

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: P251685

Luminaire Tested: **LD4B15D010 EU4B10209730 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251685
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: LD4B15D010 EU4B10209730 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 903.0 lumens
Efficiency: N/A
Efficacy: 62.8 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

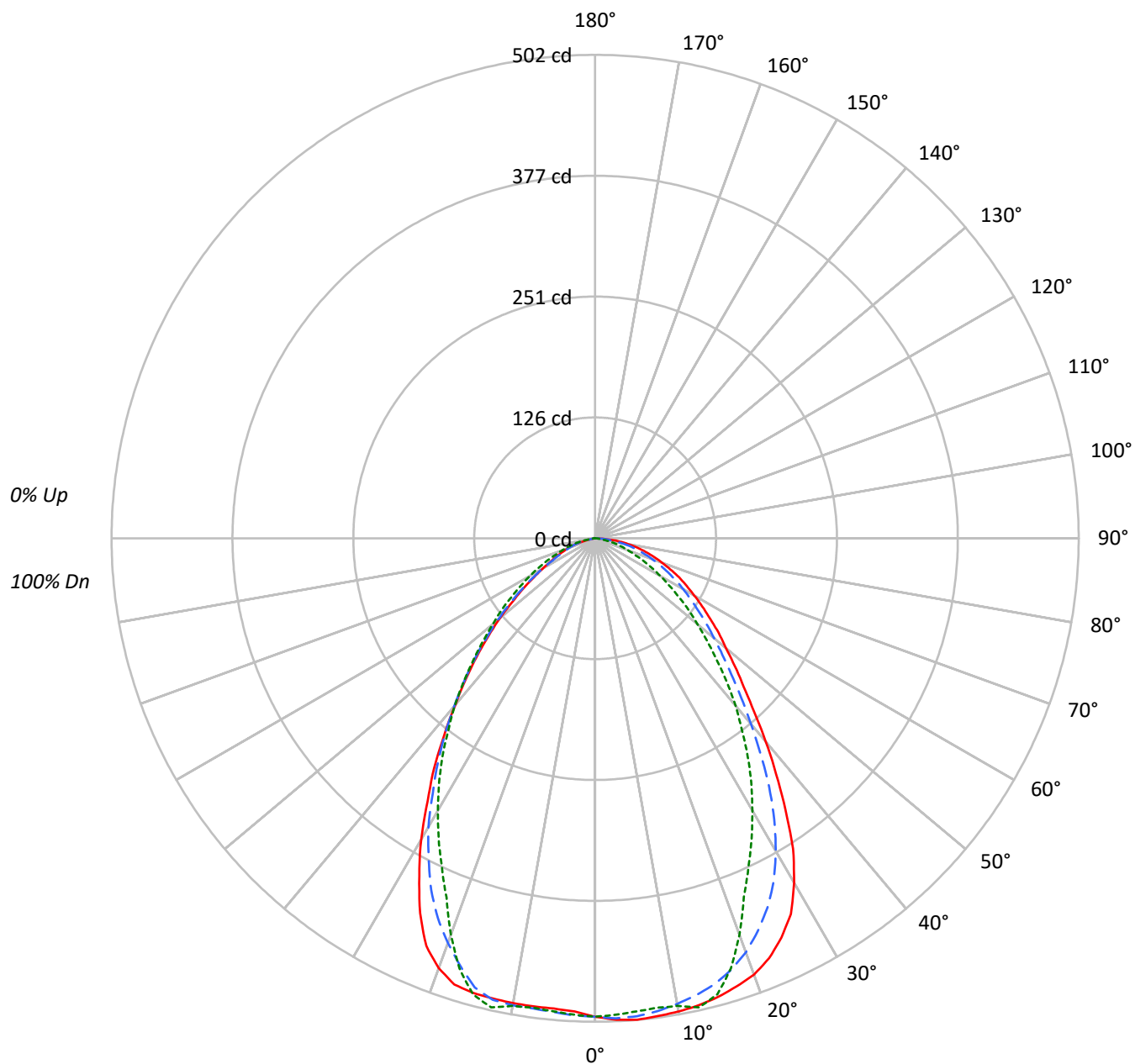
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	111	107	103	100	108	105	102	99		101	98	96			97	95	93			93
2	103	96	90	85	100	94	89	84		90	86	82			87	84	80			84
3	95	86	79	74	93	84	78	73		82	76	72			79	74	70			77
4	88	78	70	64	86	76	69	64		74	68	63			72	67	62			70
5	82	71	63	57	80	70	62	57		68	61	56			66	60	56			64
6	76	65	57	51	75	64	56	51		62	55	50			60	54	50			59
7	71	59	51	46	70	59	51	46		57	50	46			56	50	45			54
8	67	55	47	42	65	54	47	42		53	46	41			52	46	41			51
9	63	51	43	38	62	50	43	38		49	43	38			48	42	38			47
10	59	47	40	35	58	47	40	35		46	39	35			45	39	35			44

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	48417	48417	48417
5°	49101	48240	47956
10°	49382	48798	48511
15°	49752	49459	49318
20°	50010	45405	49253
25°	49186	40497	46218
30°	46477	36720	40659
35°	40987	32849	34669
40°	35024	28816	28727
45°	30019	24602	23996
50°	26836	20984	19544
55°	24756	17943	15479
60°	23137	15184	12202
65°	22184	12591	10077
70°	20972	10173	8520
75°	20296	8246	6025
80°	19643	4490	1628
85°	17109	2460	783



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.2	5.2
10°-20°	135.8	15.0
20°-30°	188.3	20.9
30°-40°	185.9	20.6
40°-50°	145.8	16.1
50°-60°	101.0	11.2
60°-70°	61.9	6.9
70°-80°	30.9	3.4
80°-90°	6.2	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°	371.3	41.1
0°-40°	557.2	61.7
0°-60°	804.0	89.0
0°-90°	903.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	903.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	497	497	497	497	497	
5°	502	498	493	494	490	48
15°	493	479	490	483	489	139
25°	457	423	377	403	430	209
35°	344	315	276	285	291	215
45°	218	200	178	176	174	170
55°	146	130	106	94	91	131
65°	96	83	55	41	44	95
75°	54	45	22	17	16	57
85°	15	9	2	1	1	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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	500.4	499.0	498.2	500.4	499.7	501.1	500.4	499.7	498.2	499.0	499.0
5°	501.9	499.7	499.0	500.4	500.4	501.9	501.1	499.7	498.2	499.0	498.2
7.5°	500.4	499.0	499.0	499.7	499.0	500.4	499.0	497.5	496.0	496.8	495.3
10°	499.0	496.8	496.8	496.8	496.8	498.2	496.8	494.6	492.4	492.4	490.9
12.5°	496.8	494.6	494.6	495.3	493.9	495.3	493.9	490.2	488.0	487.3	485.8
15°	493.1	490.9	490.9	490.9	489.5	490.2	488.0	484.4	481.5	481.5	479.3
17.5°	488.0	485.8	485.1	485.1	482.9	483.7	481.5	477.8	473.5	472.0	469.8
20°	482.2	479.3	477.8	477.8	475.7	476.4	473.5	469.1	463.3	461.1	457.4
22.5°	472.0	470.6	468.4	467.6	465.5	464.7	461.8	456.0	450.9	447.2	441.4
25°	457.4	456.7	454.5	453.8	450.9	449.4	446.5	440.0	434.9	429.0	423.2
27.5°	440.0	437.0	435.6	433.4	430.5	429.8	426.1	420.3	412.3	408.6	401.4
30°	413.0	411.6	410.1	407.9	405.0	403.5	401.4	394.8	388.2	381.7	375.1
32.5°	382.4	379.5	377.3	378.0	374.4	372.9	369.3	363.5	357.6	353.3	346.0
35°	344.5	343.8	343.1	341.6	338.7	338.0	335.1	330.7	324.1	319.0	314.7
37.5°	308.8	306.7	305.2	305.2	302.3	302.3	300.1	295.0	291.4	287.7	281.9
40°	275.3	271.7	271.7	271.7	268.8	269.5	268.1	263.0	259.3	254.9	251.3
42.5°	244.0	242.6	241.8	240.4	238.9	238.9	237.5	234.5	230.9	228.0	224.4
45°	217.8	217.1	216.3	215.6	214.2	213.4	212.7	208.3	206.1	203.2	199.6
47.5°	196.7	195.2	194.5	193.8	192.3	191.6	190.1	187.2	185.0	182.1	179.2
50°	177.0	176.3	175.5	175.5	174.1	173.4	171.9	169.7	166.1	164.6	161.0
52.5°	161.7	160.3	158.8	158.8	157.3	157.3	155.2	153.0	149.3	147.9	145.0
55°	145.7	145.0	144.2	144.2	142.8	142.0	141.3	138.4	135.5	133.3	130.4
57.5°	131.8	131.1	130.4	130.4	128.9	128.2	127.5	125.3	122.4	120.9	117.3
60°	118.7	118.7	118.0	117.3	116.5	115.8	115.1	112.9	110.7	108.5	105.6
62.5°	107.1	106.3	105.6	104.9	104.9	104.2	103.4	100.5	99.1	96.9	94.0
65°	96.2	94.7	94.7	94.0	94.0	93.2	92.5	89.6	88.1	86.0	83.0
67.5°	84.5	83.8	83.0	83.0	82.3	82.3	81.6	79.4	77.2	75.8	72.8
70°	73.6	73.6	72.8	72.8	72.1	71.4	71.4	69.9	67.7	65.6	62.6
72.5°	64.1	63.4	62.6	62.6	61.9	61.9	61.2	59.7	58.3	56.8	53.2
75°	53.9	53.2	53.2	53.2	52.4	52.4	51.7	50.3	48.8	47.3	45.2
77.5°	44.4	44.4	43.7	43.7	43.0	43.0	43.0	41.5	40.1	38.6	35.7
80°	35.0	35.0	35.0	34.2	33.5	33.5	33.5	32.1	30.6	29.1	27.0
82.5°	25.5	24.8	24.8	24.0	23.3	23.3	23.3	21.9	21.1	18.9	17.5
85°	15.3	14.6	14.6	13.8	13.1	13.1	13.1	12.4	10.9	10.2	8.7
87.5°	5.8	5.8	5.8	5.8	5.8	5.1	5.1	4.4	4.4	3.6	3.6
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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	499.0	498.2	498.2	497.5	498.2	496.8	496.8	496.8	496.8	495.3	495.3
5°	497.5	497.5	496.8	496.0	496.8	495.3	496.0	495.3	495.3	493.1	493.1
7.5°	494.6	493.9	492.4	491.7	492.4	491.7	491.7	491.7	493.1	491.7	491.7
10°	489.5	488.8	487.3	486.6	486.6	485.8	487.3	488.8	491.7	493.1	496.0
12.5°	484.4	482.9	482.2	482.2	482.9	482.9	485.8	489.5	496.8	499.0	501.9
15°	477.8	477.1	477.1	479.3	482.2	484.4	490.2	492.4	493.1	490.2	488.8
17.5°	469.1	469.1	469.8	472.0	474.2	474.2	474.9	473.5	472.0	468.4	464.0
20°	454.5	453.8	452.3	452.3	452.3	449.4	450.9	445.8	442.1	437.8	431.2
22.5°	436.3	432.7	427.6	423.9	421.7	420.3	416.7	410.8	406.5	403.5	400.6
25°	416.7	410.8	403.5	397.7	394.1	393.3	388.2	383.1	380.2	376.6	375.1
27.5°	394.1	387.5	378.8	372.9	370.0	367.8	363.5	358.4	354.7	351.8	349.6
30°	367.8	361.3	354.0	346.7	343.8	340.2	335.8	332.2	328.5	326.3	324.9
32.5°	338.7	332.2	324.9	319.8	316.1	313.2	309.6	305.9	303.0	301.6	300.1
35°	308.8	302.3	296.5	291.4	288.5	286.3	283.4	279.0	276.8	276.1	274.6
37.5°	276.8	272.4	267.3	263.0	260.8	257.9	256.4	252.8	252.8	249.8	249.8
40°	246.9	244.0	238.9	235.3	233.8	231.6	229.4	228.0	227.3	226.5	225.8
42.5°	220.7	216.3	213.4	210.5	208.3	206.9	206.9	204.7	204.0	201.8	201.0
45°	196.7	194.5	189.4	187.2	186.5	184.3	183.6	182.1	179.9	178.5	177.7
47.5°	175.5	173.4	170.4	167.5	166.1	164.6	163.2	161.0	159.5	157.3	156.6
50°	158.1	154.4	151.5	149.3	147.1	146.4	145.0	142.0	140.6	138.4	138.4
52.5°	142.0	139.1	135.5	133.3	131.1	129.7	127.5	125.3	123.1	122.4	120.2
55°	128.2	124.6	120.9	118.0	115.8	113.6	112.9	110.0	107.1	105.6	104.2
57.5°	115.1	111.4	107.1	103.4	102.0	100.5	98.3	95.4	93.2	91.1	89.6
60°	102.0	99.1	94.7	91.1	89.6	87.4	85.2	82.3	80.1	77.9	76.5
62.5°	91.1	86.7	83.0	79.4	77.2	75.8	72.8	70.7	67.7	65.6	63.4
65°	80.1	75.8	72.1	68.5	67.0	64.8	62.6	59.7	56.8	54.6	51.7
67.5°	69.2	65.6	61.9	58.3	56.8	55.4	52.4	49.5	46.6	44.4	41.5
70°	59.7	56.1	52.4	49.5	48.1	46.6	43.7	40.8	38.6	35.7	33.5
72.5°	51.0	48.1	44.4	41.5	40.1	38.6	35.7	33.5	30.6	29.1	27.0
75°	42.2	39.3	36.4	33.5	32.1	30.6	28.4	26.2	24.0	21.9	20.4
77.5°	33.5	30.6	27.7	25.5	24.0	23.3	21.1	18.9	16.8	15.3	13.1
80°	24.8	21.9	19.7	17.5	16.0	15.3	13.1	11.7	10.2	8.0	7.3
82.5°	15.3	13.1	11.7	10.2	9.5	8.7	7.3	5.8	5.1	4.4	3.6
85°	8.0	7.3	5.8	5.1	4.4	4.4	3.6	2.9	2.2	2.2	1.5
87.5°	2.9	2.2	2.2	1.5	1.5	1.5	1.5	0.7	0.7	0.7	0.7
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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	493.9	494.6	495.3	496.0	495.3	495.3	496.8	493.9	496.0	496.0	493.1
5°	492.4	493.9	493.1	494.6	493.1	493.1	493.9	492.4	493.9	493.9	491.7
7.5°	490.9	492.4	492.4	493.1	492.4	492.4	493.1	490.9	492.4	492.4	490.2
10°	497.5	499.0	498.2	497.5	495.3	493.9	494.6	490.9	492.4	492.4	490.2
12.5°	499.7	499.0	496.0	494.6	493.1	491.7	492.4	489.5	490.9	490.9	489.5
15°	485.1	483.7	481.5	482.2	480.8	480.0	481.5	480.0	482.9	484.4	482.9
17.5°	460.4	459.6	458.2	458.2	458.2	458.9	461.1	461.1	465.5	468.4	469.8
20°	428.3	427.6	428.3	429.8	430.5	433.4	438.5	441.4	447.2	452.3	456.0
22.5°	399.2	400.6	402.8	405.7	406.5	410.1	416.7	419.6	426.8	432.7	436.3
25°	374.4	376.6	378.0	380.2	381.0	385.3	391.2	394.8	402.8	407.2	411.6
27.5°	349.6	352.6	353.3	356.2	356.2	360.6	365.7	369.3	374.4	378.8	382.4
30°	325.6	326.3	328.5	329.2	330.7	335.1	338.0	340.2	346.0	348.2	350.4
32.5°	299.4	302.3	303.7	304.5	303.7	307.4	310.3	311.8	313.9	316.9	318.3
35°	274.6	276.1	276.8	278.3	279.0	279.7	281.2	281.9	284.8	285.5	286.3
37.5°	249.8	252.0	251.3	252.0	252.0	252.8	254.2	253.5	255.7	256.4	255.7
40°	225.1	225.1	226.5	225.8	226.5	225.8	227.3	227.3	227.3	228.0	227.3
42.5°	200.3	201.0	200.3	201.8	200.3	201.0	201.0	200.3	201.0	200.3	200.3
45°	177.7	177.7	177.7	177.7	176.3	176.3	177.7	177.0	176.3	175.5	174.8
47.5°	155.9	156.6	155.2	155.9	155.2	154.4	153.7	153.7	153.0	151.5	150.8
50°	137.7	136.2	135.5	136.2	135.5	134.8	134.0	132.6	131.8	130.4	129.7
52.5°	119.5	118.0	116.5	116.5	115.8	114.4	113.6	112.2	111.4	110.0	110.0
55°	103.4	102.0	100.5	99.8	98.3	96.9	96.2	94.7	94.0	92.5	91.1
57.5°	88.1	86.0	84.5	83.8	83.0	80.9	80.1	78.7	77.2	75.8	75.0
60°	74.3	72.1	69.9	69.2	68.5	66.3	65.6	63.4	62.6	61.2	60.5
62.5°	61.2	59.7	56.8	56.1	54.6	53.2	51.0	50.3	49.5	50.3	50.3
65°	49.5	47.3	45.2	44.4	43.0	41.5	40.8	40.1	40.8	40.8	41.5
67.5°	39.3	37.1	35.0	35.0	34.2	32.8	32.8	32.8	33.5	33.5	34.2
70°	31.3	29.9	28.4	27.7	27.7	27.0	27.7	27.7	28.4	28.4	28.4
72.5°	24.8	24.0	23.3	22.6	22.6	22.6	22.6	22.6	22.6	22.6	23.3
75°	18.9	18.2	17.5	17.5	16.8	16.8	16.8	16.8	16.8	16.8	16.0
77.5°	12.4	11.7	10.9	10.9	10.2	9.5	9.5	8.7	8.7	8.7	8.7
80°	6.6	5.8	5.1	4.4	4.4	3.6	3.6	3.6	3.6	2.9	2.9
82.5°	2.9	2.2	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5
85°	1.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	494.6	493.1	494.6	495.3	493.9	493.1	494.6	491.7
5°	493.9	491.7	492.4	493.1	491.7	490.9	492.4	490.2
7.5°	492.4	491.7	492.4	493.1	490.9	490.9	492.4	490.2
10°	492.4	490.9	491.7	493.1	491.7	491.7	493.1	490.2
12.5°	491.7	489.5	491.7	492.4	490.9	490.9	492.4	489.5
15°	486.6	486.6	487.3	488.8	488.0	488.8	490.9	488.8
17.5°	475.7	477.1	480.0	482.2	483.7	485.1	487.3	485.8
20°	462.5	464.7	468.4	470.6	473.5	474.2	477.8	474.9
22.5°	442.1	446.5	449.4	451.6	453.8	456.0	458.9	458.2
25°	417.4	420.3	422.5	424.7	427.6	429.0	430.5	429.8
27.5°	387.5	389.0	391.9	393.3	394.8	396.3	399.2	395.5
30°	354.7	355.5	356.9	359.1	359.1	360.6	362.0	361.3
32.5°	321.2	321.2	322.7	324.1	323.4	324.1	327.1	323.4
35°	288.5	287.7	289.9	290.6	290.6	289.9	292.1	291.4
37.5°	256.4	257.1	257.9	258.6	257.1	258.6	258.6	257.1
40°	227.3	226.5	228.0	228.7	228.0	228.7	228.7	225.8
42.5°	201.0	199.6	200.3	201.0	200.3	201.0	200.3	198.9
45°	175.5	174.8	174.8	175.5	174.1	174.1	174.1	174.1
47.5°	151.5	150.8	151.5	151.5	150.1	150.1	150.8	150.1
50°	129.7	128.9	128.9	128.9	128.2	128.2	128.9	128.9
52.5°	110.0	108.5	108.5	108.5	108.5	108.5	109.3	107.8
55°	90.3	90.3	90.3	90.3	91.1	91.1	91.1	91.1
57.5°	74.3	75.0	75.0	75.8	75.0	75.8	75.8	75.0
60°	61.9	61.2	61.9	61.9	62.6	62.6	62.6	62.6
62.5°	51.0	51.0	51.0	51.7	51.7	51.7	52.4	51.7
65°	42.2	42.2	43.0	43.0	43.0	43.7	43.7	43.7
67.5°	35.0	35.0	35.0	35.0	35.7	35.7	36.4	35.7
70°	29.1	29.1	29.1	29.1	29.1	29.9	29.9	29.9
72.5°	23.3	23.3	23.3	23.3	24.0	24.0	24.0	24.0
75°	16.0	16.0	16.0	16.8	16.0	16.0	16.0	16.0
77.5°	8.0	8.0	8.0	8.0	8.0	7.3	7.3	7.3
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.2	2.9
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)