

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: P251760

Luminaire Tested: **LD4B15D010 EU4B10209040 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251760  
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: LD4B15D010 EU4B10209040 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 992.0 lumens  
Efficiency: N/A  
Efficacy: 68.9 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

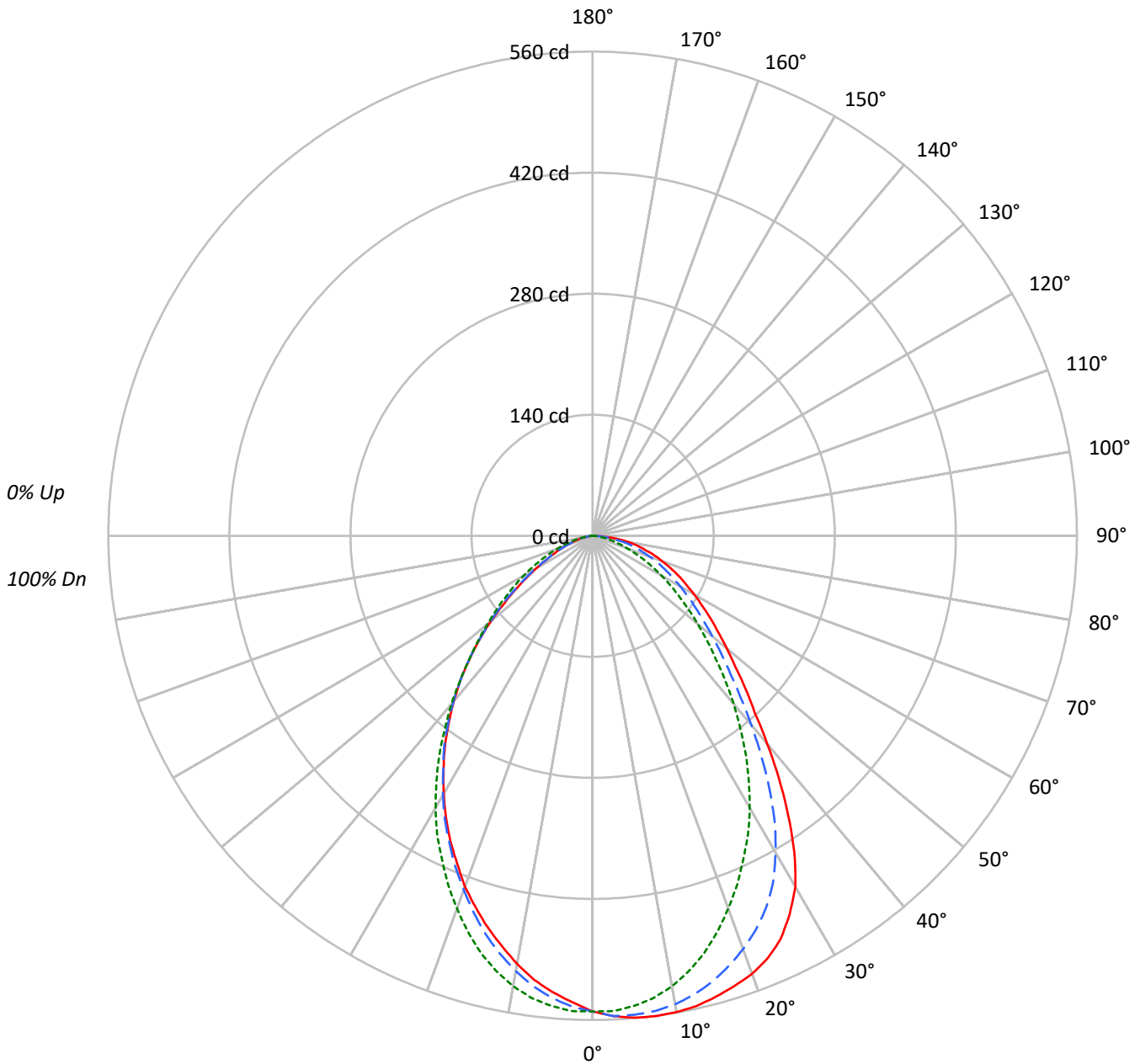
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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								
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88								
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76								
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67								
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	53621	53621	53621
5°	54736	53406	51831
10°	55369	52351	49758
15°	55674	50387	47310
20°	55922	47573	44773
25°	55337	44325	41863
30°	52768	40861	38768
35°	46923	36751	35442
40°	39948	32302	31767
45°	34415	27758	27648
50°	30672	24001	23228
55°	28189	20712	18554
60°	26392	17815	14521
65°	25367	15035	11323
70°	24363	12053	9175
75°	23572	9564	7004
80°	23740	6623	4265
85°	19904	4696	1901



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.5	5.2
10°-20°	141.6	14.3
20°-30°	198.0	20.0
30°-40°	203.5	20.5
40°-50°	165.2	16.7
50°-60°	116.3	11.7
60°-70°	71.6	7.2
70°-80°	35.8	3.6
80°-90°	8.5	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°	391.1	39.4
0°-40°	594.6	59.9
0°-60°	876.1	88.3
0°-90°	992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	992.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	550	550	550	550	550	
5°	560	556	546	537	530	53
15°	552	534	499	477	469	156
25°	515	475	412	392	389	235
35°	394	356	309	300	298	245
45°	250	225	201	201	201	194
55°	166	146	122	112	109	149
65°	110	92	65	50	49	109
75°	63	49	25	19	19	67
85°	18	12	4	2	2	21
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°	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2
2.5°	556.1	556.9	554.4	556.9	553.5	555.2	556.1	554.4	552.7	556.1	556.1
5°	559.5	559.5	556.9	560.3	556.1	556.9	558.6	556.1	553.5	556.9	556.1
7.5°	560.3	560.3	556.9	560.3	556.1	556.9	557.8	555.2	552.7	555.2	554.4
10°	559.5	558.6	556.1	559.5	555.2	555.2	556.1	553.5	549.3	551.8	550.2
12.5°	556.9	556.9	553.5	556.9	551.0	551.0	551.8	548.5	545.1	545.1	543.4
15°	551.8	551.8	548.5	551.0	545.9	545.9	545.1	541.7	537.5	537.5	534.1
17.5°	545.9	545.9	542.5	545.1	539.2	539.2	538.3	533.2	527.3	526.5	522.2
20°	539.2	539.2	534.9	536.6	529.8	529.8	529.0	523.1	516.3	514.6	508.7
22.5°	529.0	529.0	524.8	525.6	518.8	518.0	517.1	510.4	503.6	501.1	493.4
25°	514.6	513.8	510.4	510.4	503.6	501.9	500.2	493.4	486.7	481.6	474.8
27.5°	493.4	494.3	490.1	490.9	482.4	480.8	479.9	471.4	463.8	458.7	452.0
30°	468.9	466.4	462.1	462.1	455.4	454.5	452.8	445.2	436.7	430.8	423.2
32.5°	434.2	433.4	429.1	429.1	421.5	421.5	418.1	410.5	402.9	399.5	391.9
35°	394.4	393.6	390.2	390.2	383.4	384.3	380.9	375.0	367.3	362.3	356.3
37.5°	353.8	352.9	349.6	350.4	344.5	344.5	341.9	336.0	330.1	327.6	319.9
40°	314.0	313.2	308.9	311.5	306.4	304.7	303.9	299.6	292.9	289.5	285.2
42.5°	277.6	278.5	274.2	275.9	271.7	270.0	269.2	265.8	260.7	257.3	253.1
45°	249.7	248.0	246.3	246.3	242.1	241.2	240.4	236.1	232.8	229.4	225.1
47.5°	223.4	221.8	220.1	220.9	217.5	216.7	215.0	211.6	207.4	205.7	201.4
50°	202.3	201.4	198.9	198.9	195.5	194.7	193.0	190.4	186.2	183.7	180.3
52.5°	182.8	182.8	180.3	179.4	176.9	176.1	175.2	171.8	168.4	165.0	161.7
55°	165.9	165.0	163.4	163.4	160.0	159.1	158.3	154.9	151.5	149.0	145.6
57.5°	149.8	149.8	148.1	148.1	145.6	143.9	143.9	140.5	136.3	134.6	130.3
60°	135.4	135.4	133.7	133.7	131.2	131.2	129.5	126.1	123.6	120.2	116.8
62.5°	121.9	122.7	121.0	120.2	117.6	116.8	116.8	114.3	110.0	107.5	104.1
65°	110.0	109.2	108.3	107.5	105.0	104.1	104.1	100.7	98.2	94.8	92.3
67.5°	97.3	97.3	95.6	95.6	93.9	93.1	91.4	88.9	86.3	83.8	81.3
70°	85.5	85.5	84.6	84.6	82.1	81.3	80.4	77.9	75.3	72.8	69.4
72.5°	74.5	73.6	72.8	72.8	71.1	70.3	69.4	66.9	64.3	61.8	59.2
75°	62.6	62.6	61.8	61.8	60.1	59.2	59.2	57.6	54.2	52.5	49.1
77.5°	52.5	52.5	51.6	51.6	49.9	49.9	49.1	46.6	44.9	42.3	40.6
80°	42.3	41.5	41.5	40.6	38.9	38.9	38.1	37.2	34.7	33.0	30.5
82.5°	29.6	29.6	29.6	28.8	27.9	27.9	27.1	25.4	23.7	22.9	20.3
85°	17.8	17.8	16.9	16.1	16.9	16.1	15.2	14.4	13.5	12.7	11.8
87.5°	7.6	7.6	6.8	6.8	6.8	6.8	6.8	5.9	5.1	5.1	4.2
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°	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2
2.5°	551.0	553.5	552.7	551.8	550.2	550.2	550.2	549.3	550.2	550.2	548.5
5°	551.0	552.7	551.8	550.2	548.5	548.5	547.6	545.9	545.9	545.9	542.5
7.5°	548.5	550.2	547.6	545.9	544.2	542.5	542.5	540.0	540.0	539.2	535.8
10°	543.4	544.2	540.8	539.2	536.6	535.8	534.1	530.7	529.8	529.0	525.6
12.5°	535.8	536.6	532.4	529.0	525.6	524.8	523.1	518.8	517.1	515.5	511.2
15°	524.8	524.8	519.7	515.5	512.1	511.2	507.0	502.8	501.1	499.4	493.4
17.5°	512.1	511.2	504.5	500.2	496.0	494.3	490.1	485.0	481.6	479.9	474.8
20°	498.5	496.0	488.4	484.1	479.1	476.5	472.3	465.5	462.1	458.7	453.7
22.5°	482.4	479.1	470.6	464.7	459.6	457.1	451.1	445.2	440.1	436.7	430.8
25°	463.0	458.7	449.4	441.8	437.6	435.0	429.1	422.4	417.3	412.2	407.1
27.5°	440.1	435.0	425.7	418.1	413.9	409.7	405.4	397.8	393.6	389.3	383.4
30°	412.2	406.3	397.8	391.0	386.0	382.6	377.5	370.7	365.6	363.1	357.2
32.5°	381.7	375.0	367.3	360.6	358.0	353.8	349.6	342.8	338.6	336.0	331.8
35°	347.9	342.8	334.3	329.2	325.0	323.3	319.9	313.2	311.5	308.9	303.9
37.5°	312.3	308.1	302.2	297.9	294.5	292.9	289.5	285.2	282.7	280.2	277.6
40°	279.3	275.9	270.8	267.5	263.2	260.7	260.7	255.6	253.9	253.9	251.4
42.5°	247.1	245.5	241.2	236.1	235.3	232.8	231.9	229.4	227.7	226.8	226.0
45°	220.1	217.5	213.3	210.8	208.2	208.2	205.7	203.1	202.3	201.4	200.6
47.5°	196.4	193.0	189.6	187.1	185.4	184.5	182.0	180.3	179.4	179.4	178.6
50°	175.2	172.7	169.3	166.7	165.0	163.4	161.7	160.0	159.1	158.3	158.3
52.5°	157.4	154.0	150.7	148.1	145.6	144.7	143.0	141.3	140.5	139.7	138.8
55°	141.3	138.8	134.6	132.0	129.5	129.5	127.0	124.4	122.7	121.9	121.0
57.5°	126.1	123.6	119.3	116.8	115.1	113.4	111.7	110.0	108.3	106.6	105.0
60°	112.6	110.0	105.8	102.4	101.6	99.9	98.2	94.8	93.1	91.4	89.7
62.5°	99.9	96.5	93.1	89.7	88.9	87.2	84.6	82.1	79.6	77.9	75.3
65°	88.0	85.5	81.3	78.7	76.2	75.3	72.8	69.4	66.9	65.2	62.6
67.5°	77.0	73.6	69.4	66.9	65.2	63.5	60.9	58.4	55.9	53.3	50.8
70°	66.0	63.5	59.2	56.7	55.0	53.3	50.8	47.4	44.9	42.3	40.6
72.5°	55.9	52.5	49.1	46.6	44.9	43.2	40.6	38.1	35.5	33.9	31.3
75°	46.6	43.2	40.6	37.2	36.4	34.7	32.2	29.6	27.1	25.4	23.7
77.5°	37.2	34.7	31.3	29.6	27.9	26.2	24.5	22.0	20.3	17.8	16.1
80°	27.9	25.4	22.9	21.2	19.5	18.6	16.9	15.2	13.5	11.8	11.0
82.5°	18.6	16.9	14.4	13.5	12.7	11.8	10.2	9.3	8.5	7.6	6.8
85°	10.2	9.3	8.5	6.8	6.8	5.9	5.1	5.1	4.2	4.2	3.4
87.5°	4.2	3.4	3.4	2.5	2.5	2.5	1.7	1.7	1.7	0.8	0.8
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°	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2
2.5°	549.3	545.9	545.9	545.9	543.4	544.2	545.1	545.9	545.1	542.5	545.1
5°	543.4	540.0	540.0	538.3	536.6	536.6	536.6	537.5	536.6	534.1	534.9
7.5°	535.8	531.5	530.7	529.0	527.3	526.5	526.5	526.5	525.6	522.2	523.9
10°	523.9	519.7	518.0	517.1	514.6	513.8	512.9	512.1	511.2	507.8	509.5
12.5°	509.5	506.1	502.8	501.9	499.4	497.7	496.8	496.8	495.1	491.8	493.4
15°	492.6	487.5	485.0	483.3	480.8	479.1	477.4	478.2	477.4	474.0	474.8
17.5°	472.3	467.2	464.7	463.8	460.4	458.7	457.9	457.9	457.1	453.7	454.5
20°	450.3	445.2	443.5	441.8	440.1	438.4	437.6	436.7	435.9	432.5	435.0
22.5°	428.3	422.4	419.8	419.8	416.4	415.6	414.7	415.6	414.7	411.3	413.0
25°	405.4	399.5	397.8	395.3	393.6	392.7	392.7	392.7	391.9	390.2	391.9
27.5°	380.0	375.8	373.3	372.4	370.7	369.9	369.0	369.9	369.9	367.3	369.0
30°	354.6	351.3	349.6	348.7	346.2	345.3	346.2	346.2	346.2	343.6	346.2
32.5°	329.2	326.7	325.9	323.3	321.6	321.6	321.6	322.5	321.6	319.9	322.5
35°	303.9	300.5	299.6	298.8	298.8	297.1	298.8	297.9	299.6	297.1	298.8
37.5°	276.8	275.1	274.2	274.2	272.5	273.4	273.4	273.4	275.1	272.5	274.2
40°	251.4	249.7	249.7	249.7	248.8	248.8	248.8	249.7	250.5	248.8	250.5
42.5°	226.0	225.1	225.1	224.3	223.4	224.3	225.1	225.1	226.0	224.3	225.1
45°	201.4	200.6	201.4	200.6	200.6	199.7	200.6	201.4	201.4	200.6	200.6
47.5°	178.6	178.6	177.7	177.7	177.7	177.7	177.7	177.7	177.7	176.1	177.7
50°	158.3	156.6	157.4	156.6	156.6	155.7	155.7	154.9	154.0	153.2	153.2
52.5°	138.8	137.1	137.1	136.3	135.4	135.4	134.6	133.7	132.9	131.2	131.2
55°	120.2	118.5	117.6	116.8	116.0	115.1	114.3	113.4	111.7	110.9	110.9
57.5°	103.3	101.6	99.9	99.9	98.2	97.3	95.6	93.9	93.1	91.4	91.4
60°	88.0	86.3	83.8	82.9	82.1	80.4	77.9	77.0	76.2	74.5	75.3
62.5°	73.6	71.1	68.6	67.7	66.9	65.2	63.5	61.8	60.9	61.8	61.8
65°	60.1	57.6	55.9	54.2	53.3	51.6	50.8	49.9	49.9	49.9	50.8
67.5°	48.2	45.7	44.0	43.2	41.5	40.6	40.6	40.6	40.6	40.6	40.6
70°	38.1	36.4	34.7	33.0	33.0	32.2	32.2	32.2	32.2	32.2	32.2
72.5°	28.8	27.1	26.2	26.2	25.4	25.4	25.4	25.4	24.5	24.5	25.4
75°	21.2	20.3	19.5	19.5	19.5	18.6	18.6	18.6	18.6	18.6	18.6
77.5°	15.2	14.4	14.4	13.5	13.5	13.5	13.5	13.5	13.5	12.7	12.7
80°	10.2	9.3	9.3	9.3	9.3	8.5	8.5	8.5	8.5	8.5	8.5
82.5°	5.9	5.9	5.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
85°	3.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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°	550.2	550.2	550.2	550.2	550.2	550.2	550.2	550.2
2.5°	540.0	543.4	544.2	541.7	542.5	540.8	541.7	540.0
5°	530.7	533.2	534.1	532.4	532.4	530.7	531.5	529.8
7.5°	518.8	521.4	522.2	520.5	520.5	518.8	518.8	518.0
10°	505.3	506.1	507.8	505.3	506.1	504.5	504.5	502.8
12.5°	488.4	490.1	491.8	489.2	489.2	488.4	488.4	485.8
15°	470.6	472.3	473.1	471.4	471.4	470.6	469.7	468.9
17.5°	452.0	452.8	454.5	452.0	453.7	452.0	452.0	450.3
20°	430.8	433.4	434.2	431.7	432.5	431.7	431.7	431.7
22.5°	410.5	412.2	413.0	411.3	412.2	410.5	411.3	409.7
25°	389.3	390.2	391.0	389.3	391.0	390.2	389.3	389.3
27.5°	367.3	368.2	369.0	367.3	369.0	368.2	369.0	367.3
30°	343.6	345.3	347.0	345.3	346.2	345.3	345.3	344.5
32.5°	319.9	321.6	323.3	321.6	323.3	321.6	322.5	320.8
35°	297.9	298.8	299.6	297.9	298.8	298.8	298.8	297.9
37.5°	273.4	275.1	275.1	274.2	275.9	275.1	275.1	273.4
40°	249.7	250.5	251.4	249.7	250.5	249.7	250.5	249.7
42.5°	225.1	226.8	227.7	226.0	226.0	226.0	225.1	226.0
45°	199.7	201.4	203.1	200.6	201.4	201.4	201.4	200.6
47.5°	176.9	176.9	177.7	176.9	177.7	176.1	177.7	176.9
50°	153.2	153.2	154.9	153.2	153.2	153.2	153.2	153.2
52.5°	130.3	131.2	131.2	129.5	130.3	129.5	130.3	129.5
55°	109.2	109.2	110.0	109.2	109.2	109.2	109.2	109.2
57.5°	90.6	91.4	91.4	90.6	91.4	90.6	90.6	90.6
60°	75.3	75.3	75.3	74.5	75.3	74.5	75.3	74.5
62.5°	60.9	61.8	61.8	60.9	61.8	60.9	60.9	60.9
65°	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.1
67.5°	39.8	39.8	40.6	39.8	40.6	40.6	40.6	40.6
70°	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
72.5°	24.5	24.5	25.4	24.5	24.5	24.5	24.5	24.5
75°	18.6	18.6	18.6	18.6	18.6	17.8	17.8	18.6
77.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	13.5
80°	8.5	8.5	8.5	8.5	7.6	7.6	8.5	7.6
82.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
85°	2.5	2.5	1.7	1.7	1.7	1.7	1.7	1.7
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)