

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: P251744

Luminaire Tested: **LD4B10D010 EU4B10209027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251744
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 EU4B10209027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 674.0 lumens
Efficiency: N/A
Efficacy: 67.1 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

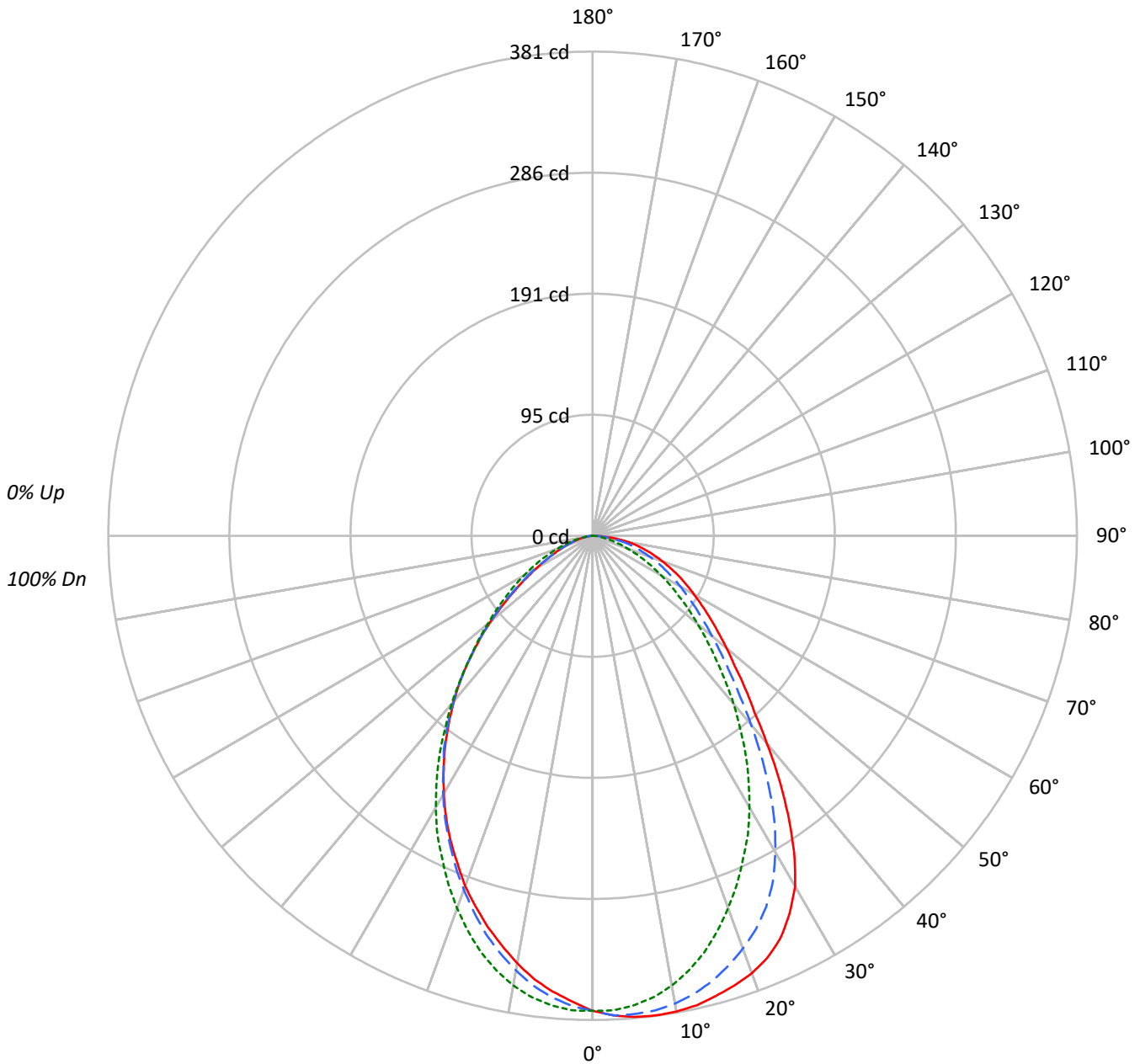
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
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	100	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88	88	88	88
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76	76	76	76
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59	59	59	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32	32	32	32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	36430	36430	36430
5°	37185	36285	35219
10°	37615	35567	33805
15°	37826	34234	32145
20°	37990	32327	30419
25°	37594	30120	28443
30°	35854	27762	26344
35°	31885	24973	24080
40°	27149	21946	21577
45°	23375	18868	18786
50°	20832	16299	15783
55°	19149	14069	12608
60°	17932	12104	9863
65°	17249	10216	7702
70°	16555	8207	6240
75°	16041	6514	4782
80°	16164	4546	2918
85°	13530	3243	1342



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.0	5.2
10°-20°	96.2	14.3
20°-30°	134.5	20.0
30°-40°	138.3	20.5
40°-50°	112.2	16.7
50°-60°	79.0	11.7
60°-70°	48.7	7.2
70°-80°	24.3	3.6
80°-90°	5.8	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°	265.7	39.4
0°-40°	404.0	59.9
0°-60°	595.3	88.3
0°-90°	674.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	674.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	374	374	374	374	374	
5°	380	378	371	365	360	36
15°	375	363	339	324	319	106
25°	350	323	280	266	264	160
35°	268	242	210	204	202	167
45°	170	153	137	137	136	132
55°	113	99	83	76	74	101
65°	75	63	44	34	33	74
75°	43	33	17	13	13	45
85°	12	8	3	2	1	14
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°	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8
2.5°	377.8	378.4	376.7	378.4	376.1	377.2	377.8	376.7	375.5	377.8	377.8
5°	380.1	380.1	378.4	380.7	377.8	378.4	379.5	377.8	376.1	378.4	377.8
7.5°	380.7	380.7	378.4	380.7	377.8	378.4	379.0	377.2	375.5	377.2	376.7
10°	380.1	379.5	377.8	380.1	377.2	377.2	377.8	376.1	373.2	374.9	373.8
12.5°	378.4	378.4	376.1	378.4	374.4	374.4	374.9	372.6	370.3	370.3	369.2
15°	374.9	374.9	372.6	374.4	370.9	370.9	370.3	368.0	365.2	365.2	362.9
17.5°	370.9	370.9	368.6	370.3	366.3	366.3	365.7	362.3	358.3	357.7	354.8
20°	366.3	366.3	363.4	364.6	360.0	360.0	359.4	355.4	350.8	349.6	345.6
22.5°	359.4	359.4	356.5	357.1	352.5	351.9	351.4	346.8	342.2	340.4	335.3
25°	349.6	349.1	346.8	346.8	342.2	341.0	339.9	335.3	330.7	327.2	322.6
27.5°	335.3	335.8	333.0	333.5	327.8	326.6	326.1	320.3	315.1	311.7	307.1
30°	318.6	316.9	314.0	314.0	309.4	308.8	307.7	302.5	296.7	292.7	287.5
32.5°	295.0	294.4	291.6	291.6	286.4	286.4	284.1	278.9	273.7	271.4	266.3
35°	268.0	267.4	265.1	265.1	260.5	261.1	258.8	254.8	249.6	246.1	242.1
37.5°	240.4	239.8	237.5	238.1	234.1	234.1	232.3	228.3	224.3	222.6	217.4
40°	213.4	212.8	209.9	211.6	208.2	207.0	206.5	203.6	199.0	196.7	193.8
42.5°	188.6	189.2	186.3	187.5	184.6	183.4	182.9	180.6	177.1	174.8	171.9
45°	169.6	168.5	167.3	167.3	164.5	163.9	163.3	160.4	158.1	155.8	153.0
47.5°	151.8	150.7	149.5	150.1	147.8	147.2	146.1	143.8	140.9	139.7	136.9
50°	137.4	136.9	135.1	135.1	132.8	132.3	131.1	129.4	126.5	124.8	122.5
52.5°	124.2	124.2	122.5	121.9	120.2	119.6	119.0	116.7	114.4	112.1	109.8
55°	112.7	112.1	111.0	111.0	108.7	108.1	107.5	105.2	102.9	101.2	98.9
57.5°	101.8	101.8	100.6	100.6	98.9	97.8	97.8	95.5	92.6	91.4	88.6
60°	92.0	92.0	90.9	90.9	89.1	89.1	88.0	85.7	84.0	81.7	79.4
62.5°	82.8	83.4	82.2	81.7	79.9	79.4	79.4	77.6	74.8	73.0	70.7
65°	74.8	74.2	73.6	73.0	71.3	70.7	70.7	68.4	66.7	64.4	62.7
67.5°	66.1	66.1	65.0	65.0	63.8	63.3	62.1	60.4	58.7	56.9	55.2
70°	58.1	58.1	57.5	57.5	55.8	55.2	54.6	52.9	51.2	49.5	47.2
72.5°	50.6	50.0	49.5	49.5	48.3	47.7	47.2	45.4	43.7	42.0	40.3
75°	42.6	42.6	42.0	42.0	40.8	40.3	40.3	39.1	36.8	35.7	33.4
77.5°	35.7	35.7	35.1	35.1	33.9	33.9	33.4	31.6	30.5	28.8	27.6
80°	28.8	28.2	28.2	27.6	26.5	26.5	25.9	25.3	23.6	22.4	20.7
82.5°	20.1	20.1	20.1	19.6	19.0	19.0	18.4	17.3	16.1	15.5	13.8
85°	12.1	12.1	11.5	10.9	11.5	10.9	10.4	9.8	9.2	8.6	8.1
87.5°	5.2	5.2	4.6	4.6	4.6	4.6	4.6	4.0	3.5	3.5	2.9
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°	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8
2.5°	374.4	376.1	375.5	374.9	373.8	373.8	373.8	373.2	373.8	373.8	372.6
5°	374.4	375.5	374.9	373.8	372.6	372.6	372.1	370.9	370.9	370.9	368.6
7.5°	372.6	373.8	372.1	370.9	369.8	368.6	368.6	366.9	366.9	366.3	364.0
10°	369.2	369.8	367.5	366.3	364.6	364.0	362.9	360.6	360.0	359.4	357.1
12.5°	364.0	364.6	361.7	359.4	357.1	356.5	355.4	352.5	351.4	350.2	347.3
15°	356.5	356.5	353.1	350.2	347.9	347.3	344.5	341.6	340.4	339.3	335.3
17.5°	347.9	347.3	342.7	339.9	337.0	335.8	333.0	329.5	327.2	326.1	322.6
20°	338.7	337.0	331.8	328.9	325.5	323.8	320.9	316.3	314.0	311.7	308.2
22.5°	327.8	325.5	319.7	315.7	312.3	310.5	306.5	302.5	299.0	296.7	292.7
25°	314.6	311.7	305.4	300.2	297.3	295.6	291.6	287.0	283.5	280.1	276.6
27.5°	299.0	295.6	289.3	284.1	281.2	278.3	275.5	270.3	267.4	264.5	260.5
30°	280.1	276.0	270.3	265.7	262.2	259.9	256.5	251.9	248.4	246.7	242.7
32.5°	259.4	254.8	249.6	245.0	243.3	240.4	237.5	232.9	230.0	228.3	225.4
35°	236.4	232.9	227.2	223.7	220.8	219.7	217.4	212.8	211.6	209.9	206.5
37.5°	212.2	209.3	205.3	202.4	200.1	199.0	196.7	193.8	192.1	190.3	188.6
40°	189.8	187.5	184.0	181.7	178.8	177.1	177.1	173.7	172.5	172.5	170.8
42.5°	167.9	166.8	163.9	160.4	159.9	158.1	157.6	155.8	154.7	154.1	153.5
45°	149.5	147.8	144.9	143.2	141.5	141.5	139.7	138.0	137.4	136.9	136.3
47.5°	133.4	131.1	128.8	127.1	125.9	125.4	123.6	122.5	121.9	121.9	121.3
50°	119.0	117.3	115.0	113.3	112.1	111.0	109.8	108.7	108.1	107.5	107.5
52.5°	107.0	104.7	102.4	100.6	98.9	98.3	97.2	96.0	95.5	94.9	94.3
55°	96.0	94.3	91.4	89.7	88.0	88.0	86.3	84.5	83.4	82.8	82.2
57.5°	85.7	84.0	81.1	79.4	78.2	77.1	75.9	74.8	73.6	72.5	71.3
60°	76.5	74.8	71.9	69.6	69.0	67.9	66.7	64.4	63.3	62.1	61.0
62.5°	67.9	65.6	63.3	61.0	60.4	59.2	57.5	55.8	54.1	52.9	51.2
65°	59.8	58.1	55.2	53.5	51.8	51.2	49.5	47.2	45.4	44.3	42.6
67.5°	52.3	50.0	47.2	45.4	44.3	43.1	41.4	39.7	38.0	36.2	34.5
70°	44.9	43.1	40.3	38.5	37.4	36.2	34.5	32.2	30.5	28.8	27.6
72.5°	38.0	35.7	33.4	31.6	30.5	29.3	27.6	25.9	24.2	23.0	21.3
75°	31.6	29.3	27.6	25.3	24.7	23.6	21.9	20.1	18.4	17.3	16.1
77.5°	25.3	23.6	21.3	20.1	19.0	17.8	16.7	15.0	13.8	12.1	10.9
80°	19.0	17.3	15.5	14.4	13.2	12.7	11.5	10.4	9.2	8.1	7.5
82.5°	12.7	11.5	9.8	9.2	8.6	8.1	6.9	6.3	5.8	5.2	4.6
85°	6.9	6.3	5.8	4.6	4.6	4.0	3.5	3.5	2.9	2.9	2.3
87.5°	2.9	2.3	2.3	1.7	1.7	1.7	1.2	1.2	1.2	0.6	0.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8
2.5°	373.2	370.9	370.9	370.9	369.2	369.8	370.3	370.9	370.3	368.6	370.3
5°	369.2	366.9	366.9	365.7	364.6	364.6	364.6	365.2	364.6	362.9	363.4
7.5°	364.0	361.1	360.6	359.4	358.3	357.7	357.7	357.7	357.1	354.8	356.0
10°	356.0	353.1	351.9	351.4	349.6	349.1	348.5	347.9	347.3	345.0	346.2
12.5°	346.2	343.9	341.6	341.0	339.3	338.1	337.6	337.6	336.4	334.1	335.3
15°	334.7	331.2	329.5	328.4	326.6	325.5	324.3	324.9	324.3	322.0	322.6
17.5°	320.9	317.4	315.7	315.1	312.8	311.7	311.1	311.1	310.5	308.2	308.8
20°	305.9	302.5	301.3	300.2	299.0	297.9	297.3	296.7	296.2	293.9	295.6
22.5°	291.0	287.0	285.2	285.2	282.9	282.4	281.8	282.4	281.8	279.5	280.6
25°	275.5	271.4	270.3	268.6	267.4	266.8	266.8	266.8	266.3	265.1	266.3
27.5°	258.2	255.3	253.6	253.0	251.9	251.3	250.7	251.3	251.3	249.6	250.7
30°	241.0	238.7	237.5	236.9	235.2	234.6	235.2	235.2	235.2	233.5	235.2
32.5°	223.7	222.0	221.4	219.7	218.5	218.5	218.5	219.1	218.5	217.4	219.1
35°	206.5	204.1	203.6	203.0	203.0	201.8	203.0	202.4	203.6	201.8	203.0
37.5°	188.0	186.9	186.3	186.3	185.2	185.7	185.7	185.7	186.9	185.2	186.3
40°	170.8	169.6	169.6	169.6	169.1	169.1	169.1	169.6	170.2	169.1	170.2
42.5°	153.5	153.0	153.0	152.4	151.8	152.4	153.0	153.0	153.5	152.4	153.0
45°	136.9	136.3	136.9	136.3	136.3	135.7	136.3	136.9	136.9	136.3	136.3
47.5°	121.3	121.3	120.8	120.8	120.8	120.8	120.8	120.8	120.8	119.6	120.8
50°	107.5	106.4	107.0	106.4	106.4	105.8	105.8	105.2	104.7	104.1	104.1
52.5°	94.3	93.2	93.2	92.6	92.0	92.0	91.4	90.9	90.3	89.1	89.1
55°	81.7	80.5	79.9	79.4	78.8	78.2	77.6	77.1	75.9	75.3	75.3
57.5°	70.2	69.0	67.9	67.9	66.7	66.1	65.0	63.8	63.3	62.1	62.1
60°	59.8	58.7	56.9	56.4	55.8	54.6	52.9	52.3	51.8	50.6	51.2
62.5°	50.0	48.3	46.6	46.0	45.4	44.3	43.1	42.0	41.4	42.0	42.0
65°	40.8	39.1	38.0	36.8	36.2	35.1	34.5	33.9	33.9	33.9	34.5
67.5°	32.8	31.1	29.9	29.3	28.2	27.6	27.6	27.6	27.6	27.6	27.6
70°	25.9	24.7	23.6	22.4	22.4	21.9	21.9	21.9	21.9	21.9	21.9
72.5°	19.6	18.4	17.8	17.8	17.3	17.3	17.3	17.3	16.7	16.7	17.3
75°	14.4	13.8	13.2	13.2	13.2	12.7	12.7	12.7	12.7	12.7	12.7
77.5°	10.4	9.8	9.8	9.2	9.2	9.2	9.2	9.2	9.2	8.6	8.6
80°	6.9	6.3	6.3	6.3	6.3	5.8	5.8	5.8	5.8	5.8	5.8
82.5°	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	2.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	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°	373.8	373.8	373.8	373.8	373.8	373.8	373.8	373.8
2.5°	366.9	369.2	369.8	368.0	368.6	367.5	368.0	366.9
5°	360.6	362.3	362.9	361.7	361.7	360.6	361.1	360.0
7.5°	352.5	354.2	354.8	353.7	353.7	352.5	352.5	351.9
10°	343.3	343.9	345.0	343.3	343.9	342.7	342.7	341.6
12.5°	331.8	333.0	334.1	332.4	332.4	331.8	331.8	330.1
15°	319.7	320.9	321.5	320.3	320.3	319.7	319.2	318.6
17.5°	307.1	307.7	308.8	307.1	308.2	307.1	307.1	305.9
20°	292.7	294.4	295.0	293.3	293.9	293.3	293.3	293.3
22.5°	278.9	280.1	280.6	279.5	280.1	278.9	279.5	278.3
25°	264.5	265.1	265.7	264.5	265.7	265.1	264.5	264.5
27.5°	249.6	250.2	250.7	249.6	250.7	250.2	250.7	249.6
30°	233.5	234.6	235.8	234.6	235.2	234.6	234.6	234.1
32.5°	217.4	218.5	219.7	218.5	219.7	218.5	219.1	218.0
35°	202.4	203.0	203.6	202.4	203.0	203.0	203.0	202.4
37.5°	185.7	186.9	186.9	186.3	187.5	186.9	186.9	185.7
40°	169.6	170.2	170.8	169.6	170.2	169.6	170.2	169.6
42.5°	153.0	154.1	154.7	153.5	153.5	153.5	153.0	153.5
45°	135.7	136.9	138.0	136.3	136.9	136.9	136.9	136.3
47.5°	120.2	120.2	120.8	120.2	120.8	119.6	120.8	120.2
50°	104.1	104.1	105.2	104.1	104.1	104.1	104.1	104.1
52.5°	88.6	89.1	89.1	88.0	88.6	88.0	88.6	88.0
55°	74.2	74.2	74.8	74.2	74.2	74.2	74.2	74.2
57.5°	61.5	62.1	62.1	61.5	62.1	61.5	61.5	61.5
60°	51.2	51.2	51.2	50.6	51.2	50.6	51.2	50.6
62.5°	41.4	42.0	42.0	41.4	42.0	41.4	41.4	41.4
65°	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.4
67.5°	27.0	27.0	27.6	27.0	27.6	27.6	27.6	27.6
70°	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
72.5°	16.7	16.7	17.3	16.7	16.7	16.7	16.7	16.7
75°	12.7	12.7	12.7	12.7	12.7	12.1	12.1	12.7
77.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	9.2
80°	5.8	5.8	5.8	5.8	5.2	5.2	5.8	5.2
82.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
85°	1.7	1.7	1.2	1.2	1.2	1.2	1.2	1.2
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)