

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: P274348

Luminaire Tested: **LD4B20DE010W2N2050 EU4B1020W2N902050 4LBLWWOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274348
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: LD4B20DE010W2N2050 EU4B1020W2N902050 4LBLWW0LI
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH SPECULAR FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1239.5 lumens
Efficiency: N/A
Efficacy: 44.3 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

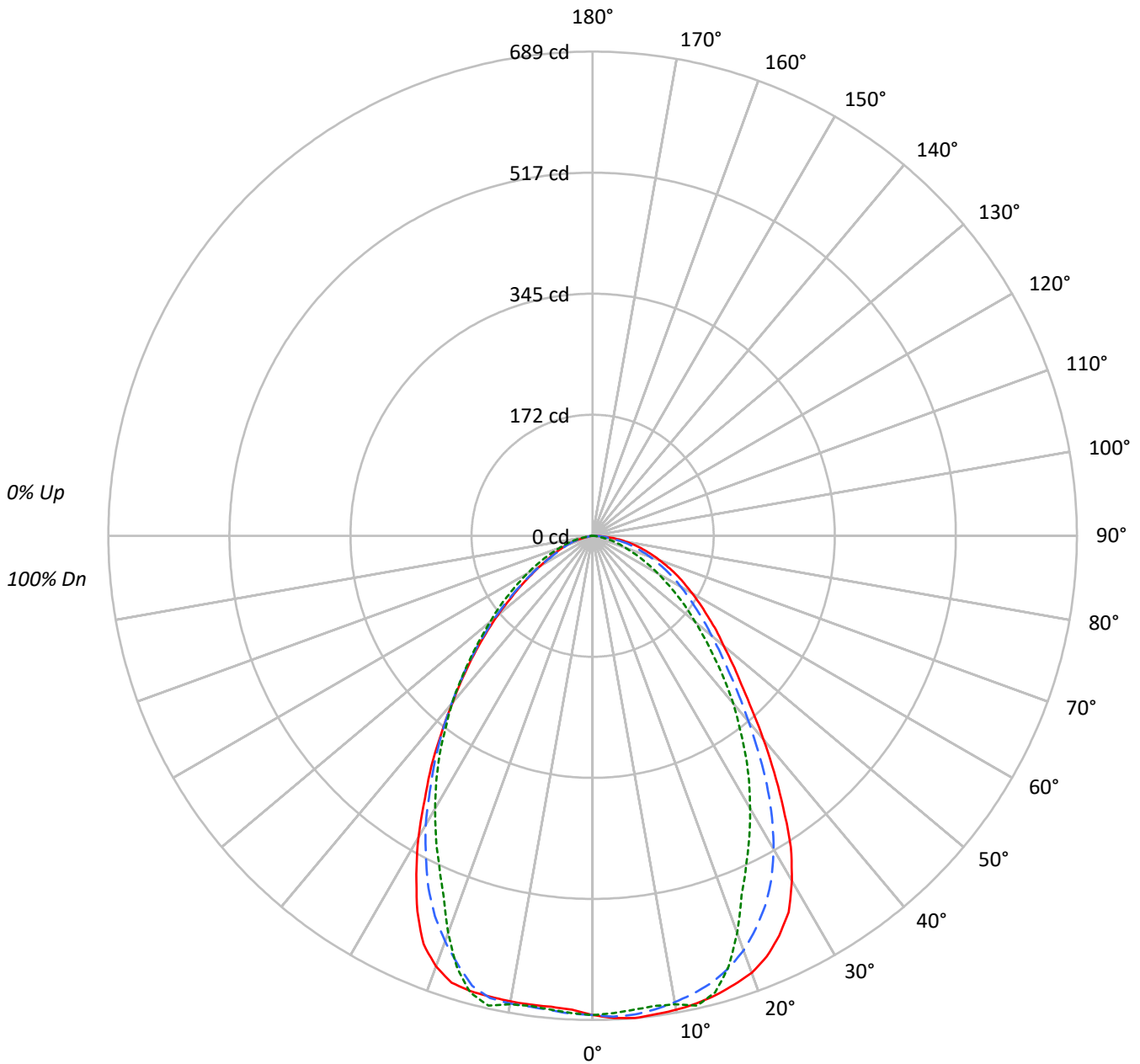
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P274348

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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								
1	111	107	103	100	108	105	101	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°	66457	66457	66457
5°	67395	66221	65830
10°	67779	66987	66591
15°	68297	67893	67691
20°	68647	62321	67610
25°	67520	55584	63434
30°	63796	50404	55806
35°	56263	45079	47578
40°	48077	39566	39439
45°	41210	33768	32941
50°	36843	28807	26836
55°	33983	24637	21239
60°	31771	20856	16763
65°	30440	17295	13836
70°	28780	13962	11683
75°	27865	11296	8284
80°	26939	6174	2245
85°	23482	3355	1118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.8	5.2
10°-20°	186.4	15.0
20°-30°	258.5	20.9
30°-40°	255.1	20.6
40°-50°	200.2	16.1
50°-60°	138.6	11.2
60°-70°	85.0	6.9
70°-80°	42.5	3.4
80°-90°	8.5	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°	509.7	41.1
0°-40°	764.8	61.7
0°-60°	1103.6	89.0
0°-90°	1239.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1239.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	682	682	682	682	682	
5°	689	684	677	678	673	66
15°	677	658	673	663	671	191
25°	628	581	517	553	590	287
35°	473	432	379	391	400	295
45°	299	274	245	242	239	234
55°	200	179	145	129	125	180
65°	132	114	75	56	60	130
75°	74	62	30	23	22	78
85°	21	12	3	1	1	24
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°	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9
2.5°	686.9	684.9	683.9	686.9	685.9	687.9	686.9	685.9	683.9	684.9	684.9
5°	688.9	685.9	684.9	686.9	686.9	688.9	687.9	685.9	683.9	684.9	683.9
7.5°	686.9	684.9	684.9	685.9	684.9	686.9	684.9	682.9	680.9	681.9	679.9
10°	684.9	681.9	681.9	681.9	681.9	683.9	681.9	678.9	675.9	675.9	673.9
12.5°	681.9	678.9	678.9	679.9	677.9	679.9	677.9	672.9	669.9	668.9	666.9
15°	676.9	673.9	673.9	673.9	671.9	672.9	669.9	664.9	660.9	660.9	657.9
17.5°	669.9	666.9	665.9	665.9	662.9	663.9	660.9	655.9	649.9	647.9	644.9
20°	661.9	657.9	655.9	655.9	652.9	653.9	649.9	643.9	635.9	632.9	627.9
22.5°	647.9	645.9	642.9	641.9	638.9	637.9	633.9	625.9	618.9	613.9	605.9
25°	627.9	626.9	623.9	622.9	618.9	616.9	612.9	603.9	596.9	588.9	580.9
27.5°	603.9	599.9	597.9	594.9	590.9	589.9	584.9	576.9	565.9	560.9	550.9
30°	566.9	564.9	562.9	559.9	555.9	553.9	550.9	541.9	532.9	523.9	514.9
32.5°	524.9	520.9	517.9	518.9	513.9	511.9	506.9	498.9	490.9	484.9	474.9
35°	472.9	471.9	470.9	468.9	464.9	463.9	459.9	453.9	444.9	437.9	431.9
37.5°	423.9	420.9	418.9	418.9	414.9	414.9	411.9	404.9	399.9	394.9	386.9
40°	377.9	372.9	372.9	372.9	368.9	369.9	367.9	360.9	355.9	349.9	344.9
42.5°	334.9	332.9	331.9	329.9	327.9	327.9	325.9	321.9	316.9	312.9	308.0
45°	299.0	298.0	297.0	296.0	294.0	293.0	292.0	286.0	283.0	279.0	274.0
47.5°	270.0	268.0	267.0	266.0	264.0	263.0	261.0	257.0	254.0	250.0	246.0
50°	243.0	242.0	241.0	241.0	239.0	238.0	236.0	233.0	228.0	226.0	221.0
52.5°	222.0	220.0	218.0	218.0	216.0	216.0	213.0	210.0	205.0	203.0	199.0
55°	200.0	199.0	198.0	198.0	196.0	195.0	194.0	190.0	186.0	183.0	179.0
57.5°	181.0	180.0	179.0	179.0	177.0	176.0	175.0	172.0	168.0	166.0	161.0
60°	163.0	163.0	162.0	161.0	160.0	159.0	158.0	155.0	152.0	149.0	145.0
62.5°	147.0	146.0	145.0	144.0	144.0	143.0	142.0	138.0	136.0	133.0	129.0
65°	132.0	130.0	130.0	129.0	129.0	128.0	127.0	123.0	121.0	118.0	114.0
67.5°	116.0	115.0	114.0	114.0	113.0	113.0	112.0	109.0	106.0	104.0	100.0
70°	101.0	101.0	100.0	100.0	99.0	98.0	98.0	96.0	93.0	90.0	86.0
72.5°	88.0	87.0	86.0	86.0	85.0	85.0	84.0	82.0	80.0	78.0	73.0
75°	74.0	73.0	73.0	73.0	72.0	72.0	71.0	69.0	67.0	65.0	62.0
77.5°	61.0	61.0	60.0	60.0	59.0	59.0	59.0	57.0	55.0	53.0	49.0
80°	48.0	48.0	48.0	47.0	46.0	46.0	46.0	44.0	42.0	40.0	37.0
82.5°	35.0	34.0	34.0	33.0	32.0	32.0	32.0	30.0	29.0	26.0	24.0
85°	21.0	20.0	20.0	19.0	18.0	18.0	18.0	17.0	15.0	14.0	12.0
87.5°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0	5.0	5.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9
2.5°	684.9	683.9	683.9	682.9	683.9	681.9	681.9	681.9	681.9	679.9	679.9
5°	682.9	682.9	681.9	680.9	681.9	679.9	680.9	679.9	679.9	676.9	676.9
7.5°	678.9	677.9	675.9	674.9	675.9	674.9	674.9	674.9	676.9	674.9	674.9
10°	671.9	670.9	668.9	667.9	667.9	666.9	668.9	670.9	674.9	676.9	680.9
12.5°	664.9	662.9	661.9	661.9	662.9	662.9	666.9	671.9	681.9	684.9	688.9
15°	655.9	654.9	654.9	657.9	661.9	664.9	672.9	675.9	676.9	672.9	670.9
17.5°	643.9	643.9	644.9	647.9	650.9	650.9	651.9	649.9	647.9	642.9	636.9
20°	623.9	622.9	620.9	620.9	620.9	616.9	618.9	611.9	606.9	600.9	591.9
22.5°	598.9	593.9	586.9	581.9	578.9	576.9	571.9	563.9	557.9	553.9	549.9
25°	571.9	563.9	553.9	545.9	540.9	539.9	532.9	525.9	521.9	516.9	514.9
27.5°	540.9	531.9	519.9	511.9	507.9	504.9	498.9	491.9	486.9	482.9	479.9
30°	504.9	495.9	485.9	475.9	471.9	466.9	460.9	455.9	450.9	447.9	445.9
32.5°	464.9	455.9	445.9	438.9	433.9	429.9	424.9	419.9	415.9	413.9	411.9
35°	423.9	414.9	406.9	399.9	395.9	392.9	388.9	382.9	379.9	378.9	376.9
37.5°	379.9	373.9	366.9	360.9	357.9	353.9	351.9	346.9	346.9	342.9	342.9
40°	338.9	334.9	327.9	322.9	320.9	317.9	314.9	312.9	311.9	311.0	310.0
42.5°	303.0	297.0	293.0	289.0	286.0	284.0	284.0	281.0	280.0	277.0	276.0
45°	270.0	267.0	260.0	257.0	256.0	253.0	252.0	250.0	247.0	245.0	244.0
47.5°	241.0	238.0	234.0	230.0	228.0	226.0	224.0	221.0	219.0	216.0	215.0
50°	217.0	212.0	208.0	205.0	202.0	201.0	199.0	195.0	193.0	190.0	190.0
52.5°	195.0	191.0	186.0	183.0	180.0	178.0	175.0	172.0	169.0	168.0	165.0
55°	176.0	171.0	166.0	162.0	159.0	156.0	155.0	151.0	147.0	145.0	143.0
57.5°	158.0	153.0	147.0	142.0	140.0	138.0	135.0	131.0	128.0	125.0	123.0
60°	140.0	136.0	130.0	125.0	123.0	120.0	117.0	113.0	110.0	107.0	105.0
62.5°	125.0	119.0	114.0	109.0	106.0	104.0	100.0	97.0	93.0	90.0	87.0
65°	110.0	104.0	99.0	94.0	92.0	89.0	86.0	82.0	78.0	75.0	71.0
67.5°	95.0	90.0	85.0	80.0	78.0	76.0	72.0	68.0	64.0	61.0	57.0
70°	82.0	77.0	72.0	68.0	66.0	64.0	60.0	56.0	53.0	49.0	46.0
72.5°	70.0	66.0	61.0	57.0	55.0	53.0	49.0	46.0	42.0	40.0	37.0
75°	58.0	54.0	50.0	46.0	44.0	42.0	39.0	36.0	33.0	30.0	28.0
77.5°	46.0	42.0	38.0	35.0	33.0	32.0	29.0	26.0	23.0	21.0	18.0
80°	34.0	30.0	27.0	24.0	22.0	21.0	18.0	16.0	14.0	11.0	10.0
82.5°	21.0	18.0	16.0	14.0	13.0	12.0	10.0	8.0	7.0	6.0	5.0
85°	11.0	10.0	8.0	7.0	6.0	6.0	5.0	4.0	3.0	3.0	2.0
87.5°	4.0	3.0	3.0	2.0	2.0	2.0	2.0	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9
2.5°	677.9	678.9	679.9	680.9	679.9	679.9	681.9	677.9	680.9	680.9	676.9
5°	675.9	677.9	676.9	678.9	676.9	676.9	677.9	675.9	677.9	677.9	674.9
7.5°	673.9	675.9	675.9	676.9	675.9	675.9	676.9	673.9	675.9	675.9	672.9
10°	682.9	684.9	683.9	682.9	679.9	677.9	678.9	673.9	675.9	675.9	672.9
12.5°	685.9	684.9	680.9	678.9	676.9	674.9	675.9	671.9	673.9	673.9	671.9
15°	665.9	663.9	660.9	661.9	659.9	658.9	660.9	658.9	662.9	664.9	662.9
17.5°	631.9	630.9	628.9	628.9	628.9	629.9	632.9	632.9	638.9	642.9	644.9
20°	587.9	586.9	587.9	589.9	590.9	594.9	601.9	605.9	613.9	620.9	625.9
22.5°	547.9	549.9	552.9	556.9	557.9	562.9	571.9	575.9	585.9	593.9	598.9
25°	513.9	516.9	518.9	521.9	522.9	528.9	536.9	541.9	552.9	558.9	564.9
27.5°	479.9	483.9	484.9	488.9	488.9	494.9	501.9	506.9	513.9	519.9	524.9
30°	446.9	447.9	450.9	451.9	453.9	459.9	463.9	466.9	474.9	477.9	480.9
32.5°	410.9	414.9	416.9	417.9	416.9	421.9	425.9	427.9	430.9	434.9	436.9
35°	376.9	378.9	379.9	381.9	382.9	383.9	385.9	386.9	390.9	391.9	392.9
37.5°	342.9	345.9	344.9	345.9	345.9	346.9	348.9	347.9	350.9	351.9	350.9
40°	309.0	309.0	311.0	310.0	311.0	310.0	311.9	311.9	311.9	312.9	311.9
42.5°	275.0	276.0	275.0	277.0	275.0	276.0	276.0	275.0	276.0	275.0	275.0
45°	244.0	244.0	244.0	244.0	242.0	242.0	244.0	243.0	242.0	241.0	240.0
47.5°	214.0	215.0	213.0	214.0	213.0	212.0	211.0	211.0	210.0	208.0	207.0
50°	189.0	187.0	186.0	187.0	186.0	185.0	184.0	182.0	181.0	179.0	178.0
52.5°	164.0	162.0	160.0	160.0	159.0	157.0	156.0	154.0	153.0	151.0	151.0
55°	142.0	140.0	138.0	137.0	135.0	133.0	132.0	130.0	129.0	127.0	125.0
57.5°	121.0	118.0	116.0	115.0	114.0	111.0	110.0	108.0	106.0	104.0	103.0
60°	102.0	99.0	96.0	95.0	94.0	91.0	90.0	87.0	86.0	84.0	83.0
62.5°	84.0	82.0	78.0	77.0	75.0	73.0	70.0	69.0	68.0	69.0	69.0
65°	68.0	65.0	62.0	61.0	59.0	57.0	56.0	55.0	56.0	56.0	57.0
67.5°	54.0	51.0	48.0	48.0	47.0	45.0	45.0	45.0	46.0	46.0	47.0
70°	43.0	41.0	39.0	38.0	38.0	37.0	38.0	38.0	39.0	39.0	39.0
72.5°	34.0	33.0	32.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	32.0
75°	26.0	25.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	22.0
77.5°	17.0	16.0	15.0	15.0	14.0	13.0	13.0	12.0	12.0	12.0	12.0
80°	9.0	8.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	4.0	4.0
82.5°	4.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	681.9	681.9	681.9	681.9	681.9	681.9	681.9	681.9
2.5°	678.9	676.9	678.9	679.9	677.9	676.9	678.9	674.9
5°	677.9	674.9	675.9	676.9	674.9	673.9	675.9	672.9
7.5°	675.9	674.9	675.9	676.9	673.9	673.9	675.9	672.9
10°	675.9	673.9	674.9	676.9	674.9	674.9	676.9	672.9
12.5°	674.9	671.9	674.9	675.9	673.9	673.9	675.9	671.9
15°	667.9	667.9	668.9	670.9	669.9	670.9	673.9	670.9
17.5°	652.9	654.9	658.9	661.9	663.9	665.9	668.9	666.9
20°	634.9	637.9	642.9	645.9	649.9	650.9	655.9	651.9
22.5°	606.9	612.9	616.9	619.9	622.9	625.9	629.9	628.9
25°	572.9	576.9	579.9	582.9	586.9	588.9	590.9	589.9
27.5°	531.9	533.9	537.9	539.9	541.9	543.9	547.9	542.9
30°	486.9	487.9	489.9	492.9	492.9	494.9	496.9	495.9
32.5°	440.9	440.9	442.9	444.9	443.9	444.9	448.9	443.9
35°	395.9	394.9	397.9	398.9	398.9	397.9	400.9	399.9
37.5°	351.9	352.9	353.9	354.9	352.9	354.9	354.9	352.9
40°	311.9	311.0	312.9	313.9	312.9	313.9	313.9	310.0
42.5°	276.0	274.0	275.0	276.0	275.0	276.0	275.0	273.0
45°	241.0	240.0	240.0	241.0	239.0	239.0	239.0	239.0
47.5°	208.0	207.0	208.0	208.0	206.0	206.0	207.0	206.0
50°	178.0	177.0	177.0	177.0	176.0	176.0	177.0	177.0
52.5°	151.0	149.0	149.0	149.0	149.0	149.0	150.0	148.0
55°	124.0	124.0	124.0	124.0	125.0	125.0	125.0	125.0
57.5°	102.0	103.0	103.0	104.0	103.0	104.0	104.0	103.0
60°	85.0	84.0	85.0	85.0	86.0	86.0	86.0	86.0
62.5°	70.0	70.0	70.0	71.0	71.0	71.0	72.0	71.0
65°	58.0	58.0	59.0	59.0	59.0	60.0	60.0	60.0
67.5°	48.0	48.0	48.0	48.0	49.0	49.0	50.0	49.0
70°	40.0	40.0	40.0	40.0	40.0	41.0	41.0	41.0
72.5°	32.0	32.0	32.0	32.0	33.0	33.0	33.0	33.0
75°	22.0	22.0	22.0	23.0	22.0	22.0	22.0	22.0
77.5°	11.0	11.0	11.0	11.0	11.0	10.0	10.0	10.0
80°	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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)