

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: P251691

Luminaire Tested: **LD4B20D010 EU4B10209024 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251691
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: LD4B20D010 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: 1184.0 lumens
Efficiency: N/A
Efficacy: 56.9 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

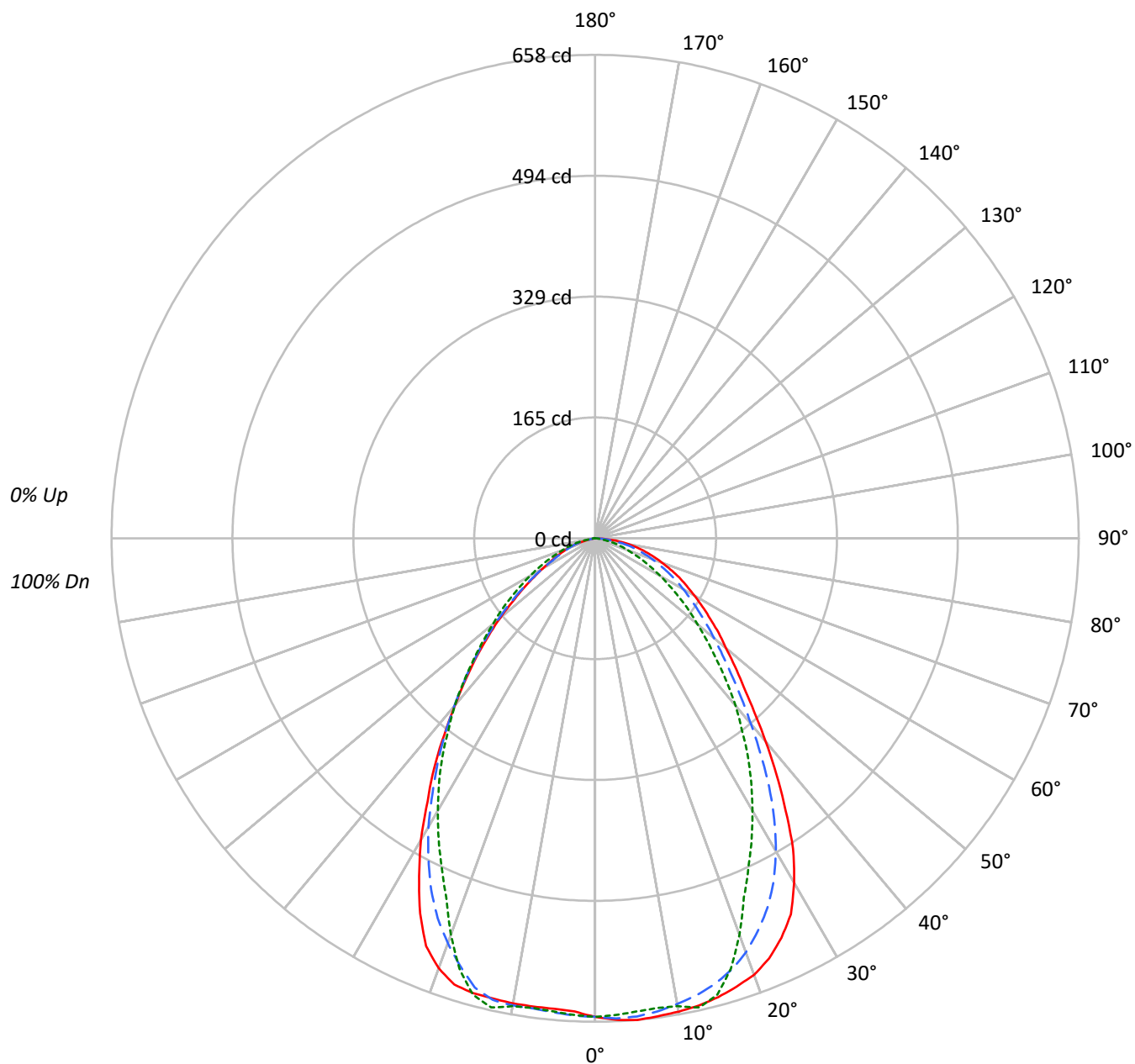
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B20D010 EU4B10209024 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	101	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°	63484	63484	63484
5°	64382	63257	62885
10°	64741	63989	63612
15°	65239	64856	64664
20°	65578	59531	64582
25°	64498	53100	60595
30°	60938	48154	53308
35°	53753	43069	45448
40°	45927	37785	37671
45°	39363	32251	31466
50°	35191	27519	25623
55°	32453	23533	20288
60°	30348	19920	16003
65°	29079	16511	13214
70°	27498	13336	11170
75°	26622	10807	7908
80°	25705	5893	2133
85°	22476	3243	1118



TEST NUMBER: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.9	5.2
10°-20°	178.0	15.0
20°-30°	246.9	20.9
30°-40°	243.7	20.6
40°-50°	191.2	16.1
50°-60°	132.4	11.2
60°-70°	81.1	6.9
70°-80°	40.6	3.4
80°-90°	8.1	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°	486.8	41.1
0°-40°	730.6	61.7
0°-60°	1054.2	89.0
0°-90°	1184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1184.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	651	651	651	651	651	
5°	658	653	647	648	643	63
15°	647	628	643	633	641	183
25°	600	555	494	528	564	275
35°	452	413	362	373	382	282
45°	286	262	234	231	228	223
55°	191	171	138	123	119	172
65°	126	109	72	54	57	125
75°	71	59	29	22	21	75
85°	20	12	3	1	1	23
90°	0	0	0	0	0	



TEST NUMBER: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	656.1	654.2	653.3	656.1	655.2	657.1	656.1	655.2	653.3	654.2	654.2
5°	658.1	655.2	654.2	656.1	656.1	658.1	657.1	655.2	653.3	654.2	653.3
7.5°	656.1	654.2	654.2	655.2	654.2	656.1	654.2	652.3	650.4	651.4	649.5
10°	654.2	651.4	651.4	651.4	651.4	653.3	651.4	648.5	645.6	645.6	643.7
12.5°	651.4	648.5	648.5	649.5	647.5	649.5	647.5	642.8	639.9	638.9	637.0
15°	646.6	643.7	643.7	643.7	641.8	642.8	639.9	635.1	631.3	631.3	628.4
17.5°	639.9	637.0	636.1	636.1	633.2	634.2	631.3	626.5	620.8	618.9	616.0
20°	632.3	628.4	626.5	626.5	623.7	624.6	620.8	615.1	607.4	604.6	599.8
22.5°	618.9	617.0	614.1	613.2	610.3	609.3	605.5	597.9	591.2	586.4	578.8
25°	599.8	598.8	596.0	595.0	591.2	589.3	585.5	576.9	570.2	562.5	554.9
27.5°	576.9	573.0	571.1	568.3	564.5	563.5	558.7	551.1	540.6	535.8	526.2
30°	541.5	539.6	537.7	534.8	531.0	529.1	526.2	517.7	509.1	500.5	491.9
32.5°	501.4	497.6	494.7	495.7	490.9	489.0	484.2	476.6	468.9	463.2	453.7
35°	451.8	450.8	449.8	447.9	444.1	443.2	439.3	433.6	425.0	418.3	412.6
37.5°	405.0	402.1	400.2	400.2	396.4	396.4	393.5	386.8	382.0	377.3	369.6
40°	361.0	356.2	356.2	356.2	352.4	353.4	351.5	344.8	340.0	334.3	329.5
42.5°	320.0	318.0	317.1	315.2	313.3	313.3	311.4	307.5	302.8	298.9	294.2
45°	285.6	284.6	283.7	282.7	280.8	279.8	278.9	273.2	270.3	266.5	261.7
47.5°	257.9	256.0	255.0	254.1	252.1	251.2	249.3	245.5	242.6	238.8	234.9
50°	232.1	231.1	230.2	230.2	228.3	227.3	225.4	222.5	217.8	215.8	211.1
52.5°	212.0	210.1	208.2	208.2	206.3	206.3	203.4	200.6	195.8	193.9	190.1
55°	191.0	190.1	189.1	189.1	187.2	186.2	185.3	181.5	177.6	174.8	171.0
57.5°	172.9	171.9	171.0	171.0	169.0	168.1	167.1	164.3	160.5	158.5	153.8
60°	155.7	155.7	154.7	153.8	152.8	151.9	150.9	148.0	145.2	142.3	138.5
62.5°	140.4	139.4	138.5	137.5	137.5	136.6	135.6	131.8	129.9	127.0	123.2
65°	126.1	124.2	124.2	123.2	123.2	122.3	121.3	117.5	115.6	112.7	108.9
67.5°	110.8	109.8	108.9	108.9	107.9	107.9	107.0	104.1	101.2	99.3	95.5
70°	96.5	96.5	95.5	95.5	94.6	93.6	93.6	91.7	88.8	86.0	82.1
72.5°	84.0	83.1	82.1	82.1	81.2	81.2	80.2	78.3	76.4	74.5	69.7
75°	70.7	69.7	69.7	69.7	68.8	68.8	67.8	65.9	64.0	62.1	59.2
77.5°	58.3	58.3	57.3	57.3	56.3	56.3	56.3	54.4	52.5	50.6	46.8
80°	45.8	45.8	45.8	44.9	43.9	43.9	43.9	42.0	40.1	38.2	35.3
82.5°	33.4	32.5	32.5	31.5	30.6	30.6	30.6	28.7	27.7	24.8	22.9
85°	20.1	19.1	19.1	18.1	17.2	17.2	17.2	16.2	14.3	13.4	11.5
87.5°	7.6	7.6	7.6	7.6	7.6	6.7	6.7	5.7	5.7	4.8	4.8
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: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	654.2	653.3	653.3	652.3	653.3	651.4	651.4	651.4	651.4	649.5	649.5
5°	652.3	652.3	651.4	650.4	651.4	649.5	650.4	649.5	649.5	646.6	646.6
7.5°	648.5	647.5	645.6	644.7	645.6	644.7	644.7	644.7	646.6	644.7	644.7
10°	641.8	640.9	638.9	638.0	638.0	637.0	638.9	640.9	644.7	646.6	650.4
12.5°	635.1	633.2	632.3	632.3	633.2	633.2	637.0	641.8	651.4	654.2	658.1
15°	626.5	625.6	625.6	628.4	632.3	635.1	642.8	645.6	646.6	642.8	640.9
17.5°	615.1	615.1	616.0	618.9	621.8	621.8	622.7	620.8	618.9	614.1	608.4
20°	596.0	595.0	593.1	593.1	593.1	589.3	591.2	584.5	579.7	574.0	565.4
22.5°	572.1	567.3	560.6	555.9	553.0	551.1	546.3	538.7	532.9	529.1	525.3
25°	546.3	538.7	529.1	521.5	516.7	515.7	509.1	502.4	498.6	493.8	491.9
27.5°	516.7	508.1	496.6	489.0	485.2	482.3	476.6	469.9	465.1	461.3	458.4
30°	482.3	473.7	464.2	454.6	450.8	446.0	440.3	435.5	430.7	427.9	426.0
32.5°	444.1	435.5	426.0	419.3	414.5	410.7	405.9	401.1	397.3	395.4	393.5
35°	405.0	396.4	388.7	382.0	378.2	375.3	371.5	365.8	362.9	362.0	360.1
37.5°	362.9	357.2	350.5	344.8	341.9	338.1	336.2	331.4	331.4	327.6	327.6
40°	323.8	320.0	313.3	308.5	306.6	303.7	300.9	298.9	298.0	297.0	296.1
42.5°	289.4	283.7	279.8	276.0	273.2	271.2	271.2	268.4	267.4	264.6	263.6
45°	257.9	255.0	248.3	245.5	244.5	241.6	240.7	238.8	235.9	234.0	233.0
47.5°	230.2	227.3	223.5	219.7	217.8	215.8	213.9	211.1	209.2	206.3	205.3
50°	207.3	202.5	198.7	195.8	192.9	192.0	190.1	186.2	184.3	181.5	181.5
52.5°	186.2	182.4	177.6	174.8	171.9	170.0	167.1	164.3	161.4	160.5	157.6
55°	168.1	163.3	158.5	154.7	151.9	149.0	148.0	144.2	140.4	138.5	136.6
57.5°	150.9	146.1	140.4	135.6	133.7	131.8	128.9	125.1	122.3	119.4	117.5
60°	133.7	129.9	124.2	119.4	117.5	114.6	111.7	107.9	105.1	102.2	100.3
62.5°	119.4	113.7	108.9	104.1	101.2	99.3	95.5	92.6	88.8	86.0	83.1
65°	105.1	99.3	94.6	89.8	87.9	85.0	82.1	78.3	74.5	71.6	67.8
67.5°	90.7	86.0	81.2	76.4	74.5	72.6	68.8	64.9	61.1	58.3	54.4
70°	78.3	73.5	68.8	64.9	63.0	61.1	57.3	53.5	50.6	46.8	43.9
72.5°	66.9	63.0	58.3	54.4	52.5	50.6	46.8	43.9	40.1	38.2	35.3
75°	55.4	51.6	47.8	43.9	42.0	40.1	37.2	34.4	31.5	28.7	26.7
77.5°	43.9	40.1	36.3	33.4	31.5	30.6	27.7	24.8	22.0	20.1	17.2
80°	32.5	28.7	25.8	22.9	21.0	20.1	17.2	15.3	13.4	10.5	9.6
82.5°	20.1	17.2	15.3	13.4	12.4	11.5	9.6	7.6	6.7	5.7	4.8
85°	10.5	9.6	7.6	6.7	5.7	5.7	4.8	3.8	2.9	2.9	1.9
87.5°	3.8	2.9	2.9	1.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0
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: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	647.5	648.5	649.5	650.4	649.5	649.5	651.4	647.5	650.4	650.4	646.6
5°	645.6	647.5	646.6	648.5	646.6	646.6	647.5	645.6	647.5	647.5	644.7
7.5°	643.7	645.6	645.6	646.6	645.6	645.6	646.6	643.7	645.6	645.6	642.8
10°	652.3	654.2	653.3	652.3	649.5	647.5	648.5	643.7	645.6	645.6	642.8
12.5°	655.2	654.2	650.4	648.5	646.6	644.7	645.6	641.8	643.7	643.7	641.8
15°	636.1	634.2	631.3	632.3	630.4	629.4	631.3	629.4	633.2	635.1	633.2
17.5°	603.6	602.7	600.7	600.7	600.7	601.7	604.6	604.6	610.3	614.1	616.0
20°	561.6	560.6	561.6	563.5	564.5	568.3	575.0	578.8	586.4	593.1	597.9
22.5°	523.4	525.3	528.2	532.0	532.9	537.7	546.3	550.1	559.7	567.3	572.1
25°	490.9	493.8	495.7	498.6	499.5	505.2	512.9	517.7	528.2	533.9	539.6
27.5°	458.4	462.3	463.2	467.0	467.0	472.8	479.5	484.2	490.9	496.6	501.4
30°	426.9	427.9	430.7	431.7	433.6	439.3	443.2	446.0	453.7	456.5	459.4
32.5°	392.5	396.4	398.3	399.2	398.3	403.0	406.9	408.8	411.6	415.5	417.4
35°	360.1	362.0	362.9	364.8	365.8	366.8	368.7	369.6	373.4	374.4	375.3
37.5°	327.6	330.5	329.5	330.5	330.5	331.4	333.3	332.4	335.2	336.2	335.2
40°	295.1	295.1	297.0	296.1	297.0	296.1	298.0	298.0	298.0	298.9	298.0
42.5°	262.6	263.6	262.6	264.6	262.6	263.6	263.6	262.6	263.6	262.6	262.6
45°	233.0	233.0	233.0	233.0	231.1	231.1	233.0	232.1	231.1	230.2	229.2
47.5°	204.4	205.3	203.4	204.4	203.4	202.5	201.5	201.5	200.6	198.7	197.7
50°	180.5	178.6	177.6	178.6	177.6	176.7	175.7	173.8	172.9	171.0	170.0
52.5°	156.6	154.7	152.8	152.8	151.9	149.9	149.0	147.1	146.1	144.2	144.2
55°	135.6	133.7	131.8	130.8	128.9	127.0	126.1	124.2	123.2	121.3	119.4
57.5°	115.6	112.7	110.8	109.8	108.9	106.0	105.1	103.1	101.2	99.3	98.4
60°	97.4	94.6	91.7	90.7	89.8	86.9	86.0	83.1	82.1	80.2	79.3
62.5°	80.2	78.3	74.5	73.5	71.6	69.7	66.9	65.9	64.9	65.9	65.9
65°	64.9	62.1	59.2	58.3	56.3	54.4	53.5	52.5	53.5	53.5	54.4
67.5°	51.6	48.7	45.8	45.8	44.9	43.0	43.0	43.0	43.9	43.9	44.9
70°	41.1	39.2	37.2	36.3	36.3	35.3	36.3	36.3	37.2	37.2	37.2
72.5°	32.5	31.5	30.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	30.6
75°	24.8	23.9	22.9	22.9	22.0	22.0	22.0	22.0	22.0	22.0	21.0
77.5°	16.2	15.3	14.3	14.3	13.4	12.4	12.4	11.5	11.5	11.5	11.5
80°	8.6	7.6	6.7	5.7	5.7	4.8	4.8	4.8	4.8	3.8	3.8
82.5°	3.8	2.9	2.9	2.9	2.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.9	1.0	1.0	1.0	1.0	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	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: P251691

CATALOG NUMBER: LD4B20D010 EU4B10209024 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	651.4	651.4	651.4	651.4	651.4	651.4	651.4	651.4
2.5°	648.5	646.6	648.5	649.5	647.5	646.6	648.5	644.7
5°	647.5	644.7	645.6	646.6	644.7	643.7	645.6	642.8
7.5°	645.6	644.7	645.6	646.6	643.7	643.7	645.6	642.8
10°	645.6	643.7	644.7	646.6	644.7	644.7	646.6	642.8
12.5°	644.7	641.8	644.7	645.6	643.7	643.7	645.6	641.8
15°	638.0	638.0	638.9	640.9	639.9	640.9	643.7	640.9
17.5°	623.7	625.6	629.4	632.3	634.2	636.1	638.9	637.0
20°	606.5	609.3	614.1	617.0	620.8	621.8	626.5	622.7
22.5°	579.7	585.5	589.3	592.1	595.0	597.9	601.7	600.7
25°	547.3	551.1	553.9	556.8	560.6	562.5	564.5	563.5
27.5°	508.1	510.0	513.8	515.7	517.7	519.6	523.4	518.6
30°	465.1	466.1	468.0	470.9	470.9	472.8	474.7	473.7
32.5°	421.2	421.2	423.1	425.0	424.1	425.0	428.8	424.1
35°	378.2	377.3	380.1	381.1	381.1	380.1	383.0	382.0
37.5°	336.2	337.1	338.1	339.1	337.1	339.1	339.1	337.1
40°	298.0	297.0	298.9	299.9	298.9	299.9	299.9	296.1
42.5°	263.6	261.7	262.6	263.6	262.6	263.6	262.6	260.7
45°	230.2	229.2	229.2	230.2	228.3	228.3	228.3	228.3
47.5°	198.7	197.7	198.7	198.7	196.7	196.7	197.7	196.7
50°	170.0	169.0	169.0	169.0	168.1	168.1	169.0	169.0
52.5°	144.2	142.3	142.3	142.3	142.3	142.3	143.3	141.4
55°	118.4	118.4	118.4	118.4	119.4	119.4	119.4	119.4
57.5°	97.4	98.4	98.4	99.3	98.4	99.3	99.3	98.4
60°	81.2	80.2	81.2	81.2	82.1	82.1	82.1	82.1
62.5°	66.9	66.9	66.9	67.8	67.8	67.8	68.8	67.8
65°	55.4	55.4	56.3	56.3	56.3	57.3	57.3	57.3
67.5°	45.8	45.8	45.8	45.8	46.8	46.8	47.8	46.8
70°	38.2	38.2	38.2	38.2	38.2	39.2	39.2	39.2
72.5°	30.6	30.6	30.6	30.6	31.5	31.5	31.5	31.5
75°	21.0	21.0	21.0	22.0	21.0	21.0	21.0	21.0
77.5°	10.5	10.5	10.5	10.5	10.5	9.6	9.6	9.6
80°	3.8	3.8	3.8	3.8	3.8	3.8	2.9	3.8
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.0
85°	1.0	1.0	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)