

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: P251673

Luminaire Tested: **LD4B15D010 EU4B10208027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251673
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 EU4B10208027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1158.0 lumens
Efficiency: N/A
Efficacy: 80.5 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

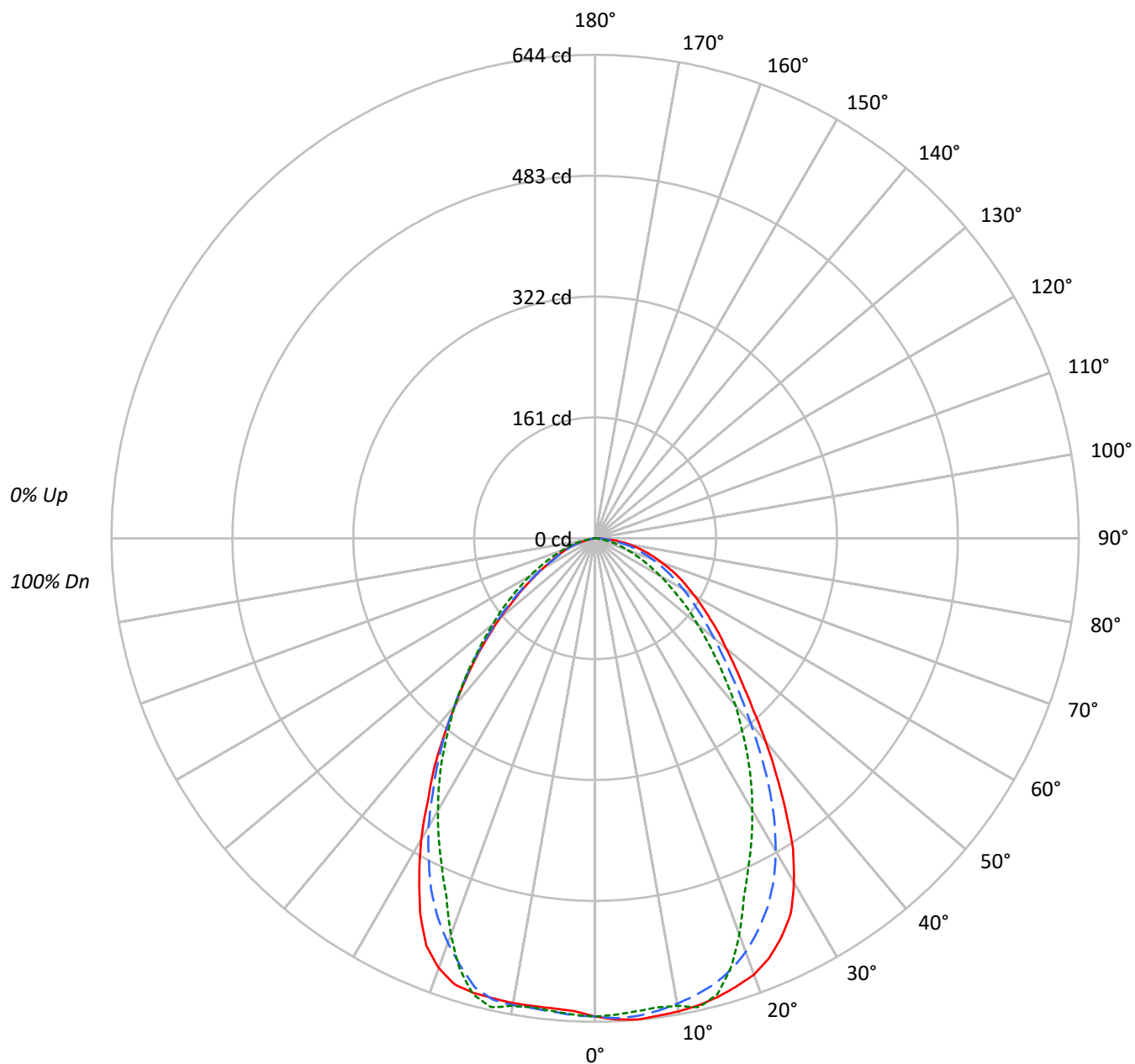
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	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	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°	62091	62091	62091
5°	62964	61868	61506
10°	63325	62583	62217
15°	63807	63433	63242
20°	64136	58224	63161
25°	63079	51928	59261
30°	59598	47096	52137
35°	52563	42117	44449
40°	44922	36958	36844
45°	38495	31548	30777
50°	34417	26912	25062
55°	31740	23006	19846
60°	29686	19472	15652
65°	28434	16165	12914
70°	26871	13051	10914
75°	26020	10543	7757
80°	25143	5781	2077
85°	21917	3131	1006



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.5	5.2
10°-20°	174.1	15.0
20°-30°	241.5	20.9
30°-40°	238.4	20.6
40°-50°	187.0	16.1
50°-60°	129.5	11.2
60°-70°	79.4	6.9
70°-80°	39.7	3.4
80°-90°	7.9	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°	476.2	41.1
0°-40°	714.5	61.7
0°-60°	1031.0	89.0
0°-90°	1158.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1158.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	637	637	637	637	637	
5°	644	639	632	633	629	61
15°	632	615	629	619	627	179
25°	587	543	483	517	551	268
35°	442	404	354	365	374	276
45°	279	256	229	226	223	218
55°	187	167	135	120	117	168
65°	123	106	70	52	56	122
75°	69	58	28	22	21	73
85°	20	11	3	1	1	22
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°	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1
2.5°	641.7	639.9	638.9	641.7	640.8	642.7	641.7	640.8	638.9	639.9	639.9
5°	643.6	640.8	639.9	641.7	641.7	643.6	642.7	640.8	638.9	639.9	638.9
7.5°	641.7	639.9	639.9	640.8	639.9	641.7	639.9	638.0	636.1	637.1	635.2
10°	639.9	637.1	637.1	637.1	637.1	638.9	637.1	634.3	631.5	631.5	629.6
12.5°	637.1	634.3	634.3	635.2	633.3	635.2	633.3	628.7	625.9	624.9	623.0
15°	632.4	629.6	629.6	629.6	627.7	628.7	625.9	621.2	617.4	617.4	614.6
17.5°	625.9	623.0	622.1	622.1	619.3	620.2	617.4	612.8	607.2	605.3	602.5
20°	618.4	614.6	612.8	612.8	610.0	610.9	607.2	601.6	594.1	591.3	586.6
22.5°	605.3	603.4	600.6	599.7	596.9	596.0	592.2	584.8	578.2	573.5	566.1
25°	586.6	585.7	582.9	581.9	578.2	576.3	572.6	564.2	557.7	550.2	542.7
27.5°	564.2	560.5	558.6	555.8	552.1	551.1	546.5	539.0	528.7	524.0	514.7
30°	529.6	527.8	525.9	523.1	519.4	517.5	514.7	506.3	497.9	489.5	481.1
32.5°	490.4	486.7	483.9	484.8	480.1	478.3	473.6	466.1	458.6	453.0	443.7
35°	441.8	440.9	440.0	438.1	434.4	433.4	429.7	424.1	415.7	409.1	403.5
37.5°	396.1	393.3	391.4	391.4	387.7	387.7	384.9	378.3	373.6	369.0	361.5
40°	353.1	348.4	348.4	348.4	344.7	345.6	343.8	337.2	332.5	326.9	322.3
42.5°	312.9	311.1	310.1	308.3	306.4	306.4	304.5	300.8	296.1	292.4	287.7
45°	279.3	278.4	277.4	276.5	274.6	273.7	272.8	267.2	264.4	260.6	255.9
47.5°	252.2	250.3	249.4	248.5	246.6	245.7	243.8	240.1	237.3	233.5	229.8
50°	227.0	226.1	225.1	225.1	223.3	222.3	220.4	217.6	213.0	211.1	206.4
52.5°	207.4	205.5	203.6	203.6	201.8	201.8	199.0	196.2	191.5	189.6	185.9
55°	186.8	185.9	185.0	185.0	183.1	182.2	181.2	177.5	173.7	170.9	167.2
57.5°	169.1	168.1	167.2	167.2	165.3	164.4	163.5	160.7	156.9	155.1	150.4
60°	152.3	152.3	151.3	150.4	149.5	148.5	147.6	144.8	142.0	139.2	135.4
62.5°	137.3	136.4	135.4	134.5	134.5	133.6	132.6	128.9	127.0	124.2	120.5
65°	123.3	121.4	121.4	120.5	120.5	119.6	118.6	114.9	113.0	110.2	106.5
67.5°	108.4	107.4	106.5	106.5	105.6	105.6	104.6	101.8	99.0	97.1	93.4
70°	94.3	94.3	93.4	93.4	92.5	91.5	91.5	89.7	86.9	84.1	80.3
72.5°	82.2	81.3	80.3	80.3	79.4	79.4	78.5	76.6	74.7	72.9	68.2
75°	69.1	68.2	68.2	68.2	67.3	67.3	66.3	64.5	62.6	60.7	57.9
77.5°	57.0	57.0	56.0	56.0	55.1	55.1	55.1	53.2	51.4	49.5	45.8
80°	44.8	44.8	44.8	43.9	43.0	43.0	43.0	41.1	39.2	37.4	34.6
82.5°	32.7	31.8	31.8	30.8	29.9	29.9	29.9	28.0	27.1	24.3	22.4
85°	19.6	18.7	18.7	17.7	16.8	16.8	16.8	15.9	14.0	13.1	11.2
87.5°	7.5	7.5	7.5	7.5	7.5	6.5	6.5	5.6	5.6	4.7	4.7
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°	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1
2.5°	639.9	638.9	638.9	638.0	638.9	637.1	637.1	637.1	637.1	635.2	635.2
5°	638.0	638.0	637.1	636.1	637.1	635.2	636.1	635.2	635.2	632.4	632.4
7.5°	634.3	633.3	631.5	630.5	631.5	630.5	630.5	630.5	632.4	630.5	630.5
10°	627.7	626.8	624.9	624.0	624.0	623.0	624.9	626.8	630.5	632.4	636.1
12.5°	621.2	619.3	618.4	618.4	619.3	619.3	623.0	627.7	637.1	639.9	643.6
15°	612.8	611.8	611.8	614.6	618.4	621.2	628.7	631.5	632.4	628.7	626.8
17.5°	601.6	601.6	602.5	605.3	608.1	608.1	609.0	607.2	605.3	600.6	595.0
20°	582.9	581.9	580.1	580.1	580.1	576.3	578.2	571.7	567.0	561.4	553.0
22.5°	559.5	554.9	548.3	543.7	540.8	539.0	534.3	526.8	521.2	517.5	513.8
25°	534.3	526.8	517.5	510.0	505.4	504.4	497.9	491.3	487.6	482.9	481.1
27.5°	505.4	496.9	485.7	478.3	474.5	471.7	466.1	459.6	454.9	451.2	448.4
30°	471.7	463.3	454.0	444.6	440.9	436.2	430.6	426.0	421.3	418.5	416.6
32.5°	434.4	426.0	416.6	410.1	405.4	401.7	397.0	392.3	388.6	386.7	384.9
35°	396.1	387.7	380.2	373.6	369.9	367.1	363.4	357.8	355.0	354.0	352.2
37.5°	355.0	349.4	342.8	337.2	334.4	330.7	328.8	324.1	324.1	320.4	320.4
40°	316.7	312.9	306.4	301.7	299.8	297.0	294.2	292.4	291.4	290.5	289.6
42.5°	283.0	277.4	273.7	270.0	267.2	265.3	265.3	262.5	261.6	258.7	257.8
45°	252.2	249.4	242.9	240.1	239.1	236.3	235.4	233.5	230.7	228.9	227.9
47.5°	225.1	222.3	218.6	214.8	213.0	211.1	209.2	206.4	204.6	201.8	200.8
50°	202.7	198.0	194.3	191.5	188.7	187.8	185.9	182.2	180.3	177.5	177.5
52.5°	182.2	178.4	173.7	170.9	168.1	166.3	163.5	160.7	157.9	156.9	154.1
55°	164.4	159.7	155.1	151.3	148.5	145.7	144.8	141.1	137.3	135.4	133.6
57.5°	147.6	142.9	137.3	132.6	130.8	128.9	126.1	122.4	119.6	116.8	114.9
60°	130.8	127.0	121.4	116.8	114.9	112.1	109.3	105.6	102.8	99.9	98.1
62.5°	116.8	111.2	106.5	101.8	99.0	97.1	93.4	90.6	86.9	84.1	81.3
65°	102.8	97.1	92.5	87.8	85.9	83.1	80.3	76.6	72.9	70.1	66.3
67.5°	88.7	84.1	79.4	74.7	72.9	71.0	67.3	63.5	59.8	57.0	53.2
70°	76.6	71.9	67.3	63.5	61.7	59.8	56.0	52.3	49.5	45.8	43.0
72.5°	65.4	61.7	57.0	53.2	51.4	49.5	45.8	43.0	39.2	37.4	34.6
75°	54.2	50.4	46.7	43.0	41.1	39.2	36.4	33.6	30.8	28.0	26.2
77.5°	43.0	39.2	35.5	32.7	30.8	29.9	27.1	24.3	21.5	19.6	16.8
80°	31.8	28.0	25.2	22.4	20.6	19.6	16.8	14.9	13.1	10.3	9.3
82.5°	19.6	16.8	14.9	13.1	12.1	11.2	9.3	7.5	6.5	5.6	4.7
85°	10.3	9.3	7.5	6.5	5.6	5.6	4.7	3.7	2.8	2.8	1.9
87.5°	3.7	2.8	2.8	1.9	1.9	1.9	1.9	0.9	0.9	0.9	0.9
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°	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1
2.5°	633.3	634.3	635.2	636.1	635.2	635.2	637.1	633.3	636.1	636.1	632.4
5°	631.5	633.3	632.4	634.3	632.4	632.4	633.3	631.5	633.3	633.3	630.5
7.5°	629.6	631.5	631.5	632.4	631.5	631.5	632.4	629.6	631.5	631.5	628.7
10°	638.0	639.9	638.9	638.0	635.2	633.3	634.3	629.6	631.5	631.5	628.7
12.5°	640.8	639.9	636.1	634.3	632.4	630.5	631.5	627.7	629.6	629.6	627.7
15°	622.1	620.2	617.4	618.4	616.5	615.6	617.4	615.6	619.3	621.2	619.3
17.5°	590.4	589.4	587.6	587.6	587.6	588.5	591.3	591.3	596.9	600.6	602.5
20°	549.3	548.3	549.3	551.1	552.1	555.8	562.3	566.1	573.5	580.1	584.8
22.5°	511.9	513.8	516.6	520.3	521.2	525.9	534.3	538.0	547.4	554.9	559.5
25°	480.1	482.9	484.8	487.6	488.5	494.1	501.6	506.3	516.6	522.2	527.8
27.5°	448.4	452.1	453.0	456.8	456.8	462.4	468.9	473.6	480.1	485.7	490.4
30°	417.5	418.5	421.3	422.2	424.1	429.7	433.4	436.2	443.7	446.5	449.3
32.5°	383.9	387.7	389.5	390.5	389.5	394.2	397.9	399.8	402.6	406.3	408.2
35°	352.2	354.0	355.0	356.8	357.8	358.7	360.6	361.5	365.2	366.2	367.1
37.5°	320.4	323.2	322.3	323.2	323.2	324.1	326.0	325.1	327.9	328.8	327.9
40°	288.6	288.6	290.5	289.6	290.5	289.6	291.4	291.4	291.4	292.4	291.4
42.5°	256.9	257.8	256.9	258.7	256.9	257.8	257.8	256.9	257.8	256.9	256.9
45°	227.9	227.9	227.9	227.9	226.1	226.1	227.9	227.0	226.1	225.1	224.2
47.5°	199.9	200.8	199.0	199.9	199.0	198.0	197.1	197.1	196.2	194.3	193.4
50°	176.5	174.7	173.7	174.7	173.7	172.8	171.9	170.0	169.1	167.2	166.3
52.5°	153.2	151.3	149.5	149.5	148.5	146.7	145.7	143.9	142.9	141.1	141.1
55°	132.6	130.8	128.9	128.0	126.1	124.2	123.3	121.4	120.5	118.6	116.8
57.5°	113.0	110.2	108.4	107.4	106.5	103.7	102.8	100.9	99.0	97.1	96.2
60°	95.3	92.5	89.7	88.7	87.8	85.0	84.1	81.3	80.3	78.5	77.5
62.5°	78.5	76.6	72.9	71.9	70.1	68.2	65.4	64.5	63.5	64.5	64.5
65°	63.5	60.7	57.9	57.0	55.1	53.2	52.3	51.4	52.3	52.3	53.2
67.5°	50.4	47.6	44.8	44.8	43.9	42.0	42.0	42.0	43.0	43.0	43.9
70°	40.2	38.3	36.4	35.5	35.5	34.6	35.5	35.5	36.4	36.4	36.4
72.5°	31.8	30.8	29.9	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.9
75°	24.3	23.4	22.4	22.4	21.5	21.5	21.5	21.5	21.5	21.5	20.6
77.5°	15.9	14.9	14.0	14.0	13.1	12.1	12.1	11.2	11.2	11.2	11.2
80°	8.4	7.5	6.5	5.6	5.6	4.7	4.7	4.7	4.7	3.7	3.7
82.5°	3.7	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	637.1	637.1	637.1	637.1	637.1	637.1	637.1	637.1
2.5°	634.3	632.4	634.3	635.2	633.3	632.4	634.3	630.5
5°	633.3	630.5	631.5	632.4	630.5	629.6	631.5	628.7
7.5°	631.5	630.5	631.5	632.4	629.6	629.6	631.5	628.7
10°	631.5	629.6	630.5	632.4	630.5	630.5	632.4	628.7
12.5°	630.5	627.7	630.5	631.5	629.6	629.6	631.5	627.7
15°	624.0	624.0	624.9	626.8	625.9	626.8	629.6	626.8
17.5°	610.0	611.8	615.6	618.4	620.2	622.1	624.9	623.0
20°	593.2	596.0	600.6	603.4	607.2	608.1	612.8	609.0
22.5°	567.0	572.6	576.3	579.1	581.9	584.8	588.5	587.6
25°	535.2	539.0	541.8	544.6	548.3	550.2	552.1	551.1
27.5°	496.9	498.8	502.5	504.4	506.3	508.2	511.9	507.2
30°	454.9	455.8	457.7	460.5	460.5	462.4	464.3	463.3
32.5°	411.9	411.9	413.8	415.7	414.7	415.7	419.4	414.7
35°	369.9	369.0	371.8	372.7	372.7	371.8	374.6	373.6
37.5°	328.8	329.7	330.7	331.6	329.7	331.6	331.6	329.7
40°	291.4	290.5	292.4	293.3	292.4	293.3	293.3	289.6
42.5°	257.8	255.9	256.9	257.8	256.9	257.8	256.9	255.0
45°	225.1	224.2	224.2	225.1	223.3	223.3	223.3	223.3
47.5°	194.3	193.4	194.3	194.3	192.4	192.4	193.4	192.4
50°	166.3	165.3	165.3	165.3	164.4	164.4	165.3	165.3
52.5°	141.1	139.2	139.2	139.2	139.2	139.2	140.1	138.2
55°	115.8	115.8	115.8	115.8	116.8	116.8	116.8	116.8
57.5°	95.3	96.2	96.2	97.1	96.2	97.1	97.1	96.2
60°	79.4	78.5	79.4	79.4	80.3	80.3	80.3	80.3
62.5°	65.4	65.4	65.4	66.3	66.3	66.3	67.3	66.3
65°	54.2	54.2	55.1	55.1	55.1	56.0	56.0	56.0
67.5°	44.8	44.8	44.8	44.8	45.8	45.8	46.7	45.8
70°	37.4	37.4	37.4	37.4	37.4	38.3	38.3	38.3
72.5°	29.9	29.9	29.9	29.9	30.8	30.8	30.8	30.8
75°	20.6	20.6	20.6	21.5	20.6	20.6	20.6	20.6
77.5°	10.3	10.3	10.3	10.3	10.3	9.3	9.3	9.3
80°	3.7	3.7	3.7	3.7	3.7	3.7	2.8	3.7
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)