

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: P251775

Luminaire Tested: **LD4B20D010 EU4B10209727 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251775
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: LD4B20D010 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: 1106.0 lumens
Efficiency: N/A
Efficacy: 53.2 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

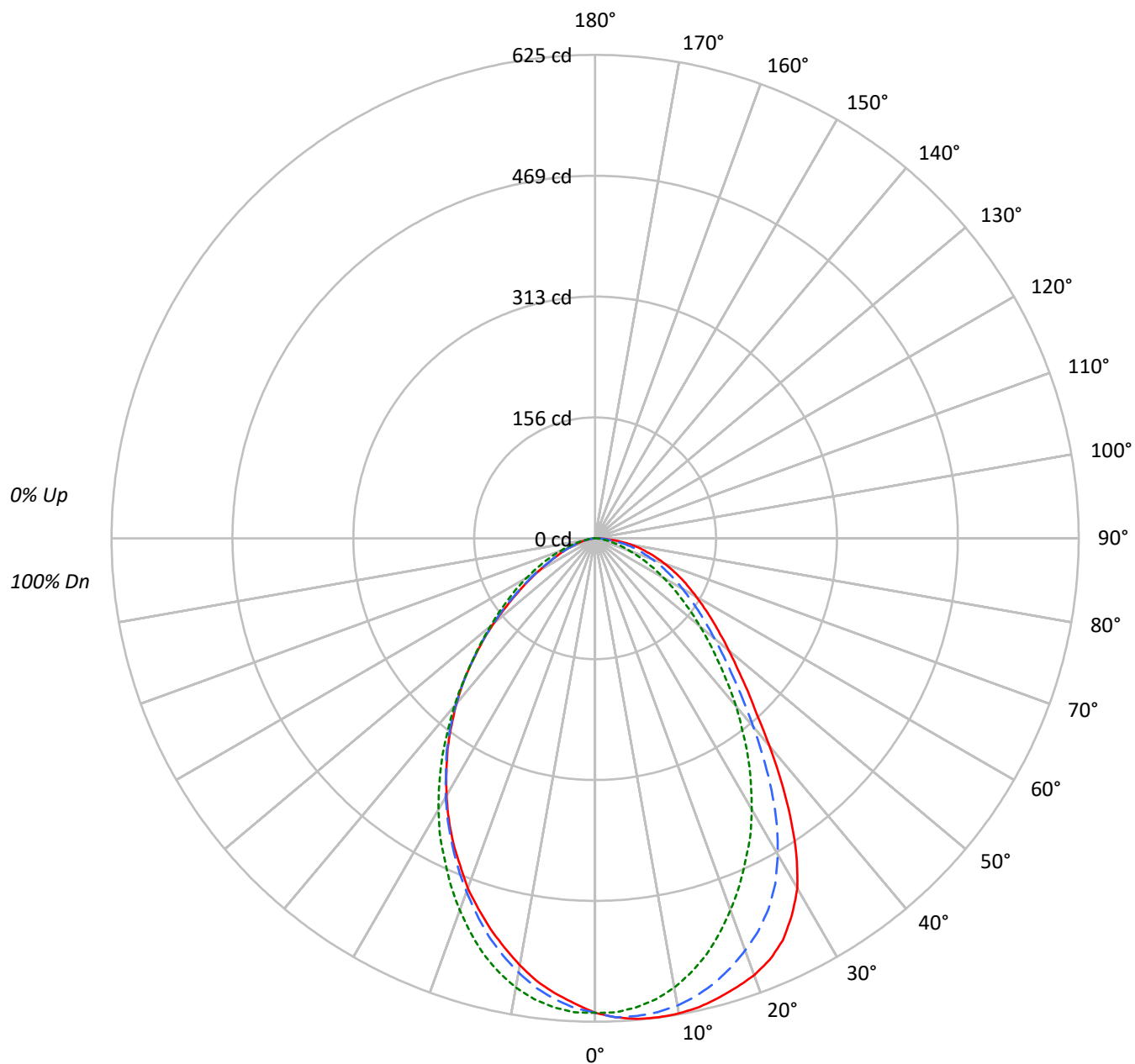
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	59781	59781	59781
5°	61027	59549	57788
10°	61732	58368	55468
15°	62081	56179	52748
20°	62342	53049	49917
25°	61692	49422	46680
30°	58833	45554	43225
35°	52313	40975	39523
40°	44541	36017	35419
45°	38371	30956	30818
50°	34190	26761	25896
55°	31434	23091	20678
60°	29432	19862	16178
65°	28295	16765	12614
70°	27156	13450	10230
75°	26283	10656	7832
80°	26490	7408	4771
85°	22140	5256	2125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	5.2
10°-20°	157.9	14.3
20°-30°	220.8	20.0
30°-40°	226.9	20.5
40°-50°	184.2	16.7
50°-60°	129.7	11.7
60°-70°	79.8	7.2
70°-80°	39.9	3.6
80°-90°	9.5	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°	436.0	39.4
0°-40°	663.0	59.9
0°-60°	976.8	88.3
0°-90°	1106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1106.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	613	613	613	613	613	
5°	624	620	609	598	591	60
15°	615	596	557	532	523	174
25°	574	529	460	437	434	262
35°	440	397	344	334	332	273
45°	278	251	225	225	224	216
55°	185	162	136	125	122	166
65°	123	103	73	56	55	121
75°	70	55	28	21	21	75
85°	20	13	5	3	2	23
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°	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4
2.5°	620.0	620.9	618.1	620.9	617.2	619.0	620.0	618.1	616.2	620.0	620.0
5°	623.8	623.8	620.9	624.7	620.0	620.9	622.8	620.0	617.2	620.9	620.0
7.5°	624.7	624.7	620.9	624.7	620.0	620.9	621.9	619.0	616.2	619.0	618.1
10°	623.8	622.8	620.0	623.8	619.0	619.0	620.0	617.2	612.4	615.3	613.4
12.5°	620.9	620.9	617.2	620.9	614.3	614.3	615.3	611.5	607.7	607.7	605.8
15°	615.3	615.3	611.5	614.3	608.7	608.7	607.7	603.9	599.2	599.2	595.5
17.5°	608.7	608.7	604.9	607.7	601.1	601.1	600.2	594.5	587.9	587.0	582.2
20°	601.1	601.1	596.4	598.3	590.7	590.7	589.8	583.2	575.6	573.7	567.1
22.5°	589.8	589.8	585.1	586.0	578.5	577.5	576.6	569.0	561.5	558.6	550.2
25°	573.7	572.8	569.0	569.0	561.5	559.6	557.7	550.2	542.6	536.9	529.4
27.5°	550.2	551.1	546.4	547.3	537.9	536.0	535.1	525.6	517.1	511.5	503.9
30°	522.8	520.0	515.2	515.2	507.7	506.7	504.9	496.4	486.9	480.3	471.8
32.5°	484.1	483.2	478.4	478.4	469.9	469.9	466.2	457.7	449.2	445.4	436.9
35°	439.7	438.8	435.0	435.0	427.5	428.4	424.6	418.0	409.5	403.9	397.3
37.5°	394.5	393.5	389.7	390.7	384.1	384.1	381.2	374.6	368.0	365.2	356.7
40°	350.1	349.2	344.4	347.3	341.6	339.7	338.8	334.1	326.5	322.7	318.0
42.5°	309.5	310.5	305.7	307.6	302.9	301.0	300.1	296.3	290.6	286.9	282.2
45°	278.4	276.5	274.6	274.6	269.9	268.9	268.0	263.3	259.5	255.7	251.0
47.5°	249.1	247.2	245.4	246.3	242.5	241.6	239.7	235.9	231.2	229.3	224.6
50°	225.5	224.6	221.8	221.8	218.0	217.0	215.2	212.3	207.6	204.8	201.0
52.5°	203.8	203.8	201.0	200.1	197.2	196.3	195.3	191.6	187.8	184.0	180.2
55°	185.0	184.0	182.1	182.1	178.4	177.4	176.5	172.7	168.9	166.1	162.3
57.5°	167.0	167.0	165.1	165.1	162.3	160.4	160.4	156.6	151.9	150.0	145.3
60°	151.0	151.0	149.1	149.1	146.3	146.3	144.4	140.6	137.8	134.0	130.2
62.5°	135.9	136.8	134.9	134.0	131.2	130.2	130.2	127.4	122.7	119.8	116.1
65°	122.7	121.7	120.8	119.8	117.0	116.1	116.1	112.3	109.5	105.7	102.9
67.5°	108.5	108.5	106.6	106.6	104.7	103.8	101.9	99.1	96.3	93.4	90.6
70°	95.3	95.3	94.4	94.4	91.5	90.6	89.6	86.8	84.0	81.2	77.4
72.5°	83.0	82.1	81.2	81.2	79.3	78.3	77.4	74.5	71.7	68.9	66.1
75°	69.8	69.8	68.9	68.9	67.0	66.1	66.1	64.2	60.4	58.5	54.7
77.5°	58.5	58.5	57.6	57.6	55.7	55.7	54.7	51.9	50.0	47.2	45.3
80°	47.2	46.2	46.2	45.3	43.4	43.4	42.5	41.5	38.7	36.8	34.0
82.5°	33.0	33.0	33.0	32.1	31.1	31.1	30.2	28.3	26.4	25.5	22.6
85°	19.8	19.8	18.9	17.9	18.9	17.9	17.0	16.0	15.1	14.2	13.2
87.5°	8.5	8.5	7.5	7.5	7.5	7.5	7.5	6.6	5.7	5.7	4.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4
2.5°	614.3	617.2	616.2	615.3	613.4	613.4	613.4	612.4	613.4	613.4	611.5
5°	614.3	616.2	615.3	613.4	611.5	611.5	610.5	608.7	608.7	608.7	604.9
7.5°	611.5	613.4	610.5	608.7	606.8	604.9	604.9	602.1	602.1	601.1	597.3
10°	605.8	606.8	603.0	601.1	598.3	597.3	595.5	591.7	590.7	589.8	586.0
12.5°	597.3	598.3	593.6	589.8	586.0	585.1	583.2	578.5	576.6	574.7	570.0
15°	585.1	585.1	579.4	574.7	570.9	570.0	565.3	560.5	558.6	556.8	550.2
17.5°	570.9	570.0	562.4	557.7	553.0	551.1	546.4	540.7	536.9	535.1	529.4
20°	555.8	553.0	544.5	539.8	534.1	531.3	526.6	519.0	515.2	511.5	505.8
22.5°	537.9	534.1	524.7	518.1	512.4	509.6	503.0	496.4	490.7	486.9	480.3
25°	516.2	511.5	501.1	492.6	487.9	485.0	478.4	470.9	465.2	459.6	453.9
27.5°	490.7	485.0	474.7	466.2	461.5	456.7	452.0	443.5	438.8	434.1	427.5
30°	459.6	453.0	443.5	436.0	430.3	426.5	420.9	413.3	407.7	404.8	398.2
32.5°	425.6	418.0	409.5	402.0	399.2	394.5	389.7	382.2	377.5	374.6	369.9
35°	387.8	382.2	372.7	367.1	362.4	360.5	356.7	349.2	347.3	344.4	338.8
37.5°	348.2	343.5	336.9	332.2	328.4	326.5	322.7	318.0	315.2	312.4	309.5
40°	311.4	307.6	302.0	298.2	293.5	290.6	290.6	285.0	283.1	283.1	280.3
42.5°	275.5	273.7	268.9	263.3	262.3	259.5	258.6	255.7	253.8	252.9	252.0
45°	245.4	242.5	237.8	235.0	232.1	232.1	229.3	226.5	225.5	224.6	223.6
47.5°	218.9	215.2	211.4	208.5	206.7	205.7	202.9	201.0	200.1	200.1	199.1
50°	195.3	192.5	188.7	185.9	184.0	182.1	180.2	178.4	177.4	176.5	176.5
52.5°	175.5	171.7	168.0	165.1	162.3	161.4	159.5	157.6	156.6	155.7	154.8
55°	157.6	154.8	150.0	147.2	144.4	144.4	141.5	138.7	136.8	135.9	134.9
57.5°	140.6	137.8	133.1	130.2	128.3	126.5	124.6	122.7	120.8	118.9	117.0
60°	125.5	122.7	118.0	114.2	113.2	111.4	109.5	105.7	103.8	101.9	100.0
62.5°	111.4	107.6	103.8	100.0	99.1	97.2	94.4	91.5	88.7	86.8	84.0
65°	98.1	95.3	90.6	87.8	84.9	84.0	81.2	77.4	74.5	72.7	69.8
67.5°	85.9	82.1	77.4	74.5	72.7	70.8	67.9	65.1	62.3	59.5	56.6
70°	73.6	70.8	66.1	63.2	61.3	59.5	56.6	52.8	50.0	47.2	45.3
72.5°	62.3	58.5	54.7	51.9	50.0	48.1	45.3	42.5	39.6	37.7	34.9
75°	51.9	48.1	45.3	41.5	40.6	38.7	35.9	33.0	30.2	28.3	26.4
77.5°	41.5	38.7	34.9	33.0	31.1	29.3	27.4	24.5	22.6	19.8	17.9
80°	31.1	28.3	25.5	23.6	21.7	20.8	18.9	17.0	15.1	13.2	12.3
82.5°	20.8	18.9	16.0	15.1	14.2	13.2	11.3	10.4	9.4	8.5	7.5
85°	11.3	10.4	9.4	7.5	7.5	6.6	5.7	5.7	4.7	4.7	3.8
87.5°	4.7	3.8	3.8	2.8	2.8	2.8	1.9	1.9	1.9	0.9	0.9
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4
2.5°	612.4	608.7	608.7	608.7	605.8	606.8	607.7	608.7	607.7	604.9	607.7
5°	605.8	602.1	602.1	600.2	598.3	598.3	598.3	599.2	598.3	595.5	596.4
7.5°	597.3	592.6	591.7	589.8	587.9	587.0	587.0	587.0	586.0	582.2	584.1
10°	584.1	579.4	577.5	576.6	573.7	572.8	571.9	570.9	570.0	566.2	568.1
12.5°	568.1	564.3	560.5	559.6	556.8	554.9	553.9	553.9	552.0	548.3	550.2
15°	549.2	543.5	540.7	538.8	536.0	534.1	532.2	533.2	532.2	528.5	529.4
17.5°	526.6	520.9	518.1	517.1	513.4	511.5	510.5	510.5	509.6	505.8	506.7
20°	502.0	496.4	494.5	492.6	490.7	488.8	487.9	486.9	486.0	482.2	485.0
22.5°	477.5	470.9	468.1	468.1	464.3	463.3	462.4	463.3	462.4	458.6	460.5
25°	452.0	445.4	443.5	440.7	438.8	437.9	437.9	437.9	436.9	435.0	436.9
27.5°	423.7	419.0	416.2	415.2	413.3	412.4	411.4	412.4	412.4	409.5	411.4
30°	395.4	391.6	389.7	388.8	386.0	385.0	386.0	386.0	386.0	383.1	386.0
32.5°	367.1	364.3	363.3	360.5	358.6	358.6	358.6	359.5	358.6	356.7	359.5
35°	338.8	335.0	334.1	333.1	333.1	331.2	333.1	332.2	334.1	331.2	333.1
37.5°	308.6	306.7	305.7	305.7	303.9	304.8	304.8	304.8	306.7	303.9	305.7
40°	280.3	278.4	278.4	278.4	277.4	277.4	277.4	278.4	279.3	277.4	279.3
42.5°	252.0	251.0	251.0	250.1	249.1	250.1	251.0	251.0	252.0	250.1	251.0
45°	224.6	223.6	224.6	223.6	223.6	222.7	223.6	224.6	224.6	223.6	223.6
47.5°	199.1	199.1	198.2	198.2	198.2	198.2	198.2	198.2	198.2	196.3	198.2
50°	176.5	174.6	175.5	174.6	174.6	173.6	173.6	172.7	171.7	170.8	170.8
52.5°	154.8	152.9	152.9	151.9	151.0	151.0	150.0	149.1	148.2	146.3	146.3
55°	134.0	132.1	131.2	130.2	129.3	128.3	127.4	126.5	124.6	123.6	123.6
57.5°	115.1	113.2	111.4	111.4	109.5	108.5	106.6	104.7	103.8	101.9	101.9
60°	98.1	96.3	93.4	92.5	91.5	89.6	86.8	85.9	84.9	83.0	84.0
62.5°	82.1	79.3	76.4	75.5	74.5	72.7	70.8	68.9	67.9	68.9	68.9
65°	67.0	64.2	62.3	60.4	59.5	57.6	56.6	55.7	55.7	55.7	56.6
67.5°	53.8	51.0	49.1	48.1	46.2	45.3	45.3	45.3	45.3	45.3	45.3
70°	42.5	40.6	38.7	36.8	36.8	35.9	35.9	35.9	35.9	35.9	35.9
72.5°	32.1	30.2	29.3	29.3	28.3	28.3	28.3	28.3	27.4	27.4	28.3
75°	23.6	22.6	21.7	21.7	21.7	20.8	20.8	20.8	20.8	20.8	20.8
77.5°	17.0	16.0	16.0	15.1	15.1	15.1	15.1	15.1	15.1	14.2	14.2
80°	11.3	10.4	10.4	10.4	10.4	9.4	9.4	9.4	9.4	9.4	9.4
82.5°	6.6	6.6	6.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
85°	3.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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°	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4
2.5°	602.1	605.8	606.8	603.9	604.9	603.0	603.9	602.1
5°	591.7	594.5	595.5	593.6	593.6	591.7	592.6	590.7
7.5°	578.5	581.3	582.2	580.4	580.4	578.5	578.5	577.5
10°	563.4	564.3	566.2	563.4	564.3	562.4	562.4	560.5
12.5°	544.5	546.4	548.3	545.4	545.4	544.5	544.5	541.7
15°	524.7	526.6	527.5	525.6	525.6	524.7	523.7	522.8
17.5°	503.9	504.9	506.7	503.9	505.8	503.9	503.9	502.0
20°	480.3	483.2	484.1	481.3	482.2	481.3	481.3	481.3
22.5°	457.7	459.6	460.5	458.6	459.6	457.7	458.6	456.7
25°	434.1	435.0	436.0	434.1	436.0	435.0	434.1	434.1
27.5°	409.5	410.5	411.4	409.5	411.4	410.5	411.4	409.5
30°	383.1	385.0	386.9	385.0	386.0	385.0	385.0	384.1
32.5°	356.7	358.6	360.5	358.6	360.5	358.6	359.5	357.6
35°	332.2	333.1	334.1	332.2	333.1	333.1	333.1	332.2
37.5°	304.8	306.7	306.7	305.7	307.6	306.7	306.7	304.8
40°	278.4	279.3	280.3	278.4	279.3	278.4	279.3	278.4
42.5°	251.0	252.9	253.8	252.0	252.0	252.0	251.0	252.0
45°	222.7	224.6	226.5	223.6	224.6	224.6	224.6	223.6
47.5°	197.2	197.2	198.2	197.2	198.2	196.3	198.2	197.2
50°	170.8	170.8	172.7	170.8	170.8	170.8	170.8	170.8
52.5°	145.3	146.3	146.3	144.4	145.3	144.4	145.3	144.4
55°	121.7	121.7	122.7	121.7	121.7	121.7	121.7	121.7
57.5°	101.0	101.9	101.9	101.0	101.9	101.0	101.0	101.0
60°	84.0	84.0	84.0	83.0	84.0	83.0	84.0	83.0
62.5°	67.9	68.9	68.9	67.9	68.9	67.9	67.9	67.9
65°	55.7	55.7	55.7	55.7	55.7	55.7	55.7	54.7
67.5°	44.4	44.4	45.3	44.4	45.3	45.3	45.3	45.3
70°	35.9	35.9	35.9	35.9	35.9	35.9	35.9	35.9
72.5°	27.4	27.4	28.3	27.4	27.4	27.4	27.4	27.4
75°	20.8	20.8	20.8	20.8	20.8	19.8	19.8	20.8
77.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	15.1
80°	9.4	9.4	9.4	9.4	8.5	8.5	9.4	8.5
82.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
85°	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9
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)