

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: P251738

Luminaire Tested: **LD4B10D010 EU4B10208027 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251738
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B10D010 EU4B10208027 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 785.0 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

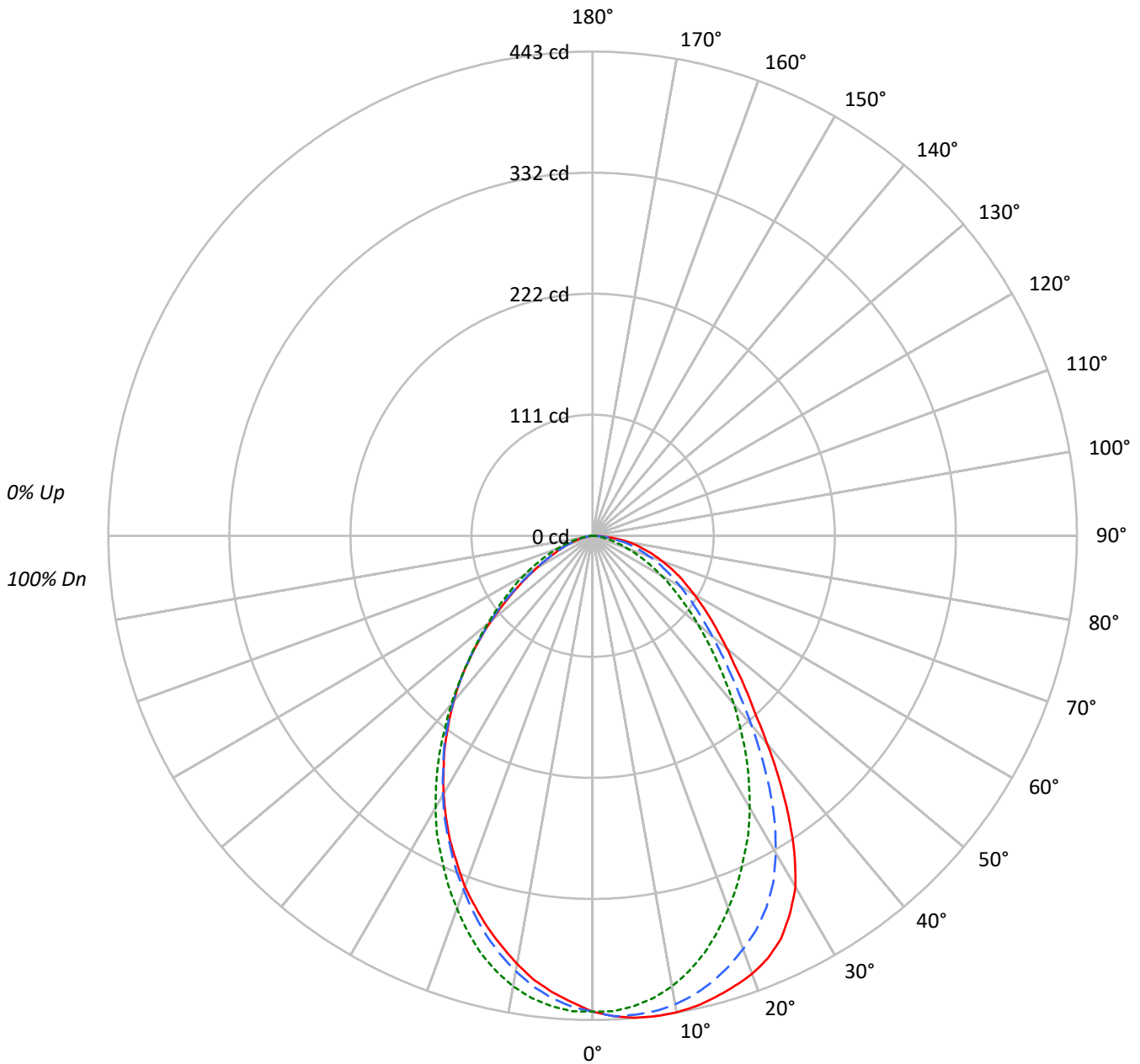
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	101	98	100	98	95	96	94	92	93	91	90	88				88															
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76				76															
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				67															
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59				59															
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52															
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47															
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42				42															
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38				38															
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35															
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32															

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	42433	42433	42433
5°	43309	42263	41020
10°	43810	41425	39367
15°	44061	39874	37443
20°	44244	37648	35428
25°	43787	35077	33131
30°	41762	32331	30677
35°	37132	29089	28054
40°	31615	25559	25139
45°	27235	21970	21873
50°	24274	18983	18376
55°	22310	16380	14680
60°	20895	14092	11481
65°	20086	11899	8947
70°	19263	9546	7266
75°	18677	7569	5535
80°	18801	5276	3367
85°	15767	3690	1454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.8	5.2
10°-20°	112.0	14.3
20°-30°	156.7	20.0
30°-40°	161.1	20.5
40°-50°	130.7	16.7
50°-60°	92.0	11.7
60°-70°	56.7	7.2
70°-80°	28.3	3.6
80°-90°	6.7	0.9
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°	309.5	39.4
0°-40°	470.5	59.9
0°-60°	693.3	88.3
0°-90°	785.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	785.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	435	435	435	435	435	
5°	443	440	432	425	419	42
15°	437	423	395	378	371	123
25°	407	376	326	310	308	186
35°	312	282	244	237	236	194
45°	198	178	159	159	159	154
55°	131	115	96	88	86	118
65°	87	73	52	40	39	86
75°	50	39	20	15	15	53
85°	14	9	3	2	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°	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4
2.5°	440.0	440.7	438.7	440.7	438.0	439.4	440.0	438.7	437.4	440.0	440.0
5°	442.7	442.7	440.7	443.4	440.0	440.7	442.1	440.0	438.0	440.7	440.0
7.5°	443.4	443.4	440.7	443.4	440.0	440.7	441.4	439.4	437.4	439.4	438.7
10°	442.7	442.1	440.0	442.7	439.4	439.4	440.0	438.0	434.7	436.7	435.4
12.5°	440.7	440.7	438.0	440.7	436.0	436.0	436.7	434.0	431.3	431.3	430.0
15°	436.7	436.7	434.0	436.0	432.0	432.0	431.3	428.7	425.3	425.3	422.6
17.5°	432.0	432.0	429.3	431.3	426.6	426.6	426.0	422.0	417.3	416.6	413.3
20°	426.6	426.6	423.3	424.6	419.3	419.3	418.6	413.9	408.6	407.2	402.5
22.5°	418.6	418.6	415.3	415.9	410.6	409.9	409.2	403.9	398.5	396.5	390.5
25°	407.2	406.6	403.9	403.9	398.5	397.2	395.8	390.5	385.1	381.1	375.7
27.5°	390.5	391.2	387.8	388.5	381.8	380.4	379.8	373.1	367.0	363.0	357.7
30°	371.1	369.0	365.7	365.7	360.3	359.7	358.3	352.3	345.6	340.9	334.9
32.5°	343.6	342.9	339.6	339.6	333.5	333.5	330.9	324.8	318.8	316.1	310.1
35°	312.1	311.4	308.8	308.8	303.4	304.1	301.4	296.7	290.7	286.7	282.0
37.5°	280.0	279.3	276.6	277.3	272.6	272.6	270.6	265.9	261.2	259.2	253.2
40°	248.5	247.8	244.5	246.5	242.5	241.1	240.5	237.1	231.7	229.1	225.7
42.5°	219.7	220.4	217.0	218.3	215.0	213.7	213.0	210.3	206.3	203.6	200.3
45°	197.6	196.2	194.9	194.9	191.6	190.9	190.2	186.9	184.2	181.5	178.2
47.5°	176.8	175.5	174.1	174.8	172.1	171.5	170.1	167.4	164.1	162.8	159.4
50°	160.1	159.4	157.4	157.4	154.7	154.0	152.7	150.7	147.4	145.3	142.7
52.5°	144.7	144.7	142.7	142.0	140.0	139.3	138.6	136.0	133.3	130.6	127.9
55°	131.3	130.6	129.3	129.3	126.6	125.9	125.2	122.6	119.9	117.9	115.2
57.5°	118.6	118.6	117.2	117.2	115.2	113.9	113.9	111.2	107.8	106.5	103.1
60°	107.2	107.2	105.8	105.8	103.8	103.8	102.5	99.8	97.8	95.1	92.4
62.5°	96.4	97.1	95.8	95.1	93.1	92.4	92.4	90.4	87.1	85.1	82.4
65°	87.1	86.4	85.7	85.1	83.1	82.4	82.4	79.7	77.7	75.0	73.0
67.5°	77.0	77.0	75.7	75.7	74.3	73.7	72.3	70.3	68.3	66.3	64.3
70°	67.6	67.6	67.0	67.0	65.0	64.3	63.6	61.6	59.6	57.6	54.9
72.5°	58.9	58.3	57.6	57.6	56.3	55.6	54.9	52.9	50.9	48.9	46.9
75°	49.6	49.6	48.9	48.9	47.6	46.9	46.9	45.5	42.9	41.5	38.8
77.5°	41.5	41.5	40.9	40.9	39.5	39.5	38.8	36.8	35.5	33.5	32.1
80°	33.5	32.8	32.8	32.1	30.8	30.8	30.1	29.5	27.5	26.1	24.1
82.5°	23.4	23.4	23.4	22.8	22.1	22.1	21.4	20.1	18.8	18.1	16.1
85°	14.1	14.1	13.4	12.7	13.4	12.7	12.1	11.4	10.7	10.0	9.4
87.5°	6.0	6.0	5.4	5.4	5.4	5.4	5.4	4.7	4.0	4.0	3.3
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°	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4
2.5°	436.0	438.0	437.4	436.7	435.4	435.4	435.4	434.7	435.4	435.4	434.0
5°	436.0	437.4	436.7	435.4	434.0	434.0	433.3	432.0	432.0	432.0	429.3
7.5°	434.0	435.4	433.3	432.0	430.7	429.3	429.3	427.3	427.3	426.6	424.0
10°	430.0	430.7	428.0	426.6	424.6	424.0	422.6	420.0	419.3	418.6	415.9
12.5°	424.0	424.6	421.3	418.6	415.9	415.3	413.9	410.6	409.2	407.9	404.5
15°	415.3	415.3	411.2	407.9	405.2	404.5	401.2	397.8	396.5	395.2	390.5
17.5°	405.2	404.5	399.2	395.8	392.5	391.2	387.8	383.8	381.1	379.8	375.7
20°	394.5	392.5	386.5	383.1	379.1	377.1	373.7	368.4	365.7	363.0	359.0
22.5°	381.8	379.1	372.4	367.7	363.7	361.7	357.0	352.3	348.3	345.6	340.9
25°	366.4	363.0	355.7	349.6	346.3	344.3	339.6	334.2	330.2	326.2	322.2
27.5°	348.3	344.3	336.9	330.9	327.5	324.2	320.8	314.8	311.4	308.1	303.4
30°	326.2	321.5	314.8	309.4	305.4	302.7	298.7	293.4	289.3	287.3	282.6
32.5°	302.1	296.7	290.7	285.3	283.3	280.0	276.6	271.3	267.9	265.9	262.6
35°	275.3	271.3	264.6	260.5	257.2	255.9	253.2	247.8	246.5	244.5	240.5
37.5°	247.1	243.8	239.1	235.8	233.1	231.7	229.1	225.7	223.7	221.7	219.7
40°	221.0	218.3	214.3	211.6	208.3	206.3	206.3	202.3	200.9	200.9	198.9
42.5°	195.6	194.2	190.9	186.9	186.2	184.2	183.5	181.5	180.2	179.5	178.8
45°	174.1	172.1	168.8	166.8	164.8	164.8	162.8	160.7	160.1	159.4	158.7
47.5°	155.4	152.7	150.0	148.0	146.7	146.0	144.0	142.7	142.0	142.0	141.3
50°	138.6	136.6	134.0	131.9	130.6	129.3	127.9	126.6	125.9	125.2	125.2
52.5°	124.6	121.9	119.2	117.2	115.2	114.5	113.2	111.9	111.2	110.5	109.8
55°	111.9	109.8	106.5	104.5	102.5	102.5	100.5	98.5	97.1	96.4	95.8
57.5°	99.8	97.8	94.4	92.4	91.1	89.8	88.4	87.1	85.7	84.4	83.1
60°	89.1	87.1	83.7	81.0	80.4	79.0	77.7	75.0	73.7	72.3	71.0
62.5°	79.0	76.4	73.7	71.0	70.3	69.0	67.0	65.0	63.0	61.6	59.6
65°	69.7	67.6	64.3	62.3	60.3	59.6	57.6	54.9	52.9	51.6	49.6
67.5°	60.9	58.3	54.9	52.9	51.6	50.2	48.2	46.2	44.2	42.2	40.2
70°	52.2	50.2	46.9	44.9	43.5	42.2	40.2	37.5	35.5	33.5	32.1
72.5°	44.2	41.5	38.8	36.8	35.5	34.2	32.1	30.1	28.1	26.8	24.8
75°	36.8	34.2	32.1	29.5	28.8	27.5	25.5	23.4	21.4	20.1	18.8
77.5°	29.5	27.5	24.8	23.4	22.1	20.8	19.4	17.4	16.1	14.1	12.7
80°	22.1	20.1	18.1	16.7	15.4	14.7	13.4	12.1	10.7	9.4	8.7
82.5°	14.7	13.4	11.4	10.7	10.0	9.4	8.0	7.4	6.7	6.0	5.4
85°	8.0	7.4	6.7	5.4	5.4	4.7	4.0	4.0	3.3	3.3	2.7
87.5°	3.3	2.7	2.7	2.0	2.0	2.0	1.3	1.3	1.3	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°	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4
2.5°	434.7	432.0	432.0	432.0	430.0	430.7	431.3	432.0	431.3	429.3	431.3
5°	430.0	427.3	427.3	426.0	424.6	424.6	424.6	425.3	424.6	422.6	423.3
7.5°	424.0	420.6	420.0	418.6	417.3	416.6	416.6	416.6	415.9	413.3	414.6
10°	414.6	411.2	409.9	409.2	407.2	406.6	405.9	405.2	404.5	401.9	403.2
12.5°	403.2	400.5	397.8	397.2	395.2	393.8	393.2	393.2	391.8	389.1	390.5
15°	389.8	385.8	383.8	382.4	380.4	379.1	377.8	378.4	377.8	375.1	375.7
17.5°	373.7	369.7	367.7	367.0	364.4	363.0	362.3	362.3	361.7	359.0	359.7
20°	356.3	352.3	351.0	349.6	348.3	346.9	346.3	345.6	344.9	342.3	344.3
22.5°	338.9	334.2	332.2	332.2	329.5	328.9	328.2	328.9	328.2	325.5	326.9
25°	320.8	316.1	314.8	312.8	311.4	310.8	310.8	310.8	310.1	308.8	310.1
27.5°	300.7	297.4	295.4	294.7	293.4	292.7	292.0	292.7	292.7	290.7	292.0
30°	280.6	278.0	276.6	275.9	273.9	273.3	273.9	273.9	273.9	271.9	273.9
32.5°	260.5	258.5	257.9	255.9	254.5	254.5	254.5	255.2	254.5	253.2	255.2
35°	240.5	237.8	237.1	236.4	236.4	235.1	236.4	235.8	237.1	235.1	236.4
37.5°	219.0	217.7	217.0	217.0	215.7	216.3	216.3	216.3	217.7	215.7	217.0
40°	198.9	197.6	197.6	197.6	196.9	196.9	196.9	197.6	198.3	196.9	198.3
42.5°	178.8	178.2	178.2	177.5	176.8	177.5	178.2	178.2	178.8	177.5	178.2
45°	159.4	158.7	159.4	158.7	158.7	158.1	158.7	159.4	159.4	158.7	158.7
47.5°	141.3	141.3	140.7	140.7	140.7	140.7	140.7	140.7	140.7	139.3	140.7
50°	125.2	123.9	124.6	123.9	123.9	123.2	123.2	122.6	121.9	121.2	121.2
52.5°	109.8	108.5	108.5	107.8	107.2	107.2	106.5	105.8	105.2	103.8	103.8
55°	95.1	93.8	93.1	92.4	91.8	91.1	90.4	89.8	88.4	87.7	87.7
57.5°	81.7	80.4	79.0	79.0	77.7	77.0	75.7	74.3	73.7	72.3	72.3
60°	69.7	68.3	66.3	65.6	65.0	63.6	61.6	60.9	60.3	58.9	59.6
62.5°	58.3	56.3	54.3	53.6	52.9	51.6	50.2	48.9	48.2	48.9	48.9
65°	47.6	45.5	44.2	42.9	42.2	40.9	40.2	39.5	39.5	39.5	40.2
67.5°	38.2	36.2	34.8	34.2	32.8	32.1	32.1	32.1	32.1	32.1	32.1
70°	30.1	28.8	27.5	26.1	26.1	25.5	25.5	25.5	25.5	25.5	25.5
72.5°	22.8	21.4	20.8	20.8	20.1	20.1	20.1	20.1	19.4	19.4	20.1
75°	16.7	16.1	15.4	15.4	15.4	14.7	14.7	14.7	14.7	14.7	14.7
77.5°	12.1	11.4	11.4	10.7	10.7	10.7	10.7	10.7	10.7	10.0	10.0
80°	8.0	7.4	7.4	7.4	7.4	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	4.7	4.7	4.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
85°	2.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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°	435.4	435.4	435.4	435.4	435.4	435.4	435.4	435.4
2.5°	427.3	430.0	430.7	428.7	429.3	428.0	428.7	427.3
5°	420.0	422.0	422.6	421.3	421.3	420.0	420.6	419.3
7.5°	410.6	412.6	413.3	411.9	411.9	410.6	410.6	409.9
10°	399.9	400.5	401.9	399.9	400.5	399.2	399.2	397.8
12.5°	386.5	387.8	389.1	387.1	387.1	386.5	386.5	384.5
15°	372.4	373.7	374.4	373.1	373.1	372.4	371.7	371.1
17.5°	357.7	358.3	359.7	357.7	359.0	357.7	357.7	356.3
20°	340.9	342.9	343.6	341.6	342.3	341.6	341.6	341.6
22.5°	324.8	326.2	326.9	325.5	326.2	324.8	325.5	324.2
25°	308.1	308.8	309.4	308.1	309.4	308.8	308.1	308.1
27.5°	290.7	291.4	292.0	290.7	292.0	291.4	292.0	290.7
30°	271.9	273.3	274.6	273.3	273.9	273.3	273.3	272.6
32.5°	253.2	254.5	255.9	254.5	255.9	254.5	255.2	253.8
35°	235.8	236.4	237.1	235.8	236.4	236.4	236.4	235.8
37.5°	216.3	217.7	217.7	217.0	218.3	217.7	217.7	216.3
40°	197.6	198.3	198.9	197.6	198.3	197.6	198.3	197.6
42.5°	178.2	179.5	180.2	178.8	178.8	178.8	178.2	178.8
45°	158.1	159.4	160.7	158.7	159.4	159.4	159.4	158.7
47.5°	140.0	140.0	140.7	140.0	140.7	139.3	140.7	140.0
50°	121.2	121.2	122.6	121.2	121.2	121.2	121.2	121.2
52.5°	103.1	103.8	103.8	102.5	103.1	102.5	103.1	102.5
55°	86.4	86.4	87.1	86.4	86.4	86.4	86.4	86.4
57.5°	71.7	72.3	72.3	71.7	72.3	71.7	71.7	71.7
60°	59.6	59.6	59.6	58.9	59.6	58.9	59.6	58.9
62.5°	48.2	48.9	48.9	48.2	48.9	48.2	48.2	48.2
65°	39.5	39.5	39.5	39.5	39.5	39.5	39.5	38.8
67.5°	31.5	31.5	32.1	31.5	32.1	32.1	32.1	32.1
70°	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
72.5°	19.4	19.4	20.1	19.4	19.4	19.4	19.4	19.4
75°	14.7	14.7	14.7	14.7	14.7	14.1	14.1	14.7
77.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.7
80°	6.7	6.7	6.7	6.7	6.0	6.0	6.7	6.0
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
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)