

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: P251754

Luminaire Tested: **LD4B15D010 EU4B10208040 4LBLWW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251754  
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 EU4B10208040 4LBLWW1H  
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1184.0 lumens  
Efficiency: N/A  
Efficacy: 82.3 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

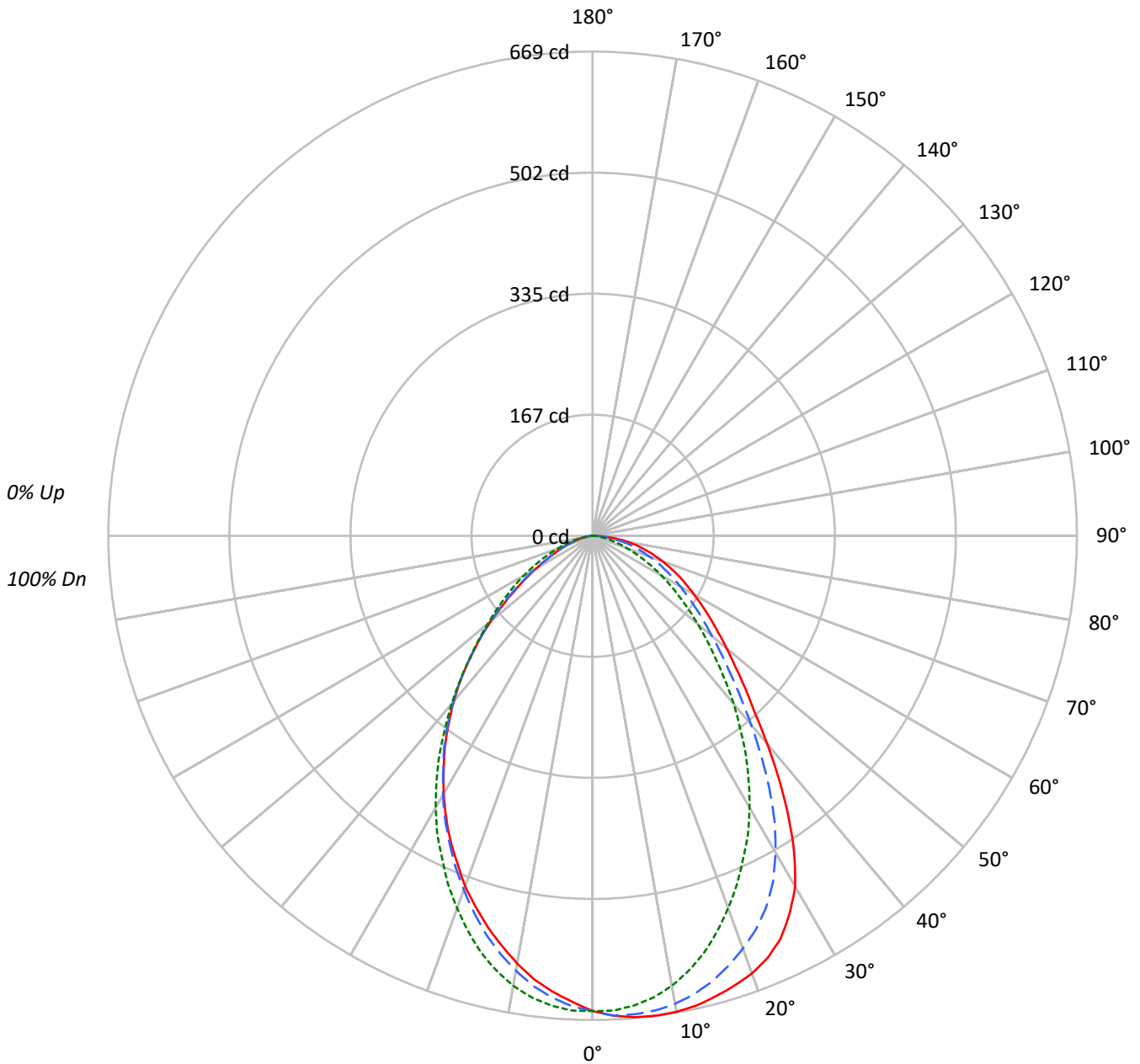
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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				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°	63991	63991	63991
5°	65331	63746	61868
10°	66087	62484	59387
15°	66460	60134	56472
20°	66739	56783	53433
25°	66047	52906	49971
30°	62986	48773	46274
35°	56013	43866	42307
40°	47683	38561	37912
45°	41072	33133	32996
50°	36601	28641	27716
55°	33643	24722	22140
60°	31498	21265	17328
65°	30278	17941	13513
70°	29065	14390	10942
75°	28166	11409	8359
80°	28343	7913	5107
85°	23706	5703	2236



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.5	5.2
10°-20°	169.0	14.3
20°-30°	236.3	20.0
30°-40°	242.9	20.5
40°-50°	197.2	16.7
50°-60°	138.8	11.7
60°-70°	85.5	7.2
70°-80°	42.7	3.6
80°-90°	10.1	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°	466.8	39.4
0°-40°	709.7	59.9
0°-60°	1045.7	88.3
0°-90°	1184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1184.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	657	657	657	657	657	
5°	668	664	652	640	632	64
15°	659	637	596	570	560	186
25°	614	567	492	468	465	281
35°	471	425	369	358	356	293
45°	298	269	240	240	239	232
55°	198	174	146	133	130	178
65°	131	110	78	60	59	130
75°	75	59	30	22	22	80
85°	21	14	5	3	2	25
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°	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6
2.5°	663.7	664.7	661.7	664.7	660.7	662.7	663.7	661.7	659.7	663.7	663.7
5°	667.8	667.8	664.7	668.8	663.7	664.7	666.7	663.7	660.7	664.7	663.7
7.5°	668.8	668.8	664.7	668.8	663.7	664.7	665.7	662.7	659.7	662.7	661.7
10°	667.8	666.7	663.7	667.8	662.7	662.7	663.7	660.7	655.6	658.7	656.6
12.5°	664.7	664.7	660.7	664.7	657.6	657.6	658.7	654.6	650.6	650.6	648.6
15°	658.7	658.7	654.6	657.6	651.6	651.6	650.6	646.5	641.5	641.5	637.4
17.5°	651.6	651.6	647.5	650.6	643.5	643.5	642.5	636.4	629.4	628.4	623.3
20°	643.5	643.5	638.5	640.5	632.4	632.4	631.4	624.3	616.2	614.2	607.1
22.5°	631.4	631.4	626.3	627.3	619.3	618.3	617.2	609.2	601.1	598.0	589.0
25°	614.2	613.2	609.2	609.2	601.1	599.1	597.0	589.0	580.9	574.8	566.7
27.5°	589.0	590.0	584.9	585.9	575.8	573.8	572.8	562.7	553.6	547.5	539.5
30°	559.7	556.6	551.6	551.6	543.5	542.5	540.5	531.4	521.3	514.2	505.1
32.5°	518.2	517.2	512.2	512.2	503.1	503.1	499.0	490.0	480.9	476.8	467.7
35°	470.8	469.7	465.7	465.7	457.6	458.6	454.6	447.5	438.4	432.4	425.3
37.5°	422.3	421.3	417.2	418.2	411.2	411.2	408.1	401.1	394.0	391.0	381.9
40°	374.8	373.8	368.7	371.8	365.7	363.7	362.7	357.6	349.5	345.5	340.4
42.5°	331.3	332.4	327.3	329.3	324.3	322.3	321.2	317.2	311.1	307.1	302.1
45°	298.0	296.0	294.0	294.0	288.9	287.9	286.9	281.8	277.8	273.8	268.7
47.5°	266.7	264.7	262.7	263.7	259.6	258.6	256.6	252.6	247.5	245.5	240.4
50°	241.4	240.4	237.4	237.4	233.4	232.3	230.3	227.3	222.2	219.2	215.2
52.5°	218.2	218.2	215.2	214.2	211.1	210.1	209.1	205.1	201.0	197.0	193.0
55°	198.0	197.0	195.0	195.0	190.9	189.9	188.9	184.9	180.8	177.8	173.8
57.5°	178.8	178.8	176.8	176.8	173.8	171.7	171.7	167.7	162.6	160.6	155.6
60°	161.6	161.6	159.6	159.6	156.6	156.6	154.6	150.5	147.5	143.5	139.4
62.5°	145.5	146.5	144.5	143.5	140.4	139.4	139.4	136.4	131.3	128.3	124.3
65°	131.3	130.3	129.3	128.3	125.3	124.3	124.3	120.2	117.2	113.1	110.1
67.5°	116.2	116.2	114.2	114.2	112.1	111.1	109.1	106.1	103.0	100.0	97.0
70°	102.0	102.0	101.0	101.0	98.0	97.0	96.0	92.9	89.9	86.9	82.8
72.5°	88.9	87.9	86.9	86.9	84.9	83.8	82.8	79.8	76.8	73.7	70.7
75°	74.8	74.8	73.7	73.7	71.7	70.7	70.7	68.7	64.7	62.6	58.6
77.5°	62.6	62.6	61.6	61.6	59.6	59.6	58.6	55.6	53.5	50.5	48.5
80°	50.5	49.5	49.5	48.5	46.5	46.5	45.5	44.4	41.4	39.4	36.4
82.5°	35.4	35.4	35.4	34.3	33.3	33.3	32.3	30.3	28.3	27.3	24.2
85°	21.2	21.2	20.2	19.2	20.2	19.2	18.2	17.2	16.2	15.2	14.1
87.5°	9.1	9.1	8.1	8.1	8.1	8.1	8.1	7.1	6.1	6.1	5.1
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°	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6
2.5°	657.6	660.7	659.7	658.7	656.6	656.6	656.6	655.6	656.6	656.6	654.6
5°	657.6	659.7	658.7	656.6	654.6	654.6	653.6	651.6	651.6	651.6	647.5
7.5°	654.6	656.6	653.6	651.6	649.6	647.5	647.5	644.5	644.5	643.5	639.5
10°	648.6	649.6	645.5	643.5	640.5	639.5	637.4	633.4	632.4	631.4	627.3
12.5°	639.5	640.5	635.4	631.4	627.3	626.3	624.3	619.3	617.2	615.2	610.2
15°	626.3	626.3	620.3	615.2	611.2	610.2	605.1	600.1	598.0	596.0	589.0
17.5°	611.2	610.2	602.1	597.0	592.0	590.0	584.9	578.9	574.8	572.8	566.7
20°	595.0	592.0	582.9	577.8	571.8	568.7	563.7	555.6	551.6	547.5	541.5
22.5°	575.8	571.8	561.7	554.6	548.5	545.5	538.4	531.4	525.3	521.3	514.2
25°	552.6	547.5	536.4	527.3	522.3	519.2	512.2	504.1	498.0	492.0	485.9
27.5°	525.3	519.2	508.1	499.0	494.0	488.9	483.9	474.8	469.7	464.7	457.6
30°	492.0	484.9	474.8	466.7	460.7	456.6	450.6	442.5	436.4	433.4	426.3
32.5°	455.6	447.5	438.4	430.4	427.3	422.3	417.2	409.1	404.1	401.1	396.0
35°	415.2	409.1	399.0	393.0	387.9	385.9	381.9	373.8	371.8	368.7	362.7
37.5°	372.8	367.7	360.6	355.6	351.6	349.5	345.5	340.4	337.4	334.4	331.3
40°	333.4	329.3	323.3	319.2	314.2	311.1	311.1	305.1	303.1	303.1	300.0
42.5°	295.0	293.0	287.9	281.8	280.8	277.8	276.8	273.8	271.7	270.7	269.7
45°	262.7	259.6	254.6	251.5	248.5	248.5	245.5	242.5	241.4	240.4	239.4
47.5°	234.4	230.3	226.3	223.3	221.2	220.2	217.2	215.2	214.2	214.2	213.2
50°	209.1	206.1	202.0	199.0	197.0	195.0	193.0	190.9	189.9	188.9	188.9
52.5°	187.9	183.9	179.8	176.8	173.8	172.7	170.7	168.7	167.7	166.7	165.7
55°	168.7	165.7	160.6	157.6	154.6	154.6	151.5	148.5	146.5	145.5	144.5
57.5°	150.5	147.5	142.4	139.4	137.4	135.4	133.3	131.3	129.3	127.3	125.3
60°	134.4	131.3	126.3	122.2	121.2	119.2	117.2	113.1	111.1	109.1	107.1
62.5°	119.2	115.2	111.1	107.1	106.1	104.1	101.0	98.0	95.0	92.9	89.9
65°	105.1	102.0	97.0	93.9	90.9	89.9	86.9	82.8	79.8	77.8	74.8
67.5°	91.9	87.9	82.8	79.8	77.8	75.8	72.7	69.7	66.7	63.6	60.6
70°	78.8	75.8	70.7	67.7	65.7	63.6	60.6	56.6	53.5	50.5	48.5
72.5°	66.7	62.6	58.6	55.6	53.5	51.5	48.5	45.5	42.4	40.4	37.4
75°	55.6	51.5	48.5	44.4	43.4	41.4	38.4	35.4	32.3	30.3	28.3
77.5°	44.4	41.4	37.4	35.4	33.3	31.3	29.3	26.3	24.2	21.2	19.2
80°	33.3	30.3	27.3	25.3	23.2	22.2	20.2	18.2	16.2	14.1	13.1
82.5°	22.2	20.2	17.2	16.2	15.2	14.1	12.1	11.1	10.1	9.1	8.1
85°	12.1	11.1	10.1	8.1	8.1	7.1	6.1	6.1	5.1	5.1	4.0
87.5°	5.1	4.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0	1.0	1.0
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°	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6
2.5°	655.6	651.6	651.6	651.6	648.6	649.6	650.6	651.6	650.6	647.5	650.6
5°	648.6	644.5	644.5	642.5	640.5	640.5	640.5	641.5	640.5	637.4	638.5
7.5°	639.5	634.4	633.4	631.4	629.4	628.4	628.4	628.4	627.3	623.3	625.3
10°	625.3	620.3	618.3	617.2	614.2	613.2	612.2	611.2	610.2	606.1	608.1
12.5°	608.1	604.1	600.1	599.1	596.0	594.0	593.0	593.0	591.0	586.9	589.0
15°	587.9	581.9	578.9	576.8	573.8	571.8	569.8	570.8	569.8	565.7	566.7
17.5°	563.7	557.6	554.6	553.6	549.6	547.5	546.5	546.5	545.5	541.5	542.5
20°	537.4	531.4	529.4	527.3	525.3	523.3	522.3	521.3	520.3	516.2	519.2
22.5°	511.2	504.1	501.1	501.1	497.0	496.0	495.0	496.0	495.0	491.0	493.0
25°	483.9	476.8	474.8	471.8	469.7	468.7	468.7	468.7	467.7	465.7	467.7
27.5°	453.6	448.5	445.5	444.5	442.5	441.5	440.5	441.5	441.5	438.4	440.5
30°	423.3	419.2	417.2	416.2	413.2	412.2	413.2	413.2	413.2	410.1	413.2
32.5°	393.0	389.9	388.9	385.9	383.9	383.9	383.9	384.9	383.9	381.9	384.9
35°	362.7	358.6	357.6	356.6	356.6	354.6	356.6	355.6	357.6	354.6	356.6
37.5°	330.3	328.3	327.3	327.3	325.3	326.3	326.3	326.3	328.3	325.3	327.3
40°	300.0	298.0	298.0	298.0	297.0	297.0	297.0	298.0	299.0	297.0	299.0
42.5°	269.7	268.7	268.7	267.7	266.7	267.7	268.7	268.7	269.7	267.7	268.7
45°	240.4	239.4	240.4	239.4	239.4	238.4	239.4	240.4	240.4	239.4	239.4
47.5°	213.2	213.2	212.1	212.1	212.1	212.1	212.1	212.1	212.1	210.1	212.1
50°	188.9	186.9	187.9	186.9	186.9	185.9	185.9	184.9	183.9	182.8	182.8
52.5°	165.7	163.7	163.7	162.6	161.6	161.6	160.6	159.6	158.6	156.6	156.6
55°	143.5	141.4	140.4	139.4	138.4	137.4	136.4	135.4	133.3	132.3	132.3
57.5°	123.2	121.2	119.2	119.2	117.2	116.2	114.2	112.1	111.1	109.1	109.1
60°	105.1	103.0	100.0	99.0	98.0	96.0	92.9	91.9	90.9	88.9	89.9
62.5°	87.9	84.9	81.8	80.8	79.8	77.8	75.8	73.7	72.7	73.7	73.7
65°	71.7	68.7	66.7	64.7	63.6	61.6	60.6	59.6	59.6	59.6	60.6
67.5°	57.6	54.6	52.5	51.5	49.5	48.5	48.5	48.5	48.5	48.5	48.5
70°	45.5	43.4	41.4	39.4	39.4	38.4	38.4	38.4	38.4	38.4	38.4
72.5°	34.3	32.3	31.3	31.3	30.3	30.3	30.3	30.3	29.3	29.3	30.3
75°	25.3	24.2	23.2	23.2	23.2	22.2	22.2	22.2	22.2	22.2	22.2
77.5°	18.2	17.2	17.2	16.2	16.2	16.2	16.2	16.2	16.2	15.2	15.2
80°	12.1	11.1	11.1	11.1	11.1	10.1	10.1	10.1	10.1	10.1	10.1
82.5°	7.1	7.1	7.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
85°	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	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°	656.6	656.6	656.6	656.6	656.6	656.6	656.6	656.6
2.5°	644.5	648.6	649.6	646.5	647.5	645.5	646.5	644.5
5°	633.4	636.4	637.4	635.4	635.4	633.4	634.4	632.4
7.5°	619.3	622.3	623.3	621.3	621.3	619.3	619.3	618.3
10°	603.1	604.1	606.1	603.1	604.1	602.1	602.1	600.1
12.5°	582.9	584.9	586.9	583.9	583.9	582.9	582.9	579.9
15°	561.7	563.7	564.7	562.7	562.7	561.7	560.7	559.7
17.5°	539.5	540.5	542.5	539.5	541.5	539.5	539.5	537.4
20°	514.2	517.2	518.2	515.2	516.2	515.2	515.2	515.2
22.5°	490.0	492.0	493.0	491.0	492.0	490.0	491.0	488.9
25°	464.7	465.7	466.7	464.7	466.7	465.7	464.7	464.7
27.5°	438.4	439.4	440.5	438.4	440.5	439.4	440.5	438.4
30°	410.1	412.2	414.2	412.2	413.2	412.2	412.2	411.2
32.5°	381.9	383.9	385.9	383.9	385.9	383.9	384.9	382.9
35°	355.6	356.6	357.6	355.6	356.6	356.6	356.6	355.6
37.5°	326.3	328.3	328.3	327.3	329.3	328.3	328.3	326.3
40°	298.0	299.0	300.0	298.0	299.0	298.0	299.0	298.0
42.5°	268.7	270.7	271.7	269.7	269.7	269.7	268.7	269.7
45°	238.4	240.4	242.5	239.4	240.4	240.4	240.4	239.4
47.5°	211.1	211.1	212.1	211.1	212.1	210.1	212.1	211.1
50°	182.8	182.8	184.9	182.8	182.8	182.8	182.8	182.8
52.5°	155.6	156.6	156.6	154.6	155.6	154.6	155.6	154.6
55°	130.3	130.3	131.3	130.3	130.3	130.3	130.3	130.3
57.5°	108.1	109.1	109.1	108.1	109.1	108.1	108.1	108.1
60°	89.9	89.9	89.9	88.9	89.9	88.9	89.9	88.9
62.5°	72.7	73.7	73.7	72.7	73.7	72.7	72.7	72.7
65°	59.6	59.6	59.6	59.6	59.6	59.6	59.6	58.6
67.5°	47.5	47.5	48.5	47.5	48.5	48.5	48.5	48.5
70°	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4
72.5°	29.3	29.3	30.3	29.3	29.3	29.3	29.3	29.3
75°	22.2	22.2	22.2	22.2	22.2	21.2	21.2	22.2
77.5°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	16.2
80°	10.1	10.1	10.1	10.1	9.1	9.1	10.1	9.1
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
85°	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
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)