

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: P274345

Luminaire Tested: **LD4B20DE010W2N2765 EU4B1020W2N902765 4LBLWWOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274345
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: LD4B20DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH SPECULAR FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1329.5 lumens
Efficiency: N/A
Efficacy: 47.5 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

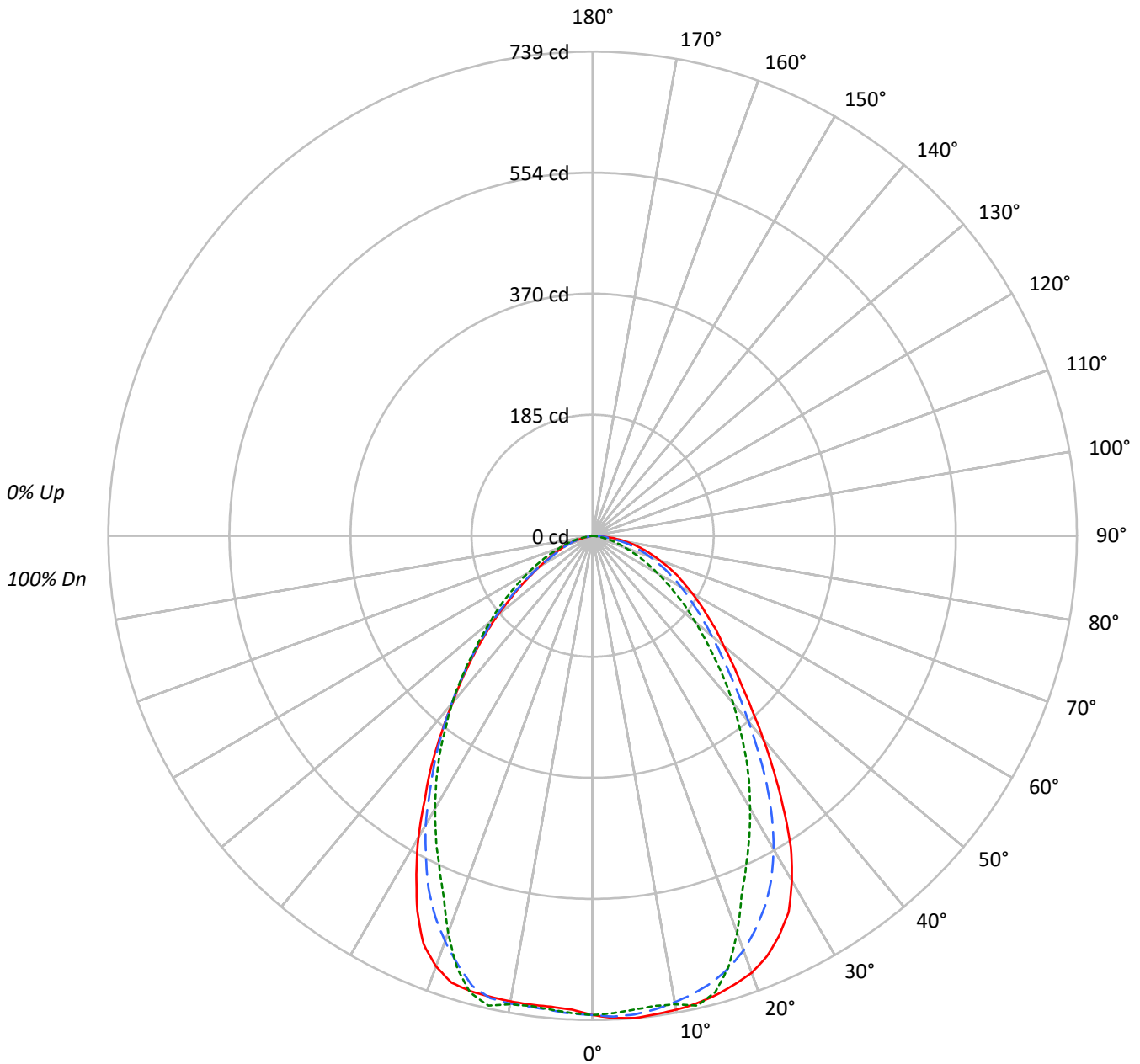
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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																			
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°	71281	71281	71281
5°	72287	71025	70604
10°	72697	71846	71421
15°	73251	72817	72605
20°	73626	66843	72516
25°	72424	59616	68036
30°	68432	54062	59857
35°	60356	48351	51040
40°	51576	42429	42289
45°	44201	36207	35325
50°	39512	30900	28777
55°	36446	26421	22785
60°	34071	22357	17971
65°	32654	18541	14828
70°	30860	14960	12538
75°	29898	12125	8887
80°	28904	6623	2413
85°	25160	3578	1230



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.5	5.2
10°-20°	199.9	15.0
20°-30°	277.3	20.9
30°-40°	273.7	20.6
40°-50°	214.7	16.1
50°-60°	148.7	11.2
60°-70°	91.1	6.9
70°-80°	45.5	3.4
80°-90°	9.1	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°	546.7	41.1
0°-40°	820.3	61.7
0°-60°	1183.7	89.0
0°-90°	1329.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1329.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	731	731	731	731	731	
5°	739	734	726	727	722	70
15°	726	706	722	711	720	205
25°	674	623	554	593	633	308
35°	507	463	406	419	429	317
45°	321	294	263	260	256	251
55°	214	192	156	138	134	193
65°	142	122	80	60	64	140
75°	79	66	32	25	24	84
85°	22	13	3	1	1	26
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°	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4
2.5°	736.7	734.6	733.5	736.7	735.7	737.8	736.7	735.7	733.5	734.6	734.6
5°	738.9	735.7	734.6	736.7	736.7	738.9	737.8	735.7	733.5	734.6	733.5
7.5°	736.7	734.6	734.6	735.7	734.6	736.7	734.6	732.5	730.3	731.4	729.2
10°	734.6	731.4	731.4	731.4	731.4	733.5	731.4	728.2	725.0	725.0	722.8
12.5°	731.4	728.2	728.2	729.2	727.1	729.2	727.1	721.7	718.5	717.4	715.3
15°	726.0	722.8	722.8	722.8	720.7	721.7	718.5	713.2	708.9	708.9	705.6
17.5°	718.5	715.3	714.2	714.2	711.0	712.1	708.9	703.5	697.1	694.9	691.7
20°	709.9	705.6	703.5	703.5	700.3	701.4	697.1	690.6	682.1	678.8	673.5
22.5°	694.9	692.8	689.6	688.5	685.3	684.2	679.9	671.3	663.8	658.5	649.9
25°	673.5	672.4	669.2	668.1	663.8	661.7	657.4	647.7	640.2	631.7	623.1
27.5°	647.7	643.4	641.3	638.1	633.8	632.7	627.4	618.8	607.0	601.6	590.9
30°	608.1	605.9	603.8	600.6	596.3	594.1	590.9	581.2	571.6	561.9	552.3
32.5°	563.0	558.7	555.5	556.6	551.2	549.1	543.7	535.1	526.6	520.1	509.4
35°	507.3	506.2	505.1	503.0	498.7	497.6	493.3	486.9	477.2	469.7	463.3
37.5°	454.7	451.5	449.3	449.3	445.1	445.1	441.8	434.3	429.0	423.6	415.0
40°	405.4	400.0	400.0	400.0	395.7	396.8	394.6	387.1	381.8	375.3	370.0
42.5°	359.3	357.1	356.0	353.9	351.8	351.8	349.6	345.3	340.0	335.7	330.3
45°	320.7	319.6	318.5	317.4	315.3	314.2	313.1	306.7	303.5	299.2	293.8
47.5°	289.6	287.4	286.3	285.3	283.1	282.0	279.9	275.6	272.4	268.1	263.8
50°	260.6	259.5	258.5	258.5	256.3	255.2	253.1	249.9	244.5	242.4	237.0
52.5°	238.1	235.9	233.8	233.8	231.6	231.6	228.4	225.2	219.8	217.7	213.4
55°	214.5	213.4	212.3	212.3	210.2	209.1	208.0	203.8	199.5	196.3	192.0
57.5°	194.1	193.0	192.0	192.0	189.8	188.7	187.7	184.5	180.2	178.0	172.7
60°	174.8	174.8	173.7	172.7	171.6	170.5	169.4	166.2	163.0	159.8	155.5
62.5°	157.6	156.6	155.5	154.4	154.4	153.4	152.3	148.0	145.8	142.6	138.3
65°	141.6	139.4	139.4	138.3	138.3	137.3	136.2	131.9	129.8	126.5	122.3
67.5°	124.4	123.3	122.3	122.3	121.2	121.2	120.1	116.9	113.7	111.5	107.2
70°	108.3	108.3	107.2	107.2	106.2	105.1	105.1	103.0	99.7	96.5	92.2
72.5°	94.4	93.3	92.2	92.2	91.2	91.2	90.1	87.9	85.8	83.6	78.3
75°	79.4	78.3	78.3	78.3	77.2	77.2	76.1	74.0	71.9	69.7	66.5
77.5°	65.4	65.4	64.3	64.3	63.3	63.3	63.3	61.1	59.0	56.8	52.5
80°	51.5	51.5	51.5	50.4	49.3	49.3	49.3	47.2	45.0	42.9	39.7
82.5°	37.5	36.5	36.5	35.4	34.3	34.3	34.3	32.2	31.1	27.9	25.7
85°	22.5	21.4	21.4	20.4	19.3	19.3	19.3	18.2	16.1	15.0	12.9
87.5°	8.6	8.6	8.6	8.6	8.6	7.5	7.5	6.4	6.4	5.4	5.4
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°	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4
2.5°	734.6	733.5	733.5	732.5	733.5	731.4	731.4	731.4	731.4	729.2	729.2
5°	732.5	732.5	731.4	730.3	731.4	729.2	730.3	729.2	729.2	726.0	726.0
7.5°	728.2	727.1	725.0	723.9	725.0	723.9	723.9	723.9	726.0	723.9	723.9
10°	720.7	719.6	717.4	716.4	716.4	715.3	717.4	719.6	723.9	726.0	730.3
12.5°	713.2	711.0	709.9	709.9	711.0	711.0	715.3	720.7	731.4	734.6	738.9
15°	703.5	702.4	702.4	705.6	709.9	713.2	721.7	725.0	726.0	721.7	719.6
17.5°	690.6	690.6	691.7	694.9	698.1	698.1	699.2	697.1	694.9	689.6	683.1
20°	669.2	668.1	666.0	666.0	666.0	661.7	663.8	656.3	651.0	644.5	634.9
22.5°	642.4	637.0	629.5	624.1	620.9	618.8	613.4	604.8	598.4	594.1	589.8
25°	613.4	604.8	594.1	585.5	580.2	579.1	571.6	564.1	559.8	554.4	552.3
27.5°	580.2	570.5	557.7	549.1	544.8	541.6	535.1	527.6	522.3	518.0	514.8
30°	541.6	531.9	521.2	510.5	506.2	500.8	494.4	489.0	483.7	480.4	478.3
32.5°	498.7	489.0	478.3	470.8	465.4	461.1	455.8	450.4	446.1	444.0	441.8
35°	454.7	445.1	436.5	429.0	424.7	421.5	417.2	410.7	407.5	406.4	404.3
37.5°	407.5	401.1	393.6	387.1	383.9	379.6	377.5	372.1	372.1	367.8	367.8
40°	363.5	359.3	351.8	346.4	344.2	341.0	337.8	335.7	334.6	333.5	332.4
42.5°	324.9	318.5	314.2	309.9	306.7	304.6	304.6	301.3	300.3	297.1	296.0
45°	289.6	286.3	278.8	275.6	274.5	271.3	270.2	268.1	264.9	262.7	261.7
47.5°	258.5	255.2	250.9	246.7	244.5	242.4	240.2	237.0	234.9	231.6	230.6
50°	232.7	227.4	223.1	219.8	216.6	215.6	213.4	209.1	207.0	203.8	203.8
52.5°	209.1	204.8	199.5	196.3	193.0	190.9	187.7	184.5	181.2	180.2	176.9
55°	188.7	183.4	178.0	173.7	170.5	167.3	166.2	161.9	157.6	155.5	153.4
57.5°	169.4	164.1	157.6	152.3	150.1	148.0	144.8	140.5	137.3	134.1	131.9
60°	150.1	145.8	139.4	134.1	131.9	128.7	125.5	121.2	118.0	114.7	112.6
62.5°	134.1	127.6	122.3	116.9	113.7	111.5	107.2	104.0	99.7	96.5	93.3
65°	118.0	111.5	106.2	100.8	98.7	95.4	92.2	87.9	83.6	80.4	76.1
67.5°	101.9	96.5	91.2	85.8	83.6	81.5	77.2	72.9	68.6	65.4	61.1
70°	87.9	82.6	77.2	72.9	70.8	68.6	64.3	60.1	56.8	52.5	49.3
72.5°	75.1	70.8	65.4	61.1	59.0	56.8	52.5	49.3	45.0	42.9	39.7
75°	62.2	57.9	53.6	49.3	47.2	45.0	41.8	38.6	35.4	32.2	30.0
77.5°	49.3	45.0	40.8	37.5	35.4	34.3	31.1	27.9	24.7	22.5	19.3
80°	36.5	32.2	29.0	25.7	23.6	22.5	19.3	17.2	15.0	11.8	10.7
82.5°	22.5	19.3	17.2	15.0	13.9	12.9	10.7	8.6	7.5	6.4	5.4
85°	11.8	10.7	8.6	7.5	6.4	6.4	5.4	4.3	3.2	3.2	2.1
87.5°	4.3	3.2	3.2	2.1	2.1	2.1	2.1	1.1	1.1	1.1	1.1
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°	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4
2.5°	727.1	728.2	729.2	730.3	729.2	729.2	731.4	727.1	730.3	730.3	726.0
5°	725.0	727.1	726.0	728.2	726.0	726.0	727.1	725.0	727.1	727.1	723.9
7.5°	722.8	725.0	725.0	726.0	725.0	725.0	726.0	722.8	725.0	725.0	721.7
10°	732.5	734.6	733.5	732.5	729.2	727.1	728.2	722.8	725.0	725.0	721.7
12.5°	735.7	734.6	730.3	728.2	726.0	723.9	725.0	720.7	722.8	722.8	720.7
15°	714.2	712.1	708.9	709.9	707.8	706.7	708.9	706.7	711.0	713.2	711.0
17.5°	677.8	676.7	674.5	674.5	674.5	675.6	678.8	678.8	685.3	689.6	691.7
20°	630.6	629.5	630.6	632.7	633.8	638.1	645.6	649.9	658.5	666.0	671.3
22.5°	587.7	589.8	593.0	597.3	598.4	603.8	613.4	617.7	628.4	637.0	642.4
25°	551.2	554.4	556.6	559.8	560.9	567.3	575.9	581.2	593.0	599.5	605.9
27.5°	514.8	519.0	520.1	524.4	524.4	530.8	538.4	543.7	551.2	557.7	563.0
30°	479.4	480.4	483.7	484.7	486.9	493.3	497.6	500.8	509.4	512.6	515.8
32.5°	440.8	445.1	447.2	448.3	447.2	452.6	456.8	459.0	462.2	466.5	468.6
35°	404.3	406.4	407.5	409.7	410.7	411.8	414.0	415.0	419.3	420.4	421.5
37.5°	367.8	371.1	370.0	371.1	371.1	372.1	374.3	373.2	376.4	377.5	376.4
40°	331.4	331.4	333.5	332.4	333.5	332.4	334.6	334.6	334.6	335.7	334.6
42.5°	294.9	296.0	294.9	297.1	294.9	296.0	296.0	294.9	296.0	294.9	294.9
45°	261.7	261.7	261.7	261.7	259.5	259.5	261.7	260.6	259.5	258.5	257.4
47.5°	229.5	230.6	228.4	229.5	228.4	227.4	226.3	226.3	225.2	223.1	222.0
50°	202.7	200.5	199.5	200.5	199.5	198.4	197.3	195.2	194.1	192.0	190.9
52.5°	175.9	173.7	171.6	171.6	170.5	168.4	167.3	165.2	164.1	161.9	161.9
55°	152.3	150.1	148.0	146.9	144.8	142.6	141.6	139.4	138.3	136.2	134.1
57.5°	129.8	126.5	124.4	123.3	122.3	119.0	118.0	115.8	113.7	111.5	110.5
60°	109.4	106.2	103.0	101.9	100.8	97.6	96.5	93.3	92.2	90.1	89.0
62.5°	90.1	87.9	83.6	82.6	80.4	78.3	75.1	74.0	72.9	74.0	74.0
65°	72.9	69.7	66.5	65.4	63.3	61.1	60.1	59.0	60.1	60.1	61.1
67.5°	57.9	54.7	51.5	51.5	50.4	48.3	48.3	48.3	49.3	49.3	50.4
70°	46.1	44.0	41.8	40.8	40.8	39.7	40.8	40.8	41.8	41.8	41.8
72.5°	36.5	35.4	34.3	33.2	33.2	33.2	33.2	33.2	33.2	33.2	34.3
75°	27.9	26.8	25.7	25.7	24.7	24.7	24.7	24.7	24.7	24.7	23.6
77.5°	18.2	17.2	16.1	16.1	15.0	13.9	13.9	12.9	12.9	12.9	12.9
80°	9.7	8.6	7.5	6.4	6.4	5.4	5.4	5.4	5.4	4.3	4.3
82.5°	4.3	3.2	3.2	3.2	3.2	2.1	2.1	2.1	2.1	2.1	2.1
85°	2.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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: LD4B20DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	731.4	731.4	731.4	731.4	731.4	731.4	731.4	731.4
2.5°	728.2	726.0	728.2	729.2	727.1	726.0	728.2	723.9
5°	727.1	723.9	725.0	726.0	723.9	722.8	725.0	721.7
7.5°	725.0	723.9	725.0	726.0	722.8	722.8	725.0	721.7
10°	725.0	722.8	723.9	726.0	723.9	723.9	726.0	721.7
12.5°	723.9	720.7	723.9	725.0	722.8	722.8	725.0	720.7
15°	716.4	716.4	717.4	719.6	718.5	719.6	722.8	719.6
17.5°	700.3	702.4	706.7	709.9	712.1	714.2	717.4	715.3
20°	681.0	684.2	689.6	692.8	697.1	698.1	703.5	699.2
22.5°	651.0	657.4	661.7	664.9	668.1	671.3	675.6	674.5
25°	614.5	618.8	622.0	625.2	629.5	631.7	633.8	632.7
27.5°	570.5	572.7	577.0	579.1	581.2	583.4	587.7	582.3
30°	522.3	523.3	525.5	528.7	528.7	530.8	533.0	531.9
32.5°	472.9	472.9	475.1	477.2	476.2	477.2	481.5	476.2
35°	424.7	423.6	426.8	427.9	427.9	426.8	430.0	429.0
37.5°	377.5	378.6	379.6	380.7	378.6	380.7	380.7	378.6
40°	334.6	333.5	335.7	336.7	335.7	336.7	336.7	332.4
42.5°	296.0	293.8	294.9	296.0	294.9	296.0	294.9	292.8
45°	258.5	257.4	257.4	258.5	256.3	256.3	256.3	256.3
47.5°	223.1	222.0	223.1	223.1	220.9	220.9	222.0	220.9
50°	190.9	189.8	189.8	189.8	188.7	188.7	189.8	189.8
52.5°	161.9	159.8	159.8	159.8	159.8	159.8	160.9	158.7
55°	133.0	133.0	133.0	133.0	134.1	134.1	134.1	134.1
57.5°	109.4	110.5	110.5	111.5	110.5	111.5	111.5	110.5
60°	91.2	90.1	91.2	91.2	92.2	92.2	92.2	92.2
62.5°	75.1	75.1	75.1	76.1	76.1	76.1	77.2	76.1
65°	62.2	62.2	63.3	63.3	63.3	64.3	64.3	64.3
67.5°	51.5	51.5	51.5	51.5	52.5	52.5	53.6	52.5
70°	42.9	42.9	42.9	42.9	42.9	44.0	44.0	44.0
72.5°	34.3	34.3	34.3	34.3	35.4	35.4	35.4	35.4
75°	23.6	23.6	23.6	24.7	23.6	23.6	23.6	23.6
77.5°	11.8	11.8	11.8	11.8	11.8	10.7	10.7	10.7
80°	4.3	4.3	4.3	4.3	4.3	4.3	3.2	4.3
82.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.1
85°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)