

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: P251741

Luminaire Tested: **LD4B10D010 EU4B10208040 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251741
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10D010 EU4B10208040 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 851.0 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

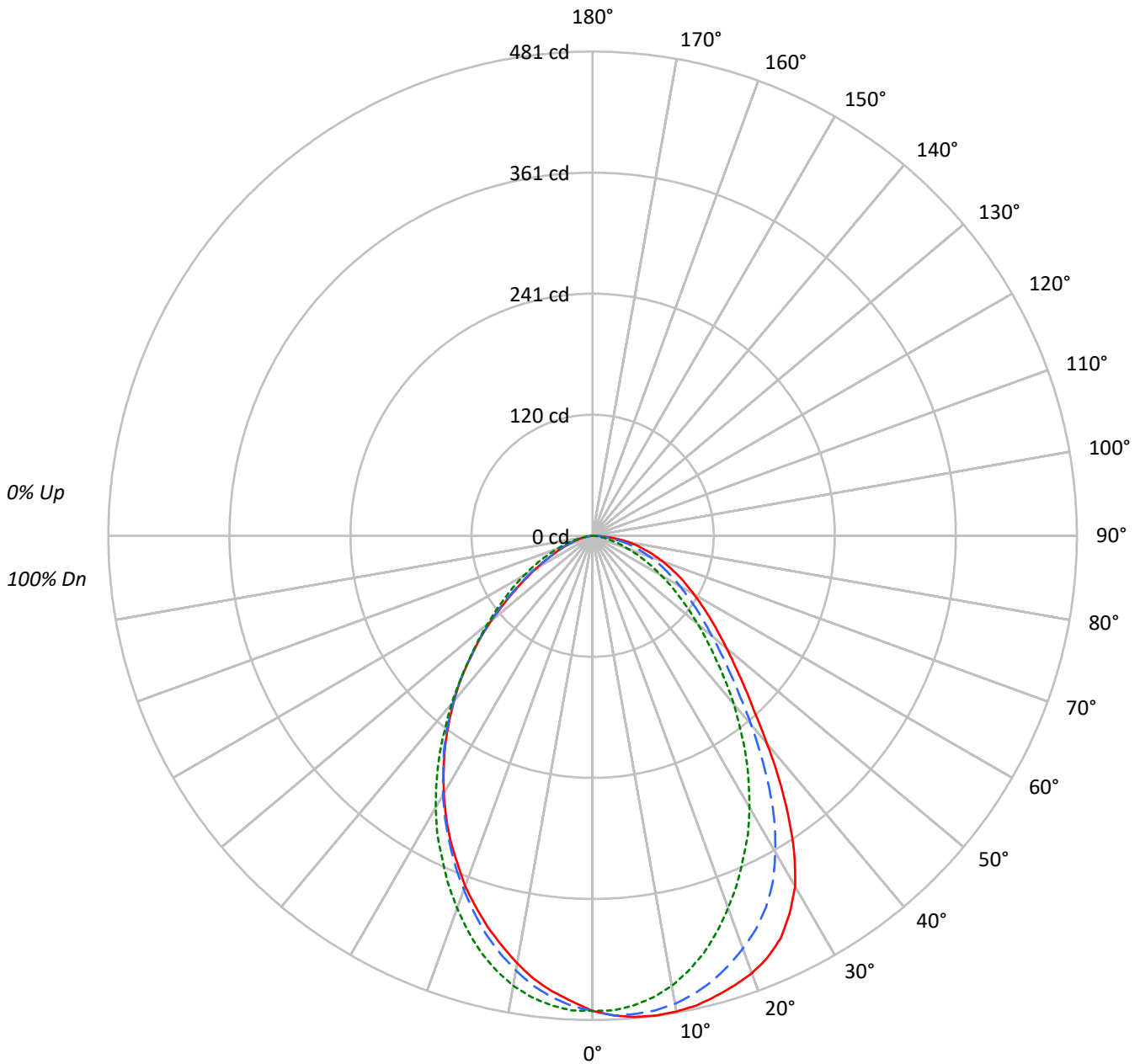
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88				88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76				76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59				59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46000	46000	46000
5°	46949	45814	44464
10°	47492	44909	42682
15°	47764	43224	40590
20°	47967	40811	38405
25°	47476	38024	35916
30°	45273	35055	33254
35°	40261	31528	30410
40°	34274	27709	27251
45°	29522	23816	23720
50°	26306	20590	19923
55°	24179	17773	15921
60°	22649	15281	12455
65°	21769	12891	9708
70°	20887	10344	7865
75°	20221	8209	6025
80°	20373	5725	3648
85°	16997	4026	1677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.2	5.2
10°-20°	121.5	14.3
20°-30°	169.9	20.0
30°-40°	174.6	20.5
40°-50°	141.7	16.7
50°-60°	99.8	11.7
60°-70°	61.4	7.2
70°-80°	30.7	3.6
80°-90°	7.3	0.9
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°	335.5	39.4
0°-40°	510.1	59.9
0°-60°	751.6	88.3
0°-90°	851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	851.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	472	472	472	472	472	
5°	480	477	468	460	454	46
15°	473	458	428	410	402	134
25°	442	407	354	336	334	202
35°	338	306	265	257	256	210
45°	214	193	173	173	172	167
55°	142	125	105	96	94	128
65°	94	79	56	43	42	93
75°	54	42	22	16	16	57
85°	15	10	4	2	2	18
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°	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0
2.5°	477.0	477.8	475.6	477.8	474.9	476.3	477.0	475.6	474.1	477.0	477.0
5°	479.9	479.9	477.8	480.7	477.0	477.8	479.2	477.0	474.9	477.8	477.0
7.5°	480.7	480.7	477.8	480.7	477.0	477.8	478.5	476.3	474.1	476.3	475.6
10°	479.9	479.2	477.0	479.9	476.3	476.3	477.0	474.9	471.2	473.4	472.0
12.5°	477.8	477.8	474.9	477.8	472.7	472.7	473.4	470.5	467.6	467.6	466.2
15°	473.4	473.4	470.5	472.7	468.3	468.3	467.6	464.7	461.1	461.1	458.2
17.5°	468.3	468.3	465.4	467.6	462.5	462.5	461.8	457.4	452.4	451.6	448.0
20°	462.5	462.5	458.9	460.3	454.5	454.5	453.8	448.7	442.9	441.5	436.4
22.5°	453.8	453.8	450.2	450.9	445.1	444.4	443.6	437.8	432.0	429.8	423.3
25°	441.5	440.7	437.8	437.8	432.0	430.6	429.1	423.3	417.5	413.1	407.3
27.5°	423.3	424.0	420.4	421.1	413.9	412.4	411.7	404.4	397.9	393.5	387.7
30°	402.3	400.1	396.4	396.4	390.6	389.9	388.5	381.9	374.7	369.6	363.0
32.5°	372.5	371.8	368.1	368.1	361.6	361.6	358.7	352.2	345.6	342.7	336.2
35°	338.4	337.6	334.7	334.7	328.9	329.6	326.7	321.7	315.1	310.8	305.7
37.5°	303.5	302.8	299.9	300.6	295.5	295.5	293.3	288.3	283.2	281.0	274.5
40°	269.4	268.7	265.0	267.2	262.8	261.4	260.7	257.0	251.2	248.3	244.7
42.5°	238.2	238.9	235.3	236.7	233.1	231.6	230.9	228.0	223.6	220.7	217.1
45°	214.2	212.7	211.3	211.3	207.7	206.9	206.2	202.6	199.7	196.8	193.1
47.5°	191.7	190.2	188.8	189.5	186.6	185.9	184.4	181.5	177.9	176.4	172.8
50°	173.5	172.8	170.6	170.6	167.7	167.0	165.5	163.4	159.7	157.6	154.7
52.5°	156.8	156.8	154.7	153.9	151.8	151.0	150.3	147.4	144.5	141.6	138.7
55°	142.3	141.6	140.1	140.1	137.2	136.5	135.8	132.9	130.0	127.8	124.9
57.5°	128.5	128.5	127.1	127.1	124.9	123.4	123.4	120.5	116.9	115.4	111.8
60°	116.2	116.2	114.7	114.7	112.5	112.5	111.1	108.2	106.0	103.1	100.2
62.5°	104.6	105.3	103.8	103.1	100.9	100.2	100.2	98.0	94.4	92.2	89.3
65°	94.4	93.7	92.9	92.2	90.0	89.3	89.3	86.4	84.2	81.3	79.1
67.5°	83.5	83.5	82.0	82.0	80.6	79.9	78.4	76.2	74.1	71.9	69.7
70°	73.3	73.3	72.6	72.6	70.4	69.7	69.0	66.8	64.6	62.4	59.5
72.5°	63.9	63.2	62.4	62.4	61.0	60.3	59.5	57.4	55.2	53.0	50.8
75°	53.7	53.7	53.0	53.0	51.6	50.8	50.8	49.4	46.5	45.0	42.1
77.5°	45.0	45.0	44.3	44.3	42.8	42.8	42.1	39.9	38.5	36.3	34.9
80°	36.3	35.6	35.6	34.9	33.4	33.4	32.7	31.9	29.8	28.3	26.1
82.5°	25.4	25.4	25.4	24.7	24.0	24.0	23.2	21.8	20.3	19.6	17.4
85°	15.2	15.2	14.5	13.8	14.5	13.8	13.1	12.3	11.6	10.9	10.2
87.5°	6.5	6.5	5.8	5.8	5.8	5.8	5.8	5.1	4.4	4.4	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°	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0
2.5°	472.7	474.9	474.1	473.4	472.0	472.0	472.0	471.2	472.0	472.0	470.5
5°	472.7	474.1	473.4	472.0	470.5	470.5	469.8	468.3	468.3	468.3	465.4
7.5°	470.5	472.0	469.8	468.3	466.9	465.4	465.4	463.2	463.2	462.5	459.6
10°	466.2	466.9	464.0	462.5	460.3	459.6	458.2	455.3	454.5	453.8	450.9
12.5°	459.6	460.3	456.7	453.8	450.9	450.2	448.7	445.1	443.6	442.2	438.6
15°	450.2	450.2	445.8	442.2	439.3	438.6	434.9	431.3	429.8	428.4	423.3
17.5°	439.3	438.6	432.7	429.1	425.5	424.0	420.4	416.0	413.1	411.7	407.3
20°	427.7	425.5	419.0	415.3	411.0	408.8	405.2	399.3	396.4	393.5	389.2
22.5°	413.9	411.0	403.7	398.6	394.3	392.1	387.0	381.9	377.6	374.7	369.6
25°	397.2	393.5	385.6	379.0	375.4	373.2	368.1	362.3	358.0	353.6	349.2
27.5°	377.6	373.2	365.2	358.7	355.1	351.4	347.8	341.3	337.6	334.0	328.9
30°	353.6	348.5	341.3	335.5	331.1	328.2	323.8	318.0	313.7	311.5	306.4
32.5°	327.5	321.7	315.1	309.3	307.1	303.5	299.9	294.1	290.4	288.3	284.6
35°	298.4	294.1	286.8	282.4	278.8	277.4	274.5	268.7	267.2	265.0	260.7
37.5°	267.9	264.3	259.2	255.6	252.7	251.2	248.3	244.7	242.5	240.3	238.2
40°	239.6	236.7	232.3	229.4	225.8	223.6	223.6	219.3	217.8	217.8	215.6
42.5°	212.0	210.6	206.9	202.6	201.9	199.7	198.9	196.8	195.3	194.6	193.9
45°	188.8	186.6	183.0	180.8	178.6	178.6	176.4	174.3	173.5	172.8	172.1
47.5°	168.5	165.5	162.6	160.5	159.0	158.3	156.1	154.7	153.9	153.9	153.2
50°	150.3	148.1	145.2	143.0	141.6	140.1	138.7	137.2	136.5	135.8	135.8
52.5°	135.1	132.1	129.2	127.1	124.9	124.2	122.7	121.3	120.5	119.8	119.1
55°	121.3	119.1	115.4	113.3	111.1	111.1	108.9	106.7	105.3	104.6	103.8
57.5°	108.2	106.0	102.4	100.2	98.7	97.3	95.8	94.4	92.9	91.5	90.0
60°	96.6	94.4	90.8	87.9	87.1	85.7	84.2	81.3	79.9	78.4	77.0
62.5°	85.7	82.8	79.9	77.0	76.2	74.8	72.6	70.4	68.3	66.8	64.6
65°	75.5	73.3	69.7	67.5	65.3	64.6	62.4	59.5	57.4	55.9	53.7
67.5°	66.1	63.2	59.5	57.4	55.9	54.5	52.3	50.1	47.9	45.7	43.6
70°	56.6	54.5	50.8	48.6	47.2	45.7	43.6	40.7	38.5	36.3	34.9
72.5°	47.9	45.0	42.1	39.9	38.5	37.0	34.9	32.7	30.5	29.0	26.9
75°	39.9	37.0	34.9	31.9	31.2	29.8	27.6	25.4	23.2	21.8	20.3
77.5°	31.9	29.8	26.9	25.4	24.0	22.5	21.1	18.9	17.4	15.2	13.8
80°	24.0	21.8	19.6	18.2	16.7	16.0	14.5	13.1	11.6	10.2	9.4
82.5°	16.0	14.5	12.3	11.6	10.9	10.2	8.7	8.0	7.3	6.5	5.8
85°	8.7	8.0	7.3	5.8	5.8	5.1	4.4	4.4	3.6	3.6	2.9
87.5°	3.6	2.9	2.9	2.2	2.2	2.2	1.5	1.5	1.5	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°	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0
2.5°	471.2	468.3	468.3	468.3	466.2	466.9	467.6	468.3	467.6	465.4	467.6
5°	466.2	463.2	463.2	461.8	460.3	460.3	460.3	461.1	460.3	458.2	458.9
7.5°	459.6	456.0	455.3	453.8	452.4	451.6	451.6	451.6	450.9	448.0	449.4
10°	449.4	445.8	444.4	443.6	441.5	440.7	440.0	439.3	438.6	435.7	437.1
12.5°	437.1	434.2	431.3	430.6	428.4	426.9	426.2	426.2	424.8	421.9	423.3
15°	422.6	418.2	416.0	414.6	412.4	411.0	409.5	410.2	409.5	406.6	407.3
17.5°	405.2	400.8	398.6	397.9	395.0	393.5	392.8	392.8	392.1	389.2	389.9
20°	386.3	381.9	380.5	379.0	377.6	376.1	375.4	374.7	373.9	371.0	373.2
22.5°	367.4	362.3	360.1	360.1	357.2	356.5	355.8	356.5	355.8	352.9	354.3
25°	347.8	342.7	341.3	339.1	337.6	336.9	336.9	336.9	336.2	334.7	336.2
27.5°	326.0	322.4	320.2	319.5	318.0	317.3	316.6	317.3	317.3	315.1	316.6
30°	304.2	301.3	299.9	299.1	297.0	296.2	297.0	297.0	297.0	294.8	297.0
32.5°	282.4	280.3	279.5	277.4	275.9	275.9	275.9	276.6	275.9	274.5	276.6
35°	260.7	257.8	257.0	256.3	256.3	254.9	256.3	255.6	257.0	254.9	256.3
37.5°	237.4	236.0	235.3	235.3	233.8	234.5	234.5	234.5	236.0	233.8	235.3
40°	215.6	214.2	214.2	214.2	213.5	213.5	213.5	214.2	214.9	213.5	214.9
42.5°	193.9	193.1	193.1	192.4	191.7	192.4	193.1	193.1	193.9	192.4	193.1
45°	172.8	172.1	172.8	172.1	172.1	171.4	172.1	172.8	172.8	172.1	172.1
47.5°	153.2	153.2	152.5	152.5	152.5	152.5	152.5	152.5	152.5	151.0	152.5
50°	135.8	134.3	135.1	134.3	134.3	133.6	133.6	132.9	132.1	131.4	131.4
52.5°	119.1	117.6	117.6	116.9	116.2	116.2	115.4	114.7	114.0	112.5	112.5
55°	103.1	101.7	100.9	100.2	99.5	98.7	98.0	97.3	95.8	95.1	95.1
57.5°	88.6	87.1	85.7	85.7	84.2	83.5	82.0	80.6	79.9	78.4	78.4
60°	75.5	74.1	71.9	71.2	70.4	69.0	66.8	66.1	65.3	63.9	64.6
62.5°	63.2	61.0	58.8	58.1	57.4	55.9	54.5	53.0	52.3	53.0	53.0
65°	51.6	49.4	47.9	46.5	45.7	44.3	43.6	42.8	42.8	42.8	43.6
67.5°	41.4	39.2	37.8	37.0	35.6	34.9	34.9	34.9	34.9	34.9	34.9
70°	32.7	31.2	29.8	28.3	28.3	27.6	27.6	27.6	27.6	27.6	27.6
72.5°	24.7	23.2	22.5	22.5	21.8	21.8	21.8	21.8	21.1	21.1	21.8
75°	18.2	17.4	16.7	16.7	16.7	16.0	16.0	16.0	16.0	16.0	16.0
77.5°	13.1	12.3	12.3	11.6	11.6	11.6	11.6	11.6	11.6	10.9	10.9
80°	8.7	8.0	8.0	8.0	8.0	7.3	7.3	7.3	7.3	7.3	7.3
82.5°	5.1	5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
85°	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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°	472.0	472.0	472.0	472.0	472.0	472.0	472.0	472.0
2.5°	463.2	466.2	466.9	464.7	465.4	464.0	464.7	463.2
5°	455.3	457.4	458.2	456.7	456.7	455.3	456.0	454.5
7.5°	445.1	447.3	448.0	446.5	446.5	445.1	445.1	444.4
10°	433.5	434.2	435.7	433.5	434.2	432.7	432.7	431.3
12.5°	419.0	420.4	421.9	419.7	419.7	419.0	419.0	416.8
15°	403.7	405.2	405.9	404.4	404.4	403.7	403.0	402.3
17.5°	387.7	388.5	389.9	387.7	389.2	387.7	387.7	386.3
20°	369.6	371.8	372.5	370.3	371.0	370.3	370.3	370.3
22.5°	352.2	353.6	354.3	352.9	353.6	352.2	352.9	351.4
25°	334.0	334.7	335.5	334.0	335.5	334.7	334.0	334.0
27.5°	315.1	315.8	316.6	315.1	316.6	315.8	316.6	315.1
30°	294.8	296.2	297.7	296.2	297.0	296.2	296.2	295.5
32.5°	274.5	275.9	277.4	275.9	277.4	275.9	276.6	275.2
35°	255.6	256.3	257.0	255.6	256.3	256.3	256.3	255.6
37.5°	234.5	236.0	236.0	235.3	236.7	236.0	236.0	234.5
40°	214.2	214.9	215.6	214.2	214.9	214.2	214.9	214.2
42.5°	193.1	194.6	195.3	193.9	193.9	193.9	193.1	193.9
45°	171.4	172.8	174.3	172.1	172.8	172.8	172.8	172.1
47.5°	151.8	151.8	152.5	151.8	152.5	151.0	152.5	151.8
50°	131.4	131.4	132.9	131.4	131.4	131.4	131.4	131.4
52.5°	111.8	112.5	112.5	111.1	111.8	111.1	111.8	111.1
55°	93.7	93.7	94.4	93.7	93.7	93.7	93.7	93.7
57.5°	77.7	78.4	78.4	77.7	78.4	77.7	77.7	77.7
60°	64.6	64.6	64.6	63.9	64.6	63.9	64.6	63.9
62.5°	52.3	53.0	53.0	52.3	53.0	52.3	52.3	52.3
65°	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.1
67.5°	34.1	34.1	34.9	34.1	34.9	34.9	34.9	34.9
70°	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
72.5°	21.1	21.1	21.8	21.1	21.1	21.1	21.1	21.1
75°	16.0	16.0	16.0	16.0	16.0	15.2	15.2	16.0
77.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	11.6
80°	7.3	7.3	7.3	7.3	6.5	6.5	7.3	6.5
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5
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)