

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: P274326

Luminaire Tested: **LD4B15DE010W2N2765 EU4B1020W2N902765 4LBSW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274326
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: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBSW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, SINGLE WALLWASH WITH HAZE FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1199.3 lumens
Efficiency: N/A
Efficacy: 54.5 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

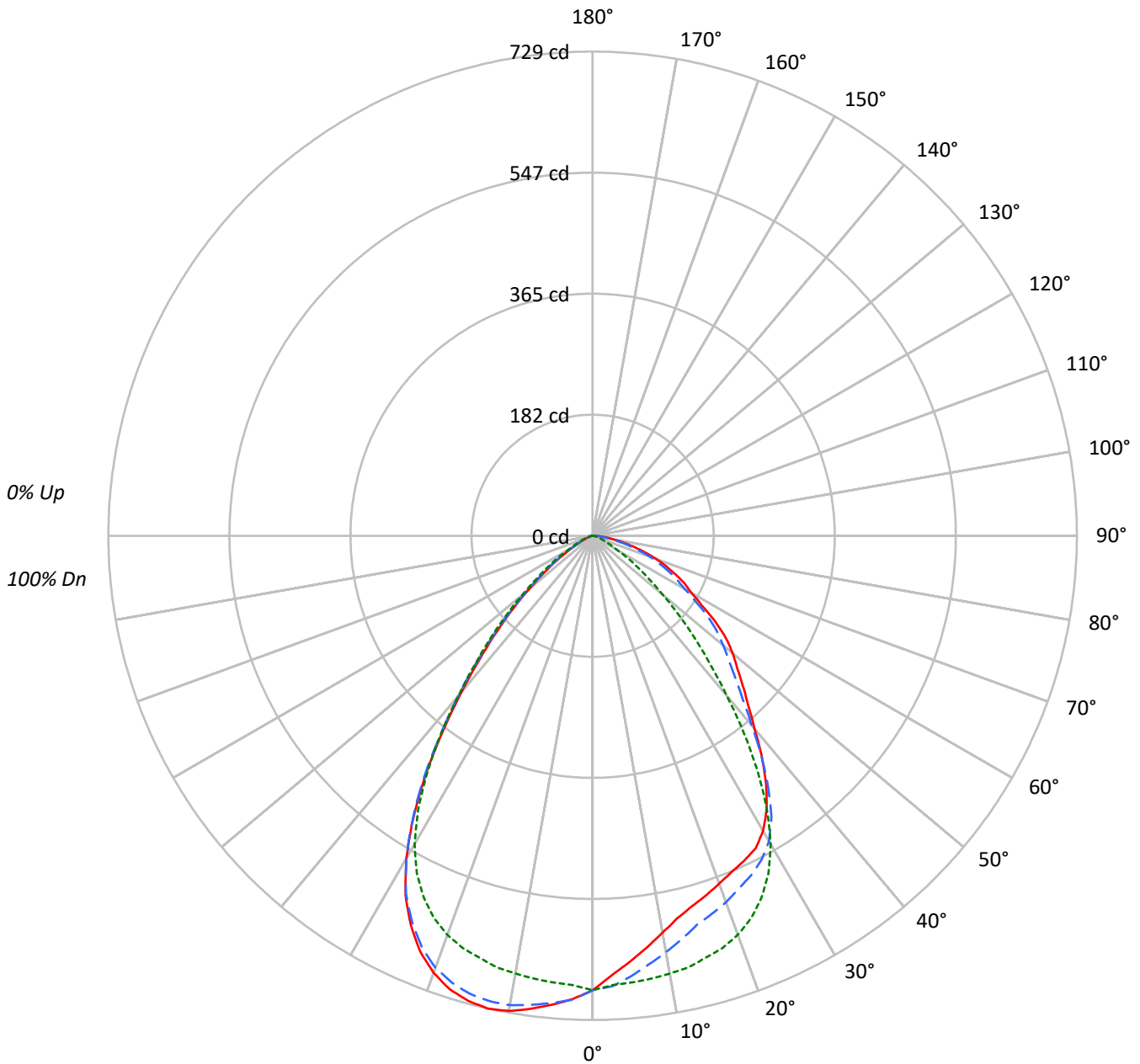
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			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			100
1	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89			89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79			79
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70			70
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62			62
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56			56
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50			50
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46			46
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42			42
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38			38
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35			35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	66681	66681	66681
5°	62964	66065	69342
10°	60030	66225	71896
15°	58267	66359	73119
20°	57789	66293	72599
25°	58025	64660	69585
30°	57742	60319	63098
35°	54121	51504	52027
40°	48230	39935	39032
45°	44104	29771	27951
50°	41710	20847	18846
55°	38349	14086	11843
60°	33506	8245	6530
65°	31708	5281	3667
70°	28894	3761	2251
75°	23911	2673	1657
80°	18801	1459	1010
85°	16773	1006	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.6	5.4
10°-20°	185.4	15.5
20°-30°	274.9	22.9
30°-40°	275.3	23.0
40°-50°	192.4	16.0
50°-60°	114.5	9.5
60°-70°	59.7	5.0
70°-80°	26.6	2.2
80°-90°	5.8	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°	525.0	43.8
0°-40°	800.3	66.7
0°-60°	1107.2	92.3
0°-90°	1199.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1199.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	684	684	684	684	684	
5°	644	666	675	706	709	60
15°	578	607	658	714	725	164
25°	540	564	601	643	647	249
35°	455	460	433	441	437	282
45°	320	304	216	209	203	248
55°	226	212	83	72	70	200
65°	138	126	23	17	16	136
75°	64	56	7	4	4	69
85°	15	12	1	1	0	17
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°	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2
2.5°	662.1	670.1	662.1	664.8	675.3	665.6	670.9	670.9	668.3	674.5	678.9
5°	643.6	651.5	643.6	647.1	658.6	648.9	655.1	653.3	654.2	659.5	665.6
7.5°	625.1	631.3	624.2	628.6	639.2	631.3	636.6	636.6	637.4	645.4	650.7
10°	606.6	611.9	606.6	610.1	621.6	614.5	618.0	618.9	621.6	628.6	636.6
12.5°	589.8	594.2	588.9	594.2	603.9	596.9	601.3	602.2	604.8	612.7	621.6
15°	577.5	581.9	576.6	581.0	589.8	584.5	588.1	589.8	591.6	598.6	606.6
17.5°	567.8	571.3	566.9	572.2	579.2	573.1	578.4	578.4	581.0	588.1	596.9
20°	557.2	560.7	557.2	561.6	569.5	564.3	568.7	568.7	571.3	579.2	587.2
22.5°	547.5	549.3	547.5	551.0	559.0	554.6	557.2	558.1	560.7	567.8	574.8
25°	539.6	543.1	541.3	544.9	550.2	545.7	548.4	549.3	551.9	558.1	564.3
27.5°	530.8	532.5	530.8	535.2	539.6	536.0	538.7	537.8	539.6	544.9	550.2
30°	513.1	514.9	514.9	517.5	521.1	519.3	521.9	519.3	521.1	525.5	530.8
32.5°	487.6	488.4	489.3	492.0	494.6	492.0	493.7	493.7	493.7	497.3	500.8
35°	454.9	456.7	455.8	457.6	460.2	459.3	459.3	458.5	456.7	458.5	460.2
37.5°	417.9	415.3	415.3	417.9	419.7	416.1	417.9	416.1	416.1	417.0	417.0
40°	379.1	376.5	379.1	380.0	380.9	379.1	378.2	376.5	373.8	374.7	372.9
42.5°	346.5	344.7	345.6	345.6	346.5	344.7	345.6	342.1	339.4	337.7	335.0
45°	320.0	317.4	320.0	318.3	318.3	317.4	316.5	314.8	311.2	308.6	304.2
47.5°	295.4	295.4	296.2	296.2	296.2	294.5	294.5	290.9	287.4	283.9	277.7
50°	275.1	273.3	276.8	276.8	274.2	273.3	274.2	269.8	267.1	262.7	256.6
52.5°	253.0	253.0	253.9	253.9	253.0	251.3	252.2	248.6	246.0	241.6	235.4
55°	225.7	223.9	226.6	226.6	225.7	224.8	225.7	223.1	220.4	216.9	211.6
57.5°	194.8	194.0	195.7	196.6	194.8	194.8	195.7	193.1	192.2	188.7	183.4
60°	171.9	171.0	172.8	173.7	171.9	171.9	171.9	168.4	166.6	163.1	159.6
62.5°	156.1	155.2	156.9	156.1	155.2	154.3	155.2	151.6	149.9	146.4	142.8
65°	137.5	138.4	139.3	139.3	138.4	137.5	137.5	135.8	134.0	130.5	126.1
67.5°	119.9	119.9	120.8	121.7	120.8	120.8	120.8	118.1	116.4	113.7	108.4
70°	101.4	100.5	103.2	103.2	101.4	102.3	101.4	100.5	98.7	95.2	90.8
72.5°	82.0	82.0	82.9	82.9	82.0	82.0	82.0	81.1	78.5	76.7	72.3
75°	63.5	63.5	64.4	65.2	63.5	63.5	64.4	62.6	60.8	58.2	55.5
77.5°	47.6	46.7	47.6	47.6	46.7	46.7	46.7	45.8	45.0	42.3	39.7
80°	33.5	32.6	33.5	33.5	33.5	32.6	32.6	31.7	31.7	30.0	27.3
82.5°	22.9	22.0	22.9	22.9	22.9	22.0	22.0	22.0	21.2	20.3	18.5
85°	15.0	14.1	14.1	15.0	14.1	14.1	14.1	14.1	13.2	12.3	11.5
87.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.2	6.2	6.2	5.3
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°	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2
2.5°	675.3	673.6	678.9	677.1	678.0	673.6	680.6	677.1	681.5	677.1	685.9
5°	663.9	662.1	670.1	669.2	670.1	666.5	674.5	673.6	678.9	675.3	685.0
7.5°	651.5	649.8	658.6	659.5	661.2	657.7	668.3	668.3	673.6	672.7	683.3
10°	637.4	638.3	647.1	648.9	652.4	650.7	660.4	663.0	670.1	669.2	682.4
12.5°	624.2	624.2	635.7	639.2	641.8	641.0	652.4	655.9	663.9	665.6	678.0
15°	611.0	611.9	622.4	627.7	631.3	630.4	642.7	647.1	656.8	657.7	672.7
17.5°	600.4	599.5	611.0	615.4	620.7	619.8	633.0	638.3	648.0	650.7	664.8
20°	591.6	590.7	601.3	606.6	610.1	609.2	622.4	628.6	637.4	639.2	653.3
22.5°	581.0	579.2	589.8	594.2	597.8	596.9	608.3	612.7	621.6	623.3	636.6
25°	568.7	566.9	576.6	579.2	581.9	580.1	589.8	592.5	599.5	601.3	614.5
27.5°	554.6	550.2	558.1	558.1	559.8	557.2	564.3	566.9	573.1	573.1	585.4
30°	532.5	526.3	530.8	529.9	530.8	527.2	531.6	532.5	536.9	536.0	544.9
32.5°	501.7	492.8	495.5	492.8	490.2	484.9	490.2	488.4	492.0	488.4	496.4
35°	459.3	450.5	449.6	446.1	443.5	439.1	439.1	434.7	435.5	432.9	438.2
37.5°	413.5	402.0	400.3	393.2	388.8	383.5	383.5	380.0	375.6	373.8	378.2
40°	368.5	356.2	351.8	340.3	335.9	330.6	327.1	322.7	320.9	313.9	317.4
42.5°	329.7	316.5	306.8	294.5	290.1	282.1	276.8	271.5	268.9	261.0	264.5
45°	297.1	281.2	270.7	254.8	248.6	239.8	231.9	225.7	219.5	216.0	214.2
47.5°	269.8	253.0	238.9	221.3	211.6	203.7	193.1	186.9	179.0	174.6	171.9
50°	246.9	228.3	212.5	192.2	182.5	173.7	161.3	151.6	144.6	137.5	135.8
52.5°	226.6	207.2	189.6	166.6	155.2	144.6	131.4	120.8	114.6	106.7	105.8
55°	202.8	186.0	166.6	142.8	131.4	120.8	106.7	96.1	88.2	82.9	81.1
57.5°	177.2	161.3	142.8	119.0	107.6	96.1	82.9	73.2	66.1	61.7	60.8
60°	153.4	138.4	120.8	97.0	85.5	75.8	61.7	52.0	45.8	42.3	40.6
62.5°	135.8	121.7	104.9	82.9	72.3	62.6	49.4	40.6	35.3	31.7	30.0
65°	119.0	104.9	89.9	69.7	60.8	52.0	39.7	31.7	26.4	22.9	21.2
67.5°	101.4	89.0	74.9	58.2	49.4	42.3	31.7	24.7	20.3	17.6	15.9
70°	83.8	72.3	60.8	46.7	40.6	33.5	24.7	19.4	15.0	13.2	11.5
72.5°	66.1	57.3	47.6	36.1	30.9	26.4	19.4	14.1	11.5	9.7	7.9
75°	49.4	43.2	35.3	27.3	22.9	19.4	14.1	10.6	8.8	7.1	6.2
77.5°	35.3	30.0	24.7	18.5	16.8	14.1	9.7	7.9	6.2	4.4	3.5
80°	23.8	21.2	16.8	13.2	10.6	9.7	7.1	5.3	3.5	2.6	2.6
82.5°	15.9	13.2	10.6	7.9	7.1	6.2	4.4	3.5	2.6	1.8	1.8
85°	9.7	7.9	6.2	4.4	4.4	3.5	2.6	1.8	0.9	0.9	0.9
87.5°	4.4	3.5	2.6	1.8	1.8	0.9	0.9	0.9	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°	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2
2.5°	693.0	687.7	684.2	688.6	690.3	687.7	690.3	694.7	699.2	700.0	687.7
5°	693.9	688.6	686.8	692.1	693.0	692.1	694.7	700.9	706.2	708.0	695.6
7.5°	693.9	690.3	689.5	695.6	696.5	695.6	700.0	707.1	712.4	715.9	703.6
10°	692.1	690.3	691.2	696.5	698.3	698.3	704.4	712.4	717.7	721.2	708.8
12.5°	689.5	689.5	689.5	695.6	697.4	698.3	703.6	714.1	717.7	723.0	710.6
15°	685.0	685.0	685.0	691.2	693.9	693.9	700.0	709.7	714.1	719.4	707.1
17.5°	677.1	677.1	678.0	683.3	685.9	685.9	692.1	702.7	705.3	711.5	699.2
20°	665.6	665.6	666.5	671.8	674.5	672.7	680.6	689.5	692.1	697.4	685.0
22.5°	648.9	648.9	648.9	654.2	655.9	655.1	663.0	670.9	670.9	678.0	664.8
25°	624.2	626.0	624.2	629.5	631.3	630.4	637.4	644.5	642.7	650.7	637.4
27.5°	594.2	593.4	593.4	597.8	597.8	596.9	602.2	610.1	608.3	613.6	601.3
30°	552.8	555.4	551.0	557.2	554.6	552.8	556.3	563.4	560.7	565.1	555.4
32.5°	505.2	501.7	501.7	501.7	503.4	499.0	502.5	506.1	503.4	507.8	497.3
35°	442.6	443.5	440.8	441.7	442.6	437.3	440.8	444.4	440.8	443.5	433.8
37.5°	380.0	380.9	374.7	378.2	374.7	372.9	376.5	378.2	374.7	377.3	366.8
40°	317.4	315.6	314.8	314.8	315.6	311.2	313.9	316.5	313.9	315.6	305.9
42.5°	262.7	261.9	260.1	261.0	258.3	257.4	258.3	261.0	258.3	260.1	253.0
45°	215.1	213.4	210.7	211.6	211.6	207.2	209.8	211.6	209.0	209.8	203.7
47.5°	171.0	168.4	168.4	167.5	167.5	165.8	168.4	167.5	164.9	166.6	160.5
50°	133.1	131.4	131.4	131.4	131.4	128.7	129.6	131.4	128.7	128.7	125.2
52.5°	104.0	101.4	99.6	99.6	99.6	98.7	98.7	99.6	97.0	97.0	96.1
55°	78.5	77.6	74.9	74.9	74.9	72.3	73.2	73.2	72.3	72.3	69.7
57.5°	58.2	55.5	53.8	53.8	52.0	52.0	51.1	52.0	50.3	50.3	48.5
60°	38.8	37.0	36.1	35.3	35.3	34.4	35.3	34.4	34.4	33.5	32.6
62.5°	28.2	26.4	24.7	24.7	24.7	23.8	23.8	23.8	23.8	23.8	22.9
65°	20.3	18.5	18.5	17.6	17.6	16.8	16.8	16.8	16.8	16.8	15.9
67.5°	14.1	13.2	12.3	12.3	12.3	12.3	12.3	12.3	11.5	11.5	11.5
70°	10.6	9.7	8.8	8.8	8.8	8.8	8.8	7.9	8.8	8.8	7.9
72.5°	7.1	7.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
75°	5.3	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
77.5°	3.5	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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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CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBSW0H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	684.2	684.2	684.2	684.2	684.2	684.2	684.2	684.2
2.5°	700.9	700.0	698.3	700.9	693.9	691.2	690.3	698.3
5°	710.6	708.8	708.8	711.5	703.6	701.8	700.0	708.8
7.5°	719.4	717.7	717.7	720.3	713.3	711.5	709.7	718.5
10°	724.7	724.7	724.7	726.5	720.3	718.5	717.7	726.5
12.5°	727.4	727.4	726.5	730.0	722.1	722.1	720.3	729.1
15°	723.8	723.8	723.8	726.5	719.4	717.7	717.7	724.7
17.5°	715.0	715.0	714.1	716.8	708.8	708.8	708.0	715.9
20°	701.8	701.8	700.0	703.6	695.6	693.0	692.1	700.0
22.5°	680.6	679.8	678.9	680.6	673.6	671.8	670.9	678.0
25°	653.3	652.4	650.7	652.4	644.5	641.8	641.8	647.1
27.5°	614.5	614.5	611.9	614.5	605.7	604.8	603.9	610.1
30°	566.9	563.4	561.6	565.1	556.3	556.3	554.6	560.7
32.5°	507.8	504.3	503.4	505.2	497.3	494.6	498.1	501.7
35°	439.9	440.8	437.3	437.3	430.2	431.1	432.0	437.3
37.5°	374.7	372.9	372.1	372.9	367.6	365.9	364.1	369.4
40°	313.9	309.5	308.6	308.6	304.2	303.3	304.2	306.8
42.5°	256.6	255.7	252.2	253.9	249.5	251.3	250.4	250.4
45°	207.2	208.1	204.5	207.2	203.7	201.0	201.0	202.8
47.5°	164.0	164.0	163.1	163.1	160.5	161.3	159.6	162.2
50°	127.0	127.0	125.2	126.1	124.3	124.3	123.4	124.3
52.5°	97.0	96.1	96.1	95.2	93.5	94.3	95.2	93.5
55°	70.5	71.4	69.7	70.5	68.8	69.7	68.8	69.7
57.5°	48.5	49.4	47.6	49.4	47.6	48.5	47.6	47.6
60°	33.5	33.5	32.6	33.5	32.6	32.6	31.7	33.5
62.5°	22.9	22.9	22.9	22.9	22.9	22.0	22.9	22.9
65°	16.8	15.9	15.9	15.9	15.9	15.9	15.9	15.9
67.5°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
70°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
72.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
75°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
85°	0.9	0.9	0.9	0.0	0.9	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)