

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: P251678

Luminaire Tested: **LD4B15D010 EU4B10209024 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251678
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209024 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 874.0 lumens
Efficiency: N/A
Efficacy: 60.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

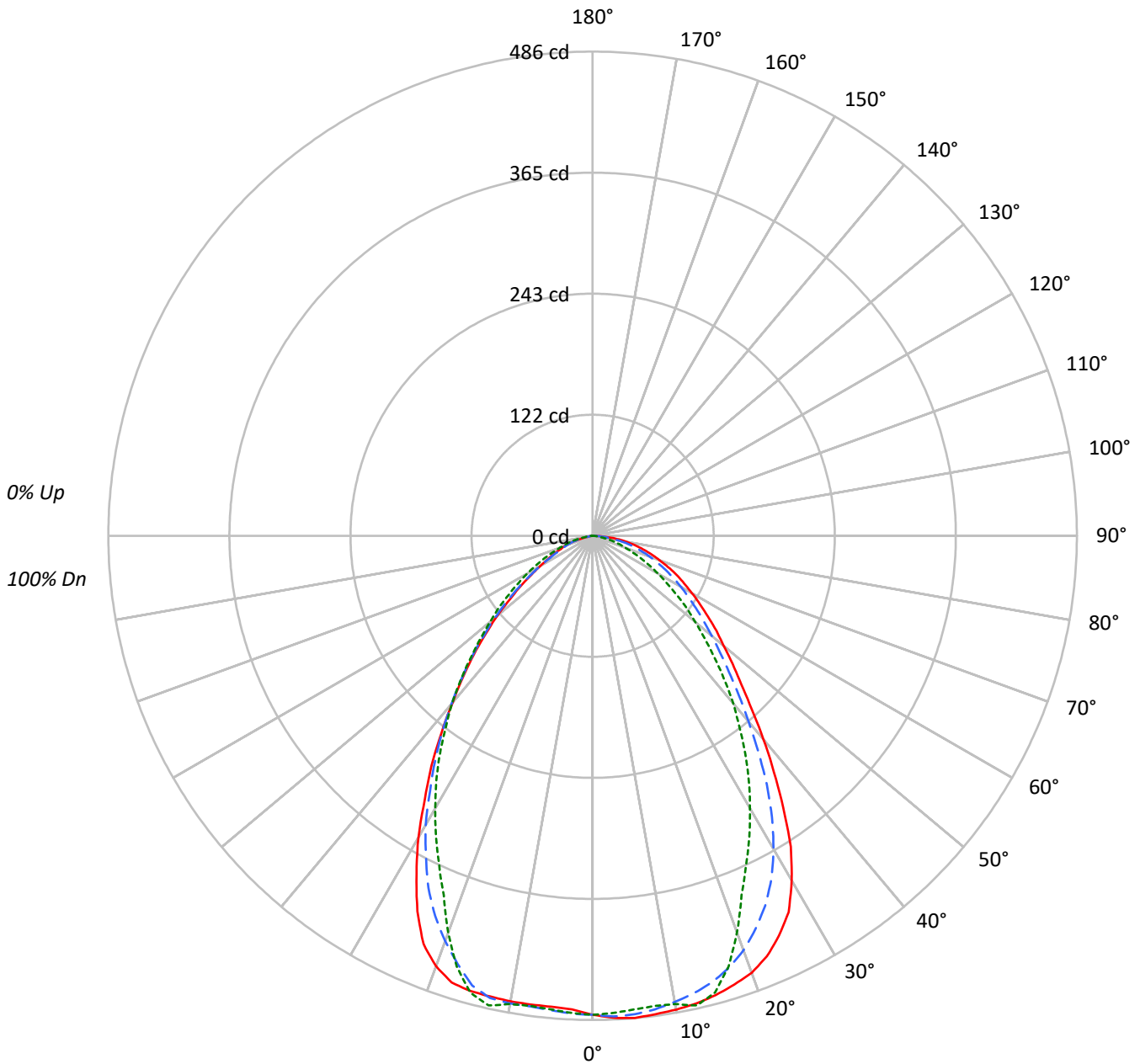
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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	105	102	99	101	98	96	97	95	93	93	91	90	88				88				
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77				
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67				67				
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60				60				
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53				53				
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48				48				
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43				43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				36				
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33				33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46858	46858	46858
5°	47526	46694	46421
10°	47789	47234	46957
15°	48158	47875	47734
20°	48403	43943	47677
25°	47616	39196	44734
30°	44980	35539	39353
35°	39678	31790	33551
40°	33905	27900	27811
45°	29054	23803	23224
50°	25972	20317	18922
55°	23958	17365	14969
60°	22396	14697	11812
65°	21469	12199	9755
70°	20288	9831	8235
75°	19656	7983	5837
80°	18970	4378	1571
85°	16549	2348	783



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.7	5.2
10°-20°	131.4	15.0
20°-30°	182.3	20.9
30°-40°	179.9	20.6
40°-50°	141.1	16.1
50°-60°	97.7	11.2
60°-70°	59.9	6.9
70°-80°	29.9	3.4
80°-90°	6.0	0.7
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°	359.4	41.1
0°-40°	539.3	61.7
0°-60°	778.2	89.0
0°-90°	874.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	874.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	481	481	481	481	481	
5°	486	482	477	478	474	46
15°	477	464	474	467	473	135
25°	443	410	364	390	416	203
35°	334	305	267	276	282	208
45°	211	193	173	171	168	165
55°	141	126	102	91	88	127
65°	93	80	53	40	42	92
75°	52	44	21	16	16	55
85°	15	8	2	1	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°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	484.3	482.9	482.2	484.3	483.6	485.1	484.3	483.6	482.2	482.9	482.9
5°	485.8	483.6	482.9	484.3	484.3	485.8	485.1	483.6	482.2	482.9	482.2
7.5°	484.3	482.9	482.9	483.6	482.9	484.3	482.9	481.5	480.1	480.8	479.4
10°	482.9	480.8	480.8	480.8	480.8	482.2	480.8	478.7	476.6	476.6	475.2
12.5°	480.8	478.7	478.7	479.4	478.0	479.4	478.0	474.5	472.4	471.7	470.2
15°	477.3	475.2	475.2	475.2	473.8	474.5	472.4	468.8	466.0	466.0	463.9
17.5°	472.4	470.2	469.5	469.5	467.4	468.1	466.0	462.5	458.3	456.9	454.7
20°	466.7	463.9	462.5	462.5	460.4	461.1	458.3	454.0	448.4	446.3	442.8
22.5°	456.9	455.4	453.3	452.6	450.5	449.8	447.0	441.3	436.4	432.9	427.2
25°	442.8	442.0	439.9	439.2	436.4	435.0	432.2	425.8	420.9	415.3	409.6
27.5°	425.8	423.0	421.6	419.5	416.7	416.0	412.4	406.8	399.0	395.5	388.5
30°	399.7	398.3	396.9	394.8	392.0	390.6	388.5	382.1	375.8	369.4	363.1
32.5°	370.1	367.3	365.2	365.9	362.4	361.0	357.4	351.8	346.2	341.9	334.9
35°	333.5	332.8	332.1	330.7	327.8	327.1	324.3	320.1	313.7	308.8	304.6
37.5°	298.9	296.8	295.4	295.4	292.6	292.6	290.5	285.5	282.0	278.5	272.8
40°	266.5	263.0	263.0	263.0	260.2	260.9	259.4	254.5	251.0	246.8	243.2
42.5°	236.2	234.8	234.1	232.7	231.2	231.2	229.8	227.0	223.5	220.7	217.1
45°	210.8	210.1	209.4	208.7	207.3	206.6	205.9	201.6	199.5	196.7	193.2
47.5°	190.4	188.9	188.2	187.5	186.1	185.4	184.0	181.2	179.1	176.3	173.4
50°	171.3	170.6	169.9	169.9	168.5	167.8	166.4	164.3	160.7	159.3	155.8
52.5°	156.5	155.1	153.7	153.7	152.3	152.3	150.2	148.1	144.5	143.1	140.3
55°	141.0	140.3	139.6	139.6	138.2	137.5	136.8	134.0	131.1	129.0	126.2
57.5°	127.6	126.9	126.2	126.2	124.8	124.1	123.4	121.3	118.4	117.0	113.5
60°	114.9	114.9	114.2	113.5	112.8	112.1	111.4	109.3	107.2	105.0	102.2
62.5°	103.6	102.9	102.2	101.5	101.5	100.8	100.1	97.3	95.9	93.8	90.9
65°	93.1	91.7	91.7	90.9	90.9	90.2	89.5	86.7	85.3	83.2	80.4
67.5°	81.8	81.1	80.4	80.4	79.7	79.7	79.0	76.8	74.7	73.3	70.5
70°	71.2	71.2	70.5	70.5	69.8	69.1	69.1	67.7	65.6	63.5	60.6
72.5°	62.0	61.3	60.6	60.6	59.9	59.9	59.2	57.8	56.4	55.0	51.5
75°	52.2	51.5	51.5	51.5	50.8	50.8	50.1	48.6	47.2	45.8	43.7
77.5°	43.0	43.0	42.3	42.3	41.6	41.6	41.6	40.2	38.8	37.4	34.5
80°	33.8	33.8	33.8	33.1	32.4	32.4	32.4	31.0	29.6	28.2	26.1
82.5°	24.7	24.0	24.0	23.3	22.6	22.6	22.6	21.2	20.4	18.3	16.9
85°	14.8	14.1	14.1	13.4	12.7	12.7	12.7	12.0	10.6	9.9	8.5
87.5°	5.6	5.6	5.6	5.6	5.6	4.9	4.9	4.2	4.2	3.5	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°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	482.9	482.2	482.2	481.5	482.2	480.8	480.8	480.8	480.8	479.4	479.4
5°	481.5	481.5	480.8	480.1	480.8	479.4	480.1	479.4	479.4	477.3	477.3
7.5°	478.7	478.0	476.6	475.9	476.6	475.9	475.9	475.9	477.3	475.9	475.9
10°	473.8	473.1	471.7	471.0	471.0	470.2	471.7	473.1	475.9	477.3	480.1
12.5°	468.8	467.4	466.7	466.7	467.4	467.4	470.2	473.8	480.8	482.9	485.8
15°	462.5	461.8	461.8	463.9	466.7	468.8	474.5	476.6	477.3	474.5	473.1
17.5°	454.0	454.0	454.7	456.9	459.0	459.0	459.7	458.3	456.9	453.3	449.1
20°	439.9	439.2	437.8	437.8	437.8	435.0	436.4	431.5	427.9	423.7	417.4
22.5°	422.3	418.8	413.8	410.3	408.2	406.8	403.3	397.6	393.4	390.6	387.8
25°	403.3	397.6	390.6	384.9	381.4	380.7	375.8	370.8	368.0	364.5	363.1
27.5°	381.4	375.1	366.6	361.0	358.1	356.0	351.8	346.9	343.3	340.5	338.4
30°	356.0	349.7	342.6	335.6	332.8	329.2	325.0	321.5	318.0	315.8	314.4
32.5°	327.8	321.5	314.4	309.5	306.0	303.2	299.6	296.1	293.3	291.9	290.5
35°	298.9	292.6	286.9	282.0	279.2	277.1	274.3	270.0	267.9	267.2	265.8
37.5°	267.9	263.7	258.7	254.5	252.4	249.6	248.2	244.6	244.6	241.8	241.8
40°	239.0	236.2	231.2	227.7	226.3	224.2	222.1	220.7	220.0	219.3	218.6
42.5°	213.6	209.4	206.6	203.7	201.6	200.2	200.2	198.1	197.4	195.3	194.6
45°	190.4	188.2	183.3	181.2	180.5	178.4	177.7	176.3	174.1	172.7	172.0
47.5°	169.9	167.8	165.0	162.2	160.7	159.3	157.9	155.8	154.4	152.3	151.6
50°	153.0	149.5	146.6	144.5	142.4	141.7	140.3	137.5	136.1	134.0	134.0
52.5°	137.5	134.7	131.1	129.0	126.9	125.5	123.4	121.3	119.1	118.4	116.3
55°	124.1	120.6	117.0	114.2	112.1	110.0	109.3	106.5	103.6	102.2	100.8
57.5°	111.4	107.9	103.6	100.1	98.7	97.3	95.2	92.4	90.2	88.1	86.7
60°	98.7	95.9	91.7	88.1	86.7	84.6	82.5	79.7	77.6	75.4	74.0
62.5°	88.1	83.9	80.4	76.8	74.7	73.3	70.5	68.4	65.6	63.5	61.3
65°	77.6	73.3	69.8	66.3	64.9	62.7	60.6	57.8	55.0	52.9	50.1
67.5°	67.0	63.5	59.9	56.4	55.0	53.6	50.8	47.9	45.1	43.0	40.2
70°	57.8	54.3	50.8	47.9	46.5	45.1	42.3	39.5	37.4	34.5	32.4
72.5°	49.4	46.5	43.0	40.2	38.8	37.4	34.5	32.4	29.6	28.2	26.1
75°	40.9	38.1	35.3	32.4	31.0	29.6	27.5	25.4	23.3	21.2	19.7
77.5°	32.4	29.6	26.8	24.7	23.3	22.6	20.4	18.3	16.2	14.8	12.7
80°	24.0	21.2	19.0	16.9	15.5	14.8	12.7	11.3	9.9	7.8	7.1
82.5°	14.8	12.7	11.3	9.9	9.2	8.5	7.1	5.6	4.9	4.2	3.5
85°	7.8	7.1	5.6	4.9	4.2	4.2	3.5	2.8	2.1	2.1	1.4
87.5°	2.8	2.1	2.1	1.4	1.4	1.4	1.4	0.7	0.7	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°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	478.0	478.7	479.4	480.1	479.4	479.4	480.8	478.0	480.1	480.1	477.3
5°	476.6	478.0	477.3	478.7	477.3	477.3	478.0	476.6	478.0	478.0	475.9
7.5°	475.2	476.6	476.6	477.3	476.6	476.6	477.3	475.2	476.6	476.6	474.5
10°	481.5	482.9	482.2	481.5	479.4	478.0	478.7	475.2	476.6	476.6	474.5
12.5°	483.6	482.9	480.1	478.7	477.3	475.9	476.6	473.8	475.2	475.2	473.8
15°	469.5	468.1	466.0	466.7	465.3	464.6	466.0	464.6	467.4	468.8	467.4
17.5°	445.6	444.9	443.5	443.5	443.5	444.2	446.3	446.3	450.5	453.3	454.7
20°	414.6	413.8	414.6	416.0	416.7	419.5	424.4	427.2	432.9	437.8	441.3
22.5°	386.3	387.8	389.9	392.7	393.4	396.9	403.3	406.1	413.1	418.8	422.3
25°	362.4	364.5	365.9	368.0	368.7	373.0	378.6	382.1	389.9	394.1	398.3
27.5°	338.4	341.2	341.9	344.8	344.8	349.0	353.9	357.4	362.4	366.6	370.1
30°	315.1	315.8	318.0	318.7	320.1	324.3	327.1	329.2	334.9	337.0	339.1
32.5°	289.8	292.6	294.0	294.7	294.0	297.5	300.3	301.7	303.9	306.7	308.1
35°	265.8	267.2	267.9	269.3	270.0	270.7	272.1	272.8	275.7	276.4	277.1
37.5°	241.8	243.9	243.2	243.9	243.9	244.6	246.1	245.3	247.5	248.2	247.5
40°	217.9	217.9	219.3	218.6	219.3	218.6	220.0	220.0	220.0	220.7	220.0
42.5°	193.9	194.6	193.9	195.3	193.9	194.6	194.6	193.9	194.6	193.9	193.9
45°	172.0	172.0	172.0	172.0	170.6	170.6	172.0	171.3	170.6	169.9	169.2
47.5°	150.9	151.6	150.2	150.9	150.2	149.5	148.8	148.8	148.1	146.6	145.9
50°	133.2	131.8	131.1	131.8	131.1	130.4	129.7	128.3	127.6	126.2	125.5
52.5°	115.6	114.2	112.8	112.8	112.1	110.7	110.0	108.6	107.9	106.5	106.5
55°	100.1	98.7	97.3	96.6	95.2	93.8	93.1	91.7	90.9	89.5	88.1
57.5°	85.3	83.2	81.8	81.1	80.4	78.3	77.6	76.1	74.7	73.3	72.6
60°	71.9	69.8	67.7	67.0	66.3	64.2	63.5	61.3	60.6	59.2	58.5
62.5°	59.2	57.8	55.0	54.3	52.9	51.5	49.4	48.6	47.9	48.6	48.6
65°	47.9	45.8	43.7	43.0	41.6	40.2	39.5	38.8	39.5	39.5	40.2
67.5°	38.1	36.0	33.8	33.8	33.1	31.7	31.7	31.7	32.4	32.4	33.1
70°	30.3	28.9	27.5	26.8	26.8	26.1	26.8	26.8	27.5	27.5	27.5
72.5°	24.0	23.3	22.6	21.9	21.9	21.9	21.9	21.9	21.9	21.9	22.6
75°	18.3	17.6	16.9	16.9	16.2	16.2	16.2	16.2	16.2	16.2	15.5
77.5°	12.0	11.3	10.6	10.6	9.9	9.2	9.2	8.5	8.5	8.5	8.5
80°	6.3	5.6	4.9	4.2	4.2	3.5	3.5	3.5	3.5	2.8	2.8
82.5°	2.8	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	480.8	480.8	480.8	480.8	480.8	480.8	480.8	480.8
2.5°	478.7	477.3	478.7	479.4	478.0	477.3	478.7	475.9
5°	478.0	475.9	476.6	477.3	475.9	475.2	476.6	474.5
7.5°	476.6	475.9	476.6	477.3	475.2	475.2	476.6	474.5
10°	476.6	475.2	475.9	477.3	475.9	475.9	477.3	474.5
12.5°	475.9	473.8	475.9	476.6	475.2	475.2	476.6	473.8
15°	471.0	471.0	471.7	473.1	472.4	473.1	475.2	473.1
17.5°	460.4	461.8	464.6	466.7	468.1	469.5	471.7	470.2
20°	447.7	449.8	453.3	455.4	458.3	459.0	462.5	459.7
22.5°	427.9	432.2	435.0	437.1	439.2	441.3	444.2	443.5
25°	404.0	406.8	408.9	411.0	413.8	415.3	416.7	416.0
27.5°	375.1	376.5	379.3	380.7	382.1	383.5	386.3	382.8
30°	343.3	344.0	345.5	347.6	347.6	349.0	350.4	349.7
32.5°	310.9	310.9	312.3	313.7	313.0	313.7	316.6	313.0
35°	279.2	278.5	280.6	281.3	281.3	280.6	282.7	282.0
37.5°	248.2	248.9	249.6	250.3	248.9	250.3	250.3	248.9
40°	220.0	219.3	220.7	221.4	220.7	221.4	221.4	218.6
42.5°	194.6	193.2	193.9	194.6	193.9	194.6	193.9	192.5
45°	169.9	169.2	169.2	169.9	168.5	168.5	168.5	168.5
47.5°	146.6	145.9	146.6	146.6	145.2	145.2	145.9	145.2
50°	125.5	124.8	124.8	124.8	124.1	124.1	124.8	124.8
52.5°	106.5	105.0	105.0	105.0	105.0	105.0	105.8	104.3
55°	87.4	87.4	87.4	87.4	88.1	88.1	88.1	88.1
57.5°	71.9	72.6	72.6	73.3	72.6	73.3	73.3	72.6
60°	59.9	59.2	59.9	59.9	60.6	60.6	60.6	60.6
62.5°	49.4	49.4	49.4	50.1	50.1	50.1	50.8	50.1
65°	40.9	40.9	41.6	41.6	41.6	42.3	42.3	42.3
67.5°	33.8	33.8	33.8	33.8	34.5	34.5	35.3	34.5
70°	28.2	28.2	28.2	28.2	28.2	28.9	28.9	28.9
72.5°	22.6	22.6	22.6	22.6	23.3	23.3	23.3	23.3
75°	15.5	15.5	15.5	16.2	15.5	15.5	15.5	15.5
77.5°	7.8	7.8	7.8	7.8	7.8	7.1	7.1	7.1
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.1	2.8
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)