

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: P251762

Luminaire Tested: **LD4B15D010 EU4B10209727 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251762
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: LD4B15D010 EU4B10209727 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 816.0 lumens
Efficiency: N/A
Efficacy: 56.7 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

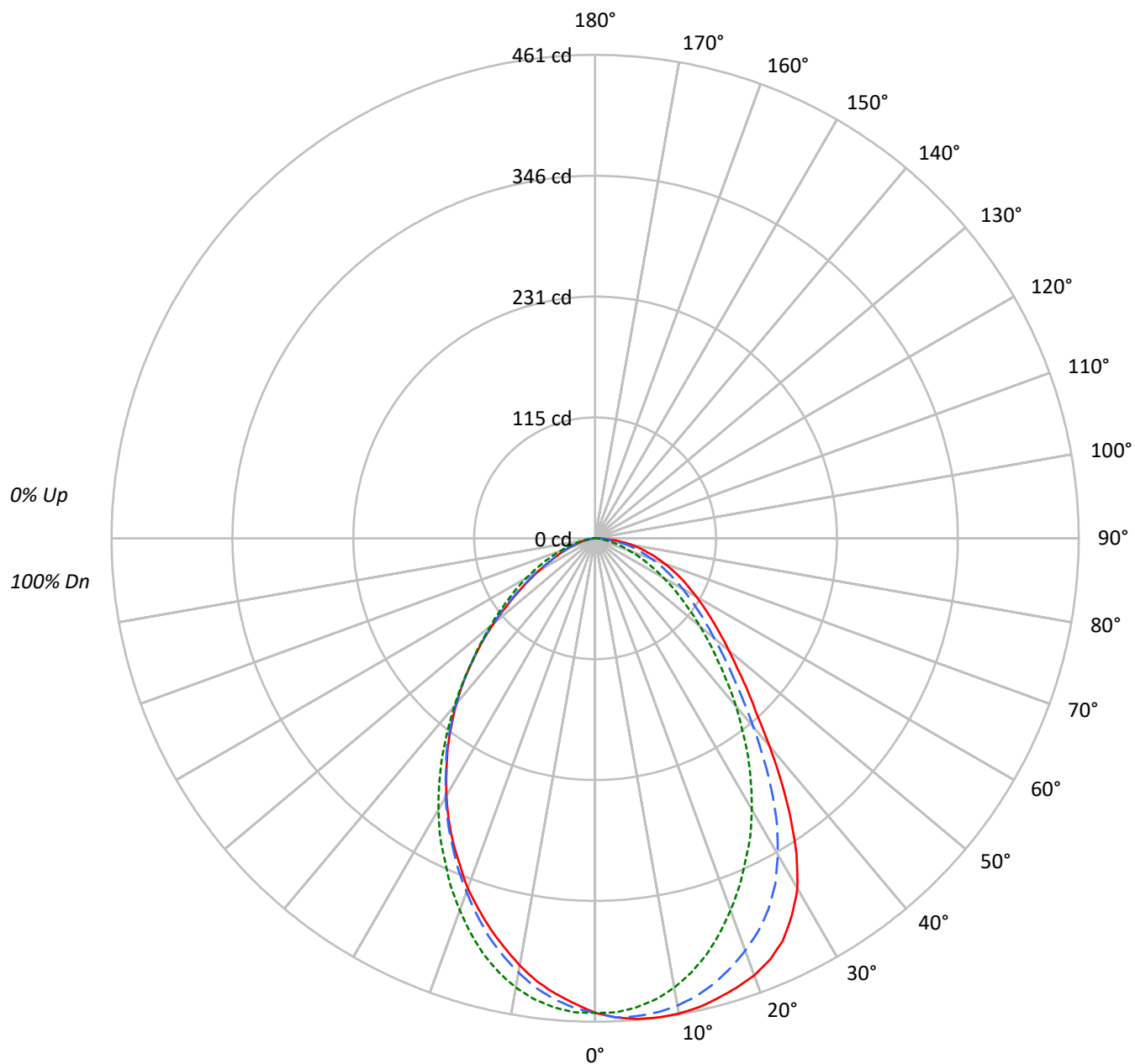
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	44100	44100	44100
5°	45022	43936	42634
10°	45542	43058	40930
15°	45797	41448	38916
20°	45997	39141	36828
25°	45519	36464	34443
30°	43405	33614	31892
35°	38595	30231	29161
40°	32862	26577	26131
45°	28310	22838	22741
50°	25229	19741	19104
55°	23193	17042	15258
60°	21714	14658	11948
65°	20870	12360	9316
70°	20032	9916	7551
75°	19392	7870	5761
80°	19531	5444	3536
85°	16326	3914	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.4	5.2
10°-20°	116.5	14.3
20°-30°	162.9	20.0
30°-40°	167.4	20.5
40°-50°	135.9	16.7
50°-60°	95.7	11.7
60°-70°	58.9	7.2
70°-80°	29.4	3.6
80°-90°	7.0	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°	321.7	39.4
0°-40°	489.1	59.9
0°-60°	720.7	88.3
0°-90°	816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	816.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	452	452	452	452	452	
5°	460	457	449	441	436	44
15°	454	439	411	393	386	128
25°	423	391	339	322	320	193
35°	324	293	254	246	245	202
45°	205	185	166	166	165	160
55°	136	120	100	92	90	123
65°	90	76	54	41	40	90
75°	52	40	21	15	15	55
85°	15	10	4	2	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°	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5
2.5°	457.4	458.1	456.0	458.1	455.3	456.7	457.4	456.0	454.6	457.4	457.4
5°	460.2	460.2	458.1	460.9	457.4	458.1	459.5	457.4	455.3	458.1	457.4
7.5°	460.9	460.9	458.1	460.9	457.4	458.1	458.8	456.7	454.6	456.7	456.0
10°	460.2	459.5	457.4	460.2	456.7	456.7	457.4	455.3	451.9	453.9	452.5
12.5°	458.1	458.1	455.3	458.1	453.2	453.2	453.9	451.2	448.4	448.4	447.0
15°	453.9	453.9	451.2	453.2	449.1	449.1	448.4	445.6	442.1	442.1	439.3
17.5°	449.1	449.1	446.3	448.4	443.5	443.5	442.8	438.6	433.7	433.1	429.6
20°	443.5	443.5	440.0	441.4	435.8	435.8	435.1	430.3	424.7	423.3	418.4
22.5°	435.1	435.1	431.7	432.4	426.8	426.1	425.4	419.8	414.3	412.2	405.9
25°	423.3	422.6	419.8	419.8	414.3	412.9	411.5	405.9	400.3	396.2	390.6
27.5°	405.9	406.6	403.1	403.8	396.8	395.5	394.8	387.8	381.5	377.4	371.8
30°	385.7	383.6	380.1	380.1	374.6	373.9	372.5	366.2	359.3	354.4	348.1
32.5°	357.2	356.5	353.0	353.0	346.7	346.7	343.9	337.7	331.4	328.6	322.4
35°	324.4	323.7	321.0	321.0	315.4	316.1	313.3	308.4	302.2	298.0	293.1
37.5°	291.0	290.3	287.5	288.2	283.4	283.4	281.3	276.4	271.5	269.4	263.2
40°	258.3	257.6	254.1	256.2	252.0	250.6	249.9	246.5	240.9	238.1	234.6
42.5°	228.4	229.1	225.6	227.0	223.5	222.1	221.4	218.6	214.4	211.7	208.2
45°	205.4	204.0	202.6	202.6	199.1	198.4	197.7	194.2	191.5	188.7	185.2
47.5°	183.8	182.4	181.0	181.7	178.9	178.2	176.8	174.1	170.6	169.2	165.7
50°	166.4	165.7	163.6	163.6	160.8	160.1	158.7	156.7	153.2	151.1	148.3
52.5°	150.4	150.4	148.3	147.6	145.5	144.8	144.1	141.3	138.5	135.8	133.0
55°	136.5	135.8	134.4	134.4	131.6	130.9	130.2	127.4	124.6	122.5	119.8
57.5°	123.2	123.2	121.8	121.8	119.8	118.4	118.4	115.6	112.1	110.7	107.2
60°	111.4	111.4	110.0	110.0	107.9	107.9	106.5	103.7	101.6	98.9	96.1
62.5°	100.3	101.0	99.6	98.9	96.8	96.1	96.1	94.0	90.5	88.4	85.6
65°	90.5	89.8	89.1	88.4	86.3	85.6	85.6	82.9	80.8	78.0	75.9
67.5°	80.1	80.1	78.7	78.7	77.3	76.6	75.2	73.1	71.0	68.9	66.8
70°	70.3	70.3	69.6	69.6	67.5	66.8	66.1	64.1	62.0	59.9	57.1
72.5°	61.3	60.6	59.9	59.9	58.5	57.8	57.1	55.0	52.9	50.8	48.7
75°	51.5	51.5	50.8	50.8	49.4	48.7	48.7	47.3	44.6	43.2	40.4
77.5°	43.2	43.2	42.5	42.5	41.1	41.1	40.4	38.3	36.9	34.8	33.4
80°	34.8	34.1	34.1	33.4	32.0	32.0	31.3	30.6	28.5	27.2	25.1
82.5°	24.4	24.4	24.4	23.7	23.0	23.0	22.3	20.9	19.5	18.8	16.7
85°	14.6	14.6	13.9	13.2	13.9	13.2	12.5	11.8	11.1	10.4	9.7
87.5°	6.3	6.3	5.6	5.6	5.6	5.6	5.6	4.9	4.2	4.2	3.5
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°	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5
2.5°	453.2	455.3	454.6	453.9	452.5	452.5	452.5	451.9	452.5	452.5	451.2
5°	453.2	454.6	453.9	452.5	451.2	451.2	450.5	449.1	449.1	449.1	446.3
7.5°	451.2	452.5	450.5	449.1	447.7	446.3	446.3	444.2	444.2	443.5	440.7
10°	447.0	447.7	444.9	443.5	441.4	440.7	439.3	436.5	435.8	435.1	432.4
12.5°	440.7	441.4	437.9	435.1	432.4	431.7	430.3	426.8	425.4	424.0	420.5
15°	431.7	431.7	427.5	424.0	421.2	420.5	417.0	413.6	412.2	410.8	405.9
17.5°	421.2	420.5	415.0	411.5	408.0	406.6	403.1	398.9	396.2	394.8	390.6
20°	410.1	408.0	401.7	398.2	394.1	392.0	388.5	382.9	380.1	377.4	373.2
22.5°	396.8	394.1	387.1	382.2	378.1	376.0	371.1	366.2	362.0	359.3	354.4
25°	380.8	377.4	369.7	363.4	359.9	357.9	353.0	347.4	343.2	339.1	334.9
27.5°	362.0	357.9	350.2	343.9	340.5	337.0	333.5	327.2	323.7	320.3	315.4
30°	339.1	334.2	327.2	321.7	317.5	314.7	310.5	304.9	300.8	298.7	293.8
32.5°	314.0	308.4	302.2	296.6	294.5	291.0	287.5	282.0	278.5	276.4	272.9
35°	286.1	282.0	275.0	270.8	267.4	266.0	263.2	257.6	256.2	254.1	249.9
37.5°	256.9	253.4	248.6	245.1	242.3	240.9	238.1	234.6	232.5	230.5	228.4
40°	229.8	227.0	222.8	220.0	216.5	214.4	214.4	210.3	208.9	208.9	206.8
42.5°	203.3	201.9	198.4	194.2	193.6	191.5	190.8	188.7	187.3	186.6	185.9
45°	181.0	178.9	175.4	173.4	171.3	171.3	169.2	167.1	166.4	165.7	165.0
47.5°	161.5	158.7	156.0	153.9	152.5	151.8	149.7	148.3	147.6	147.6	146.9
50°	144.1	142.0	139.2	137.2	135.8	134.4	133.0	131.6	130.9	130.2	130.2
52.5°	129.5	126.7	123.9	121.8	119.8	119.1	117.7	116.3	115.6	114.9	114.2
55°	116.3	114.2	110.7	108.6	106.5	106.5	104.4	102.3	101.0	100.3	99.6
57.5°	103.7	101.6	98.2	96.1	94.7	93.3	91.9	90.5	89.1	87.7	86.3
60°	92.6	90.5	87.0	84.2	83.5	82.2	80.8	78.0	76.6	75.2	73.8
62.5°	82.2	79.4	76.6	73.8	73.1	71.7	69.6	67.5	65.4	64.1	62.0
65°	72.4	70.3	66.8	64.7	62.7	62.0	59.9	57.1	55.0	53.6	51.5
67.5°	63.4	60.6	57.1	55.0	53.6	52.2	50.1	48.0	46.0	43.9	41.8
70°	54.3	52.2	48.7	46.6	45.3	43.9	41.8	39.0	36.9	34.8	33.4
72.5°	46.0	43.2	40.4	38.3	36.9	35.5	33.4	31.3	29.2	27.8	25.8
75°	38.3	35.5	33.4	30.6	29.9	28.5	26.5	24.4	22.3	20.9	19.5
77.5°	30.6	28.5	25.8	24.4	23.0	21.6	20.2	18.1	16.7	14.6	13.2
80°	23.0	20.9	18.8	17.4	16.0	15.3	13.9	12.5	11.1	9.7	9.1
82.5°	15.3	13.9	11.8	11.1	10.4	9.7	8.4	7.7	7.0	6.3	5.6
85°	8.4	7.7	7.0	5.6	5.6	4.9	4.2	4.2	3.5	3.5	2.8
87.5°	3.5	2.8	2.8	2.1	2.1	2.1	1.4	1.4	1.4	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°	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5
2.5°	451.9	449.1	449.1	449.1	447.0	447.7	448.4	449.1	448.4	446.3	448.4
5°	447.0	444.2	444.2	442.8	441.4	441.4	441.4	442.1	441.4	439.3	440.0
7.5°	440.7	437.2	436.5	435.1	433.7	433.1	433.1	433.1	432.4	429.6	431.0
10°	431.0	427.5	426.1	425.4	423.3	422.6	421.9	421.2	420.5	417.7	419.1
12.5°	419.1	416.3	413.6	412.9	410.8	409.4	408.7	408.7	407.3	404.5	405.9
15°	405.2	401.0	398.9	397.5	395.5	394.1	392.7	393.4	392.7	389.9	390.6
17.5°	388.5	384.3	382.2	381.5	378.7	377.4	376.7	376.7	376.0	373.2	373.9
20°	370.4	366.2	364.8	363.4	362.0	360.6	359.9	359.3	358.6	355.8	357.9
22.5°	352.3	347.4	345.3	345.3	342.5	341.8	341.2	341.8	341.2	338.4	339.8
25°	333.5	328.6	327.2	325.1	323.7	323.0	323.0	323.0	322.4	321.0	322.4
27.5°	312.6	309.1	307.0	306.3	304.9	304.3	303.6	304.3	304.3	302.2	303.6
30°	291.7	288.9	287.5	286.8	284.8	284.1	284.8	284.8	284.8	282.7	284.8
32.5°	270.8	268.7	268.0	266.0	264.6	264.6	264.6	265.3	264.6	263.2	265.3
35°	249.9	247.2	246.5	245.8	245.8	244.4	245.8	245.1	246.5	244.4	245.8
37.5°	227.7	226.3	225.6	225.6	224.2	224.9	224.9	224.9	226.3	224.2	225.6
40°	206.8	205.4	205.4	205.4	204.7	204.7	204.7	205.4	206.1	204.7	206.1
42.5°	185.9	185.2	185.2	184.5	183.8	184.5	185.2	185.2	185.9	184.5	185.2
45°	165.7	165.0	165.7	165.0	165.0	164.3	165.0	165.7	165.7	165.0	165.0
47.5°	146.9	146.9	146.2	146.2	146.2	146.2	146.2	146.2	146.2	144.8	146.2
50°	130.2	128.8	129.5	128.8	128.8	128.1	128.1	127.4	126.7	126.0	126.0
52.5°	114.2	112.8	112.8	112.1	111.4	111.4	110.7	110.0	109.3	107.9	107.9
55°	98.9	97.5	96.8	96.1	95.4	94.7	94.0	93.3	91.9	91.2	91.2
57.5°	84.9	83.5	82.2	82.2	80.8	80.1	78.7	77.3	76.6	75.2	75.2
60°	72.4	71.0	68.9	68.2	67.5	66.1	64.1	63.4	62.7	61.3	62.0
62.5°	60.6	58.5	56.4	55.7	55.0	53.6	52.2	50.8	50.1	50.8	50.8
65°	49.4	47.3	46.0	44.6	43.9	42.5	41.8	41.1	41.1	41.1	41.8
67.5°	39.7	37.6	36.2	35.5	34.1	33.4	33.4	33.4	33.4	33.4	33.4
70°	31.3	29.9	28.5	27.2	27.2	26.5	26.5	26.5	26.5	26.5	26.5
72.5°	23.7	22.3	21.6	21.6	20.9	20.9	20.9	20.9	20.2	20.2	20.9
75°	17.4	16.7	16.0	16.0	16.0	15.3	15.3	15.3	15.3	15.3	15.3
77.5°	12.5	11.8	11.8	11.1	11.1	11.1	11.1	11.1	11.1	10.4	10.4
80°	8.4	7.7	7.7	7.7	7.7	7.0	7.0	7.0	7.0	7.0	7.0
82.5°	4.9	4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
85°	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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°	452.5	452.5	452.5	452.5	452.5	452.5	452.5	452.5
2.5°	444.2	447.0	447.7	445.6	446.3	444.9	445.6	444.2
5°	436.5	438.6	439.3	437.9	437.9	436.5	437.2	435.8
7.5°	426.8	428.9	429.6	428.2	428.2	426.8	426.8	426.1
10°	415.6	416.3	417.7	415.6	416.3	415.0	415.0	413.6
12.5°	401.7	403.1	404.5	402.4	402.4	401.7	401.7	399.6
15°	387.1	388.5	389.2	387.8	387.8	387.1	386.4	385.7
17.5°	371.8	372.5	373.9	371.8	373.2	371.8	371.8	370.4
20°	354.4	356.5	357.2	355.1	355.8	355.1	355.1	355.1
22.5°	337.7	339.1	339.8	338.4	339.1	337.7	338.4	337.0
25°	320.3	321.0	321.7	320.3	321.7	321.0	320.3	320.3
27.5°	302.2	302.9	303.6	302.2	303.6	302.9	303.6	302.2
30°	282.7	284.1	285.5	284.1	284.8	284.1	284.1	283.4
32.5°	263.2	264.6	266.0	264.6	266.0	264.6	265.3	263.9
35°	245.1	245.8	246.5	245.1	245.8	245.8	245.8	245.1
37.5°	224.9	226.3	226.3	225.6	227.0	226.3	226.3	224.9
40°	205.4	206.1	206.8	205.4	206.1	205.4	206.1	205.4
42.5°	185.2	186.6	187.3	185.9	185.9	185.9	185.2	185.9
45°	164.3	165.7	167.1	165.0	165.7	165.7	165.7	165.0
47.5°	145.5	145.5	146.2	145.5	146.2	144.8	146.2	145.5
50°	126.0	126.0	127.4	126.0	126.0	126.0	126.0	126.0
52.5°	107.2	107.9	107.9	106.5	107.2	106.5	107.2	106.5
55°	89.8	89.8	90.5	89.8	89.8	89.8	89.8	89.8
57.5°	74.5	75.2	75.2	74.5	75.2	74.5	74.5	74.5
60°	62.0	62.0	62.0	61.3	62.0	61.3	62.0	61.3
62.5°	50.1	50.8	50.8	50.1	50.8	50.1	50.1	50.1
65°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	40.4
67.5°	32.7	32.7	33.4	32.7	33.4	33.4	33.4	33.4
70°	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
72.5°	20.2	20.2	20.9	20.2	20.2	20.2	20.2	20.2
75°	15.3	15.3	15.3	15.3	15.3	14.6	14.6	15.3
77.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	11.1
80°	7.0	7.0	7.0	7.0	6.3	6.3	7.0	6.3
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
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)