

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: P251515

Luminaire Tested: **LD4B10D010 EU4B10209727 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251515
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10D010 EU4B10209727 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 707.0 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

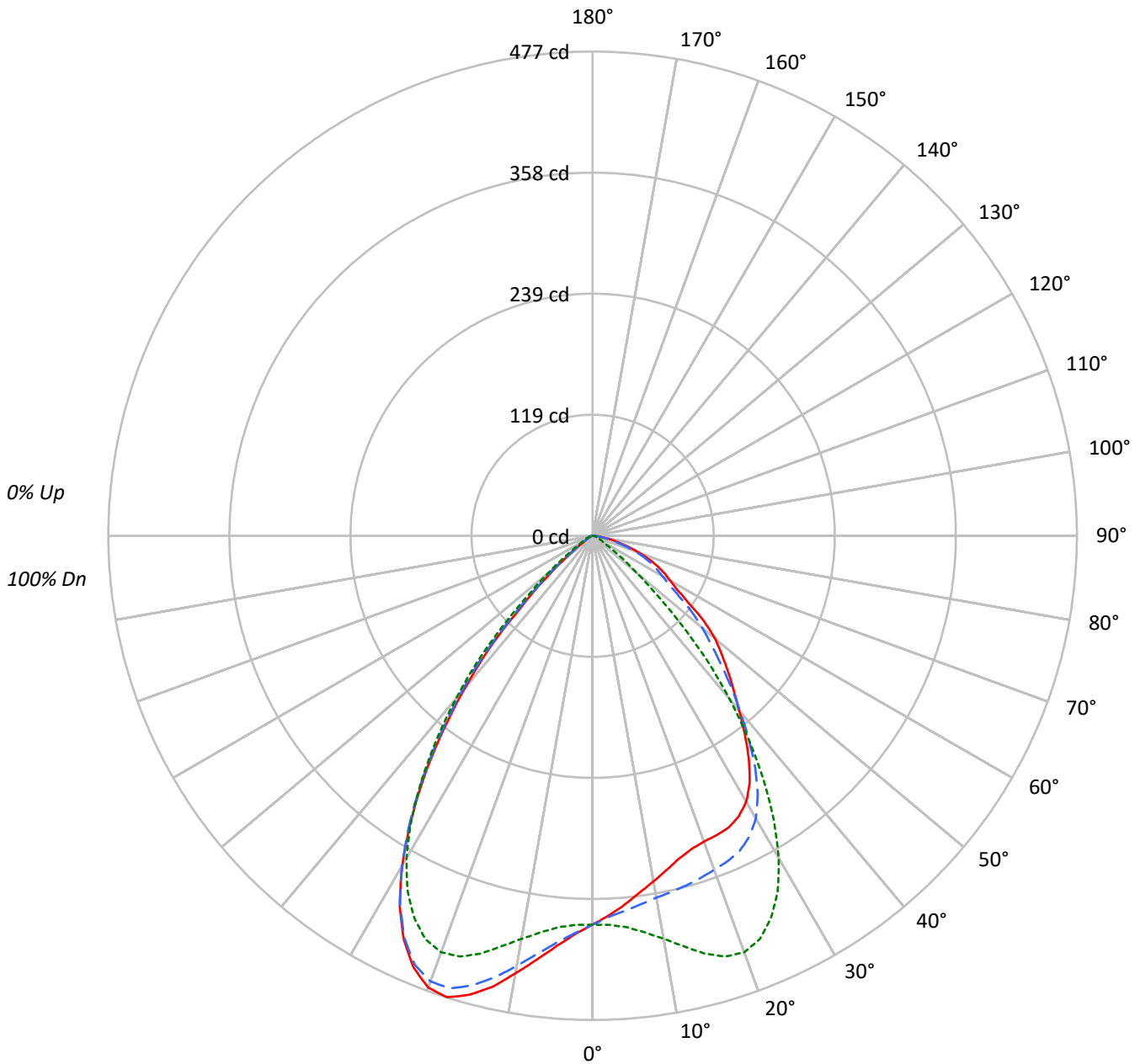
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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																			
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	37336	37336	37336
5°	35669	37870	39680
10°	34201	39891	43306
15°	33205	42992	47229
20°	33250	45281	49129
25°	34099	44691	47272
30°	34053	41255	42212
35°	31897	34871	34395
40°	28574	26602	24821
45°	25925	16884	13852
50°	23804	8566	5913
55°	19540	3823	1954
60°	17153	2144	1072
65°	16142	1614	807
70°	13820	1282	712
75°	10543	941	565
80°	7577	561	281
85°	5591	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	5.3
10°-20°	116.0	16.4
20°-30°	179.4	25.4
30°-40°	176.8	25.0
40°-50°	108.6	15.4
50°-60°	48.3	6.8
60°-70°	27.0	3.8
70°-80°	11.7	1.7
80°-90°	2.1	0.3
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°	332.6	47.0
0°-40°	509.4	72.1
0°-60°	666.3	94.2
0°-90°	707.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	707.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	383	383	383	383	383	
5°	365	371	387	402	406	34
15°	329	357	426	459	468	93
25°	317	343	416	438	440	146
35°	268	279	293	292	289	166
45°	188	179	122	107	100	146
55°	115	104	22	13	12	106
65°	70	63	7	4	4	69
75°	28	24	2	2	2	31
85°	5	4	0	0	0	6
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°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1
2.5°	374.1	374.1	374.1	374.1	375.1	373.6	375.1	375.1	376.6	377.1	375.6
5°	364.6	364.1	364.6	364.6	365.6	365.1	366.6	367.6	369.6	370.6	370.6
7.5°	354.6	354.6	354.6	355.6	357.1	356.6	358.1	359.6	362.6	364.6	366.1
10°	345.6	345.1	346.6	347.1	348.6	348.6	351.1	352.6	356.1	360.1	362.1
12.5°	337.1	336.6	337.6	339.1	341.6	341.6	343.6	346.1	351.1	355.6	359.1
15°	329.1	329.6	331.1	332.1	335.1	335.1	337.6	340.6	346.1	351.6	356.6
17.5°	323.6	324.1	325.1	326.6	329.6	329.6	332.1	335.6	341.6	347.6	353.6
20°	320.6	321.1	322.1	323.6	326.1	326.6	328.6	332.6	338.1	344.6	350.1
22.5°	319.1	320.1	321.1	322.1	324.6	324.6	327.1	330.1	335.6	342.1	347.1
25°	317.1	318.1	318.6	320.1	322.1	322.1	323.6	327.1	332.1	337.6	342.6
27.5°	311.6	312.6	313.1	314.6	316.6	316.1	318.1	320.6	325.1	330.1	334.1
30°	302.6	303.1	304.1	304.6	306.1	306.1	307.6	310.1	313.1	317.6	321.6
32.5°	288.1	289.1	289.6	290.1	291.6	291.1	291.6	293.1	296.1	300.1	302.6
35°	268.1	270.1	270.1	271.1	271.6	271.1	271.1	273.1	274.6	277.6	279.1
37.5°	246.1	247.6	247.1	248.1	248.6	247.1	248.1	248.6	250.6	252.1	252.6
40°	224.6	225.1	225.1	225.1	225.1	224.6	225.1	225.6	227.1	227.1	225.6
42.5°	205.1	205.6	205.6	204.6	205.6	205.1	205.1	205.1	205.1	203.1	201.6
45°	188.1	188.6	188.6	188.1	188.1	187.1	186.6	186.1	184.6	182.1	178.6
47.5°	172.1	173.1	173.6	172.6	172.1	171.1	171.1	168.1	166.1	163.1	158.1
50°	157.0	158.1	158.1	157.0	157.0	155.5	154.0	153.0	150.0	146.5	140.5
52.5°	138.0	139.5	139.5	139.0	139.0	137.0	136.5	134.5	132.0	128.0	123.0
55°	115.0	117.0	116.5	116.0	115.0	115.0	115.0	113.5	112.0	109.0	104.0
57.5°	98.5	99.0	99.0	98.5	98.5	97.5	97.5	96.0	95.5	92.5	88.5
60°	88.0	88.0	88.5	88.0	87.5	87.0	86.5	85.5	84.0	82.0	79.0
62.5°	79.5	80.0	80.0	79.5	79.0	78.5	78.0	77.0	76.0	74.5	71.5
65°	70.0	71.0	70.5	70.0	69.5	69.0	69.0	68.0	67.0	66.0	63.0
67.5°	59.5	60.0	60.5	59.5	59.5	59.0	59.0	58.0	57.5	55.5	53.5
70°	48.5	49.0	49.0	48.5	48.5	48.0	48.0	47.5	47.0	45.5	43.5
72.5°	38.0	38.5	38.0	37.5	37.5	37.5	37.0	36.5	36.0	35.0	33.5
75°	28.0	28.0	28.5	28.0	27.5	27.5	27.0	27.0	26.0	25.5	24.0
77.5°	20.0	20.5	20.0	20.0	19.5	19.0	19.0	18.5	18.5	18.0	17.0
80°	13.5	13.5	14.0	13.5	13.0	13.5	13.0	12.5	12.5	12.0	11.0
82.5°	8.5	9.0	8.5	8.5	8.5	8.5	8.5	8.0	8.0	7.5	7.0
85°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.5	4.0
87.5°	2.5	2.5	2.0	2.0	2.5	2.5	2.5	2.0	2.0	2.0	2.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1
2.5°	377.6	378.1	379.1	380.6	380.6	379.6	382.1	382.1	383.1	383.6	385.6
5°	373.6	374.6	376.6	379.1	379.6	379.1	382.6	384.1	385.6	387.1	390.1
7.5°	370.1	372.1	375.6	379.1	380.6	380.6	386.1	388.1	391.1	394.1	397.6
10°	368.1	371.1	376.1	381.6	383.1	384.6	391.1	395.1	399.1	403.1	408.1
12.5°	365.6	371.1	377.6	384.6	387.6	389.6	398.6	403.6	409.1	414.1	420.6
15°	365.1	371.6	380.1	389.1	393.1	396.1	406.1	413.1	419.6	426.1	432.6
17.5°	363.1	371.1	381.6	391.6	396.6	400.6	412.1	420.6	428.1	434.6	442.1
20°	360.6	369.6	381.1	392.1	397.6	401.6	414.1	422.1	430.6	436.6	443.6
22.5°	357.1	366.1	377.6	388.6	393.6	397.1	409.6	416.6	424.1	430.1	436.6
25°	351.1	359.6	369.6	378.6	383.6	386.6	397.6	404.1	409.6	415.6	421.6
27.5°	342.6	349.1	357.6	364.1	367.1	370.1	379.1	384.6	389.6	394.6	398.6
30°	327.6	332.6	338.6	344.1	347.1	347.6	356.1	359.1	363.1	366.6	369.6
32.5°	307.6	311.6	315.1	318.1	320.1	320.6	327.1	328.1	332.1	332.1	336.6
35°	282.1	284.1	286.6	286.6	288.1	286.6	291.1	292.1	292.6	293.1	296.6
37.5°	253.1	254.1	255.6	252.6	252.6	251.1	252.6	253.6	251.6	251.6	254.1
40°	225.6	223.6	221.6	218.6	217.1	214.1	214.1	211.6	210.1	209.1	209.6
42.5°	199.1	194.6	190.1	183.6	180.6	177.6	174.6	171.1	170.1	167.6	166.1
45°	173.6	167.1	161.1	150.5	144.5	141.5	135.0	128.0	123.5	122.5	118.5
47.5°	152.0	142.5	132.5	120.0	114.0	108.5	99.0	93.0	87.0	84.0	81.5
50°	133.0	124.5	111.5	98.0	90.5	85.0	74.5	67.5	61.0	56.5	53.5
52.5°	116.5	107.0	95.0	79.5	72.0	66.0	54.5	46.5	41.0	36.5	33.0
55°	98.0	90.5	78.5	64.0	56.5	49.5	39.5	31.0	25.5	22.5	20.0
57.5°	84.5	78.0	66.5	52.5	45.5	39.0	29.0	22.0	17.5	14.5	13.0
60°	75.5	69.5	59.5	46.0	39.5	33.5	24.0	17.5	13.5	11.0	10.0
62.5°	68.0	62.0	53.0	40.5	35.0	29.0	20.5	14.5	11.0	9.0	7.5
65°	59.5	54.0	46.0	35.0	30.0	25.0	17.5	12.0	9.0	7.0	6.0
67.5°	50.5	45.5	38.5	29.0	25.0	21.0	14.0	10.0	7.5	6.0	5.0
70°	41.0	37.0	30.5	23.5	20.0	16.5	11.5	8.0	5.5	4.5	4.0
72.5°	31.5	28.0	23.5	18.0	15.0	12.5	8.5	6.0	4.5	3.5	3.0
75°	22.5	20.0	16.5	13.0	11.0	9.0	6.5	4.5	3.0	2.5	2.0
77.5°	15.5	14.0	11.5	9.0	7.5	6.5	4.5	3.0	2.5	2.0	1.5
80°	10.0	9.0	7.5	5.5	4.5	4.0	2.5	2.0	1.5	1.0	1.0
82.5°	6.0	5.5	4.5	3.0	2.5	2.0	1.5	1.0	1.0	0.5	0.5
85°	3.5	3.0	2.0	1.5	1.5	1.0	1.0	0.5	0.5	0.0	0.0
87.5°	1.5	1.0	1.0	0.5	0.5	0.5	0.5	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1
2.5°	384.6	387.1	386.6	388.1	387.6	387.6	390.1	389.1	391.6	391.6	392.1
5°	390.1	393.6	393.6	396.1	395.6	396.6	399.1	399.1	402.1	403.1	403.1
7.5°	398.1	402.6	403.6	406.1	406.6	408.6	410.6	411.1	415.1	416.1	416.6
10°	409.1	414.6	416.1	418.6	419.6	421.6	424.1	425.1	430.1	430.6	432.6
12.5°	422.6	428.6	430.1	433.1	433.6	436.1	439.6	440.6	445.6	447.1	448.6
15°	435.6	441.1	443.6	446.6	447.1	450.1	453.1	454.1	458.6	460.6	462.1
17.5°	444.6	451.1	452.6	456.6	456.6	459.1	462.1	463.1	467.6	469.1	470.1
20°	446.6	452.6	454.6	457.6	458.1	459.6	462.1	463.1	467.1	467.6	469.1
22.5°	439.1	445.1	446.1	449.1	449.6	451.1	453.1	452.6	457.6	457.1	457.6
25°	423.1	428.6	428.6	432.1	431.6	433.1	434.1	433.6	438.1	438.1	438.1
27.5°	400.1	405.1	405.6	408.1	406.6	407.1	408.1	407.6	410.6	410.6	410.6
30°	371.6	375.6	374.1	376.1	375.1	376.1	375.1	374.6	375.6	376.6	376.1
32.5°	336.1	339.1	339.1	339.6	339.6	336.6	335.6	335.6	335.1	334.6	334.6
35°	295.1	297.6	296.6	296.6	296.1	293.1	291.6	290.6	292.1	289.1	291.1
37.5°	253.1	253.6	252.1	251.6	249.1	249.1	246.6	244.6	245.6	245.1	243.1
40°	207.1	209.1	206.1	205.1	206.6	204.6	202.1	199.6	201.6	199.1	200.1
42.5°	162.1	161.6	160.6	160.6	160.6	157.6	157.0	156.5	157.0	155.0	153.5
45°	117.0	115.5	114.0	114.0	112.0	111.0	111.0	109.5	107.0	107.0	104.0
47.5°	79.0	75.5	74.5	74.0	73.0	73.0	72.0	71.0	70.5	68.0	68.0
50°	51.5	48.0	47.0	46.5	47.0	46.0	45.0	44.0	43.0	42.5	41.5
52.5°	31.0	29.5	28.5	28.0	27.0	26.5	26.0	25.0	24.5	24.5	24.0
55°	18.5	17.0	15.0	15.0	15.0	14.5	14.0	13.5	13.0	13.0	12.5
57.5°	11.5	10.5	9.5	9.0	9.0	9.0	8.5	8.5	8.5	8.5	8.0
60°	8.5	7.5	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.0	6.0
62.5°	6.5	6.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	4.5
65°	5.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
67.5°	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0
70°	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
72.5°	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	2.0	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1
2.5°	392.1	394.6	392.1	392.1	393.6	393.1	394.1	392.6
5°	403.6	407.1	404.6	404.1	406.6	406.1	406.6	405.6
7.5°	417.6	421.1	418.6	418.6	421.1	420.6	422.1	421.1
10°	433.6	437.6	434.1	434.6	438.1	437.6	437.6	437.6
12.5°	450.1	454.1	452.1	452.1	454.6	455.1	455.6	455.1
15°	463.6	467.6	465.1	465.1	468.6	468.1	468.6	468.1
17.5°	471.6	475.7	472.7	472.7	475.7	475.7	476.2	476.7
20°	469.6	474.2	471.6	470.6	474.2	474.2	473.7	473.7
22.5°	458.1	462.1	460.1	459.1	461.6	460.6	460.1	460.6
25°	438.1	442.1	438.1	438.1	440.1	439.6	440.1	439.6
27.5°	411.1	414.1	410.1	409.6	411.6	410.6	410.1	411.6
30°	375.1	378.1	376.1	374.6	377.1	375.6	374.6	375.1
32.5°	334.1	336.1	335.1	332.6	334.1	333.1	332.6	333.1
35°	289.1	291.6	287.6	287.1	289.6	287.6	286.6	289.1
37.5°	242.6	245.6	242.1	242.6	241.1	241.6	240.6	242.1
40°	198.6	198.1	197.1	196.6	197.1	195.6	196.6	195.1
42.5°	151.0	152.0	151.5	151.0	151.5	149.5	148.5	150.5
45°	105.0	104.5	103.5	102.5	102.5	102.0	102.0	100.5
47.5°	67.5	67.0	65.0	65.5	66.5	65.5	64.0	66.0
50°	41.0	40.5	40.5	40.0	41.0	40.0	39.0	39.0
52.5°	23.0	23.0	22.5	22.5	22.5	22.5	22.0	21.5
55°	12.5	12.0	12.0	12.0	11.5	11.5	11.5	11.5
57.5°	8.0	8.0	8.0	8.0	8.0	8.0	7.5	7.5
60°	6.0	6.0	6.0	6.0	5.5	6.0	5.5	5.5
62.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
65°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
67.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
70°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)