

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: P251660

Luminaire Tested: **LD4B10D010 EU4B10208027 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251660
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 EU4B10208027 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 831.0 lumens
Efficiency: N/A
Efficacy: 82.7 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

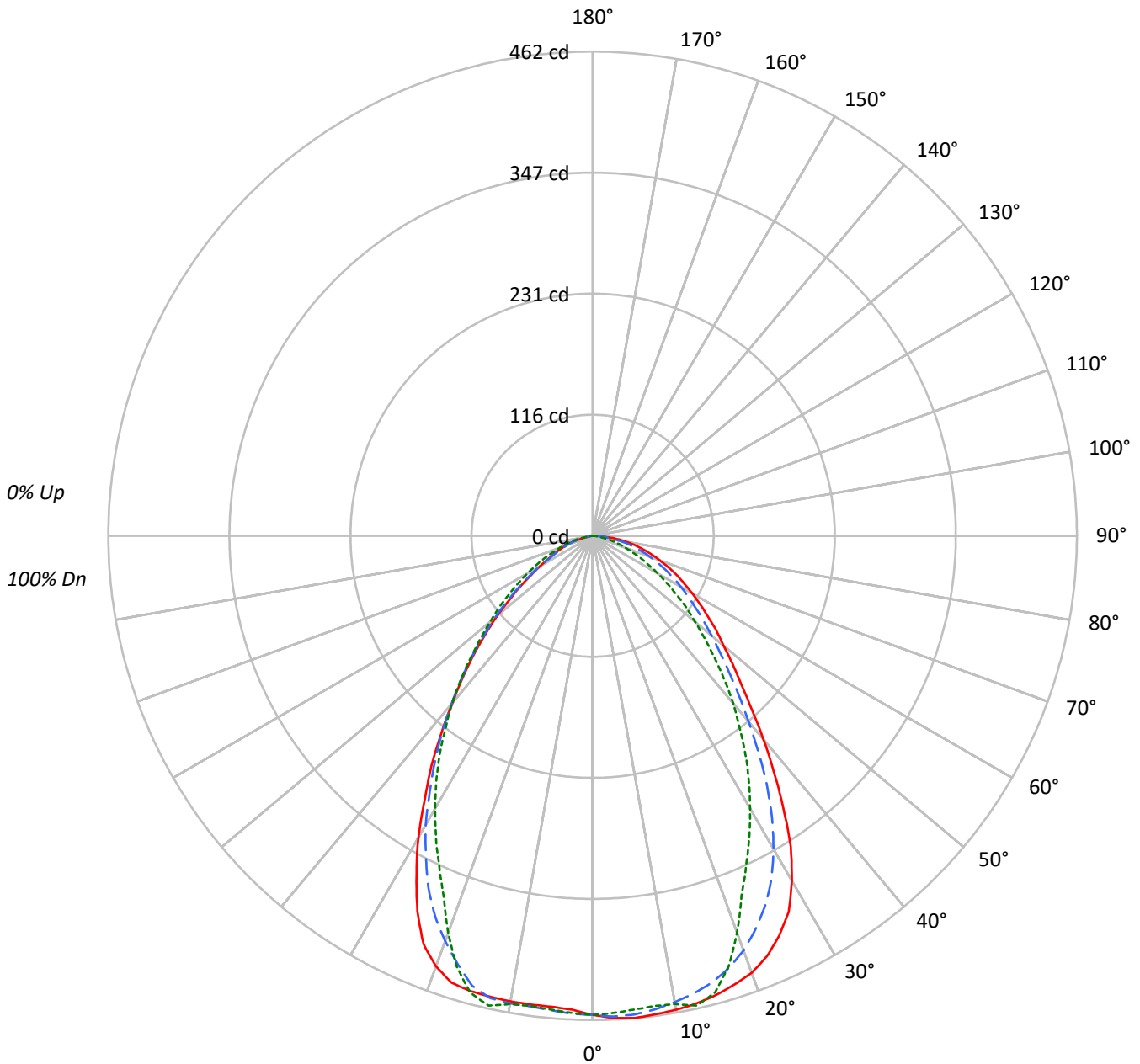
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	44558	44558	44558
5°	45188	44395	44131
10°	45443	44909	44642
15°	45787	45514	45383
20°	46028	41786	45333
25°	45271	37271	42529
30°	42775	33794	37418
35°	37727	30231	31897
40°	32238	26526	26437
45°	27620	22631	22080
50°	24699	19316	17982
55°	22785	16516	14239
60°	21304	13975	11227
65°	20409	11599	9270
70°	19291	9346	7836
75°	18677	7569	5535
80°	18072	4153	1515
85°	15767	2236	783



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.4	5.2
10°-20°	125.0	15.0
20°-30°	173.3	20.9
30°-40°	171.1	20.6
40°-50°	134.2	16.1
50°-60°	92.9	11.2
60°-70°	57.0	6.9
70°-80°	28.5	3.4
80°-90°	5.7	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°	341.7	41.1
0°-40°	512.8	61.7
0°-60°	739.9	89.0
0°-90°	831.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	831.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	457	457	457	457	457	
5°	462	458	454	454	451	44
15°	454	441	451	444	450	128
25°	421	390	347	371	396	193
35°	317	290	254	262	268	198
45°	200	184	164	162	160	157
55°	134	120	97	86	84	121
65°	88	76	50	38	40	87
75°	50	42	20	15	15	53
85°	14	8	2	1	1	16
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°	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2
2.5°	460.5	459.2	458.5	460.5	459.8	461.2	460.5	459.8	458.5	459.2	459.2
5°	461.9	459.8	459.2	460.5	460.5	461.9	461.2	459.8	458.5	459.2	458.5
7.5°	460.5	459.2	459.2	459.8	459.2	460.5	459.2	457.8	456.5	457.2	455.8
10°	459.2	457.2	457.2	457.2	457.2	458.5	457.2	455.2	453.1	453.1	451.8
12.5°	457.2	455.2	455.2	455.8	454.5	455.8	454.5	451.1	449.1	448.5	447.1
15°	453.8	451.8	451.8	451.8	450.5	451.1	449.1	445.8	443.1	443.1	441.1
17.5°	449.1	447.1	446.4	446.4	444.4	445.1	443.1	439.7	435.7	434.4	432.4
20°	443.8	441.1	439.7	439.7	437.7	438.4	435.7	431.7	426.3	424.3	421.0
22.5°	434.4	433.0	431.0	430.4	428.3	427.7	425.0	419.6	414.9	411.6	406.2
25°	421.0	420.3	418.3	417.6	414.9	413.6	410.9	404.9	400.2	394.8	389.5
27.5°	404.9	402.2	400.9	398.8	396.2	395.5	392.1	386.8	379.4	376.1	369.4
30°	380.1	378.7	377.4	375.4	372.7	371.4	369.4	363.3	357.3	351.3	345.2
32.5°	351.9	349.2	347.2	347.9	344.6	343.2	339.9	334.5	329.1	325.1	318.4
35°	317.1	316.4	315.7	314.4	311.7	311.0	308.4	304.3	298.3	293.6	289.6
37.5°	284.2	282.2	280.9	280.9	278.2	278.2	276.2	271.5	268.1	264.8	259.4
40°	253.4	250.0	250.0	250.0	247.4	248.0	246.7	242.0	238.6	234.6	231.3
42.5°	224.6	223.2	222.5	221.2	219.9	219.9	218.5	215.8	212.5	209.8	206.5
45°	200.4	199.8	199.1	198.4	197.1	196.4	195.7	191.7	189.7	187.0	183.7
47.5°	181.0	179.6	179.0	178.3	177.0	176.3	175.0	172.3	170.3	167.6	164.9
50°	162.9	162.2	161.5	161.5	160.2	159.5	158.2	156.2	152.8	151.5	148.1
52.5°	148.8	147.5	146.1	146.1	144.8	144.8	142.8	140.8	137.4	136.1	133.4
55°	134.1	133.4	132.7	132.7	131.4	130.7	130.0	127.4	124.7	122.7	120.0
57.5°	121.3	120.7	120.0	120.0	118.6	118.0	117.3	115.3	112.6	111.3	107.9
60°	109.3	109.3	108.6	107.9	107.3	106.6	105.9	103.9	101.9	99.9	97.2
62.5°	98.5	97.9	97.2	96.5	96.5	95.9	95.2	92.5	91.2	89.2	86.5
65°	88.5	87.1	87.1	86.5	86.5	85.8	85.1	82.5	81.1	79.1	76.4
67.5°	77.8	77.1	76.4	76.4	75.7	75.7	75.1	73.1	71.1	69.7	67.0
70°	67.7	67.7	67.0	67.0	66.4	65.7	65.7	64.4	62.3	60.3	57.6
72.5°	59.0	58.3	57.6	57.6	57.0	57.0	56.3	55.0	53.6	52.3	48.9
75°	49.6	48.9	48.9	48.9	48.3	48.3	47.6	46.3	44.9	43.6	41.6
77.5°	40.9	40.9	40.2	40.2	39.5	39.5	39.5	38.2	36.9	35.5	32.8
80°	32.2	32.2	32.2	31.5	30.8	30.8	30.8	29.5	28.2	26.8	24.8
82.5°	23.5	22.8	22.8	22.1	21.5	21.5	21.5	20.1	19.4	17.4	16.1
85°	14.1	13.4	13.4	12.7	12.1	12.1	12.1	11.4	10.1	9.4	8.0
87.5°	5.4	5.4	5.4	5.4	5.4	4.7	4.7	4.0	4.0	3.4	3.4
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°	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2
2.5°	459.2	458.5	458.5	457.8	458.5	457.2	457.2	457.2	457.2	455.8	455.8
5°	457.8	457.8	457.2	456.5	457.2	455.8	456.5	455.8	455.8	453.8	453.8
7.5°	455.2	454.5	453.1	452.5	453.1	452.5	452.5	452.5	453.8	452.5	452.5
10°	450.5	449.8	448.5	447.8	447.8	447.1	448.5	449.8	452.5	453.8	456.5
12.5°	445.8	444.4	443.8	443.8	444.4	444.4	447.1	450.5	457.2	459.2	461.9
15°	439.7	439.1	439.1	441.1	443.8	445.8	451.1	453.1	453.8	451.1	449.8
17.5°	431.7	431.7	432.4	434.4	436.4	436.4	437.1	435.7	434.4	431.0	427.0
20°	418.3	417.6	416.3	416.3	416.3	413.6	414.9	410.2	406.9	402.9	396.8
22.5°	401.5	398.2	393.5	390.1	388.1	386.8	383.4	378.1	374.0	371.4	368.7
25°	383.4	378.1	371.4	366.0	362.6	362.0	357.3	352.6	349.9	346.6	345.2
27.5°	362.6	356.6	348.6	343.2	340.5	338.5	334.5	329.8	326.5	323.8	321.8
30°	338.5	332.5	325.8	319.1	316.4	313.0	309.0	305.7	302.3	300.3	299.0
32.5°	311.7	305.7	299.0	294.3	290.9	288.2	284.9	281.5	278.9	277.5	276.2
35°	284.2	278.2	272.8	268.1	265.5	263.4	260.8	256.7	254.7	254.1	252.7
37.5°	254.7	250.7	246.0	242.0	240.0	237.3	236.0	232.6	232.6	229.9	229.9
40°	227.2	224.6	219.9	216.5	215.2	213.2	211.2	209.8	209.1	208.5	207.8
42.5°	203.1	199.1	196.4	193.7	191.7	190.4	190.4	188.4	187.7	185.7	185.0
45°	181.0	179.0	174.3	172.3	171.6	169.6	168.9	167.6	165.6	164.2	163.6
47.5°	161.5	159.5	156.9	154.2	152.8	151.5	150.2	148.1	146.8	144.8	144.1
50°	145.5	142.1	139.4	137.4	135.4	134.7	133.4	130.7	129.4	127.4	127.4
52.5°	130.7	128.0	124.7	122.7	120.7	119.3	117.3	115.3	113.3	112.6	110.6
55°	118.0	114.6	111.3	108.6	106.6	104.6	103.9	101.2	98.5	97.2	95.9
57.5°	105.9	102.6	98.5	95.2	93.8	92.5	90.5	87.8	85.8	83.8	82.5
60°	93.8	91.2	87.1	83.8	82.5	80.4	78.4	75.7	73.7	71.7	70.4
62.5°	83.8	79.8	76.4	73.1	71.1	69.7	67.0	65.0	62.3	60.3	58.3
65°	73.7	69.7	66.4	63.0	61.7	59.7	57.6	55.0	52.3	50.3	47.6
67.5°	63.7	60.3	57.0	53.6	52.3	50.9	48.3	45.6	42.9	40.9	38.2
70°	55.0	51.6	48.3	45.6	44.2	42.9	40.2	37.5	35.5	32.8	30.8
72.5°	46.9	44.2	40.9	38.2	36.9	35.5	32.8	30.8	28.2	26.8	24.8
75°	38.9	36.2	33.5	30.8	29.5	28.2	26.1	24.1	22.1	20.1	18.8
77.5°	30.8	28.2	25.5	23.5	22.1	21.5	19.4	17.4	15.4	14.1	12.1
80°	22.8	20.1	18.1	16.1	14.7	14.1	12.1	10.7	9.4	7.4	6.7
82.5°	14.1	12.1	10.7	9.4	8.7	8.0	6.7	5.4	4.7	4.0	3.4
85°	7.4	6.7	5.4	4.7	4.0	4.0	3.4	2.7	2.0	2.0	1.3
87.5°	2.7	2.0	2.0	1.3	1.3	1.3	1.3	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°	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2
2.5°	454.5	455.2	455.8	456.5	455.8	455.8	457.2	454.5	456.5	456.5	453.8
5°	453.1	454.5	453.8	455.2	453.8	453.8	454.5	453.1	454.5	454.5	452.5
7.5°	451.8	453.1	453.1	453.8	453.1	453.1	453.8	451.8	453.1	453.1	451.1
10°	457.8	459.2	458.5	457.8	455.8	454.5	455.2	451.8	453.1	453.1	451.1
12.5°	459.8	459.2	456.5	455.2	453.8	452.5	453.1	450.5	451.8	451.8	450.5
15°	446.4	445.1	443.1	443.8	442.4	441.7	443.1	441.7	444.4	445.8	444.4
17.5°	423.6	423.0	421.6	421.6	421.6	422.3	424.3	424.3	428.3	431.0	432.4
20°	394.2	393.5	394.2	395.5	396.2	398.8	403.5	406.2	411.6	416.3	419.6
22.5°	367.3	368.7	370.7	373.4	374.0	377.4	383.4	386.1	392.8	398.2	401.5
25°	344.6	346.6	347.9	349.9	350.6	354.6	360.0	363.3	370.7	374.7	378.7
27.5°	321.8	324.4	325.1	327.8	327.8	331.8	336.5	339.9	344.6	348.6	351.9
30°	299.6	300.3	302.3	303.0	304.3	308.4	311.0	313.0	318.4	320.4	322.4
32.5°	275.5	278.2	279.5	280.2	279.5	282.9	285.6	286.9	288.9	291.6	292.9
35°	252.7	254.1	254.7	256.1	256.7	257.4	258.7	259.4	262.1	262.8	263.4
37.5°	229.9	231.9	231.3	231.9	231.9	232.6	233.9	233.3	235.3	236.0	235.3
40°	207.1	207.1	208.5	207.8	208.5	207.8	209.1	209.1	209.1	209.8	209.1
42.5°	184.3	185.0	184.3	185.7	184.3	185.0	185.0	184.3	185.0	184.3	184.3
45°	163.6	163.6	163.6	163.6	162.2	162.2	163.6	162.9	162.2	161.5	160.9
47.5°	143.5	144.1	142.8	143.5	142.8	142.1	141.4	141.4	140.8	139.4	138.8
50°	126.7	125.4	124.7	125.4	124.7	124.0	123.3	122.0	121.3	120.0	119.3
52.5°	109.9	108.6	107.3	107.3	106.6	105.2	104.6	103.2	102.6	101.2	101.2
55°	95.2	93.8	92.5	91.8	90.5	89.2	88.5	87.1	86.5	85.1	83.8
57.5°	81.1	79.1	77.8	77.1	76.4	74.4	73.7	72.4	71.1	69.7	69.0
60°	68.4	66.4	64.4	63.7	63.0	61.0	60.3	58.3	57.6	56.3	55.6
62.5°	56.3	55.0	52.3	51.6	50.3	48.9	46.9	46.3	45.6	46.3	46.3
65°	45.6	43.6	41.6	40.9	39.5	38.2	37.5	36.9	37.5	37.5	38.2
67.5°	36.2	34.2	32.2	32.2	31.5	30.2	30.2	30.2	30.8	30.8	31.5
70°	28.8	27.5	26.1	25.5	25.5	24.8	25.5	25.5	26.1	26.1	26.1
72.5°	22.8	22.1	21.5	20.8	20.8	20.8	20.8	20.8	20.8	20.8	21.5
75°	17.4	16.8	16.1	16.1	15.4	15.4	15.4	15.4	15.4	15.4	14.7
77.5°	11.4	10.7	10.1	10.1	9.4	8.7	8.7	8.0	8.0	8.0	8.0
80°	6.0	5.4	4.7	4.0	4.0	3.4	3.4	3.4	3.4	2.7	2.7
82.5°	2.7	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
85°	1.3	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°	457.2	457.2	457.2	457.2	457.2	457.2	457.2	457.2
2.5°	455.2	453.8	455.2	455.8	454.5	453.8	455.2	452.5
5°	454.5	452.5	453.1	453.8	452.5	451.8	453.1	451.1
7.5°	453.1	452.5	453.1	453.8	451.8	451.8	453.1	451.1
10°	453.1	451.8	452.5	453.8	452.5	452.5	453.8	451.1
12.5°	452.5	450.5	452.5	453.1	451.8	451.8	453.1	450.5
15°	447.8	447.8	448.5	449.8	449.1	449.8	451.8	449.8
17.5°	437.7	439.1	441.7	443.8	445.1	446.4	448.5	447.1
20°	425.7	427.7	431.0	433.0	435.7	436.4	439.7	437.1
22.5°	406.9	410.9	413.6	415.6	417.6	419.6	422.3	421.6
25°	384.1	386.8	388.8	390.8	393.5	394.8	396.2	395.5
27.5°	356.6	358.0	360.6	362.0	363.3	364.7	367.3	364.0
30°	326.5	327.1	328.5	330.5	330.5	331.8	333.2	332.5
32.5°	295.6	295.6	297.0	298.3	297.6	298.3	301.0	297.6
35°	265.5	264.8	266.8	267.5	267.5	266.8	268.8	268.1
37.5°	236.0	236.6	237.3	238.0	236.6	238.0	238.0	236.6
40°	209.1	208.5	209.8	210.5	209.8	210.5	210.5	207.8
42.5°	185.0	183.7	184.3	185.0	184.3	185.0	184.3	183.0
45°	161.5	160.9	160.9	161.5	160.2	160.2	160.2	160.2
47.5°	139.4	138.8	139.4	139.4	138.1	138.1	138.8	138.1
50°	119.3	118.6	118.6	118.6	118.0	118.0	118.6	118.6
52.5°	101.2	99.9	99.9	99.9	99.9	99.9	100.5	99.2
55°	83.1	83.1	83.1	83.1	83.8	83.8	83.8	83.8
57.5°	68.4	69.0	69.0	69.7	69.0	69.7	69.7	69.0
60°	57.0	56.3	57.0	57.0	57.6	57.6	57.6	57.6
62.5°	46.9	46.9	46.9	47.6	47.6	47.6	48.3	47.6
65°	38.9	38.9	39.5	39.5	39.5	40.2	40.2	40.2
67.5°	32.2	32.2	32.2	32.2	32.8	32.8	33.5	32.8
70°	26.8	26.8	26.8	26.8	26.8	27.5	27.5	27.5
72.5°	21.5	21.5	21.5	21.5	22.1	22.1	22.1	22.1
75°	14.7	14.7	14.7	15.4	14.7	14.7	14.7	14.7
77.5°	7.4	7.4	7.4	7.4	7.4	6.7	6.7	6.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.7
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	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)