7.6	7.1	6.1
87.5°	4.1	4.1	4.1	4.1	4.1	3.5	3.5	3.0	3.0	2.5	2.5
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°	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5
2.5°	347.0	346.5	346.5	346.0	346.5	345.5	345.5	345.5	345.5	344.5	344.5
5°	346.0	346.0	345.5	345.0	345.5	344.5	345.0	344.5	344.5	343.0	343.0
7.5°	344.0	343.5	342.4	341.9	342.4	341.9	341.9	341.9	343.0	341.9	341.9
10°	340.4	339.9	338.9	338.4	338.4	337.9	338.9	339.9	341.9	343.0	345.0
12.5°	336.9	335.9	335.4	335.4	335.9	335.9	337.9	340.4	345.5	347.0	349.0
15°	332.3	331.8	331.8	333.3	335.4	336.9	340.9	342.4	343.0	340.9	339.9
17.5°	326.2	326.2	326.7	328.3	329.8	329.8	330.3	329.3	328.3	325.7	322.7
20°	316.1	315.6	314.6	314.6	314.6	312.6	313.6	310.0	307.5	304.5	299.9
22.5°	303.4	300.9	297.4	294.8	293.3	292.3	289.8	285.7	282.7	280.6	278.6
25°	289.8	285.7	280.6	276.6	274.1	273.6	270.0	266.5	264.4	261.9	260.9
27.5°	274.1	269.5	263.4	259.4	257.3	255.8	252.8	249.2	246.7	244.7	243.2
30°	255.8	251.3	246.2	241.1	239.1	236.6	233.5	231.0	228.5	226.9	225.9
32.5°	235.6	231.0	225.9	222.4	219.9	217.8	215.3	212.8	210.7	209.7	208.7
35°	214.8	210.2	206.2	202.6	200.6	199.1	197.1	194.0	192.5	192.0	191.0
37.5°	192.5	189.5	185.9	182.9	181.4	179.3	178.3	175.8	175.8	173.8	173.8
40°	171.7	169.7	166.2	163.6	162.6	161.1	159.6	158.6	158.1	157.5	157.0
42.5°	153.5	150.5	148.4	146.4	144.9	143.9	143.9	142.3	141.8	140.3	139.8
45°	136.8	135.3	131.7	130.2	129.7	128.2	127.7	126.6	125.1	124.1	123.6
47.5°	122.1	120.6	118.5	116.5	115.5	114.5	113.5	112.0	110.9	109.4	108.9
50°	109.9	107.4	105.4	103.8	102.3	101.8	100.8	98.8	97.8	96.3	96.3
52.5°	98.8	96.8	94.2	92.7	91.2	90.2	88.7	87.1	85.6	85.1	83.6
55°	89.2	86.6	84.1	82.1	80.5	79.0	78.5	76.5	74.5	73.5	72.4
57.5°	80.0	77.5	74.5	71.9	70.9	69.9	68.4	66.4	64.8	63.3	62.3
60°	70.9	68.9	65.9	63.3	62.3	60.8	59.3	57.2	55.7	54.2	53.2
62.5°	63.3	60.3	57.8	55.2	53.7	52.7	50.7	49.1	47.1	45.6	44.1
65°	55.7	52.7	50.2	47.6	46.6	45.1	43.6	41.5	39.5	38.0	36.0
67.5°	48.1	45.6	43.1	40.5	39.5	38.5	36.5	34.4	32.4	30.9	28.9
70°	41.5	39.0	36.5	34.4	33.4	32.4	30.4	28.4	26.8	24.8	23.3
72.5°	35.5	33.4	30.9	28.9	27.9	26.8	24.8	23.3	21.3	20.3	18.7
75°	29.4	27.4	25.3	23.3	22.3	21.3	19.8	18.2	16.7	15.2	14.2
77.5°	23.3	21.3	19.3	17.7	16.7	16.2	14.7	13.2	11.7	10.6	9.1
80°	17.2	15.2	13.7	12.2	11.1	10.6	9.1	8.1	7.1	5.6	5.1
82.5°	10.6	9.1	8.1	7.1	6.6	6.1	5.1	4.1	3.5	3.0	2.5
85°	5.6	5.1	4.1	3.5	3.0	3.0	2.5	2.0	1.5	1.5	1.0
87.5°	2.0	1.5	1.5	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5
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°	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5
2.5°	343.5	344.0	344.5	345.0	344.5	344.5	345.5	343.5	345.0	345.0	343.0
5°	342.4	343.5	343.0	344.0	343.0	343.0	343.5	342.4	343.5	343.5	341.9
7.5°	341.4	342.4	342.4	343.0	342.4	342.4	343.0	341.4	342.4	342.4	340.9
10°	346.0	347.0	346.5	346.0	344.5	343.5	344.0	341.4	342.4	342.4	340.9
12.5°	347.5	347.0	345.0	344.0	343.0	341.9	342.4	340.4	341.4	341.4	340.4
15°	337.4	336.4	334.8	335.4	334.3	333.8	334.8	333.8	335.9	336.9	335.9
17.5°	320.2	319.7	318.6	318.6	318.6	319.1	320.7	320.7	323.7	325.7	326.7
20°	297.9	297.4	297.9	298.9	299.4	301.4	305.0	307.0	311.0	314.6	317.1
22.5°	277.6	278.6	280.1	282.2	282.7	285.2	289.8	291.8	296.9	300.9	303.4
25°	260.4	261.9	262.9	264.4	264.9	268.0	272.0	274.6	280.1	283.2	286.2
27.5°	243.2	245.2	245.7	247.7	247.7	250.8	254.3	256.8	260.4	263.4	266.0
30°	226.4	226.9	228.5	229.0	230.0	233.0	235.1	236.6	240.6	242.1	243.7
32.5°	208.2	210.2	211.2	211.8	211.2	213.8	215.8	216.8	218.3	220.4	221.4
35°	191.0	192.0	192.5	193.5	194.0	194.5	195.5	196.0	198.1	198.6	199.1
37.5°	173.8	175.3	174.8	175.3	175.3	175.8	176.8	176.3	177.8	178.3	177.8
40°	156.5	156.5	157.5	157.0	157.5	157.0	158.1	158.1	158.1	158.6	158.1
42.5°	139.3	139.8	139.3	140.3	139.3	139.8	139.8	139.3	139.8	139.3	139.3
45°	123.6	123.6	123.6	123.6	122.6	122.6	123.6	123.1	122.6	122.1	121.6
47.5°	108.4	108.9	107.9	108.4	107.9	107.4	106.9	106.9	106.4	105.4	104.9
50°	95.7	94.7	94.2	94.7	94.2	93.7	93.2	92.2	91.7	90.7	90.2
52.5°	83.1	82.1	81.1	81.1	80.5	79.5	79.0	78.0	77.5	76.5	76.5
55°	71.9	70.9	69.9	69.4	68.4	67.4	66.9	65.9	65.3	64.3	63.3
57.5°	61.3	59.8	58.8	58.3	57.8	56.2	55.7	54.7	53.7	52.7	52.2
60°	51.7	50.2	48.6	48.1	47.6	46.1	45.6	44.1	43.6	42.6	42.0
62.5°	42.6	41.5	39.5	39.0	38.0	37.0	35.5	35.0	34.4	35.0	35.0
65°	34.4	32.9	31.4	30.9	29.9	28.9	28.4	27.9	28.4	28.4	28.9
67.5°	27.4	25.8	24.3	24.3	23.8	22.8	22.8	22.8	23.3	23.3	23.8
70°	21.8	20.8	19.8	19.3	19.3	18.7	19.3	19.3	19.8	19.8	19.8
72.5°	17.2	16.7	16.2	15.7	15.7	15.7	15.7	15.7	15.7	15.7	16.2
75°	13.2	12.7	12.2	12.2	11.7	11.7	11.7	11.7	11.7	11.7	11.1
77.5°	8.6	8.1	7.6	7.6	7.1	6.6	6.6	6.1	6.1	6.1	6.1
80°	4.6	4.1	3.5	3.0	3.0	2.5	2.5	2.5	2.5	2.0	2.0
82.5°	2.0	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0
85°	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	345.5	345.5	345.5	345.5	345.5	345.5	345.5	345.5
2.5°	344.0	343.0	344.0	344.5	343.5	343.0	344.0	341.9
5°	343.5	341.9	342.4	343.0	341.9	341.4	342.4	340.9
7.5°	342.4	341.9	342.4	343.0	341.4	341.4	342.4	340.9
10°	342.4	341.4	341.9	343.0	341.9	341.9	343.0	340.9
12.5°	341.9	340.4	341.9	342.4	341.4	341.4	342.4	340.4
15°	338.4	338.4	338.9	339.9	339.4	339.9	341.4	339.9
17.5°	330.8	331.8	333.8	335.4	336.4	337.4	338.9	337.9
20°	321.7	323.2	325.7	327.3	329.3	329.8	332.3	330.3
22.5°	307.5	310.5	312.6	314.1	315.6	317.1	319.1	318.6
25°	290.3	292.3	293.8	295.3	297.4	298.4	299.4	298.9
27.5°	269.5	270.5	272.5	273.6	274.6	275.6	277.6	275.1
30°	246.7	247.2	248.2	249.7	249.7	250.8	251.8	251.3
32.5°	223.4	223.4	224.4	225.4	224.9	225.4	227.5	224.9
35°	200.6	200.1	201.6	202.1	202.1	201.6	203.1	202.6
37.5°	178.3	178.8	179.3	179.8	178.8	179.8	179.8	178.8
40°	158.1	157.5	158.6	159.1	158.6	159.1	159.1	157.0
42.5°	139.8	138.8	139.3	139.8	139.3	139.8	139.3	138.3
45°	122.1	121.6	121.6	122.1	121.1	121.1	121.1	121.1
47.5°	105.4	104.9	105.4	105.4	104.4	104.4	104.9	104.4
50°	90.2	89.7	89.7	89.7	89.2	89.2	89.7	89.7
52.5°	76.5	75.5	75.5	75.5	75.5	75.5	76.0	75.0
55°	62.8	62.8	62.8	62.8	63.3	63.3	63.3	63.3
57.5°	51.7	52.2	52.2	52.7	52.2	52.7	52.7	52.2
60°	43.1	42.6	43.1	43.1	43.6	43.6	43.6	43.6
62.5°	35.5	35.5	35.5	36.0	36.0	36.0	36.5	36.0
65°	29.4	29.4	29.9	29.9	29.9	30.4	30.4	30.4
67.5°	24.3	24.3	24.3	24.3	24.8	24.8	25.3	24.8
70°	20.3	20.3	20.3	20.3	20.3	20.8	20.8	20.8
72.5°	16.2	16.2	16.2	16.2	16.7	16.7	16.7	16.7
75°	11.1	11.1	11.1	11.7	11.1	11.1	11.1	11.1
77.5°	5.6	5.6	5.6	5.6	5.6	5.1	5.1	5.1
80°	2.0	2.0	2.0	2.0	2.0	2.0	1.5	2.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5
85°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)