

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: P251662

Luminaire Tested: **LD4B10D010 EU4B10208035 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251662
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: LD4B10D010 EU4B10208035 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 890.0 lumens
Efficiency: N/A
Efficacy: 88.6 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

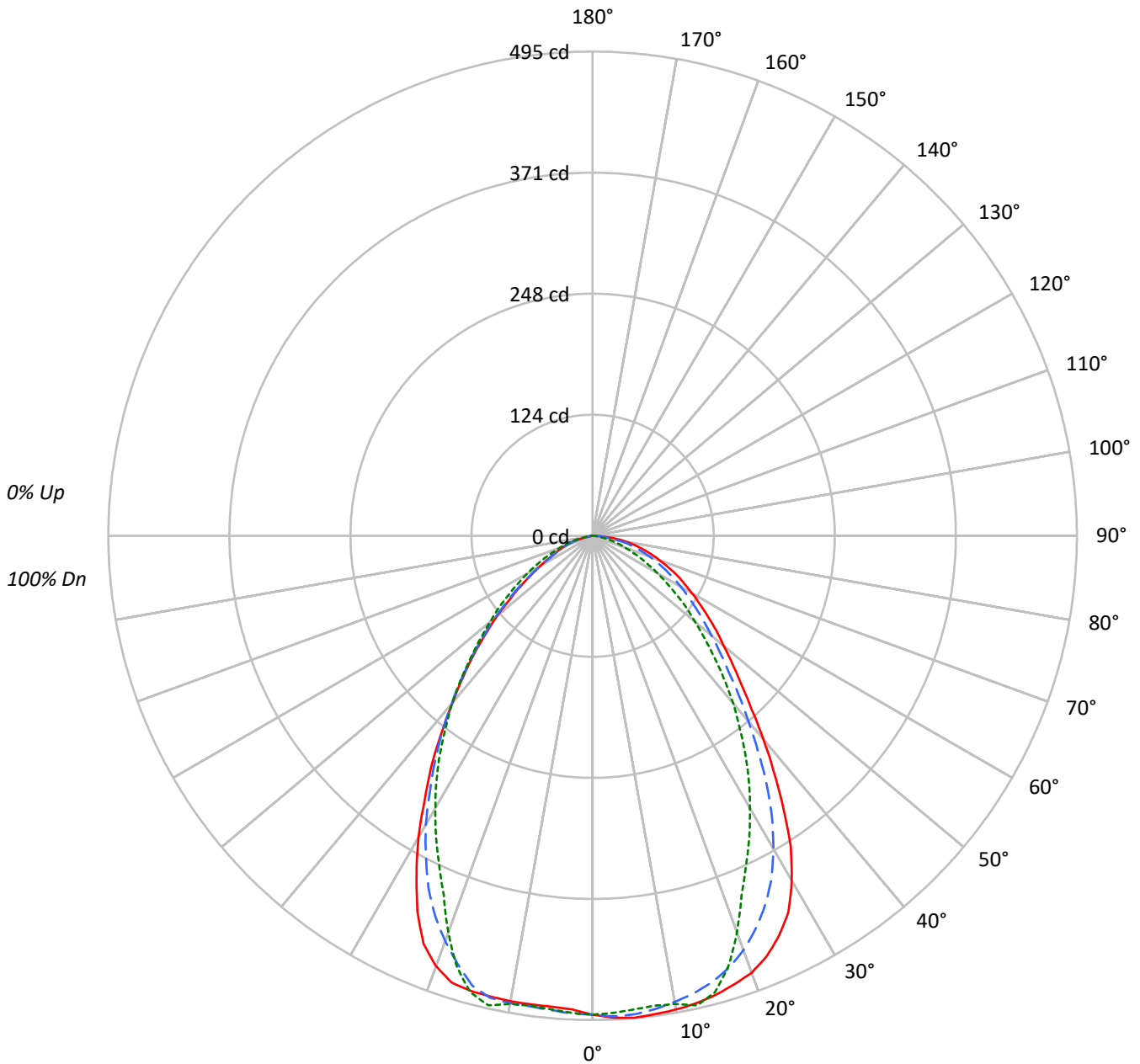
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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°	47715	47715	47715
5°	48387	47546	47272
10°	48669	48095	47818
15°	49035	48753	48602
20°	49295	44752	48548
25°	48487	39916	45551
30°	45813	36191	40074
35°	40404	32373	34169
40°	34528	28409	28320
45°	29591	24244	23651
50°	26457	20681	19271
55°	24400	17688	15241
60°	22805	14970	12026
65°	21861	12407	9939
70°	20659	10030	8377
75°	19995	8096	5949
80°	19363	4434	1628
85°	16885	2460	783



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	5.2
10°-20°	133.8	15.0
20°-30°	185.6	20.9
30°-40°	183.2	20.6
40°-50°	143.7	16.1
50°-60°	99.5	11.2
60°-70°	61.0	6.9
70°-80°	30.5	3.4
80°-90°	6.1	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°	366.0	41.1
0°-40°	549.2	61.7
0°-60°	792.4	89.0
0°-90°	890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	890.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	490	490	490	490	490	
5°	495	491	486	487	483	47
15°	486	472	483	476	482	137
25°	451	417	371	397	424	206
35°	340	310	272	281	287	212
45°	215	197	176	174	172	168
55°	144	128	104	93	90	129
65°	95	82	54	40	43	94
75°	53	44	22	16	16	56
85°	15	9	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°	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6
2.5°	493.2	491.8	491.1	493.2	492.5	493.9	493.2	492.5	491.1	491.8	491.8
5°	494.6	492.5	491.8	493.2	493.2	494.6	493.9	492.5	491.1	491.8	491.1
7.5°	493.2	491.8	491.8	492.5	491.8	493.2	491.8	490.3	488.9	489.6	488.2
10°	491.8	489.6	489.6	489.6	489.6	491.1	489.6	487.5	485.3	485.3	483.9
12.5°	489.6	487.5	487.5	488.2	486.8	488.2	486.8	483.2	481.0	480.3	478.9
15°	486.0	483.9	483.9	483.9	482.4	483.2	481.0	477.4	474.5	474.5	472.4
17.5°	481.0	478.9	478.1	478.1	476.0	476.7	474.5	471.0	466.7	465.2	463.1
20°	475.3	472.4	471.0	471.0	468.8	469.5	466.7	462.3	456.6	454.4	450.9
22.5°	465.2	463.8	461.6	460.9	458.8	458.0	455.2	449.4	444.4	440.8	435.1
25°	450.9	450.1	448.0	447.3	444.4	443.0	440.1	433.6	428.6	422.9	417.1
27.5°	433.6	430.8	429.3	427.2	424.3	423.6	420.0	414.2	406.3	402.8	395.6
30°	407.1	405.6	404.2	402.0	399.2	397.7	395.6	389.1	382.7	376.2	369.7
32.5°	376.9	374.0	371.9	372.6	369.0	367.6	364.0	358.2	352.5	348.2	341.0
35°	339.6	338.9	338.1	336.7	333.8	333.1	330.2	325.9	319.5	314.5	310.1
37.5°	304.4	302.2	300.8	300.8	297.9	297.9	295.8	290.8	287.2	283.6	277.8
40°	271.4	267.8	267.8	267.8	264.9	265.6	264.2	259.2	255.6	251.3	247.7
42.5°	240.5	239.1	238.4	236.9	235.5	235.5	234.0	231.2	227.6	224.7	221.1
45°	214.7	213.9	213.2	212.5	211.1	210.4	209.6	205.3	203.2	200.3	196.7
47.5°	193.8	192.4	191.7	191.0	189.5	188.8	187.4	184.5	182.4	179.5	176.6
50°	174.5	173.7	173.0	173.0	171.6	170.9	169.4	167.3	163.7	162.3	158.7
52.5°	159.4	157.9	156.5	156.5	155.1	155.1	152.9	150.8	147.2	145.7	142.9
55°	143.6	142.9	142.1	142.1	140.7	140.0	139.3	136.4	133.5	131.4	128.5
57.5°	129.9	129.2	128.5	128.5	127.1	126.4	125.6	123.5	120.6	119.2	115.6
60°	117.0	117.0	116.3	115.6	114.9	114.1	113.4	111.3	109.1	107.0	104.1
62.5°	105.5	104.8	104.1	103.4	103.4	102.7	101.9	99.1	97.6	95.5	92.6
65°	94.8	93.3	93.3	92.6	92.6	91.9	91.2	88.3	86.9	84.7	81.8
67.5°	83.3	82.6	81.8	81.8	81.1	81.1	80.4	78.3	76.1	74.7	71.8
70°	72.5	72.5	71.8	71.8	71.1	70.4	70.4	68.9	66.8	64.6	61.7
72.5°	63.2	62.5	61.7	61.7	61.0	61.0	60.3	58.9	57.4	56.0	52.4
75°	53.1	52.4	52.4	52.4	51.7	51.7	51.0	49.5	48.1	46.7	44.5
77.5°	43.8	43.8	43.1	43.1	42.4	42.4	42.4	40.9	39.5	38.0	35.2
80°	34.5	34.5	34.5	33.7	33.0	33.0	33.0	31.6	30.2	28.7	26.6
82.5°	25.1	24.4	24.4	23.7	23.0	23.0	23.0	21.5	20.8	18.7	17.2
85°	15.1	14.4	14.4	13.6	12.9	12.9	12.9	12.2	10.8	10.1	8.6
87.5°	5.7	5.7	5.7	5.7	5.7	5.0	5.0	4.3	4.3	3.6	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°	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6
2.5°	491.8	491.1	491.1	490.3	491.1	489.6	489.6	489.6	489.6	488.2	488.2
5°	490.3	490.3	489.6	488.9	489.6	488.2	488.9	488.2	488.2	486.0	486.0
7.5°	487.5	486.8	485.3	484.6	485.3	484.6	484.6	484.6	486.0	484.6	484.6
10°	482.4	481.7	480.3	479.6	479.6	478.9	480.3	481.7	484.6	486.0	488.9
12.5°	477.4	476.0	475.3	475.3	476.0	476.0	478.9	482.4	489.6	491.8	494.6
15°	471.0	470.2	470.2	472.4	475.3	477.4	483.2	485.3	486.0	483.2	481.7
17.5°	462.3	462.3	463.1	465.2	467.4	467.4	468.1	466.7	465.2	461.6	457.3
20°	448.0	447.3	445.8	445.8	445.8	443.0	444.4	439.4	435.8	431.5	425.0
22.5°	430.0	426.4	421.4	417.8	415.7	414.2	410.7	404.9	400.6	397.7	394.9
25°	410.7	404.9	397.7	392.0	388.4	387.7	382.7	377.6	374.8	371.2	369.7
27.5°	388.4	381.9	373.3	367.6	364.7	362.6	358.2	353.2	349.6	346.8	344.6
30°	362.6	356.1	348.9	341.7	338.9	335.3	331.0	327.4	323.8	321.6	320.2
32.5°	333.8	327.4	320.2	315.2	311.6	308.7	305.1	301.5	298.7	297.2	295.8
35°	304.4	297.9	292.2	287.2	284.3	282.1	279.3	275.0	272.8	272.1	270.7
37.5°	272.8	268.5	263.5	259.2	257.0	254.1	252.7	249.1	249.1	246.2	246.2
40°	243.4	240.5	235.5	231.9	230.5	228.3	226.1	224.7	224.0	223.3	222.6
42.5°	217.5	213.2	210.4	207.5	205.3	203.9	203.9	201.7	201.0	198.9	198.1
45°	193.8	191.7	186.7	184.5	183.8	181.6	180.9	179.5	177.3	175.9	175.2
47.5°	173.0	170.9	168.0	165.1	163.7	162.3	160.8	158.7	157.2	155.1	154.4
50°	155.8	152.2	149.3	147.2	145.0	144.3	142.9	140.0	138.6	136.4	136.4
52.5°	140.0	137.1	133.5	131.4	129.2	127.8	125.6	123.5	121.3	120.6	118.5
55°	126.4	122.8	119.2	116.3	114.1	112.0	111.3	108.4	105.5	104.1	102.7
57.5°	113.4	109.8	105.5	101.9	100.5	99.1	96.9	94.0	91.9	89.7	88.3
60°	100.5	97.6	93.3	89.7	88.3	86.2	84.0	81.1	79.0	76.8	75.4
62.5°	89.7	85.4	81.8	78.3	76.1	74.7	71.8	69.6	66.8	64.6	62.5
65°	79.0	74.7	71.1	67.5	66.0	63.9	61.7	58.9	56.0	53.8	51.0
67.5°	68.2	64.6	61.0	57.4	56.0	54.6	51.7	48.8	45.9	43.8	40.9
70°	58.9	55.3	51.7	48.8	47.4	45.9	43.1	40.2	38.0	35.2	33.0
72.5°	50.3	47.4	43.8	40.9	39.5	38.0	35.2	33.0	30.2	28.7	26.6
75°	41.6	38.8	35.9	33.0	31.6	30.2	28.0	25.8	23.7	21.5	20.1
77.5°	33.0	30.2	27.3	25.1	23.7	23.0	20.8	18.7	16.5	15.1	12.9
80°	24.4	21.5	19.4	17.2	15.8	15.1	12.9	11.5	10.1	7.9	7.2
82.5°	15.1	12.9	11.5	10.1	9.3	8.6	7.2	5.7	5.0	4.3	3.6
85°	7.9	7.2	5.7	5.0	4.3	4.3	3.6	2.9	2.2	2.2	1.4
87.5°	2.9	2.2	2.2	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°	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6
2.5°	486.8	487.5	488.2	488.9	488.2	488.2	489.6	486.8	488.9	488.9	486.0
5°	485.3	486.8	486.0	487.5	486.0	486.0	486.8	485.3	486.8	486.8	484.6
7.5°	483.9	485.3	485.3	486.0	485.3	485.3	486.0	483.9	485.3	485.3	483.2
10°	490.3	491.8	491.1	490.3	488.2	486.8	487.5	483.9	485.3	485.3	483.2
12.5°	492.5	491.8	488.9	487.5	486.0	484.6	485.3	482.4	483.9	483.9	482.4
15°	478.1	476.7	474.5	475.3	473.8	473.1	474.5	473.1	476.0	477.4	476.0
17.5°	453.7	453.0	451.6	451.6	451.6	452.3	454.4	454.4	458.8	461.6	463.1
20°	422.1	421.4	422.1	423.6	424.3	427.2	432.2	435.1	440.8	445.8	449.4
22.5°	393.4	394.9	397.0	399.9	400.6	404.2	410.7	413.5	420.7	426.4	430.0
25°	369.0	371.2	372.6	374.8	375.5	379.8	385.5	389.1	397.0	401.3	405.6
27.5°	344.6	347.5	348.2	351.1	351.1	355.4	360.4	364.0	369.0	373.3	376.9
30°	320.9	321.6	323.8	324.5	325.9	330.2	333.1	335.3	341.0	343.2	345.3
32.5°	295.1	297.9	299.4	300.1	299.4	303.0	305.8	307.3	309.4	312.3	313.7
35°	270.7	272.1	272.8	274.2	275.0	275.7	277.1	277.8	280.7	281.4	282.1
37.5°	246.2	248.4	247.7	248.4	248.4	249.1	250.6	249.8	252.0	252.7	252.0
40°	221.8	221.8	223.3	222.6	223.3	222.6	224.0	224.0	224.0	224.7	224.0
42.5°	197.4	198.1	197.4	198.9	197.4	198.1	198.1	197.4	198.1	197.4	197.4
45°	175.2	175.2	175.2	175.2	173.7	173.7	175.2	174.5	173.7	173.0	172.3
47.5°	153.6	154.4	152.9	153.6	152.9	152.2	151.5	151.5	150.8	149.3	148.6
50°	135.7	134.3	133.5	134.3	133.5	132.8	132.1	130.7	129.9	128.5	127.8
52.5°	117.7	116.3	114.9	114.9	114.1	112.7	112.0	110.6	109.8	108.4	108.4
55°	101.9	100.5	99.1	98.4	96.9	95.5	94.8	93.3	92.6	91.2	89.7
57.5°	86.9	84.7	83.3	82.6	81.8	79.7	79.0	77.5	76.1	74.7	73.9
60°	73.2	71.1	68.9	68.2	67.5	65.3	64.6	62.5	61.7	60.3	59.6
62.5°	60.3	58.9	56.0	55.3	53.8	52.4	50.3	49.5	48.8	49.5	49.5
65°	48.8	46.7	44.5	43.8	42.4	40.9	40.2	39.5	40.2	40.2	40.9
67.5°	38.8	36.6	34.5	34.5	33.7	32.3	32.3	32.3	33.0	33.0	33.7
70°	30.9	29.4	28.0	27.3	27.3	26.6	27.3	27.3	28.0	28.0	28.0
72.5°	24.4	23.7	23.0	22.3	22.3	22.3	22.3	22.3	22.3	22.3	23.0
75°	18.7	17.9	17.2	17.2	16.5	16.5	16.5	16.5	16.5	16.5	15.8
77.5°	12.2	11.5	10.8	10.8	10.1	9.3	9.3	8.6	8.6	8.6	8.6
80°	6.5	5.7	5.0	4.3	4.3	3.6	3.6	3.6	3.6	2.9	2.9
82.5°	2.9	2.2	2.2	2.2	2.2	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°	489.6	489.6	489.6	489.6	489.6	489.6	489.6	489.6
2.5°	487.5	486.0	487.5	488.2	486.8	486.0	487.5	484.6
5°	486.8	484.6	485.3	486.0	484.6	483.9	485.3	483.2
7.5°	485.3	484.6	485.3	486.0	483.9	483.9	485.3	483.2
10°	485.3	483.9	484.6	486.0	484.6	484.6	486.0	483.2
12.5°	484.6	482.4	484.6	485.3	483.9	483.9	485.3	482.4
15°	479.6	479.6	480.3	481.7	481.0	481.7	483.9	481.7
17.5°	468.8	470.2	473.1	475.3	476.7	478.1	480.3	478.9
20°	455.9	458.0	461.6	463.8	466.7	467.4	471.0	468.1
22.5°	435.8	440.1	443.0	445.1	447.3	449.4	452.3	451.6
25°	411.4	414.2	416.4	418.5	421.4	422.9	424.3	423.6
27.5°	381.9	383.4	386.2	387.7	389.1	390.6	393.4	389.8
30°	349.6	350.3	351.8	353.9	353.9	355.4	356.8	356.1
32.5°	316.6	316.6	318.0	319.5	318.8	319.5	322.3	318.8
35°	284.3	283.6	285.7	286.5	286.5	285.7	287.9	287.2
37.5°	252.7	253.4	254.1	254.9	253.4	254.9	254.9	253.4
40°	224.0	223.3	224.7	225.4	224.7	225.4	225.4	222.6
42.5°	198.1	196.7	197.4	198.1	197.4	198.1	197.4	196.0
45°	173.0	172.3	172.3	173.0	171.6	171.6	171.6	171.6
47.5°	149.3	148.6	149.3	149.3	147.9	147.9	148.6	147.9
50°	127.8	127.1	127.1	127.1	126.4	126.4	127.1	127.1
52.5°	108.4	107.0	107.0	107.0	107.0	107.0	107.7	106.3
55°	89.0	89.0	89.0	89.0	89.7	89.7	89.7	89.7
57.5°	73.2	73.9	73.9	74.7	73.9	74.7	74.7	73.9
60°	61.0	60.3	61.0	61.0	61.7	61.7	61.7	61.7
62.5°	50.3	50.3	50.3	51.0	51.0	51.0	51.7	51.0
65°	41.6	41.6	42.4	42.4	42.4	43.1	43.1	43.1
67.5°	34.5	34.5	34.5	34.5	35.2	35.2	35.9	35.2
70°	28.7	28.7	28.7	28.7	28.7	29.4	29.4	29.4
72.5°	23.0	23.0	23.0	23.0	23.7	23.7	23.7	23.7
75°	15.8	15.8	15.8	16.5	15.8	15.8	15.8	15.8
77.5°	7.9	7.9	7.9	7.9	7.9	7.2	7.2	7.2
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.2	2.9
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)