

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: P251671

Luminaire Tested: **LD4B10D010 EU4B10209727 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251671
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 EU4B10209727 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 620.0 lumens
Efficiency: N/A
Efficacy: 61.7 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

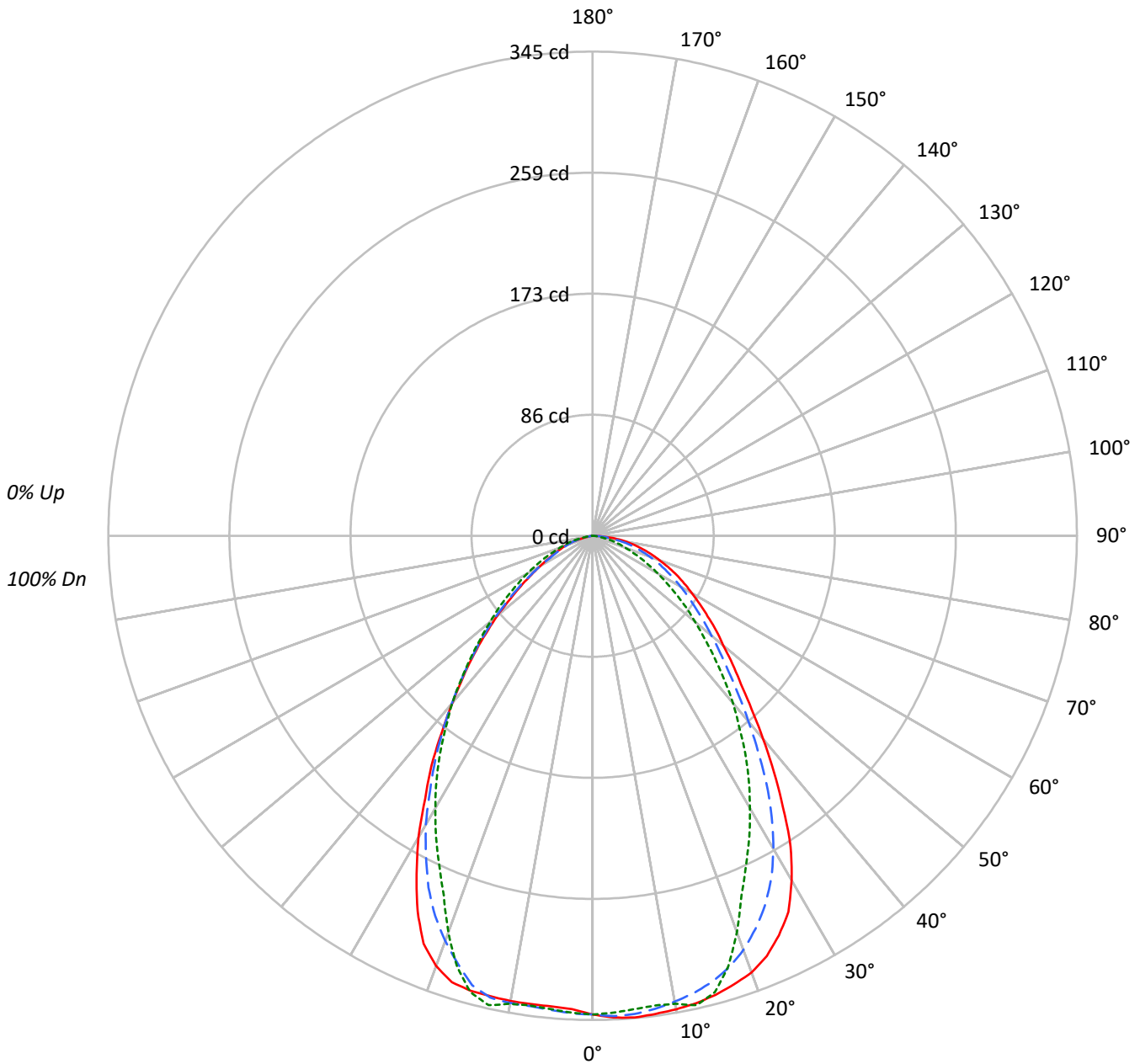
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	33243	33243	33243
5°	33712	33125	32930
10°	33904	33508	33310
15°	34163	33962	33861
20°	34339	31176	33821
25°	33776	27808	31733
30°	31915	25219	27920
35°	28149	22546	23807
40°	24045	19783	19719
45°	20605	16884	16470
50°	18422	14404	13418
55°	16991	12319	10620
60°	15886	10428	8381
65°	15220	8648	6918
70°	14390	6981	5841
75°	13932	5648	4142
80°	13470	3087	1122
85°	11741	1677	559



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.4	5.2
10°-20°	93.2	15.0
20°-30°	129.3	20.9
30°-40°	127.6	20.6
40°-50°	100.1	16.1
50°-60°	69.3	11.2
60°-70°	42.5	6.9
70°-80°	21.2	3.4
80°-90°	4.2	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°	255.0	41.1
0°-40°	382.6	61.7
0°-60°	552.0	89.0
0°-90°	620.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	620.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	341	341	341	341	341	
5°	345	342	339	339	337	33
15°	339	329	337	332	336	96
25°	314	291	259	277	295	144
35°	237	216	190	196	200	148
45°	150	137	122	121	120	117
55°	100	90	72	64	62	90
65°	66	57	38	28	30	65
75°	37	31	15	12	11	39
85°	10	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°	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1
2.5°	343.6	342.6	342.1	343.6	343.1	344.1	343.6	343.1	342.1	342.6	342.6
5°	344.6	343.1	342.6	343.6	343.6	344.6	344.1	343.1	342.1	342.6	342.1
7.5°	343.6	342.6	342.6	343.1	342.6	343.6	342.6	341.6	340.6	341.1	340.1
10°	342.6	341.1	341.1	341.1	341.1	342.1	341.1	339.6	338.1	338.1	337.1
12.5°	341.1	339.6	339.6	340.1	339.1	340.1	339.1	336.6	335.1	334.6	333.6
15°	338.6	337.1	337.1	337.1	336.1	336.6	335.1	332.6	330.6	330.6	329.1
17.5°	335.1	333.6	333.1	333.1	331.6	332.1	330.6	328.1	325.1	324.1	322.6
20°	331.1	329.1	328.1	328.1	326.6	327.1	325.1	322.1	318.1	316.6	314.1
22.5°	324.1	323.1	321.6	321.1	319.6	319.1	317.1	313.1	309.6	307.1	303.1
25°	314.1	313.6	312.1	311.6	309.6	308.6	306.6	302.1	298.6	294.6	290.6
27.5°	302.1	300.1	299.1	297.6	295.6	295.1	292.6	288.6	283.1	280.6	275.6
30°	283.6	282.6	281.6	280.1	278.1	277.1	275.6	271.1	266.6	262.1	257.6
32.5°	262.6	260.6	259.1	259.6	257.1	256.1	253.6	249.6	245.6	242.6	237.6
35°	236.6	236.1	235.6	234.6	232.6	232.1	230.1	227.1	222.6	219.1	216.1
37.5°	212.1	210.6	209.6	209.6	207.6	207.6	206.1	202.6	200.1	197.6	193.5
40°	189.0	186.5	186.5	186.5	184.5	185.0	184.0	180.5	178.0	175.0	172.5
42.5°	167.5	166.5	166.0	165.0	164.0	164.0	163.0	161.0	158.5	156.5	154.0
45°	149.5	149.0	148.5	148.0	147.0	146.5	146.0	143.0	141.5	139.5	137.0
47.5°	135.0	134.0	133.5	133.0	132.0	131.5	130.5	128.5	127.0	125.0	123.0
50°	121.5	121.0	120.5	120.5	119.5	119.0	118.0	116.5	114.0	113.0	110.5
52.5°	111.0	110.0	109.0	109.0	108.0	108.0	106.5	105.0	102.5	101.5	99.5
55°	100.0	99.5	99.0	99.0	98.0	97.5	97.0	95.0	93.0	91.5	89.5
57.5°	90.5	90.0	89.5	89.5	88.5	88.0	87.5	86.0	84.0	83.0	80.5
60°	81.5	81.5	81.0	80.5	80.0	79.5	79.0	77.5	76.0	74.5	72.5
62.5°	73.5	73.0	72.5	72.0	72.0	71.5	71.0	69.0	68.0	66.5	64.5
65°	66.0	65.0	65.0	64.5	64.5	64.0	63.5	61.5	60.5	59.0	57.0
67.5°	58.0	57.5	57.0	57.0	56.5	56.5	56.0	54.5	53.0	52.0	50.0
70°	50.5	50.5	50.0	50.0	49.5	49.0	49.0	48.0	46.5	45.0	43.0
72.5°	44.0	43.5	43.0	43.0	42.5	42.5	42.0	41.0	40.0	39.0	36.5
75°	37.0	36.5	36.5	36.5	36.0	36.0	35.5	34.5	33.5	32.5	31.0
77.5°	30.5	30.5	30.0	30.0	29.5	29.5	29.5	28.5	27.5	26.5	24.5
80°	24.0	24.0	24.0	23.5	23.0	23.0	23.0	22.0	21.0	20.0	18.5
82.5°	17.5	17.0	17.0	16.5	16.0	16.0	16.0	15.0	14.5	13.0	12.0
85°	10.5	10.0	10.0	9.5	9.0	9.0	9.0	8.5	7.5	7.0	6.0
87.5°	4.0	4.0	4.0	4.0	4.0	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°	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1
2.5°	342.6	342.1	342.1	341.6	342.1	341.1	341.1	341.1	341.1	340.1	340.1
5°	341.6	341.6	341.1	340.6	341.1	340.1	340.6	340.1	340.1	338.6	338.6
7.5°	339.6	339.1	338.1	337.6	338.1	337.6	337.6	337.6	338.6	337.6	337.6
10°	336.1	335.6	334.6	334.1	334.1	333.6	334.6	335.6	337.6	338.6	340.6
12.5°	332.6	331.6	331.1	331.1	331.6	331.6	333.6	336.1	341.1	342.6	344.6
15°	328.1	327.6	327.6	329.1	331.1	332.6	336.6	338.1	338.6	336.6	335.6
17.5°	322.1	322.1	322.6	324.1	325.6	325.6	326.1	325.1	324.1	321.6	318.6
20°	312.1	311.6	310.6	310.6	310.6	308.6	309.6	306.1	303.6	300.6	296.1
22.5°	299.6	297.1	293.6	291.1	289.6	288.6	286.1	282.1	279.1	277.1	275.1
25°	286.1	282.1	277.1	273.1	270.6	270.1	266.6	263.1	261.1	258.6	257.6
27.5°	270.6	266.1	260.1	256.1	254.1	252.6	249.6	246.1	243.6	241.6	240.1
30°	252.6	248.1	243.1	238.1	236.1	233.6	230.6	228.1	225.6	224.1	223.1
32.5°	232.6	228.1	223.1	219.6	217.1	215.1	212.6	210.1	208.1	207.1	206.1
35°	212.1	207.6	203.6	200.1	198.1	196.5	194.5	191.5	190.0	189.5	188.5
37.5°	190.0	187.0	183.5	180.5	179.0	177.0	176.0	173.5	173.5	171.5	171.5
40°	169.5	167.5	164.0	161.5	160.5	159.0	157.5	156.5	156.0	155.5	155.0
42.5°	151.5	148.5	146.5	144.5	143.0	142.0	142.0	140.5	140.0	138.5	138.0
45°	135.0	133.5	130.0	128.5	128.0	126.5	126.0	125.0	123.5	122.5	122.0
47.5°	120.5	119.0	117.0	115.0	114.0	113.0	112.0	110.5	109.5	108.0	107.5
50°	108.5	106.0	104.0	102.5	101.0	100.5	99.5	97.5	96.5	95.0	95.0
52.5°	97.5	95.5	93.0	91.5	90.0	89.0	87.5	86.0	84.5	84.0	82.5
55°	88.0	85.5	83.0	81.0	79.5	78.0	77.5	75.5	73.5	72.5	71.5
57.5°	79.0	76.5	73.5	71.0	70.0	69.0	67.5	65.5	64.0	62.5	61.5
60°	70.0	68.0	65.0	62.5	61.5	60.0	58.5	56.5	55.0	53.5	52.5
62.5°	62.5	59.5	57.0	54.5	53.0	52.0	50.0	48.5	46.5	45.0	43.5
65°	55.0	52.0	49.5	47.0	46.0	44.5	43.0	41.0	39.0	37.5	35.5
67.5°	47.5	45.0	42.5	40.0	39.0	38.0	36.0	34.0	32.0	30.5	28.5
70°	41.0	38.5	36.0	34.0	33.0	32.0	30.0	28.0	26.5	24.5	23.0
72.5°	35.0	33.0	30.5	28.5	27.5	26.5	24.5	23.0	21.0	20.0	18.5
75°	29.0	27.0	25.0	23.0	22.0	21.0	19.5	18.0	16.5	15.0	14.0
77.5°	23.0	21.0	19.0	17.5	16.5	16.0	14.5	13.0	11.5	10.5	9.0
80°	17.0	15.0	13.5	12.0	11.0	10.5	9.0	8.0	7.0	5.5	5.0
82.5°	10.5	9.0	8.0	7.0	6.5	6.0	5.0	4.0	3.5	3.0	2.5
85°	5.5	5.0	4.0	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°	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1
2.5°	339.1	339.6	340.1	340.6	340.1	340.1	341.1	339.1	340.6	340.6	338.6
5°	338.1	339.1	338.6	339.6	338.6	338.6	339.1	338.1	339.1	339.1	337.6
7.5°	337.1	338.1	338.1	338.6	338.1	338.1	338.6	337.1	338.1	338.1	336.6
10°	341.6	342.6	342.1	341.6	340.1	339.1	339.6	337.1	338.1	338.1	336.6
12.5°	343.1	342.6	340.6	339.6	338.6	337.6	338.1	336.1	337.1	337.1	336.1
15°	333.1	332.1	330.6	331.1	330.1	329.6	330.6	329.6	331.6	332.6	331.6
17.5°	316.1	315.6	314.6	314.6	314.6	315.1	316.6	316.6	319.6	321.6	322.6
20°	294.1	293.6	294.1	295.1	295.6	297.6	301.1	303.1	307.1	310.6	313.1
22.5°	274.1	275.1	276.6	278.6	279.1	281.6	286.1	288.1	293.1	297.1	299.6
25°	257.1	258.6	259.6	261.1	261.6	264.6	268.6	271.1	276.6	279.6	282.6
27.5°	240.1	242.1	242.6	244.6	244.6	247.6	251.1	253.6	257.1	260.1	262.6
30°	223.6	224.1	225.6	226.1	227.1	230.1	232.1	233.6	237.6	239.1	240.6
32.5°	205.6	207.6	208.6	209.1	208.6	211.1	213.1	214.1	215.6	217.6	218.6
35°	188.5	189.5	190.0	191.0	191.5	192.0	193.0	193.5	195.5	196.0	196.5
37.5°	171.5	173.0	172.5	173.0	173.0	173.5	174.5	174.0	175.5	176.0	175.5
40°	154.5	154.5	155.5	155.0	155.5	155.0	156.0	156.0	156.0	156.5	156.0
42.5°	137.5	138.0	137.5	138.5	137.5	138.0	138.0	137.5	138.0	137.5	137.5
45°	122.0	122.0	122.0	122.0	121.0	121.0	122.0	121.5	121.0	120.5	120.0
47.5°	107.0	107.5	106.5	107.0	106.5	106.0	105.5	105.5	105.0	104.0	103.5
50°	94.5	93.5	93.0	93.5	93.0	92.5	92.0	91.0	90.5	89.5	89.0
52.5°	82.0	81.0	80.0	80.0	79.5	78.5	78.0	77.0	76.5	75.5	75.5
55°	71.0	70.0	69.0	68.5	67.5	66.5	66.0	65.0	64.5	63.5	62.5
57.5°	60.5	59.0	58.0	57.5	57.0	55.5	55.0	54.0	53.0	52.0	51.5
60°	51.0	49.5	48.0	47.5	47.0	45.5	45.0	43.5	43.0	42.0	41.5
62.5°	42.0	41.0	39.0	38.5	37.5	36.5	35.0	34.5	34.0	34.5	34.5
65°	34.0	32.5	31.0	30.5	29.5	28.5	28.0	27.5	28.0	28.0	28.5
67.5°	27.0	25.5	24.0	24.0	23.5	22.5	22.5	22.5	23.0	23.0	23.5
70°	21.5	20.5	19.5	19.0	19.0	18.5	19.0	19.0	19.5	19.5	19.5
72.5°	17.0	16.5	16.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	16.0
75°	13.0	12.5	12.0	12.0	11.5	11.5	11.5	11.5	11.5	11.5	11.0
77.5°	8.5	8.0	7.5	7.5	7.0	6.5	6.5	6.0	6.0	6.0	6.0
80°	4.5	4.0	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°	341.1	341.1	341.1	341.1	341.1	341.1	341.1	341.1
2.5°	339.6	338.6	339.6	340.1	339.1	338.6	339.6	337.6
5°	339.1	337.6	338.1	338.6	337.6	337.1	338.1	336.6
7.5°	338.1	337.6	338.1	338.6	337.1	337.1	338.1	336.6
10°	338.1	337.1	337.6	338.6	337.6	337.6	338.6	336.6
12.5°	337.6	336.1	337.6	338.1	337.1	337.1	338.1	336.1
15°	334.1	334.1	334.6	335.6	335.1	335.6	337.1	335.6
17.5°	326.6	327.6	329.6	331.1	332.1	333.1	334.6	333.6
20°	317.6	319.1	321.6	323.1	325.1	325.6	328.1	326.1
22.5°	303.6	306.6	308.6	310.1	311.6	313.1	315.1	314.6
25°	286.6	288.6	290.1	291.6	293.6	294.6	295.6	295.1
27.5°	266.1	267.1	269.1	270.1	271.1	272.1	274.1	271.6
30°	243.6	244.1	245.1	246.6	246.6	247.6	248.6	248.1
32.5°	220.6	220.6	221.6	222.6	222.1	222.6	224.6	222.1
35°	198.1	197.6	199.1	199.6	199.6	199.1	200.6	200.1
37.5°	176.0	176.5	177.0	177.5	176.5	177.5	177.5	176.5
40°	156.0	155.5	156.5	157.0	156.5	157.0	157.0	155.0
42.5°	138.0	137.0	137.5	138.0	137.5	138.0	137.5	136.5
45°	120.5	120.0	120.0	120.5	119.5	119.5	119.5	119.5
47.5°	104.0	103.5	104.0	104.0	103.0	103.0	103.5	103.0
50°	89.0	88.5	88.5	88.5	88.0	88.0	88.5	88.5
52.5°	75.5	74.5	74.5	74.5	74.5	74.5	75.0	74.0
55°	62.0	62.0	62.0	62.0	62.5	62.5	62.5	62.5
57.5°	51.0	51.5	51.5	52.0	51.5	52.0	52.0	51.5
60°	42.5	42.0	42.5	42.5	43.0	43.0	43.0	43.0
62.5°	35.0	35.0	35.0	35.5	35.5	35.5	36.0	35.5
65°	29.0	29.0	29.5	29.5	29.5	30.0	30.0	30.0
67.5°	24.0	24.0	24.0	24.0	24.5	24.5	25.0	24.5
70°	20.0	20.0	20.0	20.0	20.0	20.5	20.5	20.5
72.5°	16.0	16.0	16.0	16.0	16.5	16.5	16.5	16.5
75°	11.0	11.0	11.0	11.5	11.0	11.0	11.0	11.0
77.5°	5.5	5.5	5.5	5.5	5.5	5.0	5.0	5.0
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)