

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: P251740

Luminaire Tested: **LD4B10D010 EU4B10208035 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251740
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 EU4B10208035 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 841.0 lumens
Efficiency: N/A
Efficacy: 83.7 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

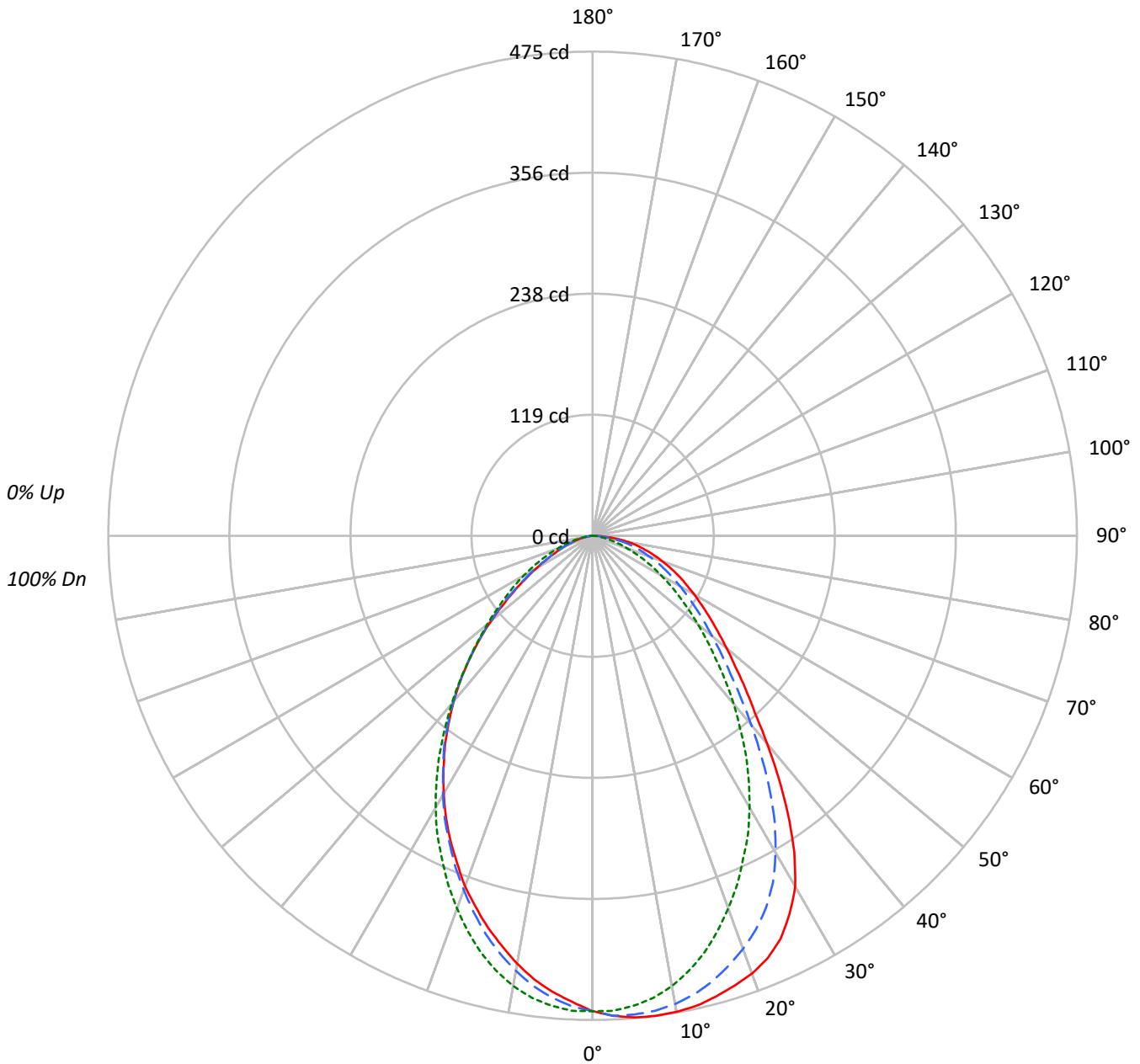
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	45454	45454	45454
5°	46401	45276	43945
10°	46937	44384	42177
15°	47199	42719	40106
20°	47407	40334	37959
25°	46917	37583	35497
30°	44733	34638	32860
35°	39785	31159	30053
40°	33867	27391	26933
45°	29178	23541	23444
50°	26002	20347	19695
55°	23890	17552	15734
60°	22376	15106	12299
65°	21515	12752	9593
70°	20659	10230	7779
75°	19995	8096	5949
80°	20148	5612	3648
85°	16885	4026	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.7	5.2
10°-20°	120.0	14.3
20°-30°	167.9	20.0
30°-40°	172.5	20.5
40°-50°	140.1	16.7
50°-60°	98.6	11.7
60°-70°	60.7	7.2
70°-80°	30.3	3.6
80°-90°	7.2	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°	331.6	39.4
0°-40°	504.1	59.9
0°-60°	742.8	88.3
0°-90°	841.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	841.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	466	466	466	466	466	
5°	474	471	463	455	449	45
15°	468	453	423	405	398	132
25°	436	403	350	332	330	199
35°	334	302	262	254	253	208
45°	212	191	171	171	170	165
55°	141	123	103	95	93	126
65°	93	78	55	42	42	92
75°	53	42	22	16	16	57
85°	15	10	4	2	1	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°	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4
2.5°	471.4	472.2	470.0	472.2	469.3	470.7	471.4	470.0	468.6	471.4	471.4
5°	474.3	474.3	472.2	475.0	471.4	472.2	473.6	471.4	469.3	472.2	471.4
7.5°	475.0	475.0	472.2	475.0	471.4	472.2	472.9	470.7	468.6	470.7	470.0
10°	474.3	473.6	471.4	474.3	470.7	470.7	471.4	469.3	465.7	467.8	466.4
12.5°	472.2	472.2	469.3	472.2	467.1	467.1	467.8	465.0	462.1	462.1	460.7
15°	467.8	467.8	465.0	467.1	462.8	462.8	462.1	459.2	455.6	455.6	452.8
17.5°	462.8	462.8	460.0	462.1	457.1	457.1	456.4	452.1	447.0	446.3	442.7
20°	457.1	457.1	453.5	454.9	449.2	449.2	448.5	443.5	437.7	436.3	431.3
22.5°	448.5	448.5	444.9	445.6	439.9	439.1	438.4	432.7	426.9	424.8	418.3
25°	436.3	435.6	432.7	432.7	426.9	425.5	424.1	418.3	412.6	408.3	402.6
27.5°	418.3	419.1	415.5	416.2	409.0	407.6	406.9	399.7	393.2	388.9	383.2
30°	397.5	395.4	391.8	391.8	386.0	385.3	383.9	377.4	370.3	365.2	358.8
32.5°	368.1	367.4	363.8	363.8	357.3	357.3	354.5	348.0	341.6	338.7	332.2
35°	334.4	333.7	330.8	330.8	325.1	325.8	322.9	317.9	311.4	307.1	302.1
37.5°	299.9	299.2	296.4	297.1	292.0	292.0	289.9	284.9	279.8	277.7	271.2
40°	266.2	265.5	261.9	264.1	259.8	258.3	257.6	254.0	248.3	245.4	241.8
42.5°	235.4	236.1	232.5	233.9	230.3	228.9	228.2	225.3	221.0	218.1	214.5
45°	211.7	210.2	208.8	208.8	205.2	204.5	203.8	200.2	197.3	194.5	190.9
47.5°	189.4	188.0	186.6	187.3	184.4	183.7	182.3	179.4	175.8	174.4	170.8
50°	171.5	170.8	168.6	168.6	165.8	165.0	163.6	161.5	157.9	155.7	152.8
52.5°	155.0	155.0	152.8	152.1	150.0	149.3	148.5	145.7	142.8	139.9	137.1
55°	140.6	139.9	138.5	138.5	135.6	134.9	134.2	131.3	128.4	126.3	123.4
57.5°	127.0	127.0	125.6	125.6	123.4	122.0	122.0	119.1	115.5	114.1	110.5
60°	114.8	114.8	113.4	113.4	111.2	111.2	109.8	106.9	104.8	101.9	99.0
62.5°	103.3	104.0	102.6	101.9	99.7	99.0	99.0	96.9	93.3	91.1	88.3
65°	93.3	92.6	91.8	91.1	89.0	88.3	88.3	85.4	83.2	80.4	78.2
67.5°	82.5	82.5	81.1	81.1	79.6	78.9	77.5	75.3	73.2	71.0	68.9
70°	72.5	72.5	71.8	71.8	69.6	68.9	68.2	66.0	63.9	61.7	58.8
72.5°	63.1	62.4	61.7	61.7	60.3	59.6	58.8	56.7	54.5	52.4	50.2
75°	53.1	53.1	52.4	52.4	50.9	50.2	50.2	48.8	45.9	44.5	41.6
77.5°	44.5	44.5	43.8	43.8	42.3	42.3	41.6	39.5	38.0	35.9	34.4
80°	35.9	35.2	35.2	34.4	33.0	33.0	32.3	31.6	29.4	28.0	25.8
82.5°	25.1	25.1	25.1	24.4	23.7	23.7	23.0	21.5	20.1	19.4	17.2
85°	15.1	15.1	14.4	13.6	14.4	13.6	12.9	12.2	11.5	10.8	10.0
87.5°	6.5	6.5	5.7	5.7	5.7	5.7	5.7	5.0	4.3	4.3	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°	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4
2.5°	467.1	469.3	468.6	467.8	466.4	466.4	466.4	465.7	466.4	466.4	465.0
5°	467.1	468.6	467.8	466.4	465.0	465.0	464.3	462.8	462.8	462.8	460.0
7.5°	465.0	466.4	464.3	462.8	461.4	460.0	460.0	457.8	457.8	457.1	454.2
10°	460.7	461.4	458.5	457.1	454.9	454.2	452.8	449.9	449.2	448.5	445.6
12.5°	454.2	454.9	451.3	448.5	445.6	444.9	443.5	439.9	438.4	437.0	433.4
15°	444.9	444.9	440.6	437.0	434.1	433.4	429.8	426.2	424.8	423.4	418.3
17.5°	434.1	433.4	427.7	424.1	420.5	419.1	415.5	411.2	408.3	406.9	402.6
20°	422.6	420.5	414.0	410.4	406.1	404.0	400.4	394.7	391.8	388.9	384.6
22.5°	409.0	406.1	399.0	393.9	389.6	387.5	382.5	377.4	373.1	370.3	365.2
25°	392.5	388.9	381.0	374.6	371.0	368.8	363.8	358.1	353.8	349.5	345.1
27.5°	373.1	368.8	360.9	354.5	350.9	347.3	343.7	337.3	333.7	330.1	325.1
30°	349.5	344.4	337.3	331.5	327.2	324.3	320.0	314.3	310.0	307.8	302.8
32.5°	323.6	317.9	311.4	305.7	303.5	299.9	296.4	290.6	287.0	284.9	281.3
35°	294.9	290.6	283.4	279.1	275.5	274.1	271.2	265.5	264.1	261.9	257.6
37.5°	264.8	261.2	256.2	252.6	249.7	248.3	245.4	241.8	239.7	237.5	235.4
40°	236.8	233.9	229.6	226.7	223.2	221.0	221.0	216.7	215.3	215.3	213.1
42.5°	209.5	208.1	204.5	200.2	199.5	197.3	196.6	194.5	193.0	192.3	191.6
45°	186.6	184.4	180.8	178.7	176.5	176.5	174.4	172.2	171.5	170.8	170.1
47.5°	166.5	163.6	160.7	158.6	157.1	156.4	154.3	152.8	152.1	152.1	151.4
50°	148.5	146.4	143.5	141.4	139.9	138.5	137.1	135.6	134.9	134.2	134.2
52.5°	133.5	130.6	127.7	125.6	123.4	122.7	121.3	119.8	119.1	118.4	117.7
55°	119.8	117.7	114.1	111.9	109.8	109.8	107.6	105.5	104.0	103.3	102.6
57.5°	106.9	104.8	101.2	99.0	97.6	96.2	94.7	93.3	91.8	90.4	89.0
60°	95.4	93.3	89.7	86.8	86.1	84.7	83.2	80.4	78.9	77.5	76.1
62.5°	84.7	81.8	78.9	76.1	75.3	73.9	71.8	69.6	67.5	66.0	63.9
65°	74.6	72.5	68.9	66.7	64.6	63.9	61.7	58.8	56.7	55.3	53.1
67.5°	65.3	62.4	58.8	56.7	55.3	53.8	51.7	49.5	47.4	45.2	43.1
70°	56.0	53.8	50.2	48.1	46.6	45.2	43.1	40.2	38.0	35.9	34.4
72.5°	47.4	44.5	41.6	39.5	38.0	36.6	34.4	32.3	30.1	28.7	26.5
75°	39.5	36.6	34.4	31.6	30.9	29.4	27.3	25.1	23.0	21.5	20.1
77.5°	31.6	29.4	26.5	25.1	23.7	22.2	20.8	18.7	17.2	15.1	13.6
80°	23.7	21.5	19.4	17.9	16.5	15.8	14.4	12.9	11.5	10.0	9.3
82.5°	15.8	14.4	12.2	11.5	10.8	10.0	8.6	7.9	7.2	6.5	5.7
85°	8.6	7.9	7.2	5.7	5.7	5.0	4.3	4.3	3.6	3.6	2.9
87.5°	3.6	2.9	2.9	2.2	2.2	2.2	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°	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4
2.5°	465.7	462.8	462.8	462.8	460.7	461.4	462.1	462.8	462.1	460.0	462.1
5°	460.7	457.8	457.8	456.4	454.9	454.9	454.9	455.6	454.9	452.8	453.5
7.5°	454.2	450.6	449.9	448.5	447.0	446.3	446.3	446.3	445.6	442.7	444.2
10°	444.2	440.6	439.1	438.4	436.3	435.6	434.8	434.1	433.4	430.5	432.0
12.5°	432.0	429.1	426.2	425.5	423.4	421.9	421.2	421.2	419.8	416.9	418.3
15°	417.6	413.3	411.2	409.7	407.6	406.1	404.7	405.4	404.7	401.8	402.6
17.5°	400.4	396.1	393.9	393.2	390.4	388.9	388.2	388.2	387.5	384.6	385.3
20°	381.7	377.4	376.0	374.6	373.1	371.7	371.0	370.3	369.5	366.7	368.8
22.5°	363.1	358.1	355.9	355.9	353.0	352.3	351.6	352.3	351.6	348.7	350.2
25°	343.7	338.7	337.3	335.1	333.7	332.9	332.9	332.9	332.2	330.8	332.2
27.5°	322.2	318.6	316.4	315.7	314.3	313.6	312.9	313.6	313.6	311.4	312.9
30°	300.7	297.8	296.4	295.6	293.5	292.8	293.5	293.5	293.5	291.3	293.5
32.5°	279.1	277.0	276.3	274.1	272.7	272.7	272.7	273.4	272.7	271.2	273.4
35°	257.6	254.7	254.0	253.3	253.3	251.9	253.3	252.6	254.0	251.9	253.3
37.5°	234.6	233.2	232.5	232.5	231.1	231.8	231.8	231.8	233.2	231.1	232.5
40°	213.1	211.7	211.7	211.7	211.0	211.0	211.0	211.7	212.4	211.0	212.4
42.5°	191.6	190.9	190.9	190.2	189.4	190.2	190.9	190.9	191.6	190.2	190.9
45°	170.8	170.1	170.8	170.1	170.1	169.3	170.1	170.8	170.8	170.1	170.1
47.5°	151.4	151.4	150.7	150.7	150.7	150.7	150.7	150.7	150.7	149.3	150.7
50°	134.2	132.7	133.5	132.7	132.7	132.0	132.0	131.3	130.6	129.9	129.9
52.5°	117.7	116.2	116.2	115.5	114.8	114.8	114.1	113.4	112.7	111.2	111.2
55°	101.9	100.5	99.7	99.0	98.3	97.6	96.9	96.2	94.7	94.0	94.0
57.5°	87.5	86.1	84.7	84.7	83.2	82.5	81.1	79.6	78.9	77.5	77.5
60°	74.6	73.2	71.0	70.3	69.6	68.2	66.0	65.3	64.6	63.1	63.9
62.5°	62.4	60.3	58.1	57.4	56.7	55.3	53.8	52.4	51.7	52.4	52.4
65°	50.9	48.8	47.4	45.9	45.2	43.8	43.1	42.3	42.3	42.3	43.1
67.5°	40.9	38.7	37.3	36.6	35.2	34.4	34.4	34.4	34.4	34.4	34.4
70°	32.3	30.9	29.4	28.0	28.0	27.3	27.3	27.3	27.3	27.3	27.3
72.5°	24.4	23.0	22.2	22.2	21.5	21.5	21.5	21.5	20.8	20.8	21.5
75°	17.9	17.2	16.5	16.5	16.5	15.8	15.8	15.8	15.8	15.8	15.8
77.5°	12.9	12.2	12.2	11.5	11.5	11.5	11.5	11.5	11.5	10.8	10.8
80°	8.6	7.9	7.9	7.9	7.9	7.2	7.2	7.2	7.2	7.2	7.2
82.5°	5.0	5.0	5.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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°	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4
2.5°	457.8	460.7	461.4	459.2	460.0	458.5	459.2	457.8
5°	449.9	452.1	452.8	451.3	451.3	449.9	450.6	449.2
7.5°	439.9	442.0	442.7	441.3	441.3	439.9	439.9	439.1
10°	428.4	429.1	430.5	428.4	429.1	427.7	427.7	426.2
12.5°	414.0	415.5	416.9	414.7	414.7	414.0	414.0	411.9
15°	399.0	400.4	401.1	399.7	399.7	399.0	398.2	397.5
17.5°	383.2	383.9	385.3	383.2	384.6	383.2	383.2	381.7
20°	365.2	367.4	368.1	366.0	366.7	366.0	366.0	366.0
22.5°	348.0	349.5	350.2	348.7	349.5	348.0	348.7	347.3
25°	330.1	330.8	331.5	330.1	331.5	330.8	330.1	330.1
27.5°	311.4	312.1	312.9	311.4	312.9	312.1	312.9	311.4
30°	291.3	292.8	294.2	292.8	293.5	292.8	292.8	292.0
32.5°	271.2	272.7	274.1	272.7	274.1	272.7	273.4	272.0
35°	252.6	253.3	254.0	252.6	253.3	253.3	253.3	252.6
37.5°	231.8	233.2	233.2	232.5	233.9	233.2	233.2	231.8
40°	211.7	212.4	213.1	211.7	212.4	211.7	212.4	211.7
42.5°	190.9	192.3	193.0	191.6	191.6	191.6	190.9	191.6
45°	169.3	170.8	172.2	170.1	170.8	170.8	170.8	170.1
47.5°	150.0	150.0	150.7	150.0	150.7	149.3	150.7	150.0
50°	129.9	129.9	131.3	129.9	129.9	129.9	129.9	129.9
52.5°	110.5	111.2	111.2	109.8	110.5	109.8	110.5	109.8
55°	92.6	92.6	93.3	92.6	92.6	92.6	92.6	92.6
57.5°	76.8	77.5	77.5	76.8	77.5	76.8	76.8	76.8
60°	63.9	63.9	63.9	63.1	63.9	63.1	63.9	63.1
62.5°	51.7	52.4	52.4	51.7	52.4	51.7	51.7	51.7
65°	42.3	42.3	42.3	42.3	42.3	42.3	42.3	41.6
67.5°	33.7	33.7	34.4	33.7	34.4	34.4	34.4	34.4
70°	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
72.5°	20.8	20.8	21.5	20.8	20.8	20.8	20.8	20.8
75°	15.8	15.8	15.8	15.8	15.8	15.1	15.1	15.8
77.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	11.5
80°	7.2	7.2	7.2	7.2	6.5	6.5	7.2	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	1.4	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)