

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: P251663

Luminaire Tested: **LD4B10D010 EU4B10208040 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251663
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 EU4B10208040 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 900.0 lumens
Efficiency: N/A
Efficacy: 89.6 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

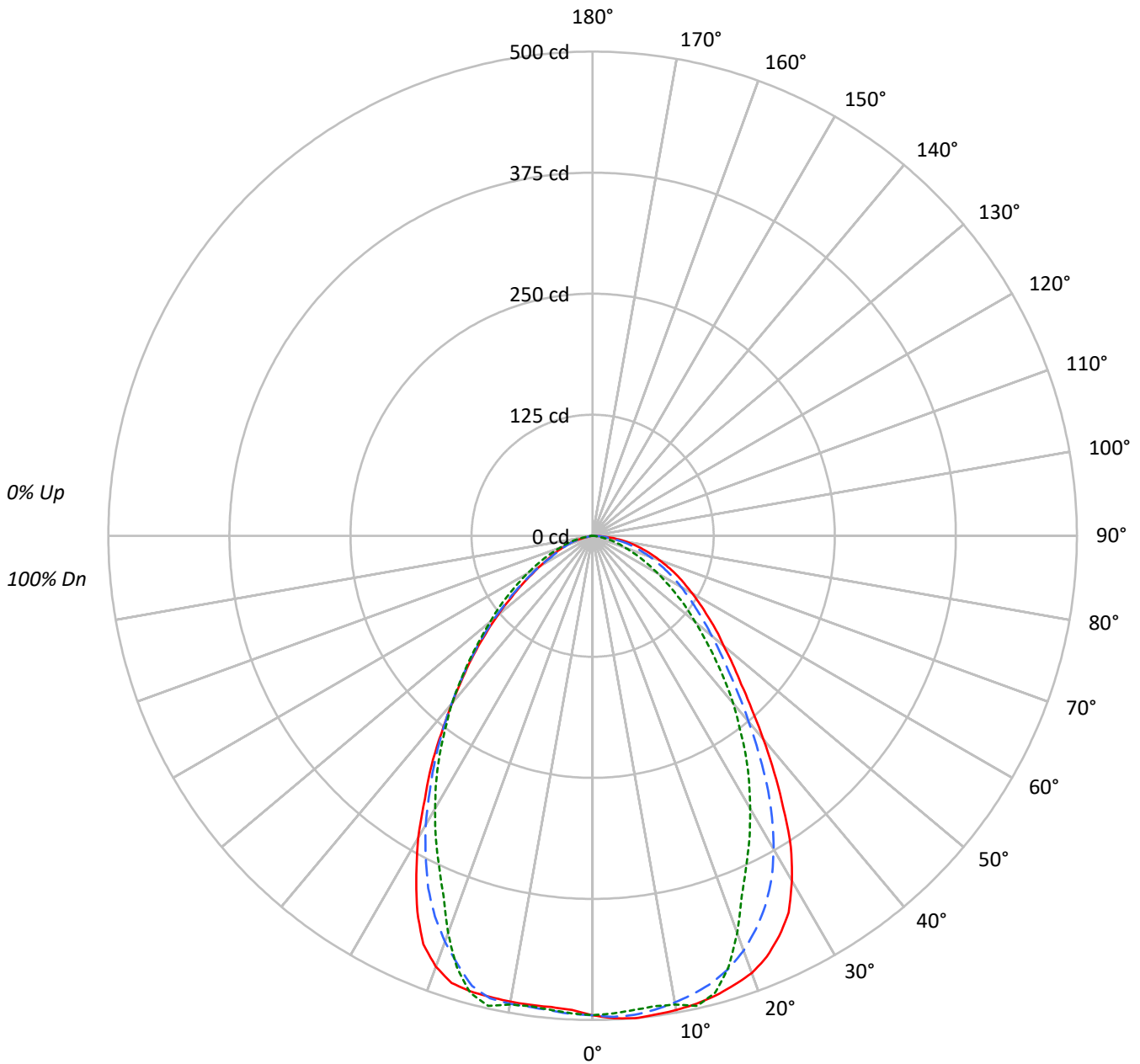
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	101	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°	48251	48251	48251
5°	48935	48084	47800
10°	49214	48640	48353
15°	49590	49298	49146
20°	49844	45250	49087
25°	49024	40357	46056
30°	46319	36596	40524
35°	40856	32742	34550
40°	34910	28727	28638
45°	29922	24519	23913
50°	26745	20908	19483
55°	24671	17892	15411
60°	23059	15145	12163
65°	22092	12545	10054
70°	20887	10144	8491
75°	20221	8209	6025
80°	19531	4490	1628
85°	16997	2460	783



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	5.2
10°-20°	135.3	15.0
20°-30°	187.7	20.9
30°-40°	185.3	20.6
40°-50°	145.3	16.1
50°-60°	100.7	11.2
60°-70°	61.7	6.9
70°-80°	30.8	3.4
80°-90°	6.2	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°	370.1	41.1
0°-40°	555.3	61.7
0°-60°	801.3	89.0
0°-90°	900.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	900.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	495	495	495	495	495	
5°	500	497	492	492	489	48
15°	492	478	489	481	487	139
25°	456	422	375	402	428	209
35°	343	314	275	284	290	214
45°	217	199	178	176	174	170
55°	145	130	105	94	91	131
65°	96	83	54	41	44	95
75°	54	45	22	17	16	57
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°	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1
2.5°	498.8	497.3	496.6	498.8	498.0	499.5	498.8	498.0	496.6	497.3	497.3
5°	500.2	498.0	497.3	498.8	498.8	500.2	499.5	498.0	496.6	497.3	496.6
7.5°	498.8	497.3	497.3	498.0	497.3	498.8	497.3	495.9	494.4	495.1	493.7
10°	497.3	495.1	495.1	495.1	495.1	496.6	495.1	492.9	490.8	490.8	489.3
12.5°	495.1	492.9	492.9	493.7	492.2	493.7	492.2	488.6	486.4	485.7	484.2
15°	491.5	489.3	489.3	489.3	487.9	488.6	486.4	482.8	479.9	479.9	477.7
17.5°	486.4	484.2	483.5	483.5	481.3	482.1	479.9	476.2	471.9	470.4	468.3
20°	480.6	477.7	476.2	476.2	474.1	474.8	471.9	467.5	461.7	459.6	455.9
22.5°	470.4	469.0	466.8	466.1	463.9	463.2	460.3	454.5	449.4	445.8	440.0
25°	455.9	455.2	453.0	452.3	449.4	447.9	445.0	438.5	433.4	427.6	421.8
27.5°	438.5	435.6	434.1	432.0	429.1	428.3	424.7	418.9	410.9	407.3	400.0
30°	411.6	410.2	408.7	406.6	403.7	402.2	400.0	393.5	387.0	380.4	373.9
32.5°	381.1	378.2	376.1	376.8	373.2	371.7	368.1	362.3	356.5	352.1	344.8
35°	343.4	342.7	341.9	340.5	337.6	336.9	334.0	329.6	323.1	318.0	313.6
37.5°	307.8	305.6	304.2	304.2	301.3	301.3	299.1	294.0	290.4	286.8	281.0
40°	274.4	270.8	270.8	270.8	267.9	268.6	267.2	262.1	258.5	254.1	250.5
42.5°	243.2	241.8	241.0	239.6	238.1	238.1	236.7	233.8	230.1	227.2	223.6
45°	217.1	216.3	215.6	214.9	213.4	212.7	212.0	207.6	205.5	202.6	198.9
47.5°	196.0	194.6	193.8	193.1	191.7	190.9	189.5	186.6	184.4	181.5	178.6
50°	176.4	175.7	175.0	175.0	173.5	172.8	171.3	169.2	165.5	164.1	160.4
52.5°	161.2	159.7	158.3	158.3	156.8	156.8	154.6	152.5	148.8	147.4	144.5
55°	145.2	144.5	143.7	143.7	142.3	141.6	140.8	137.9	135.0	132.9	130.0
57.5°	131.4	130.7	130.0	130.0	128.5	127.8	127.0	124.9	122.0	120.5	116.9
60°	118.3	118.3	117.6	116.9	116.2	115.4	114.7	112.5	110.4	108.2	105.3
62.5°	106.7	106.0	105.3	104.5	104.5	103.8	103.1	100.2	98.7	96.6	93.7
65°	95.8	94.4	94.4	93.7	93.7	92.9	92.2	89.3	87.8	85.7	82.8
67.5°	84.2	83.5	82.8	82.8	82.0	82.0	81.3	79.1	77.0	75.5	72.6
70°	73.3	73.3	72.6	72.6	71.9	71.1	71.1	69.7	67.5	65.3	62.4
72.5°	63.9	63.2	62.4	62.4	61.7	61.7	61.0	59.5	58.1	56.6	53.0
75°	53.7	53.0	53.0	53.0	52.3	52.3	51.5	50.1	48.6	47.2	45.0
77.5°	44.3	44.3	43.6	43.6	42.8	42.8	42.8	41.4	39.9	38.5	35.6
80°	34.8	34.8	34.8	34.1	33.4	33.4	33.4	31.9	30.5	29.0	26.9
82.5°	25.4	24.7	24.7	24.0	23.2	23.2	23.2	21.8	21.1	18.9	17.4
85°	15.2	14.5	14.5	13.8	13.1	13.1	13.1	12.3	10.9	10.2	8.7
87.5°	5.8	5.8	5.8	5.8	5.8	5.1	5.1	4.4	4.4	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°	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1
2.5°	497.3	496.6	496.6	495.9	496.6	495.1	495.1	495.1	495.1	493.7	493.7
5°	495.9	495.9	495.1	494.4	495.1	493.7	494.4	493.7	493.7	491.5	491.5
7.5°	492.9	492.2	490.8	490.0	490.8	490.0	490.0	490.0	491.5	490.0	490.0
10°	487.9	487.1	485.7	485.0	485.0	484.2	485.7	487.1	490.0	491.5	494.4
12.5°	482.8	481.3	480.6	480.6	481.3	481.3	484.2	487.9	495.1	497.3	500.2
15°	476.2	475.5	475.5	477.7	480.6	482.8	488.6	490.8	491.5	488.6	487.1
17.5°	467.5	467.5	468.3	470.4	472.6	472.6	473.3	471.9	470.4	466.8	462.5
20°	453.0	452.3	450.8	450.8	450.8	447.9	449.4	444.3	440.7	436.3	429.8
22.5°	434.9	431.2	426.2	422.5	420.3	418.9	415.3	409.5	405.1	402.2	399.3
25°	415.3	409.5	402.2	396.4	392.8	392.0	387.0	381.9	379.0	375.3	373.9
27.5°	392.8	386.2	377.5	371.7	368.8	366.6	362.3	357.2	353.6	350.7	348.5
30°	366.6	360.1	352.8	345.6	342.7	339.0	334.7	331.1	327.4	325.2	323.8
32.5°	337.6	331.1	323.8	318.7	315.1	312.2	308.5	304.9	302.0	300.6	299.1
35°	307.8	301.3	295.5	290.4	287.5	285.3	282.4	278.1	275.9	275.2	273.7
37.5°	275.9	271.5	266.4	262.1	259.9	257.0	255.5	251.9	251.9	249.0	249.0
40°	246.1	243.2	238.1	234.5	233.0	230.9	228.7	227.2	226.5	225.8	225.1
42.5°	220.0	215.6	212.7	209.8	207.6	206.2	206.2	204.0	203.3	201.1	200.4
45°	196.0	193.8	188.8	186.6	185.9	183.7	182.9	181.5	179.3	177.9	177.1
47.5°	175.0	172.8	169.9	167.0	165.5	164.1	162.6	160.4	159.0	156.8	156.1
50°	157.5	153.9	151.0	148.8	146.7	145.9	144.5	141.6	140.1	137.9	137.9
52.5°	141.6	138.7	135.0	132.9	130.7	129.2	127.0	124.9	122.7	122.0	119.8
55°	127.8	124.1	120.5	117.6	115.4	113.3	112.5	109.6	106.7	105.3	103.8
57.5°	114.7	111.1	106.7	103.1	101.6	100.2	98.0	95.1	92.9	90.7	89.3
60°	101.6	98.7	94.4	90.7	89.3	87.1	84.9	82.0	79.9	77.7	76.2
62.5°	90.7	86.4	82.8	79.1	77.0	75.5	72.6	70.4	67.5	65.3	63.2
65°	79.9	75.5	71.9	68.2	66.8	64.6	62.4	59.5	56.6	54.4	51.5
67.5°	69.0	65.3	61.7	58.1	56.6	55.2	52.3	49.4	46.5	44.3	41.4
70°	59.5	55.9	52.3	49.4	47.9	46.5	43.6	40.7	38.5	35.6	33.4
72.5°	50.8	47.9	44.3	41.4	39.9	38.5	35.6	33.4	30.5	29.0	26.9
75°	42.1	39.2	36.3	33.4	31.9	30.5	28.3	26.1	24.0	21.8	20.3
77.5°	33.4	30.5	27.6	25.4	24.0	23.2	21.1	18.9	16.7	15.2	13.1
80°	24.7	21.8	19.6	17.4	16.0	15.2	13.1	11.6	10.2	8.0	7.3
82.5°	15.2	13.1	11.6	10.2	9.4	8.7	7.3	5.8	5.1	4.4	3.6
85°	8.0	7.3	5.8	5.1	4.4	4.4	3.6	2.9	2.2	2.2	1.5
87.5°	2.9	2.2	2.2	1.5	1.5	1.5	1.5	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°	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1
2.5°	492.2	492.9	493.7	494.4	493.7	493.7	495.1	492.2	494.4	494.4	491.5
5°	490.8	492.2	491.5	492.9	491.5	491.5	492.2	490.8	492.2	492.2	490.0
7.5°	489.3	490.8	490.8	491.5	490.8	490.8	491.5	489.3	490.8	490.8	488.6
10°	495.9	497.3	496.6	495.9	493.7	492.2	492.9	489.3	490.8	490.8	488.6
12.5°	498.0	497.3	494.4	492.9	491.5	490.0	490.8	487.9	489.3	489.3	487.9
15°	483.5	482.1	479.9	480.6	479.2	478.4	479.9	478.4	481.3	482.8	481.3
17.5°	458.8	458.1	456.6	456.6	456.6	457.4	459.6	459.6	463.9	466.8	468.3
20°	426.9	426.2	426.9	428.3	429.1	432.0	437.0	440.0	445.8	450.8	454.5
22.5°	397.8	399.3	401.5	404.4	405.1	408.7	415.3	418.2	425.4	431.2	434.9
25°	373.2	375.3	376.8	379.0	379.7	384.0	389.9	393.5	401.5	405.8	410.2
27.5°	348.5	351.4	352.1	355.0	355.0	359.4	364.4	368.1	373.2	377.5	381.1
30°	324.5	325.2	327.4	328.1	329.6	334.0	336.9	339.0	344.8	347.0	349.2
32.5°	298.4	301.3	302.7	303.5	302.7	306.4	309.3	310.7	312.9	315.8	317.3
35°	273.7	275.2	275.9	277.3	278.1	278.8	280.2	281.0	283.9	284.6	285.3
37.5°	249.0	251.2	250.5	251.2	251.2	251.9	253.4	252.6	254.8	255.5	254.8
40°	224.3	224.3	225.8	225.1	225.8	225.1	226.5	226.5	226.5	227.2	226.5
42.5°	199.6	200.4	199.6	201.1	199.6	200.4	200.4	199.6	200.4	199.6	199.6
45°	177.1	177.1	177.1	177.1	175.7	175.7	177.1	176.4	175.7	175.0	174.2
47.5°	155.4	156.1	154.6	155.4	154.6	153.9	153.2	153.2	152.5	151.0	150.3
50°	137.2	135.8	135.0	135.8	135.0	134.3	133.6	132.1	131.4	130.0	129.2
52.5°	119.1	117.6	116.2	116.2	115.4	114.0	113.3	111.8	111.1	109.6	109.6
55°	103.1	101.6	100.2	99.5	98.0	96.6	95.8	94.4	93.7	92.2	90.7
57.5°	87.8	85.7	84.2	83.5	82.8	80.6	79.9	78.4	77.0	75.5	74.8
60°	74.1	71.9	69.7	69.0	68.2	66.1	65.3	63.2	62.4	61.0	60.3
62.5°	61.0	59.5	56.6	55.9	54.4	53.0	50.8	50.1	49.4	50.1	50.1
65°	49.4	47.2	45.0	44.3	42.8	41.4	40.7	39.9	40.7	40.7	41.4
67.5°	39.2	37.0	34.8	34.8	34.1	32.7	32.7	32.7	33.4	33.4	34.1
70°	31.2	29.8	28.3	27.6	27.6	26.9	27.6	27.6	28.3	28.3	28.3
72.5°	24.7	24.0	23.2	22.5	22.5	22.5	22.5	22.5	22.5	22.5	23.2
75°	18.9	18.1	17.4	17.4	16.7	16.7	16.7	16.7	16.7	16.7	16.0
77.5°	12.3	11.6	10.9	10.9	10.2	9.4	9.4	8.7	8.7	8.7	8.7
80°	6.5	5.8	5.1	4.4	4.4	3.6	3.6	3.6	3.6	2.9	2.9
82.5°	2.9	2.2	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5
85°	1.5	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°	495.1	495.1	495.1	495.1	495.1	495.1	495.1	495.1
2.5°	492.9	491.5	492.9	493.7	492.2	491.5	492.9	490.0
5°	492.2	490.0	490.8	491.5	490.0	489.3	490.8	488.6
7.5°	490.8	490.0	490.8	491.5	489.3	489.3	490.8	488.6
10°	490.8	489.3	490.0	491.5	490.0	490.0	491.5	488.6
12.5°	490.0	487.9	490.0	490.8	489.3	489.3	490.8	487.9
15°	485.0	485.0	485.7	487.1	486.4	487.1	489.3	487.1
17.5°	474.1	475.5	478.4	480.6	482.1	483.5	485.7	484.2
20°	461.0	463.2	466.8	469.0	471.9	472.6	476.2	473.3
22.5°	440.7	445.0	447.9	450.1	452.3	454.5	457.4	456.6
25°	416.0	418.9	421.1	423.3	426.2	427.6	429.1	428.3
27.5°	386.2	387.7	390.6	392.0	393.5	394.9	397.8	394.2
30°	353.6	354.3	355.7	357.9	357.9	359.4	360.8	360.1
32.5°	320.2	320.2	321.6	323.1	322.3	323.1	326.0	322.3
35°	287.5	286.8	288.9	289.7	289.7	288.9	291.1	290.4
37.5°	255.5	256.3	257.0	257.7	256.3	257.7	257.7	256.3
40°	226.5	225.8	227.2	228.0	227.2	228.0	228.0	225.1
42.5°	200.4	198.9	199.6	200.4	199.6	200.4	199.6	198.2
45°	175.0	174.2	174.2	175.0	173.5	173.5	173.5	173.5
47.5°	151.0	150.3	151.0	151.0	149.6	149.6	150.3	149.6
50°	129.2	128.5	128.5	128.5	127.8	127.8	128.5	128.5
52.5°	109.6	108.2	108.2	108.2	108.2	108.2	108.9	107.4
55°	90.0	90.0	90.0	90.0	90.7	90.7	90.7	90.7
57.5°	74.1	74.8	74.8	75.5	74.8	75.5	75.5	74.8
60°	61.7	61.0	61.7	61.7	62.4	62.4	62.4	62.4
62.5°	50.8	50.8	50.8	51.5	51.5	51.5	52.3	51.5
65°	42.1	42.1	42.8	42.8	42.8	43.6	43.6	43.6
67.5°	34.8	34.8	34.8	34.8	35.6	35.6	36.3	35.6
70°	29.0	29.0	29.0	29.0	29.0	29.8	29.8	29.8
72.5°	23.2	23.2	23.2	23.2	24.0	24.0	24.0	24.0
75°	16.0	16.0	16.0	16.7	16.0	16.0	16.0	16.0
77.5°	8.0	8.0	8.0	8.0	8.0	7.3	7.3	7.3
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.2	2.9
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	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)