

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: P251750

Luminaire Tested: **LD4B10D010 EU4B10209730 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251750
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: LD4B10D010 EU4B10209730 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 613.0 lumens
Efficiency: N/A
Efficacy: 61.0 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

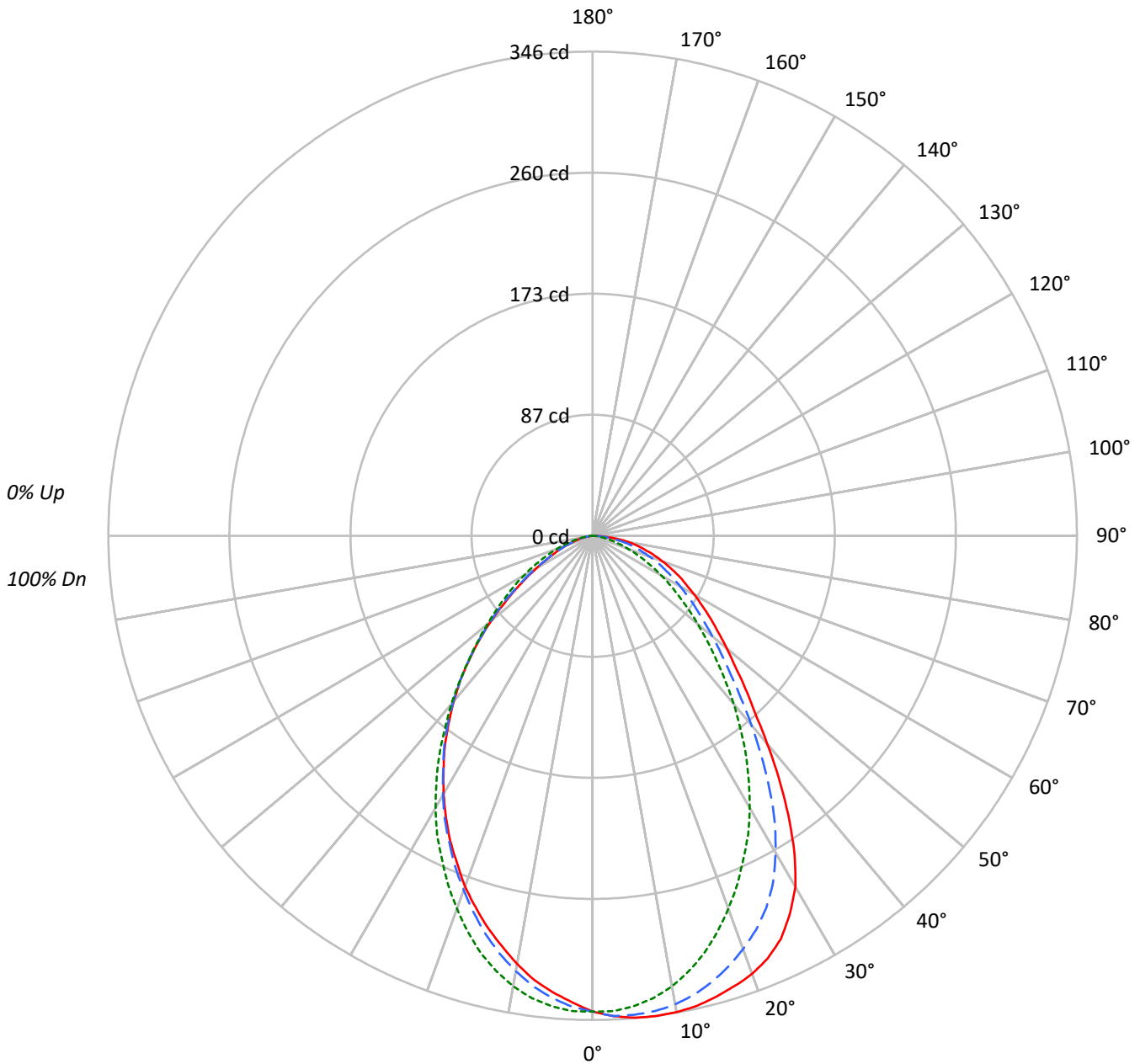
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	101	98	100	98	95	96	94	92	93	91	90	88			88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76			76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67			67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	33136	33136	33136
5°	33820	33008	32030
10°	34211	32351	30747
15°	34406	31137	29240
20°	34557	29403	27660
25°	34196	27389	25872
30°	32613	25253	23959
35°	28994	22712	21903
40°	24681	19961	19630
45°	21267	17159	17090
50°	18952	14828	14358
55°	17416	12794	11469
60°	16314	11013	8966
65°	15681	9293	6987
70°	15045	7466	5670
75°	14572	5912	4330
80°	14704	4097	2638
85°	12300	2907	1118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.8	5.2
10°-20°	87.5	14.3
20°-30°	122.4	20.0
30°-40°	125.8	20.5
40°-50°	102.1	16.7
50°-60°	71.9	11.7
60°-70°	44.3	7.2
70°-80°	22.1	3.6
80°-90°	5.2	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°	241.7	39.4
0°-40°	367.4	59.9
0°-60°	541.4	88.3
0°-90°	613.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	613.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	340	340	340	340	340	
5°	346	344	337	332	327	33
15°	341	330	309	295	290	96
25°	318	293	255	242	241	145
35°	244	220	191	185	184	152
45°	154	139	124	124	124	120
55°	102	90	75	69	68	92
65°	68	57	40	31	30	67
75°	39	30	16	12	12	41
85°	11	7	3	2	1	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°	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
2.5°	343.6	344.1	342.6	344.1	342.1	343.1	343.6	342.6	341.5	343.6	343.6
5°	345.7	345.7	344.1	346.2	343.6	344.1	345.2	343.6	342.1	344.1	343.6
7.5°	346.2	346.2	344.1	346.2	343.6	344.1	344.7	343.1	341.5	343.1	342.6
10°	345.7	345.2	343.6	345.7	343.1	343.1	343.6	342.1	339.4	341.0	340.0
12.5°	344.1	344.1	342.1	344.1	340.5	340.5	341.0	338.9	336.8	336.8	335.8
15°	341.0	341.0	338.9	340.5	337.4	337.4	336.8	334.7	332.1	332.1	330.0
17.5°	337.4	337.4	335.3	336.8	333.2	333.2	332.6	329.5	325.8	325.3	322.7
20°	333.2	333.2	330.6	331.6	327.4	327.4	326.9	323.2	319.0	318.0	314.3
22.5°	326.9	326.9	324.3	324.8	320.6	320.1	319.6	315.4	311.2	309.6	304.9
25°	318.0	317.5	315.4	315.4	311.2	310.2	309.1	304.9	300.7	297.6	293.4
27.5°	304.9	305.4	302.8	303.4	298.1	297.1	296.6	291.3	286.6	283.5	279.3
30°	289.8	288.2	285.6	285.6	281.4	280.9	279.8	275.1	269.9	266.2	261.5
32.5°	268.3	267.8	265.2	265.2	260.5	260.5	258.4	253.7	249.0	246.9	242.2
35°	243.7	243.2	241.1	241.1	236.9	237.5	235.4	231.7	227.0	223.9	220.2
37.5°	218.6	218.1	216.0	216.5	212.9	212.9	211.3	207.6	204.0	202.4	197.7
40°	194.0	193.5	190.9	192.5	189.3	188.3	187.8	185.2	181.0	178.9	176.3
42.5°	171.6	172.1	169.5	170.5	167.9	166.8	166.3	164.2	161.1	159.0	156.4
45°	154.3	153.2	152.2	152.2	149.6	149.1	148.5	145.9	143.8	141.7	139.1
47.5°	138.1	137.0	136.0	136.5	134.4	133.9	132.8	130.8	128.1	127.1	124.5
50°	125.0	124.5	122.9	122.9	120.8	120.3	119.2	117.7	115.1	113.5	111.4
52.5°	113.0	113.0	111.4	110.9	109.3	108.8	108.3	106.2	104.1	102.0	99.9
55°	102.5	102.0	100.9	100.9	98.9	98.3	97.8	95.7	93.6	92.1	90.0
57.5°	92.6	92.6	91.5	91.5	90.0	88.9	88.9	86.8	84.2	83.2	80.5
60°	83.7	83.7	82.6	82.6	81.1	81.1	80.0	77.9	76.4	74.3	72.2
62.5°	75.3	75.8	74.8	74.3	72.7	72.2	72.2	70.6	68.0	66.4	64.3
65°	68.0	67.5	66.9	66.4	64.9	64.3	64.3	62.2	60.7	58.6	57.0
67.5°	60.1	60.1	59.1	59.1	58.1	57.5	56.5	54.9	53.3	51.8	50.2
70°	52.8	52.8	52.3	52.3	50.7	50.2	49.7	48.1	46.5	45.0	42.9
72.5°	46.0	45.5	45.0	45.0	43.9	43.4	42.9	41.3	39.7	38.2	36.6
75°	38.7	38.7	38.2	38.2	37.1	36.6	36.6	35.6	33.5	32.4	30.3
77.5°	32.4	32.4	31.9	31.9	30.9	30.9	30.3	28.8	27.7	26.2	25.1
80°	26.2	25.6	25.6	25.1	24.1	24.1	23.5	23.0	21.4	20.4	18.8
82.5°	18.3	18.3	18.3	17.8	17.3	17.3	16.7	15.7	14.6	14.1	12.6
85°	11.0	11.0	10.5	9.9	10.5	9.9	9.4	8.9	8.4	7.8	7.3
87.5°	4.7	4.7	4.2	4.2	4.2	4.2	4.2	3.7	3.1	3.1	2.6
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°	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
2.5°	340.5	342.1	341.5	341.0	340.0	340.0	340.0	339.4	340.0	340.0	338.9
5°	340.5	341.5	341.0	340.0	338.9	338.9	338.4	337.4	337.4	337.4	335.3
7.5°	338.9	340.0	338.4	337.4	336.3	335.3	335.3	333.7	333.7	333.2	331.1
10°	335.8	336.3	334.2	333.2	331.6	331.1	330.0	327.9	327.4	326.9	324.8
12.5°	331.1	331.6	329.0	326.9	324.8	324.3	323.2	320.6	319.6	318.5	315.9
15°	324.3	324.3	321.1	318.5	316.4	315.9	313.3	310.7	309.6	308.6	304.9
17.5°	316.4	315.9	311.7	309.1	306.5	305.4	302.8	299.7	297.6	296.6	293.4
20°	308.1	306.5	301.8	299.2	296.0	294.5	291.8	287.7	285.6	283.5	280.3
22.5°	298.1	296.0	290.8	287.1	284.0	282.4	278.8	275.1	272.0	269.9	266.2
25°	286.1	283.5	277.7	273.0	270.4	268.8	265.2	261.0	257.9	254.7	251.6
27.5°	272.0	268.8	263.1	258.4	255.8	253.1	250.5	245.8	243.2	240.6	236.9
30°	254.7	251.1	245.8	241.6	238.5	236.4	233.3	229.1	225.9	224.4	220.7
32.5°	235.9	231.7	227.0	222.8	221.2	218.6	216.0	211.8	209.2	207.6	205.0
35°	215.0	211.8	206.6	203.5	200.8	199.8	197.7	193.5	192.5	190.9	187.8
37.5°	193.0	190.4	186.7	184.1	182.0	181.0	178.9	176.3	174.7	173.1	171.6
40°	172.6	170.5	167.4	165.3	162.7	161.1	161.1	158.0	156.9	156.9	155.3
42.5°	152.7	151.7	149.1	145.9	145.4	143.8	143.3	141.7	140.7	140.2	139.6
45°	136.0	134.4	131.8	130.2	128.7	128.7	127.1	125.5	125.0	124.5	124.0
47.5°	121.3	119.2	117.2	115.6	114.5	114.0	112.5	111.4	110.9	110.9	110.4
50°	108.3	106.7	104.6	103.0	102.0	100.9	99.9	98.9	98.3	97.8	97.8
52.5°	97.3	95.2	93.1	91.5	90.0	89.4	88.4	87.3	86.8	86.3	85.8
55°	87.3	85.8	83.2	81.6	80.0	80.0	78.5	76.9	75.8	75.3	74.8
57.5°	77.9	76.4	73.7	72.2	71.1	70.1	69.0	68.0	66.9	65.9	64.9
60°	69.6	68.0	65.4	63.3	62.8	61.7	60.7	58.6	57.5	56.5	55.4
62.5°	61.7	59.6	57.5	55.4	54.9	53.9	52.3	50.7	49.2	48.1	46.5
65°	54.4	52.8	50.2	48.6	47.1	46.5	45.0	42.9	41.3	40.3	38.7
67.5°	47.6	45.5	42.9	41.3	40.3	39.2	37.7	36.1	34.5	33.0	31.4
70°	40.8	39.2	36.6	35.0	34.0	33.0	31.4	29.3	27.7	26.2	25.1
72.5°	34.5	32.4	30.3	28.8	27.7	26.7	25.1	23.5	22.0	20.9	19.4
75°	28.8	26.7	25.1	23.0	22.5	21.4	19.9	18.3	16.7	15.7	14.6
77.5°	23.0	21.4	19.4	18.3	17.3	16.2	15.2	13.6	12.6	11.0	9.9
80°	17.3	15.7	14.1	13.1	12.0	11.5	10.5	9.4	8.4	7.3	6.8
82.5°	11.5	10.5	8.9	8.4	7.8	7.3	6.3	5.8	5.2	4.7	4.2
85°	6.3	5.8	5.2	4.2	4.2	3.7	3.1	3.1	2.6	2.6	2.1
87.5°	2.6	2.1	2.1	1.6	1.6	1.6	1.0	1.0	1.0	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°	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
2.5°	339.4	337.4	337.4	337.4	335.8	336.3	336.8	337.4	336.8	335.3	336.8
5°	335.8	333.7	333.7	332.6	331.6	331.6	331.6	332.1	331.6	330.0	330.6
7.5°	331.1	328.5	327.9	326.9	325.8	325.3	325.3	325.3	324.8	322.7	323.8
10°	323.8	321.1	320.1	319.6	318.0	317.5	317.0	316.4	315.9	313.8	314.9
12.5°	314.9	312.8	310.7	310.2	308.6	307.5	307.0	307.0	306.0	303.9	304.9
15°	304.4	301.3	299.7	298.6	297.1	296.0	295.0	295.5	295.0	292.9	293.4
17.5°	291.8	288.7	287.1	286.6	284.5	283.5	283.0	283.0	282.4	280.3	280.9
20°	278.2	275.1	274.1	273.0	272.0	270.9	270.4	269.9	269.4	267.3	268.8
22.5°	264.7	261.0	259.4	259.4	257.3	256.8	256.3	256.8	256.3	254.2	255.2
25°	250.5	246.9	245.8	244.3	243.2	242.7	242.7	242.7	242.2	241.1	242.2
27.5°	234.8	232.2	230.7	230.1	229.1	228.6	228.0	228.6	228.6	227.0	228.0
30°	219.1	217.1	216.0	215.5	213.9	213.4	213.9	213.9	213.9	212.3	213.9
32.5°	203.5	201.9	201.4	199.8	198.7	198.7	198.7	199.3	198.7	197.7	199.3
35°	187.8	185.7	185.2	184.6	184.6	183.6	184.6	184.1	185.2	183.6	184.6
37.5°	171.0	170.0	169.5	169.5	168.4	168.9	168.9	168.9	170.0	168.4	169.5
40°	155.3	154.3	154.3	154.3	153.8	153.8	153.8	154.3	154.8	153.8	154.8
42.5°	139.6	139.1	139.1	138.6	138.1	138.6	139.1	139.1	139.6	138.6	139.1
45°	124.5	124.0	124.5	124.0	124.0	123.4	124.0	124.5	124.5	124.0	124.0
47.5°	110.4	110.4	109.8	109.8	109.8	109.8	109.8	109.8	109.8	108.8	109.8
50°	97.8	96.8	97.3	96.8	96.8	96.2	96.2	95.7	95.2	94.7	94.7
52.5°	85.8	84.7	84.7	84.2	83.7	83.7	83.2	82.6	82.1	81.1	81.1
55°	74.3	73.2	72.7	72.2	71.7	71.1	70.6	70.1	69.0	68.5	68.5
57.5°	63.8	62.8	61.7	61.7	60.7	60.1	59.1	58.1	57.5	56.5	56.5
60°	54.4	53.3	51.8	51.3	50.7	49.7	48.1	47.6	47.1	46.0	46.5
62.5°	45.5	43.9	42.4	41.8	41.3	40.3	39.2	38.2	37.7	38.2	38.2
65°	37.1	35.6	34.5	33.5	33.0	31.9	31.4	30.9	30.9	30.9	31.4
67.5°	29.8	28.2	27.2	26.7	25.6	25.1	25.1	25.1	25.1	25.1	25.1
70°	23.5	22.5	21.4	20.4	20.4	19.9	19.9	19.9	19.9	19.9	19.9
72.5°	17.8	16.7	16.2	16.2	15.7	15.7	15.7	15.7	15.2	15.2	15.7
75°	13.1	12.6	12.0	12.0	12.0	11.5	11.5	11.5	11.5	11.5	11.5
77.5°	9.4	8.9	8.9	8.4	8.4	8.4	8.4	8.4	8.4	7.8	7.8
80°	6.3	5.8	5.8	5.8	5.8	5.2	5.2	5.2	5.2	5.2	5.2
82.5°	3.7	3.7	3.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
85°	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	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°	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
2.5°	333.7	335.8	336.3	334.7	335.3	334.2	334.7	333.7
5°	327.9	329.5	330.0	329.0	329.0	327.9	328.5	327.4
7.5°	320.6	322.2	322.7	321.7	321.7	320.6	320.6	320.1
10°	312.2	312.8	313.8	312.2	312.8	311.7	311.7	310.7
12.5°	301.8	302.8	303.9	302.3	302.3	301.8	301.8	300.2
15°	290.8	291.8	292.4	291.3	291.3	290.8	290.3	289.8
17.5°	279.3	279.8	280.9	279.3	280.3	279.3	279.3	278.2
20°	266.2	267.8	268.3	266.7	267.3	266.7	266.7	266.7
22.5°	253.7	254.7	255.2	254.2	254.7	253.7	254.2	253.1
25°	240.6	241.1	241.6	240.6	241.6	241.1	240.6	240.6
27.5°	227.0	227.5	228.0	227.0	228.0	227.5	228.0	227.0
30°	212.3	213.4	214.4	213.4	213.9	213.4	213.4	212.9
32.5°	197.7	198.7	199.8	198.7	199.8	198.7	199.3	198.2
35°	184.1	184.6	185.2	184.1	184.6	184.6	184.6	184.1
37.5°	168.9	170.0	170.0	169.5	170.5	170.0	170.0	168.9
40°	154.3	154.8	155.3	154.3	154.8	154.3	154.8	154.3
42.5°	139.1	140.2	140.7	139.6	139.6	139.6	139.1	139.6
45°	123.4	124.5	125.5	124.0	124.5	124.5	124.5	124.0
47.5°	109.3	109.3	109.8	109.3	109.8	108.8	109.8	109.3
50°	94.7	94.7	95.7	94.7	94.7	94.7	94.7	94.7
52.5°	80.5	81.1	81.1	80.0	80.5	80.0	80.5	80.0
55°	67.5	67.5	68.0	67.5	67.5	67.5	67.5	67.5
57.5°	56.0	56.5	56.5	56.0	56.5	56.0	56.0	56.0
60°	46.5	46.5	46.5	46.0	46.5	46.0	46.5	46.0
62.5°	37.7	38.2	38.2	37.7	38.2	37.7	37.7	37.7
65°	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.3
67.5°	24.6	24.6	25.1	24.6	25.1	25.1	25.1	25.1
70°	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
72.5°	15.2	15.2	15.7	15.2	15.2	15.2	15.2	15.2
75°	11.5	11.5	11.5	11.5	11.5	11.0	11.0	11.5
77.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	8.4
80°	5.2	5.2	5.2	5.2	4.7	4.7	5.2	4.7
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
85°	1.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0
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)