

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: P251601

Luminaire Tested: **LD4B15D010 EU4B10209027 4LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251601
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-13)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209027 4LBSW1H
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1090.0 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

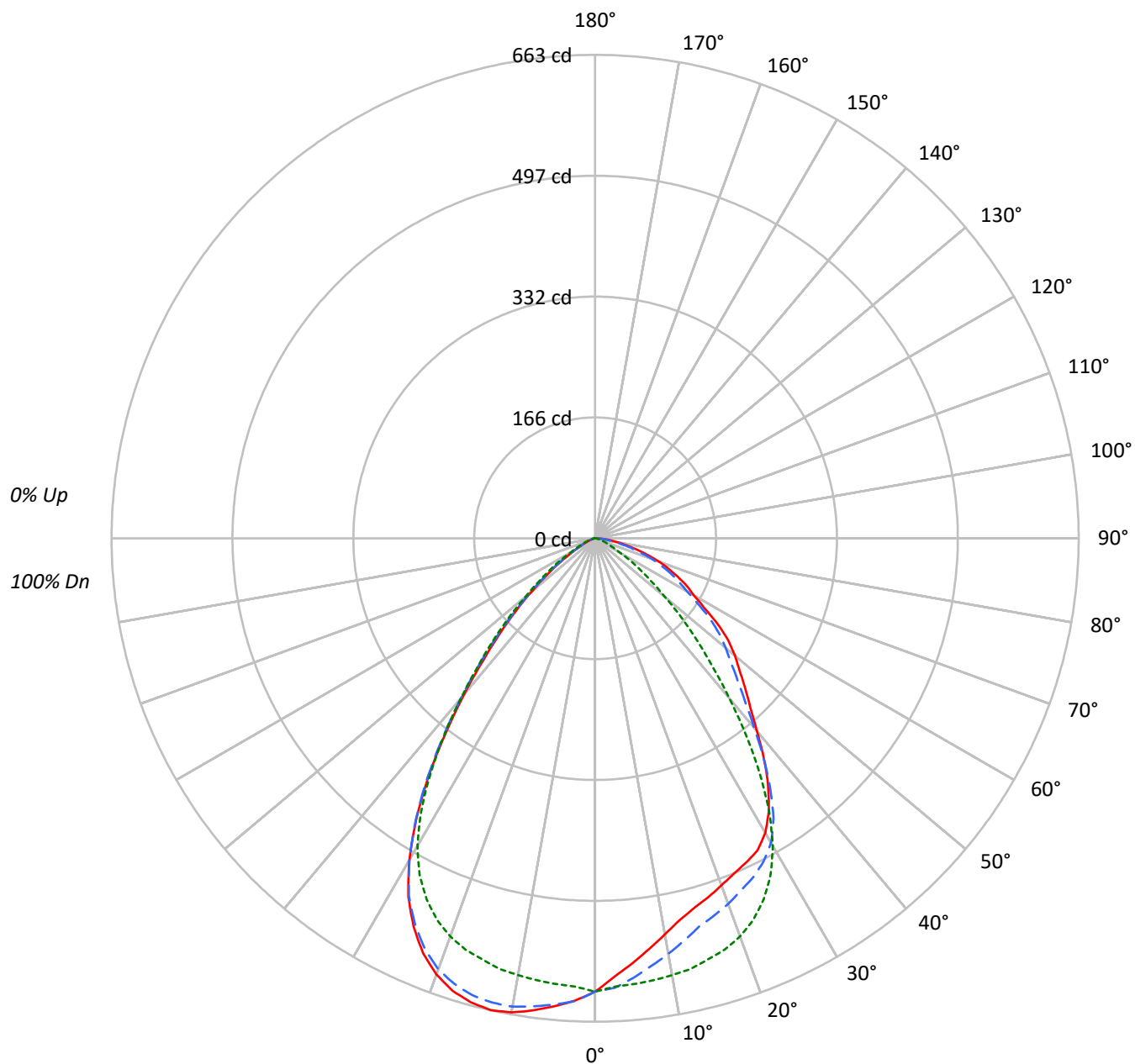
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	111	108	104	101	109	106	103	100		101	99	97		98	96	94		94	93	91
2	104	97	92	87	101	95	90	86		92	88	84		89	85	82		86	83	81
3	96	88	81	76	94	86	80	75		83	78	74		81	76	73		78	75	72
4	90	80	72	67	88	78	72	66		76	70	66		74	69	65		72	68	64
5	83	73	65	60	82	72	65	59		70	63	59		68	62	58		66	61	58
6	78	67	59	53	76	66	59	53		64	58	53		62	57	52		61	56	52
7	73	61	54	48	71	61	53	48		59	53	48		58	52	48		56	51	47
8	68	57	49	44	67	56	49	44		55	48	44		54	48	43		52	47	43
9	64	52	45	40	63	52	45	40		51	44	40		50	44	40		49	44	40
10	61	49	42	37	59	48	42	37		47	41	37		47	41	37		46	40	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	60599	60599	60599
5°	57231	60048	63032
10°	54557	60188	65344
15°	52960	60316	66460
20°	52520	60257	65992
25°	52734	58767	63251
30°	52486	54827	57348
35°	49196	46816	47292
40°	43841	36297	35482
45°	40094	27055	25401
50°	37904	18952	17133
55°	34849	12794	10755
60°	30465	7504	5945
65°	28826	4797	3321
70°	26272	3419	2052
75°	21727	2410	1506
80°	17118	1347	898
85°	15208	895	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.8	5.4
10°-20°	168.6	15.5
20°-30°	249.9	22.9
30°-40°	250.2	23.0
40°-50°	174.9	16.0
50°-60°	104.1	9.5
60°-70°	54.3	5.0
70°-80°	24.1	2.2
80°-90°	5.3	0.5
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°	477.2	43.8
0°-40°	727.4	66.7
0°-60°	1006.3	92.3
0°-90°	1090.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1090.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	622	622	622	622	622	
5°	585	605	614	642	644	55
15°	525	551	598	649	659	149
25°	490	513	546	584	588	226
35°	414	418	394	401	398	256
45°	291	276	196	190	184	226
55°	205	192	75	66	63	182
65°	125	115	21	15	14	124
75°	58	50	6	4	4	62
85°	14	10	1	1	0	15
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°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8
2.5°	601.8	609.0	601.8	604.2	613.8	605.0	609.8	609.8	607.4	613.0	617.0
5°	585.0	592.2	585.0	588.2	598.6	589.8	595.4	593.8	594.6	599.4	605.0
7.5°	568.1	573.8	567.3	571.3	581.0	573.8	578.6	578.6	579.4	586.6	591.4
10°	551.3	556.1	551.3	554.5	564.9	558.5	561.7	562.5	564.9	571.3	578.6
12.5°	536.1	540.1	535.3	540.1	548.9	542.5	546.5	547.3	549.7	556.9	564.9
15°	524.9	528.9	524.1	528.1	536.1	531.3	534.5	536.1	537.7	544.1	551.3
17.5°	516.1	519.3	515.3	520.1	526.5	520.9	525.7	525.7	528.1	534.5	542.5
20°	506.4	509.6	506.4	510.4	517.7	512.9	516.9	516.9	519.3	526.5	533.7
22.5°	497.6	499.2	497.6	500.8	508.0	504.0	506.4	507.2	509.6	516.1	522.5
25°	490.4	493.6	492.0	495.2	500.0	496.0	498.4	499.2	501.6	507.2	512.9
27.5°	482.4	484.0	482.4	486.4	490.4	487.2	489.6	488.8	490.4	495.2	500.0
30°	466.4	468.0	468.0	470.4	473.6	472.0	474.4	472.0	473.6	477.6	482.4
32.5°	443.1	443.9	444.7	447.1	449.5	447.1	448.7	448.7	448.7	451.9	455.2
35°	413.5	415.1	414.3	415.9	418.3	417.5	417.5	416.7	415.1	416.7	418.3
37.5°	379.8	377.4	377.4	379.8	381.4	378.2	379.8	378.2	378.2	379.0	379.0
40°	344.6	342.2	344.6	345.4	346.2	344.6	343.8	342.2	339.8	340.6	339.0
42.5°	314.9	313.3	314.1	314.1	314.9	313.3	314.1	310.9	308.5	306.9	304.5
45°	290.9	288.5	290.9	289.3	289.3	288.5	287.7	286.1	282.9	280.5	276.5
47.5°	268.4	268.4	269.2	269.2	269.2	267.6	267.6	264.4	261.2	258.0	252.4
50°	250.0	248.4	251.6	251.6	249.2	248.4	249.2	245.2	242.8	238.8	233.2
52.5°	230.0	230.0	230.8	230.8	230.0	228.4	229.2	226.0	223.6	219.6	214.0
55°	205.1	203.5	205.9	205.9	205.1	204.3	205.1	202.7	200.3	197.1	192.3
57.5°	177.1	176.3	177.9	178.7	177.1	177.1	177.9	175.5	174.7	171.5	166.7
60°	156.3	155.5	157.1	157.9	156.3	156.3	156.3	153.1	151.5	148.2	145.0
62.5°	141.8	141.0	142.6	141.8	141.0	140.2	141.0	137.8	136.2	133.0	129.8
65°	125.0	125.8	126.6	126.6	125.8	125.0	125.0	123.4	121.8	118.6	114.6
67.5°	109.0	109.0	109.8	110.6	109.8	109.8	109.8	107.4	105.8	103.4	98.6
70°	92.2	91.4	93.8	93.8	92.2	93.0	92.2	91.4	89.7	86.5	82.5
72.5°	74.5	74.5	75.3	75.3	74.5	74.5	74.5	73.7	71.3	69.7	65.7
75°	57.7	57.7	58.5	59.3	57.7	57.7	58.5	56.9	55.3	52.9	50.5
77.5°	43.3	42.5	43.3	43.3	42.5	42.5	42.5	41.7	40.9	38.5	36.1
80°	30.5	29.6	30.5	30.5	30.5	29.6	29.6	28.8	28.8	27.2	24.8
82.5°	20.8	20.0	20.8	20.8	20.8	20.0	20.0	20.0	19.2	18.4	16.8
85°	13.6	12.8	12.8	13.6	12.8	12.8	12.8	12.8	12.0	11.2	10.4
87.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.6	5.6	5.6	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8
2.5°	613.8	612.2	617.0	615.4	616.2	612.2	618.6	615.4	619.4	615.4	623.4
5°	603.4	601.8	609.0	608.2	609.0	605.8	613.0	612.2	617.0	613.8	622.6
7.5°	592.2	590.6	598.6	599.4	601.0	597.8	607.4	607.4	612.2	611.4	621.0
10°	579.4	580.2	588.2	589.8	593.0	591.4	600.2	602.6	609.0	608.2	620.2
12.5°	567.3	567.3	577.8	581.0	583.4	582.6	593.0	596.2	603.4	605.0	616.2
15°	555.3	556.1	565.7	570.5	573.8	573.0	584.2	588.2	597.0	597.8	611.4
17.5°	545.7	544.9	555.3	559.3	564.1	563.3	575.4	580.2	589.0	591.4	604.2
20°	537.7	536.9	546.5	551.3	554.5	553.7	565.7	571.3	579.4	581.0	593.8
22.5°	528.1	526.5	536.1	540.1	543.3	542.5	552.9	556.9	564.9	566.5	578.6
25°	516.9	515.3	524.1	526.5	528.9	527.3	536.1	538.5	544.9	546.5	558.5
27.5°	504.0	500.0	507.2	507.2	508.8	506.4	512.9	515.3	520.9	520.9	532.1
30°	484.0	478.4	482.4	481.6	482.4	479.2	483.2	484.0	488.0	487.2	495.2
32.5°	456.0	447.9	450.3	447.9	445.5	440.7	445.5	443.9	447.1	443.9	451.1
35°	417.5	409.5	408.7	405.5	403.1	399.1	399.1	395.1	395.9	393.5	398.3
37.5°	375.8	365.4	363.8	357.4	353.4	348.6	348.6	345.4	341.4	339.8	343.8
40°	335.0	323.7	319.7	309.3	305.3	300.5	297.3	293.3	291.7	285.3	288.5
42.5°	299.7	287.7	278.9	267.6	263.6	256.4	251.6	246.8	244.4	237.2	240.4
45°	270.0	255.6	246.0	231.6	226.0	218.0	210.7	205.1	199.5	196.3	194.7
47.5°	245.2	230.0	217.2	201.1	192.3	185.1	175.5	169.9	162.7	158.7	156.3
50°	224.4	207.5	193.1	174.7	165.9	157.9	146.6	137.8	131.4	125.0	123.4
52.5°	205.9	188.3	172.3	151.5	141.0	131.4	119.4	109.8	104.2	97.0	96.2
55°	184.3	169.1	151.5	129.8	119.4	109.8	97.0	87.3	80.1	75.3	73.7
57.5°	161.1	146.6	129.8	108.2	97.8	87.3	75.3	66.5	60.1	56.1	55.3
60°	139.4	125.8	109.8	88.1	77.7	68.9	56.1	47.3	41.7	38.5	36.9
62.5°	123.4	110.6	95.4	75.3	65.7	56.9	44.9	36.9	32.1	28.8	27.2
65°	108.2	95.4	81.7	63.3	55.3	47.3	36.1	28.8	24.0	20.8	19.2
67.5°	92.2	80.9	68.1	52.9	44.9	38.5	28.8	22.4	18.4	16.0	14.4
70°	76.1	65.7	55.3	42.5	36.9	30.5	22.4	17.6	13.6	12.0	10.4
72.5°	60.1	52.1	43.3	32.9	28.0	24.0	17.6	12.8	10.4	8.8	7.2
75°	44.9	39.3	32.1	24.8	20.8	17.6	12.8	9.6	8.0	6.4	5.6
77.5°	32.1	27.2	22.4	16.8	15.2	12.8	8.8	7.2	5.6	4.0	3.2
80°	21.6	19.2	15.2	12.0	9.6	8.8	6.4	4.8	3.2	2.4	2.4
82.5°	14.4	12.0	9.6	7.2	6.4	5.6	4.0	3.2	2.4	1.6	1.6
85°	8.8	7.2	5.6	4.0	4.0	3.2	2.4	1.6	0.8	0.8	0.8
87.5°	4.0	3.2	2.4	1.6	1.6	0.8	0.8	0.8	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8
2.5°	629.8	625.0	621.8	625.8	627.4	625.0	627.4	631.4	635.5	636.3	625.0
5°	630.6	625.8	624.2	629.0	629.8	629.0	631.4	637.1	641.9	643.5	632.2
7.5°	630.6	627.4	626.6	632.2	633.0	632.2	636.3	642.7	647.5	650.7	639.5
10°	629.0	627.4	628.2	633.0	634.7	634.7	640.3	647.5	652.3	655.5	644.3
12.5°	626.6	626.6	626.6	632.2	633.9	634.7	639.5	649.1	652.3	657.1	645.9
15°	622.6	622.6	622.6	628.2	630.6	630.6	636.3	645.1	649.1	653.9	642.7
17.5°	615.4	615.4	616.2	621.0	623.4	623.4	629.0	638.7	641.1	646.7	635.5
20°	605.0	605.0	605.8	610.6	613.0	611.4	618.6	626.6	629.0	633.9	622.6
22.5°	589.8	589.8	589.8	594.6	596.2	595.4	602.6	609.8	609.8	616.2	604.2
25°	567.3	568.9	567.3	572.1	573.8	573.0	579.4	585.8	584.2	591.4	579.4
27.5°	540.1	539.3	539.3	543.3	543.3	542.5	547.3	554.5	552.9	557.7	546.5
30°	502.4	504.8	500.8	506.4	504.0	502.4	505.6	512.0	509.6	513.7	504.8
32.5°	459.2	456.0	456.0	456.0	457.6	453.6	456.8	460.0	457.6	461.6	451.9
35°	402.3	403.1	400.7	401.5	402.3	397.5	400.7	403.9	400.7	403.1	394.3
37.5°	345.4	346.2	340.6	343.8	340.6	339.0	342.2	343.8	340.6	343.0	333.4
40°	288.5	286.9	286.1	286.1	286.9	282.9	285.3	287.7	285.3	286.9	278.1
42.5°	238.8	238.0	236.4	237.2	234.8	234.0	234.8	237.2	234.8	236.4	230.0
45°	195.5	193.9	191.5	192.3	192.3	188.3	190.7	192.3	189.9	190.7	185.1
47.5°	155.5	153.1	153.1	152.3	152.3	150.6	153.1	152.3	149.8	151.5	145.8
50°	121.0	119.4	119.4	119.4	119.4	117.0	117.8	119.4	117.0	117.0	113.8
52.5°	94.6	92.2	90.6	90.6	90.6	89.7	89.7	90.6	88.1	88.1	87.3
55°	71.3	70.5	68.1	68.1	68.1	65.7	66.5	66.5	65.7	65.7	63.3
57.5°	52.9	50.5	48.9	48.9	47.3	47.3	46.5	47.3	45.7	45.7	44.1
60°	35.3	33.7	32.9	32.1	32.1	31.3	32.1	31.3	31.3	30.5	29.6
62.5°	25.6	24.0	22.4	22.4	22.4	21.6	21.6	21.6	21.6	21.6	20.8
65°	18.4	16.8	16.8	16.0	16.0	15.2	15.2	15.2	15.2	15.2	14.4
67.5°	12.8	12.0	11.2	11.2	11.2	11.2	11.2	11.2	10.4	10.4	10.4
70°	9.6	8.8	8.0	8.0	8.0	8.0	8.0	7.2	8.0	8.0	7.2
72.5°	6.4	6.4	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
75°	4.8	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
77.5°	3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8
2.5°	637.1	636.3	634.7	637.1	630.6	628.2	627.4	634.7
5°	645.9	644.3	644.3	646.7	639.5	637.9	636.3	644.3
7.5°	653.9	652.3	652.3	654.7	648.3	646.7	645.1	653.1
10°	658.7	658.7	658.7	660.3	654.7	653.1	652.3	660.3
12.5°	661.1	661.1	660.3	663.5	656.3	656.3	654.7	662.7
15°	657.9	657.9	657.9	660.3	653.9	652.3	652.3	658.7
17.5°	649.9	649.9	649.1	651.5	644.3	644.3	643.5	650.7
20°	637.9	637.9	636.3	639.5	632.2	629.8	629.0	636.3
22.5°	618.6	617.8	617.0	618.6	612.2	610.6	609.8	616.2
25°	593.8	593.0	591.4	593.0	585.8	583.4	583.4	588.2
27.5°	558.5	558.5	556.1	558.5	550.5	549.7	548.9	554.5
30°	515.3	512.0	510.4	513.7	505.6	505.6	504.0	509.6
32.5°	461.6	458.4	457.6	459.2	451.9	449.5	452.8	456.0
35°	399.9	400.7	397.5	397.5	391.0	391.8	392.7	397.5
37.5°	340.6	339.0	338.2	339.0	334.2	332.6	330.9	335.8
40°	285.3	281.3	280.5	280.5	276.5	275.7	276.5	278.9
42.5°	233.2	232.4	229.2	230.8	226.8	228.4	227.6	227.6
45°	188.3	189.1	185.9	188.3	185.1	182.7	182.7	184.3
47.5°	149.0	149.0	148.2	148.2	145.8	146.6	145.0	147.4
50°	115.4	115.4	113.8	114.6	113.0	113.0	112.2	113.0
52.5°	88.1	87.3	87.3	86.5	84.9	85.7	86.5	84.9
55°	64.1	64.9	63.3	64.1	62.5	63.3	62.5	63.3
57.5°	44.1	44.9	43.3	44.9	43.3	44.1	43.3	43.3
60°	30.5	30.5	29.6	30.5	29.6	29.6	28.8	30.5
62.5°	20.8	20.8	20.8	20.8	20.8	20.0	20.8	20.8
65°	15.2	14.4	14.4	14.4	14.4	14.4	14.4	14.4
67.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
70°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
72.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
75°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.8	0.8	0.0	0.8	0.0	0.0	0.0
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)