

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: P251679

Luminaire Tested: **LD4B15D010 EU4B10209027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251679
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: LD4B15D010 EU4B10209027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 994.0 lumens
Efficiency: N/A
Efficacy: 69.1 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

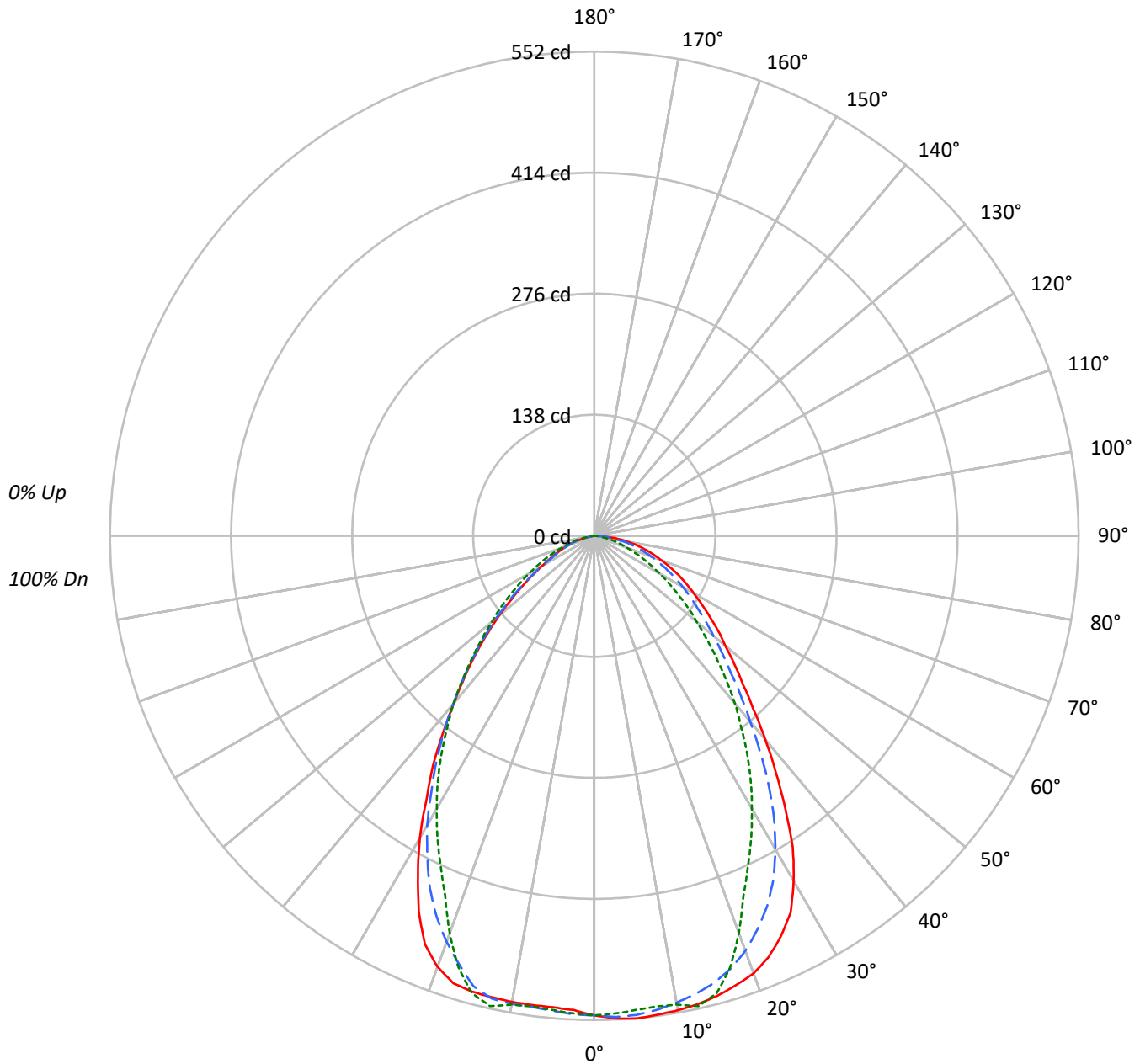
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

Luminous Intensity Polar Plot





TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	53290	53290	53290
5°	54051	53102	52789
10°	54350	53716	53400
15°	54766	54443	54282
20°	55051	49979	54221
25°	54143	44572	50874
30°	51158	40423	44755
35°	45127	36156	38155
40°	38561	31729	31628
45°	33037	27069	26408
50°	29535	23091	21515
55°	27254	19761	17025
60°	25476	16724	13449
65°	24398	13859	11092
70°	23081	11198	9375
75°	22329	9075	6627
80°	21608	4939	1796
85°	18786	2684	895



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	5.2
10°-20°	149.5	15.0
20°-30°	207.3	20.9
30°-40°	204.6	20.6
40°-50°	160.5	16.1
50°-60°	111.2	11.2
60°-70°	68.1	6.9
70°-80°	34.0	3.4
80°-90°	6.8	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°	408.7	41.1
0°-40°	613.3	61.7
0°-60°	885.0	89.0
0°-90°	994.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	994.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	547	547	547	547	547	
5°	552	548	543	544	540	53
15°	543	528	540	532	538	153
25°	504	466	414	443	473	230
35°	379	346	304	314	321	237
45°	240	220	196	194	192	187
55°	160	144	116	103	100	144
65°	106	91	60	45	48	105
75°	59	50	24	18	18	63
85°	17	10	2	1	1	19
90°	0	0	0	0	0	



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8
2.5°	550.8	549.2	548.4	550.8	550.0	551.6	550.8	550.0	548.4	549.2	549.2
5°	552.5	550.0	549.2	550.8	550.8	552.5	551.6	550.0	548.4	549.2	548.4
7.5°	550.8	549.2	549.2	550.0	549.2	550.8	549.2	547.6	546.0	546.8	545.2
10°	549.2	546.8	546.8	546.8	546.8	548.4	546.8	544.4	542.0	542.0	540.4
12.5°	546.8	544.4	544.4	545.2	543.6	545.2	543.6	539.6	537.2	536.4	534.8
15°	542.8	540.4	540.4	540.4	538.8	539.6	537.2	533.2	530.0	530.0	527.6
17.5°	537.2	534.8	534.0	534.0	531.6	532.4	530.0	526.0	521.2	519.6	517.2
20°	530.8	527.6	526.0	526.0	523.6	524.4	521.2	516.4	510.0	507.5	503.5
22.5°	519.6	518.0	515.6	514.8	512.4	511.6	508.4	501.9	496.3	492.3	485.9
25°	503.5	502.7	500.3	499.5	496.3	494.7	491.5	484.3	478.7	472.3	465.9
27.5°	484.3	481.1	479.5	477.1	473.9	473.1	469.1	462.6	453.8	449.8	441.8
30°	454.6	453.0	451.4	449.0	445.8	444.2	441.8	434.6	427.4	420.2	412.9
32.5°	421.0	417.7	415.3	416.1	412.1	410.5	406.5	400.1	393.7	388.9	380.9
35°	379.3	378.5	377.7	376.1	372.8	372.0	368.8	364.0	356.8	351.2	346.4
37.5°	340.0	337.6	336.0	336.0	332.8	332.8	330.3	324.7	320.7	316.7	310.3
40°	303.1	299.1	299.1	299.1	295.9	296.7	295.1	289.5	285.4	280.6	276.6
42.5°	268.6	267.0	266.2	264.6	263.0	263.0	261.4	258.2	254.2	251.0	247.0
45°	239.7	238.9	238.1	237.3	235.7	234.9	234.1	229.3	226.9	223.7	219.7
47.5°	216.5	214.9	214.1	213.3	211.7	210.9	209.3	206.1	203.7	200.5	197.2
50°	194.8	194.0	193.2	193.2	191.6	190.8	189.2	186.8	182.8	181.2	177.2
52.5°	178.0	176.4	174.8	174.8	173.2	173.2	170.8	168.4	164.4	162.8	159.6
55°	160.4	159.6	158.8	158.8	157.2	156.4	155.6	152.3	149.1	146.7	143.5
57.5°	145.1	144.3	143.5	143.5	141.9	141.1	140.3	137.9	134.7	133.1	129.1
60°	130.7	130.7	129.9	129.1	128.3	127.5	126.7	124.3	121.9	119.5	116.3
62.5°	117.9	117.1	116.3	115.5	115.5	114.7	113.9	110.7	109.0	106.6	103.4
65°	105.8	104.2	104.2	103.4	103.4	102.6	101.8	98.6	97.0	94.6	91.4
67.5°	93.0	92.2	91.4	91.4	90.6	90.6	89.8	87.4	85.0	83.4	80.2
70°	81.0	81.0	80.2	80.2	79.4	78.6	78.6	77.0	74.6	72.2	69.0
72.5°	70.6	69.8	69.0	69.0	68.2	68.2	67.4	65.7	64.1	62.5	58.5
75°	59.3	58.5	58.5	58.5	57.7	57.7	56.9	55.3	53.7	52.1	49.7
77.5°	48.9	48.9	48.1	48.1	47.3	47.3	47.3	45.7	44.1	42.5	39.3
80°	38.5	38.5	38.5	37.7	36.9	36.9	36.9	35.3	33.7	32.1	29.7
82.5°	28.1	27.3	27.3	26.5	25.7	25.7	25.7	24.1	23.3	20.8	19.2
85°	16.8	16.0	16.0	15.2	14.4	14.4	14.4	13.6	12.0	11.2	9.6
87.5°	6.4	6.4	6.4	6.4	6.4	5.6	5.6	4.8	4.8	4.0	4.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8
2.5°	549.2	548.4	548.4	547.6	548.4	546.8	546.8	546.8	546.8	545.2	545.2
5°	547.6	547.6	546.8	546.0	546.8	545.2	546.0	545.2	545.2	542.8	542.8
7.5°	544.4	543.6	542.0	541.2	542.0	541.2	541.2	541.2	542.8	541.2	541.2
10°	538.8	538.0	536.4	535.6	535.6	534.8	536.4	538.0	541.2	542.8	546.0
12.5°	533.2	531.6	530.8	530.8	531.6	531.6	534.8	538.8	546.8	549.2	552.5
15°	526.0	525.2	525.2	527.6	530.8	533.2	539.6	542.0	542.8	539.6	538.0
17.5°	516.4	516.4	517.2	519.6	522.0	522.0	522.8	521.2	519.6	515.6	510.8
20°	500.3	499.5	497.9	497.9	497.9	494.7	496.3	490.7	486.7	481.9	474.7
22.5°	480.3	476.3	470.7	466.7	464.3	462.6	458.6	452.2	447.4	444.2	441.0
25°	458.6	452.2	444.2	437.8	433.8	433.0	427.4	421.8	418.5	414.5	412.9
27.5°	433.8	426.6	416.9	410.5	407.3	404.9	400.1	394.5	390.5	387.3	384.9
30°	404.9	397.7	389.7	381.7	378.5	374.4	369.6	365.6	361.6	359.2	357.6
32.5°	372.8	365.6	357.6	352.0	348.0	344.8	340.8	336.8	333.6	332.0	330.3
35°	340.0	332.8	326.3	320.7	317.5	315.1	311.9	307.1	304.7	303.9	302.3
37.5°	304.7	299.9	294.3	289.5	287.1	283.8	282.2	278.2	278.2	275.0	275.0
40°	271.8	268.6	263.0	259.0	257.4	255.0	252.6	251.0	250.2	249.4	248.6
42.5°	243.0	238.1	234.9	231.7	229.3	227.7	227.7	225.3	224.5	222.1	221.3
45°	216.5	214.1	208.5	206.1	205.3	202.9	202.1	200.5	198.0	196.4	195.6
47.5°	193.2	190.8	187.6	184.4	182.8	181.2	179.6	177.2	175.6	173.2	172.4
50°	174.0	170.0	166.8	164.4	162.0	161.2	159.6	156.4	154.8	152.3	152.3
52.5°	156.4	153.1	149.1	146.7	144.3	142.7	140.3	137.9	135.5	134.7	132.3
55°	141.1	137.1	133.1	129.9	127.5	125.1	124.3	121.1	117.9	116.3	114.7
57.5°	126.7	122.7	117.9	113.9	112.3	110.7	108.2	105.0	102.6	100.2	98.6
60°	112.3	109.0	104.2	100.2	98.6	96.2	93.8	90.6	88.2	85.8	84.2
62.5°	100.2	95.4	91.4	87.4	85.0	83.4	80.2	77.8	74.6	72.2	69.8
65°	88.2	83.4	79.4	75.4	73.8	71.4	69.0	65.7	62.5	60.1	56.9
67.5°	76.2	72.2	68.2	64.1	62.5	60.9	57.7	54.5	51.3	48.9	45.7
70°	65.7	61.7	57.7	54.5	52.9	51.3	48.1	44.9	42.5	39.3	36.9
72.5°	56.1	52.9	48.9	45.7	44.1	42.5	39.3	36.9	33.7	32.1	29.7
75°	46.5	43.3	40.1	36.9	35.3	33.7	31.3	28.9	26.5	24.1	22.5
77.5°	36.9	33.7	30.5	28.1	26.5	25.7	23.3	20.8	18.4	16.8	14.4
80°	27.3	24.1	21.6	19.2	17.6	16.8	14.4	12.8	11.2	8.8	8.0
82.5°	16.8	14.4	12.8	11.2	10.4	9.6	8.0	6.4	5.6	4.8	4.0
85°	8.8	8.0	6.4	5.6	4.8	4.8	4.0	3.2	2.4	2.4	1.6
87.5°	3.2	2.4	2.4	1.6	1.6	1.6	1.6	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	0.0	0.0	0.0



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8
2.5°	543.6	544.4	545.2	546.0	545.2	545.2	546.8	543.6	546.0	546.0	542.8
5°	542.0	543.6	542.8	544.4	542.8	542.8	543.6	542.0	543.6	543.6	541.2
7.5°	540.4	542.0	542.0	542.8	542.0	542.0	542.8	540.4	542.0	542.0	539.6
10°	547.6	549.2	548.4	547.6	545.2	543.6	544.4	540.4	542.0	542.0	539.6
12.5°	550.0	549.2	546.0	544.4	542.8	541.2	542.0	538.8	540.4	540.4	538.8
15°	534.0	532.4	530.0	530.8	529.2	528.4	530.0	528.4	531.6	533.2	531.6
17.5°	506.7	505.9	504.3	504.3	504.3	505.1	507.5	507.5	512.4	515.6	517.2
20°	471.5	470.7	471.5	473.1	473.9	477.1	482.7	485.9	492.3	497.9	501.9
22.5°	439.4	441.0	443.4	446.6	447.4	451.4	458.6	461.8	469.9	476.3	480.3
25°	412.1	414.5	416.1	418.5	419.3	424.2	430.6	434.6	443.4	448.2	453.0
27.5°	384.9	388.1	388.9	392.1	392.1	396.9	402.5	406.5	412.1	416.9	421.0
30°	358.4	359.2	361.6	362.4	364.0	368.8	372.0	374.4	380.9	383.3	385.7
32.5°	329.5	332.8	334.4	335.2	334.4	338.4	341.6	343.2	345.6	348.8	350.4
35°	302.3	303.9	304.7	306.3	307.1	307.9	309.5	310.3	313.5	314.3	315.1
37.5°	275.0	277.4	276.6	277.4	277.4	278.2	279.8	279.0	281.4	282.2	281.4
40°	247.8	247.8	249.4	248.6	249.4	248.6	250.2	250.2	250.2	251.0	250.2
42.5°	220.5	221.3	220.5	222.1	220.5	221.3	221.3	220.5	221.3	220.5	220.5
45°	195.6	195.6	195.6	195.6	194.0	194.0	195.6	194.8	194.0	193.2	192.4
47.5°	171.6	172.4	170.8	171.6	170.8	170.0	169.2	169.2	168.4	166.8	166.0
50°	151.5	149.9	149.1	149.9	149.1	148.3	147.5	145.9	145.1	143.5	142.7
52.5°	131.5	129.9	128.3	128.3	127.5	125.9	125.1	123.5	122.7	121.1	121.1
55°	113.9	112.3	110.7	109.8	108.2	106.6	105.8	104.2	103.4	101.8	100.2
57.5°	97.0	94.6	93.0	92.2	91.4	89.0	88.2	86.6	85.0	83.4	82.6
60°	81.8	79.4	77.0	76.2	75.4	73.0	72.2	69.8	69.0	67.4	66.6
62.5°	67.4	65.7	62.5	61.7	60.1	58.5	56.1	55.3	54.5	55.3	55.3
65°	54.5	52.1	49.7	48.9	47.3	45.7	44.9	44.1	44.9	44.9	45.7
67.5°	43.3	40.9	38.5	38.5	37.7	36.1	36.1	36.1	36.9	36.9	37.7
70°	34.5	32.9	31.3	30.5	30.5	29.7	30.5	30.5	31.3	31.3	31.3
72.5°	27.3	26.5	25.7	24.9	24.9	24.9	24.9	24.9	24.9	24.9	25.7
75°	20.8	20.0	19.2	19.2	18.4	18.4	18.4	18.4	18.4	18.4	17.6
77.5°	13.6	12.8	12.0	12.0	11.2	10.4	10.4	9.6	9.6	9.6	9.6
80°	7.2	6.4	5.6	4.8	4.8	4.0	4.0	4.0	4.0	3.2	3.2
82.5°	3.2	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6
85°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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



TEST NUMBER: P251679

CATALOG NUMBER: LD4B15D010 EU4B10209027 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	546.8	546.8	546.8	546.8	546.8	546.8	546.8	546.8
2.5°	544.4	542.8	544.4	545.2	543.6	542.8	544.4	541.2
5°	543.6	541.2	542.0	542.8	541.2	540.4	542.0	539.6
7.5°	542.0	541.2	542.0	542.8	540.4	540.4	542.0	539.6
10°	542.0	540.4	541.2	542.8	541.2	541.2	542.8	539.6
12.5°	541.2	538.8	541.2	542.0	540.4	540.4	542.0	538.8
15°	535.6	535.6	536.4	538.0	537.2	538.0	540.4	538.0
17.5°	523.6	525.2	528.4	530.8	532.4	534.0	536.4	534.8
20°	509.2	511.6	515.6	518.0	521.2	522.0	526.0	522.8
22.5°	486.7	491.5	494.7	497.1	499.5	501.9	505.1	504.3
25°	459.4	462.6	465.1	467.5	470.7	472.3	473.9	473.1
27.5°	426.6	428.2	431.4	433.0	434.6	436.2	439.4	435.4
30°	390.5	391.3	392.9	395.3	395.3	396.9	398.5	397.7
32.5°	353.6	353.6	355.2	356.8	356.0	356.8	360.0	356.0
35°	317.5	316.7	319.1	319.9	319.9	319.1	321.5	320.7
37.5°	282.2	283.0	283.8	284.6	283.0	284.6	284.6	283.0
40°	250.2	249.4	251.0	251.8	251.0	251.8	251.8	248.6
42.5°	221.3	219.7	220.5	221.3	220.5	221.3	220.5	218.9
45°	193.2	192.4	192.4	193.2	191.6	191.6	191.6	191.6
47.5°	166.8	166.0	166.8	166.8	165.2	165.2	166.0	165.2
50°	142.7	141.9	141.9	141.9	141.1	141.1	141.9	141.9
52.5°	121.1	119.5	119.5	119.5	119.5	119.5	120.3	118.7
55°	99.4	99.4	99.4	99.4	100.2	100.2	100.2	100.2
57.5°	81.8	82.6	82.6	83.4	82.6	83.4	83.4	82.6
60°	68.2	67.4	68.2	68.2	69.0	69.0	69.0	69.0
62.5°	56.1	56.1	56.1	56.9	56.9	56.9	57.7	56.9
65°	46.5	46.5	47.3	47.3	47.3	48.1	48.1	48.1
67.5°	38.5	38.5	38.5	38.5	39.3	39.3	40.1	39.3
70°	32.1	32.1	32.1	32.1	32.1	32.9	32.9	32.9
72.5°	25.7	25.7	25.7	25.7	26.5	26.5	26.5	26.5
75°	17.6	17.6	17.6	18.4	17.6	17.6	17.6	17.6
77.5°	8.8	8.8	8.8	8.8	8.8	8.0	8.0	8.0
80°	3.2	3.2	3.2	3.2	3.2	3.2	2.4	3.2
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)