

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: P274319

Luminaire Tested: **LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274319
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1808-906-2)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0LI
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, SINGLE WALLWASH WITH SPECULAR FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 962.0 lumens
Efficiency: N/A
Efficacy: 68.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.29 / 1.17
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

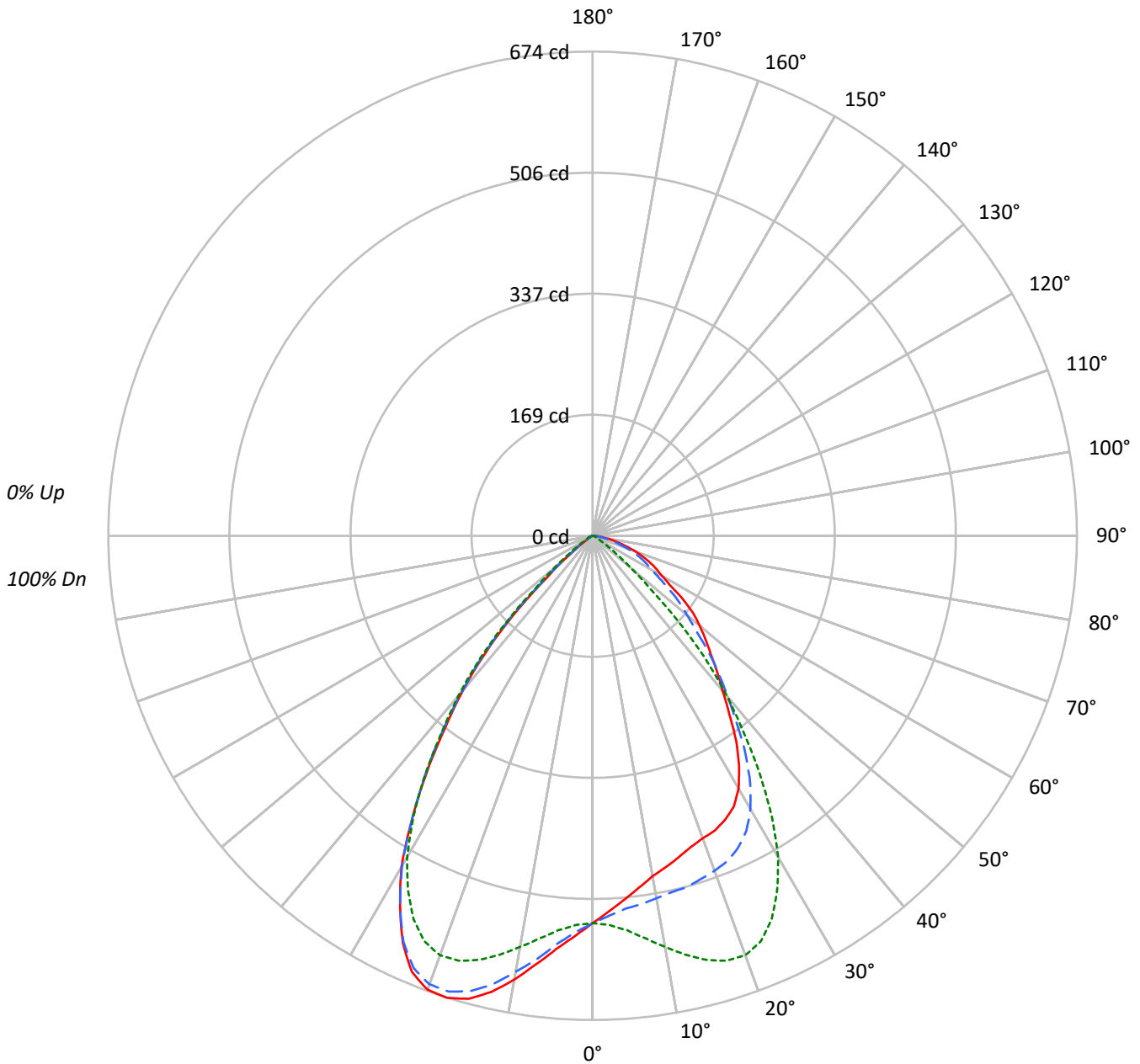
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	109	106	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90																			
2	105	99	94	89	102	97	92	88	94	90	86	91	87	85	88	85	83	81																			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73																			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65																			
5	86	75	68	63	84	74	68	63	72	67	62	71	66	62	69	65	61	59																			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54																			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49																			
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45																			
9	67	55	48	43	65	55	48	43	54	47	43	53	47	43	52	47	43	41																			
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52559	52559	52559
5°	49717	53934	56477
10°	47620	57526	62079
15°	46735	61678	67328
20°	46484	64437	69726
25°	46906	63369	67240
30°	45712	58091	59902
35°	41427	48327	47970
40°	35762	36907	35762
45°	31990	23306	21515
50°	29429	10310	7581
55°	25844	4418	2209
60°	21655	1949	585
65°	20293	1614	461
70°	17952	1140	570
75°	13932	753	377
80°	10664	561	561
85°	8946	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	5.5
10°-20°	165.0	17.1
20°-30°	252.5	26.2
30°-40°	241.5	25.1
40°-50°	144.2	15.0
50°-60°	58.4	6.1
60°-70°	31.0	3.2
70°-80°	13.8	1.4
80°-90°	2.9	0.3
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°	470.2	48.9
0°-40°	711.7	74.0
0°-60°	914.3	95.0
0°-90°	962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	962.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	539	539	539	539	539	
5°	508	521	551	570	577	48
15°	463	506	611	656	667	131
25°	436	479	589	623	625	200
35°	348	371	406	406	403	216
45°	232	227	169	163	156	181
55°	152	130	26	14	13	136
65°	88	74	7	2	2	87
75°	37	29	2	1	1	41
85°	8	6	0	0	0	9
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°	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3
2.5°	523.2	524.2	524.2	525.2	524.2	526.2	525.2	528.2	527.2	528.2	529.3
5°	508.2	508.2	508.2	510.2	510.2	512.2	512.2	514.2	517.2	519.2	521.2
7.5°	494.2	493.2	495.2	495.2	497.2	499.2	501.2	505.2	508.2	512.2	517.2
10°	481.2	481.2	483.2	485.2	486.2	489.2	491.2	495.2	499.2	506.2	512.2
12.5°	472.2	471.2	473.2	475.2	478.2	480.2	482.2	488.2	493.2	501.2	508.2
15°	463.2	463.2	465.2	467.2	470.2	473.2	475.2	482.2	488.2	497.2	506.2
17.5°	454.2	454.2	456.2	459.2	462.2	465.2	467.2	474.2	482.2	492.2	501.2
20°	448.2	447.2	450.2	452.2	456.2	460.2	462.2	469.2	476.2	486.2	496.2
22.5°	444.2	443.2	445.2	447.2	451.2	455.2	457.2	463.2	471.2	479.2	490.2
25°	436.2	436.2	438.2	440.2	444.2	447.2	449.2	455.2	462.2	470.2	479.2
27.5°	425.2	424.2	426.2	427.2	431.2	434.2	436.2	441.2	448.2	453.2	463.2
30°	406.2	406.2	406.2	408.2	410.2	414.2	415.2	420.2	425.2	432.2	439.2
32.5°	379.2	380.2	380.2	382.2	384.2	387.2	388.2	392.2	397.2	401.2	408.2
35°	348.2	346.2	347.2	348.2	351.2	353.2	353.2	358.2	359.2	364.2	371.2
37.5°	312.1	313.1	313.1	314.1	317.1	317.1	320.2	321.2	324.2	327.2	330.2
40°	281.1	282.1	283.1	283.1	285.1	285.1	286.1	288.1	289.1	292.1	292.1
42.5°	256.1	254.1	255.1	254.1	256.1	257.1	258.1	258.1	259.1	259.1	259.1
45°	232.1	232.1	232.1	232.1	232.1	232.1	233.1	234.1	232.1	230.1	227.1
47.5°	213.1	213.1	212.1	212.1	211.1	211.1	210.1	207.1	204.1	200.1	194.1
50°	194.1	194.1	194.1	192.1	192.1	190.1	190.1	187.1	183.1	178.1	171.1
52.5°	176.1	175.1	176.1	174.1	172.1	172.1	171.1	168.1	164.1	158.1	152.1
55°	152.1	152.1	151.1	149.1	148.1	148.1	148.1	145.1	141.1	137.1	130.1
57.5°	127.1	127.1	127.1	125.1	124.1	124.1	123.1	122.1	119.1	115.1	110.1
60°	111.1	111.1	111.1	110.1	108.1	108.1	107.1	105.0	103.0	99.0	95.0
62.5°	100.0	99.0	99.0	99.0	97.0	97.0	97.0	95.0	92.0	89.0	85.0
65°	88.0	88.0	88.0	87.0	86.0	86.0	85.0	84.0	81.0	79.0	74.0
67.5°	75.0	76.0	75.0	74.0	73.0	74.0	73.0	71.0	69.0	67.0	63.0
70°	63.0	62.0	62.0	61.0	61.0	60.0	60.0	58.0	56.0	54.0	51.0
72.5°	49.0	49.0	49.0	48.0	47.0	47.0	46.0	46.0	44.0	41.0	39.0
75°	37.0	37.0	37.0	36.0	36.0	35.0	34.0	34.0	33.0	31.0	29.0
77.5°	27.0	27.0	27.0	26.0	26.0	25.0	25.0	24.0	23.0	22.0	20.0
80°	19.0	19.0	19.0	18.0	18.0	18.0	17.0	17.0	16.0	15.0	13.0
82.5°	13.0	13.0	13.0	13.0	12.0	12.0	12.0	11.0	11.0	10.0	9.0
85°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0
87.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0
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°	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3
2.5°	529.3	532.3	532.3	534.3	535.3	536.3	536.3	539.3	540.3	542.3	542.3
5°	524.2	527.2	531.3	535.3	535.3	538.3	540.3	544.3	547.3	551.3	554.3
7.5°	521.2	526.2	532.3	537.3	540.3	543.3	548.3	553.3	558.3	565.3	569.3
10°	519.2	526.2	534.3	542.3	546.3	550.3	558.3	563.3	572.3	581.3	586.3
12.5°	517.2	526.2	537.3	547.3	552.3	558.3	569.3	576.3	587.3	597.3	605.3
15°	516.2	526.2	539.3	552.3	558.3	564.3	578.3	588.3	599.3	611.3	621.3
17.5°	512.2	526.2	540.3	556.3	562.3	569.3	583.3	595.3	607.3	620.3	629.3
20°	509.2	522.2	539.3	555.3	563.3	569.3	585.3	597.3	609.3	621.3	631.3
22.5°	503.2	515.2	532.3	548.3	555.3	561.3	576.3	589.3	599.3	611.3	618.3
25°	492.2	505.2	519.2	534.3	540.3	545.3	557.3	569.3	578.3	589.3	597.3
27.5°	474.2	485.2	499.2	510.2	517.2	519.2	529.3	540.3	547.3	556.3	561.3
30°	448.2	457.2	467.2	478.2	484.2	484.2	493.2	502.2	507.2	516.2	519.2
32.5°	414.2	421.2	430.2	436.2	439.2	441.2	447.2	453.2	458.2	464.2	466.2
35°	375.2	382.2	385.2	391.2	390.2	392.2	396.2	399.2	404.2	406.2	408.2
37.5°	332.2	336.2	339.2	339.2	341.2	338.2	341.2	341.2	344.2	345.2	350.2
40°	292.1	293.1	291.1	291.1	291.1	288.1	288.1	287.1	287.1	290.1	288.1
42.5°	257.1	253.1	248.1	244.1	241.1	237.1	234.1	233.1	230.1	232.1	230.1
45°	223.1	215.1	206.1	196.1	191.1	186.1	179.1	174.1	171.1	169.1	169.1
47.5°	187.1	176.1	163.1	148.1	140.1	133.1	124.1	114.1	110.1	106.1	102.0
50°	161.1	149.1	134.1	117.1	109.1	101.0	88.0	79.0	72.0	68.0	65.0
52.5°	142.1	128.1	113.1	95.0	86.0	78.0	64.0	55.0	47.0	42.0	39.0
55°	122.1	110.1	95.0	78.0	69.0	60.0	47.0	37.0	30.0	26.0	23.0
57.5°	103.0	93.0	79.0	62.0	53.0	46.0	34.0	25.0	19.0	15.0	13.0
60°	88.0	79.0	67.0	52.0	44.0	37.0	26.0	19.0	13.0	10.0	8.0
62.5°	79.0	70.0	58.0	45.0	39.0	33.0	22.0	16.0	11.0	8.0	6.0
65°	69.0	60.0	50.0	38.0	33.0	28.0	19.0	13.0	9.0	7.0	5.0
67.5°	57.0	50.0	41.0	32.0	27.0	23.0	16.0	11.0	7.0	6.0	4.0
70°	46.0	40.0	33.0	25.0	21.0	18.0	12.0	8.0	6.0	4.0	3.0
72.5°	35.0	30.0	25.0	19.0	16.0	14.0	9.0	6.0	5.0	3.0	2.0
75°	26.0	22.0	17.0	13.0	12.0	10.0	7.0	5.0	3.0	2.0	2.0
77.5°	18.0	15.0	12.0	9.0	8.0	7.0	5.0	3.0	2.0	2.0	1.0
80°	12.0	10.0	8.0	6.0	5.0	5.0	3.0	2.0	2.0	1.0	1.0
82.5°	8.0	6.0	5.0	4.0	3.0	3.0	2.0	1.0	1.0	1.0	1.0
85°	5.0	4.0	3.0	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
87.5°	3.0	2.0	1.0	1.0	1.0	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3
2.5°	544.3	545.3	547.3	547.3	548.3	548.3	550.3	552.3	552.3	553.3	554.3
5°	555.3	559.3	560.3	561.3	564.3	564.3	566.3	569.3	570.3	571.3	571.3
7.5°	573.3	576.3	579.3	581.3	583.3	585.3	589.3	592.3	594.3	594.3	595.3
10°	591.3	596.3	602.3	604.3	606.3	608.3	613.3	614.3	616.3	617.3	619.3
12.5°	612.3	617.3	623.3	625.3	628.3	631.3	635.3	636.3	639.3	641.3	642.3
15°	628.3	634.3	640.3	642.3	645.3	648.3	652.3	653.3	656.3	657.3	660.3
17.5°	637.3	643.3	649.3	652.3	654.3	657.3	663.3	663.3	665.3	666.3	668.3
20°	636.3	644.3	650.3	652.3	655.3	658.3	662.3	663.3	664.3	666.3	667.3
22.5°	626.3	633.3	636.3	639.3	642.3	643.3	648.3	649.3	651.3	651.3	653.3
25°	602.3	607.3	612.3	613.3	617.3	618.3	619.3	619.3	623.3	622.3	624.3
27.5°	567.3	571.3	574.3	575.3	577.3	577.3	579.3	578.3	580.3	579.3	582.3
30°	522.2	526.2	528.2	529.3	529.3	529.3	530.3	529.3	530.3	527.2	527.2
32.5°	468.2	472.2	471.2	472.2	474.2	472.2	472.2	467.2	468.2	469.2	469.2
35°	409.2	410.2	415.2	413.2	412.2	409.2	409.2	408.2	406.2	404.2	403.2
37.5°	349.2	351.2	350.2	348.2	348.2	349.2	346.2	346.2	343.2	342.2	342.2
40°	289.1	290.1	286.1	287.1	288.1	287.1	286.1	286.1	282.1	281.1	281.1
42.5°	230.1	227.1	228.1	229.1	227.1	228.1	229.1	227.1	225.1	223.1	224.1
45°	169.1	164.1	164.1	163.1	164.1	164.1	165.1	164.1	163.1	159.1	161.1
47.5°	102.0	99.0	97.0	97.0	97.0	96.0	94.0	96.0	95.0	93.0	94.0
50°	63.0	59.0	59.0	57.0	56.0	57.0	55.0	54.0	53.0	51.0	52.0
52.5°	37.0	35.0	33.0	33.0	32.0	31.0	31.0	29.0	29.0	29.0	29.0
55°	20.0	18.0	16.0	15.0	15.0	14.0	14.0	14.0	14.0	13.0	13.0
57.5°	11.0	10.0	8.0	7.0	6.0	6.0	5.0	5.0	5.0	4.0	5.0
60°	6.0	5.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
62.5°	5.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
65°	4.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
67.5°	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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: LD4B10DE010W2N2765 EU4B1020W2N902765 4LBSW0LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3
2.5°	553.3	555.3	556.3	555.3	556.3	556.3	556.3	557.3
5°	574.3	575.3	576.3	574.3	576.3	576.3	576.3	577.3
7.5°	596.3	598.3	599.3	599.3	599.3	600.3	600.3	601.3
10°	622.3	622.3	623.3	623.3	624.3	625.3	623.3	627.3
12.5°	644.3	646.3	646.3	646.3	647.3	647.3	647.3	650.3
15°	661.3	662.3	663.3	663.3	663.3	666.3	665.3	667.3
17.5°	670.3	672.3	672.3	671.3	673.3	674.3	673.3	674.3
20°	668.3	670.3	669.3	669.3	670.3	671.3	670.3	672.3
22.5°	654.3	654.3	654.3	652.3	655.3	655.3	653.3	657.3
25°	623.3	625.3	624.3	622.3	622.3	623.3	621.3	625.3
27.5°	582.3	582.3	580.3	580.3	578.3	579.3	580.3	580.3
30°	529.3	528.2	528.2	526.2	528.2	527.2	527.2	532.3
32.5°	466.2	467.2	466.2	465.2	467.2	467.2	467.2	468.2
35°	406.2	405.2	403.2	402.2	404.2	401.2	402.2	403.2
37.5°	341.2	339.2	339.2	337.2	339.2	337.2	336.2	337.2
40°	281.1	280.1	280.1	279.1	279.1	280.1	278.1	281.1
42.5°	222.1	220.1	221.1	221.1	219.1	219.1	219.1	220.1
45°	162.1	160.1	161.1	160.1	158.1	157.1	157.1	156.1
47.5°	92.0	92.0	90.0	92.0	92.0	91.0	89.0	87.0
50°	52.0	52.0	51.0	51.0	51.0	50.0	50.0	50.0
52.5°	28.0	28.0	28.0	28.0	27.0	28.0	28.0	28.0
55°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
57.5°	4.0	5.0	5.0	4.0	5.0	4.0	5.0	4.0
60°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
62.5°	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0
65°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
67.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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)