

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: P251667

Luminaire Tested: **LD4B10D010 EU4B10209030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251667
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 EU4B10209030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 742.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

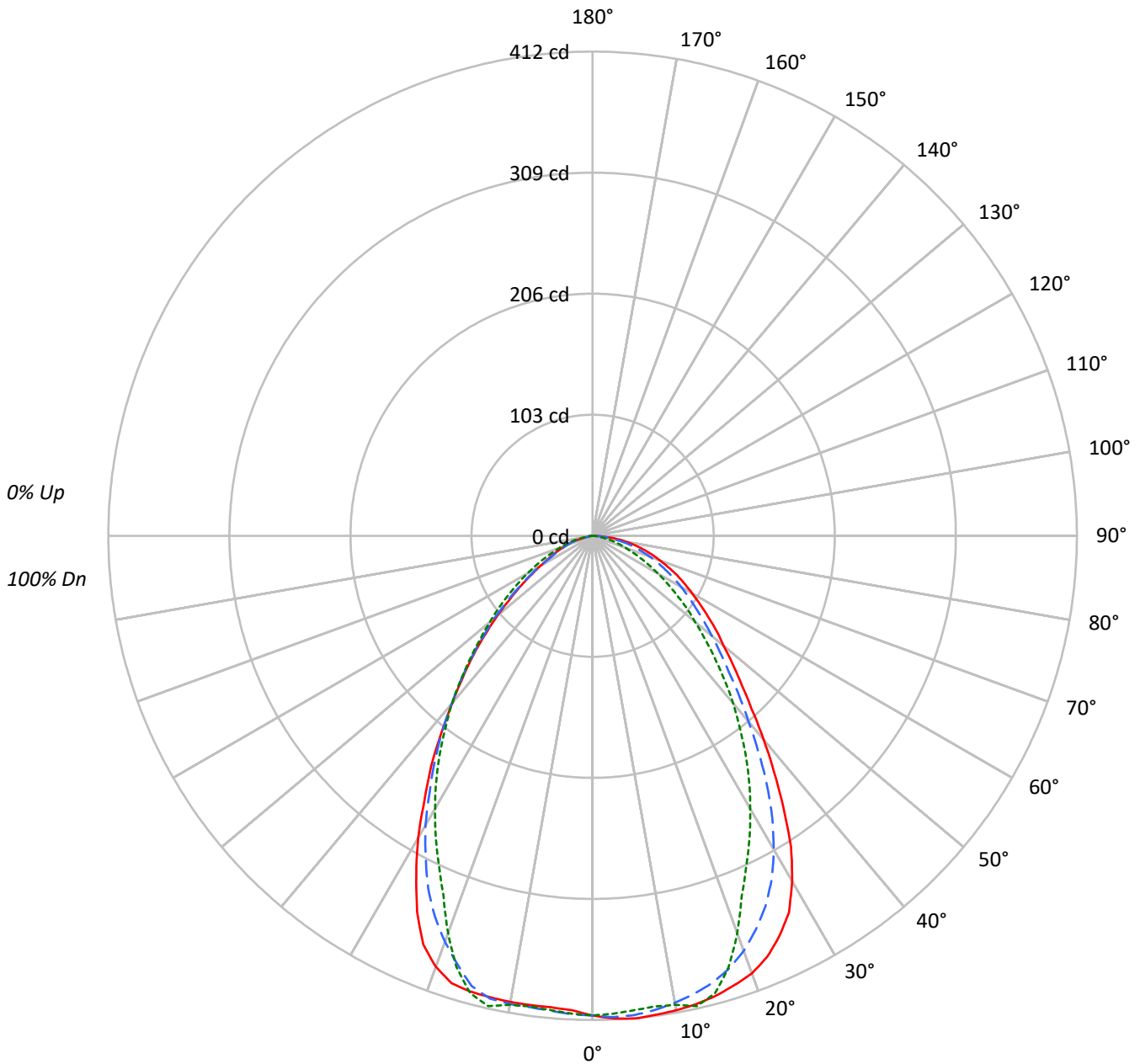
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	101	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°	39782	39782	39782
5°	40345	39641	39406
10°	40574	40099	39862
15°	40883	40641	40520
20°	41091	37305	40469
25°	40422	33271	37970
30°	38194	30171	33412
35°	33682	26983	28482
40°	28778	23676	23600
45°	24671	20205	19723
50°	22045	17239	16056
55°	20339	14748	12709
60°	19024	12475	10038
65°	18218	10354	8279
70°	17239	8349	6981
75°	16681	6778	4970
80°	16108	3704	1347
85°	14089	2013	671



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	5.2
10°-20°	111.6	15.0
20°-30°	154.8	20.9
30°-40°	152.7	20.6
40°-50°	119.8	16.1
50°-60°	83.0	11.2
60°-70°	50.8	6.9
70°-80°	25.4	3.4
80°-90°	5.1	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°	305.1	41.1
0°-40°	457.8	61.7
0°-60°	660.6	89.0
0°-90°	742.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	742.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	408	408	408	408	408	
5°	412	409	405	406	403	39
15°	405	394	403	397	402	114
25°	376	348	309	331	353	172
35°	283	259	227	234	239	177
45°	179	164	147	145	143	140
55°	120	107	87	77	75	108
65°	79	68	45	34	36	78
75°	44	37	18	14	13	47
85°	13	7	2	1	1	14
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°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	411.2	410.0	409.4	411.2	410.6	411.8	411.2	410.6	409.4	410.0	410.0
5°	412.4	410.6	410.0	411.2	411.2	412.4	411.8	410.6	409.4	410.0	409.4
7.5°	411.2	410.0	410.0	410.6	410.0	411.2	410.0	408.8	407.6	408.2	407.0
10°	410.0	408.2	408.2	408.2	408.2	409.4	408.2	406.4	404.6	404.6	403.4
12.5°	408.2	406.4	406.4	407.0	405.8	407.0	405.8	402.8	401.0	400.4	399.2
15°	405.2	403.4	403.4	403.4	402.2	402.8	401.0	398.0	395.6	395.6	393.8
17.5°	401.0	399.2	398.6	398.6	396.8	397.4	395.6	392.6	389.1	387.9	386.1
20°	396.2	393.8	392.6	392.6	390.8	391.4	389.1	385.5	380.7	378.9	375.9
22.5°	387.9	386.7	384.9	384.3	382.5	381.9	379.5	374.7	370.5	367.5	362.7
25°	375.9	375.3	373.5	372.9	370.5	369.3	366.9	361.5	357.3	352.5	347.8
27.5°	361.5	359.1	357.9	356.1	353.7	353.1	350.1	345.4	338.8	335.8	329.8
30°	339.4	338.2	337.0	335.2	332.8	331.6	329.8	324.4	319.0	313.6	308.2
32.5°	314.2	311.8	310.0	310.6	307.6	306.5	303.5	298.7	293.9	290.3	284.3
35°	283.1	282.5	281.9	280.7	278.3	277.7	275.3	271.7	266.3	262.2	258.6
37.5°	253.8	252.0	250.8	250.8	248.4	248.4	246.6	242.4	239.4	236.4	231.6
40°	226.2	223.3	223.3	223.3	220.9	221.5	220.3	216.1	213.1	209.5	206.5
42.5°	200.5	199.3	198.7	197.5	196.3	196.3	195.1	192.7	189.7	187.3	184.3
45°	179.0	178.4	177.8	177.2	176.0	175.4	174.8	171.2	169.4	167.0	164.0
47.5°	161.6	160.4	159.8	159.2	158.0	157.4	156.2	153.8	152.0	149.6	147.2
50°	145.4	144.8	144.2	144.2	143.1	142.5	141.3	139.5	136.5	135.3	132.3
52.5°	132.9	131.7	130.5	130.5	129.3	129.3	127.5	125.7	122.7	121.5	119.1
55°	119.7	119.1	118.5	118.5	117.3	116.7	116.1	113.7	111.3	109.5	107.1
57.5°	108.3	107.7	107.1	107.1	105.9	105.3	104.7	102.9	100.6	99.4	96.4
60°	97.6	97.6	97.0	96.4	95.8	95.2	94.6	92.8	91.0	89.2	86.8
62.5°	88.0	87.4	86.8	86.2	86.2	85.6	85.0	82.6	81.4	79.6	77.2
65°	79.0	77.8	77.8	77.2	77.2	76.6	76.0	73.6	72.4	70.6	68.2
67.5°	69.4	68.8	68.2	68.2	67.6	67.6	67.0	65.2	63.4	62.2	59.9
70°	60.5	60.5	59.9	59.9	59.3	58.7	58.7	57.5	55.7	53.9	51.5
72.5°	52.7	52.1	51.5	51.5	50.9	50.9	50.3	49.1	47.9	46.7	43.7
75°	44.3	43.7	43.7	43.7	43.1	43.1	42.5	41.3	40.1	38.9	37.1
77.5°	36.5	36.5	35.9	35.9	35.3	35.3	35.3	34.1	32.9	31.7	29.3
80°	28.7	28.7	28.7	28.1	27.5	27.5	27.5	26.3	25.1	23.9	22.1
82.5°	20.9	20.4	20.4	19.8	19.2	19.2	19.2	18.0	17.4	15.6	14.4
85°	12.6	12.0	12.0	11.4	10.8	10.8	10.8	10.2	9.0	8.4	7.2
87.5°	4.8	4.8	4.8	4.8	4.8	4.2	4.2	3.6	3.6	3.0	3.0
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°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	410.0	409.4	409.4	408.8	409.4	408.2	408.2	408.2	408.2	407.0	407.0
5°	408.8	408.8	408.2	407.6	408.2	407.0	407.6	407.0	407.0	405.2	405.2
7.5°	406.4	405.8	404.6	404.0	404.6	404.0	404.0	404.0	405.2	404.0	404.0
10°	402.2	401.6	400.4	399.8	399.8	399.2	400.4	401.6	404.0	405.2	407.6
12.5°	398.0	396.8	396.2	396.2	396.8	396.8	399.2	402.2	408.2	410.0	412.4
15°	392.6	392.0	392.0	393.8	396.2	398.0	402.8	404.6	405.2	402.8	401.6
17.5°	385.5	385.5	386.1	387.9	389.6	389.6	390.2	389.1	387.9	384.9	381.3
20°	373.5	372.9	371.7	371.7	371.7	369.3	370.5	366.3	363.3	359.7	354.3
22.5°	358.5	355.5	351.3	348.3	346.6	345.4	342.4	337.6	334.0	331.6	329.2
25°	342.4	337.6	331.6	326.8	323.8	323.2	319.0	314.8	312.4	309.4	308.2
27.5°	323.8	318.4	311.2	306.5	304.1	302.3	298.7	294.5	291.5	289.1	287.3
30°	302.3	296.9	290.9	284.9	282.5	279.5	275.9	272.9	269.9	268.1	266.9
32.5°	278.3	272.9	266.9	262.8	259.8	257.4	254.4	251.4	249.0	247.8	246.6
35°	253.8	248.4	243.6	239.4	237.0	235.2	232.8	229.2	227.4	226.8	225.6
37.5°	227.4	223.9	219.7	216.1	214.3	211.9	210.7	207.7	207.7	205.3	205.3
40°	202.9	200.5	196.3	193.3	192.1	190.3	188.5	187.3	186.7	186.1	185.5
42.5°	181.4	177.8	175.4	173.0	171.2	170.0	170.0	168.2	167.6	165.8	165.2
45°	161.6	159.8	155.6	153.8	153.2	151.4	150.8	149.6	147.8	146.6	146.0
47.5°	144.2	142.5	140.1	137.7	136.5	135.3	134.1	132.3	131.1	129.3	128.7
50°	129.9	126.9	124.5	122.7	120.9	120.3	119.1	116.7	115.5	113.7	113.7
52.5°	116.7	114.3	111.3	109.5	107.7	106.5	104.7	102.9	101.2	100.6	98.8
55°	105.3	102.4	99.4	97.0	95.2	93.4	92.8	90.4	88.0	86.8	85.6
57.5°	94.6	91.6	88.0	85.0	83.8	82.6	80.8	78.4	76.6	74.8	73.6
60°	83.8	81.4	77.8	74.8	73.6	71.8	70.0	67.6	65.8	64.0	62.8
62.5°	74.8	71.2	68.2	65.2	63.4	62.2	59.9	58.1	55.7	53.9	52.1
65°	65.8	62.2	59.3	56.3	55.1	53.3	51.5	49.1	46.7	44.9	42.5
67.5°	56.9	53.9	50.9	47.9	46.7	45.5	43.1	40.7	38.3	36.5	34.1
70°	49.1	46.1	43.1	40.7	39.5	38.3	35.9	33.5	31.7	29.3	27.5
72.5°	41.9	39.5	36.5	34.1	32.9	31.7	29.3	27.5	25.1	23.9	22.1
75°	34.7	32.3	29.9	27.5	26.3	25.1	23.3	21.5	19.8	18.0	16.8
77.5°	27.5	25.1	22.7	20.9	19.8	19.2	17.4	15.6	13.8	12.6	10.8
80°	20.4	18.0	16.2	14.4	13.2	12.6	10.8	9.6	8.4	6.6	6.0
82.5°	12.6	10.8	9.6	8.4	7.8	7.2	6.0	4.8	4.2	3.6	3.0
85°	6.6	6.0	4.8	4.2	3.6	3.6	3.0	2.4	1.8	1.8	1.2
87.5°	2.4	1.8	1.8	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	405.8	406.4	407.0	407.6	407.0	407.0	408.2	405.8	407.6	407.6	405.2
5°	404.6	405.8	405.2	406.4	405.2	405.2	405.8	404.6	405.8	405.8	404.0
7.5°	403.4	404.6	404.6	405.2	404.6	404.6	405.2	403.4	404.6	404.6	402.8
10°	408.8	410.0	409.4	408.8	407.0	405.8	406.4	403.4	404.6	404.6	402.8
12.5°	410.6	410.0	407.6	406.4	405.2	404.0	404.6	402.2	403.4	403.4	402.2
15°	398.6	397.4	395.6	396.2	395.0	394.4	395.6	394.4	396.8	398.0	396.8
17.5°	378.3	377.7	376.5	376.5	376.5	377.1	378.9	378.9	382.5	384.9	386.1
20°	351.9	351.3	351.9	353.1	353.7	356.1	360.3	362.7	367.5	371.7	374.7
22.5°	328.0	329.2	331.0	333.4	334.0	337.0	342.4	344.8	350.7	355.5	358.5
25°	307.6	309.4	310.6	312.4	313.0	316.6	321.4	324.4	331.0	334.6	338.2
27.5°	287.3	289.7	290.3	292.7	292.7	296.3	300.5	303.5	307.6	311.2	314.2
30°	267.5	268.1	269.9	270.5	271.7	275.3	277.7	279.5	284.3	286.1	287.9
32.5°	246.0	248.4	249.6	250.2	249.6	252.6	255.0	256.2	258.0	260.4	261.6
35°	225.6	226.8	227.4	228.6	229.2	229.8	231.0	231.6	234.0	234.6	235.2
37.5°	205.3	207.1	206.5	207.1	207.1	207.7	208.9	208.3	210.1	210.7	210.1
40°	184.9	184.9	186.1	185.5	186.1	185.5	186.7	186.7	186.7	187.3	186.7
42.5°	164.6	165.2	164.6	165.8	164.6	165.2	165.2	164.6	165.2	164.6	164.6
45°	146.0	146.0	146.0	146.0	144.8	144.8	146.0	145.4	144.8	144.2	143.6
47.5°	128.1	128.7	127.5	128.1	127.5	126.9	126.3	126.3	125.7	124.5	123.9
50°	113.1	111.9	111.3	111.9	111.3	110.7	110.1	108.9	108.3	107.1	106.5
52.5°	98.2	97.0	95.8	95.8	95.2	94.0	93.4	92.2	91.6	90.4	90.4
55°	85.0	83.8	82.6	82.0	80.8	79.6	79.0	77.8	77.2	76.0	74.8
57.5°	72.4	70.6	69.4	68.8	68.2	66.4	65.8	64.6	63.4	62.2	61.6
60°	61.1	59.3	57.5	56.9	56.3	54.5	53.9	52.1	51.5	50.3	49.7
62.5°	50.3	49.1	46.7	46.1	44.9	43.7	41.9	41.3	40.7	41.3	41.3
65°	40.7	38.9	37.1	36.5	35.3	34.1	33.5	32.9	33.5	33.5	34.1
67.5°	32.3	30.5	28.7	28.7	28.1	26.9	26.9	26.9	27.5	27.5	28.1
70°	25.7	24.5	23.3	22.7	22.7	22.1	22.7	22.7	23.3	23.3	23.3
72.5°	20.4	19.8	19.2	18.6	18.6	18.6	18.6	18.6	18.6	18.6	19.2
75°	15.6	15.0	14.4	14.4	13.8	13.8	13.8	13.8	13.8	13.8	13.2
77.5°	10.2	9.6	9.0	9.0	8.4	7.8	7.8	7.2	7.2	7.2	7.2
80°	5.4	4.8	4.2	3.6	3.6	3.0	3.0	3.0	3.0	2.4	2.4
82.5°	2.4	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
85°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	406.4	405.2	406.4	407.0	405.8	405.2	406.4	404.0
5°	405.8	404.0	404.6	405.2	404.0	403.4	404.6	402.8
7.5°	404.6	404.0	404.6	405.2	403.4	403.4	404.6	402.8
10°	404.6	403.4	404.0	405.2	404.0	404.0	405.2	402.8
12.5°	404.0	402.2	404.0	404.6	403.4	403.4	404.6	402.2
15°	399.8	399.8	400.4	401.6	401.0	401.6	403.4	401.6
17.5°	390.8	392.0	394.4	396.2	397.4	398.6	400.4	399.2
20°	380.1	381.9	384.9	386.7	389.1	389.6	392.6	390.2
22.5°	363.3	366.9	369.3	371.1	372.9	374.7	377.1	376.5
25°	343.0	345.4	347.2	348.9	351.3	352.5	353.7	353.1
27.5°	318.4	319.6	322.0	323.2	324.4	325.6	328.0	325.0
30°	291.5	292.1	293.3	295.1	295.1	296.3	297.5	296.9
32.5°	264.0	264.0	265.2	266.3	265.8	266.3	268.7	265.8
35°	237.0	236.4	238.2	238.8	238.8	238.2	240.0	239.4
37.5°	210.7	211.3	211.9	212.5	211.3	212.5	212.5	211.3
40°	186.7	186.1	187.3	187.9	187.3	187.9	187.9	185.5
42.5°	165.2	164.0	164.6	165.2	164.6	165.2	164.6	163.4
45°	144.2	143.6	143.6	144.2	143.1	143.1	143.1	143.1
47.5°	124.5	123.9	124.5	124.5	123.3	123.3	123.9	123.3
50°	106.5	105.9	105.9	105.9	105.3	105.3	105.9	105.9
52.5°	90.4	89.2	89.2	89.2	89.2	89.2	89.8	88.6
55°	74.2	74.2	74.2	74.2	74.8	74.8	74.8	74.8
57.5°	61.1	61.6	61.6	62.2	61.6	62.2	62.2	61.6
60°	50.9	50.3	50.9	50.9	51.5	51.5	51.5	51.5
62.5°	41.9	41.9	41.9	42.5	42.5	42.5	43.1	42.5
65°	34.7	34.7	35.3	35.3	35.3	35.9	35.9	35.9
67.5°	28.7	28.7	28.7	28.7	29.3	29.3	29.9	29.3
70°	23.9	23.9	23.9	23.9	23.9	24.5	24.5	24.5
72.5°	19.2	19.2	19.2	19.2	19.8	19.8	19.8	19.8
75°	13.2	13.2	13.2	13.8	13.2	13.2	13.2	13.2
77.5°	6.6	6.6	6.6	6.6	6.6	6.0	6.0	6.0
80°	2.4	2.4	2.4	2.4	2.4	2.4	1.8	2.4
82.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.6
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)