

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P843412

Luminaire Tested: **LD4C15DE010B50 EU4C15B50 4LBLWWH**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843412  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C15DE010B50 EU4C15B50 4LBLWWH  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

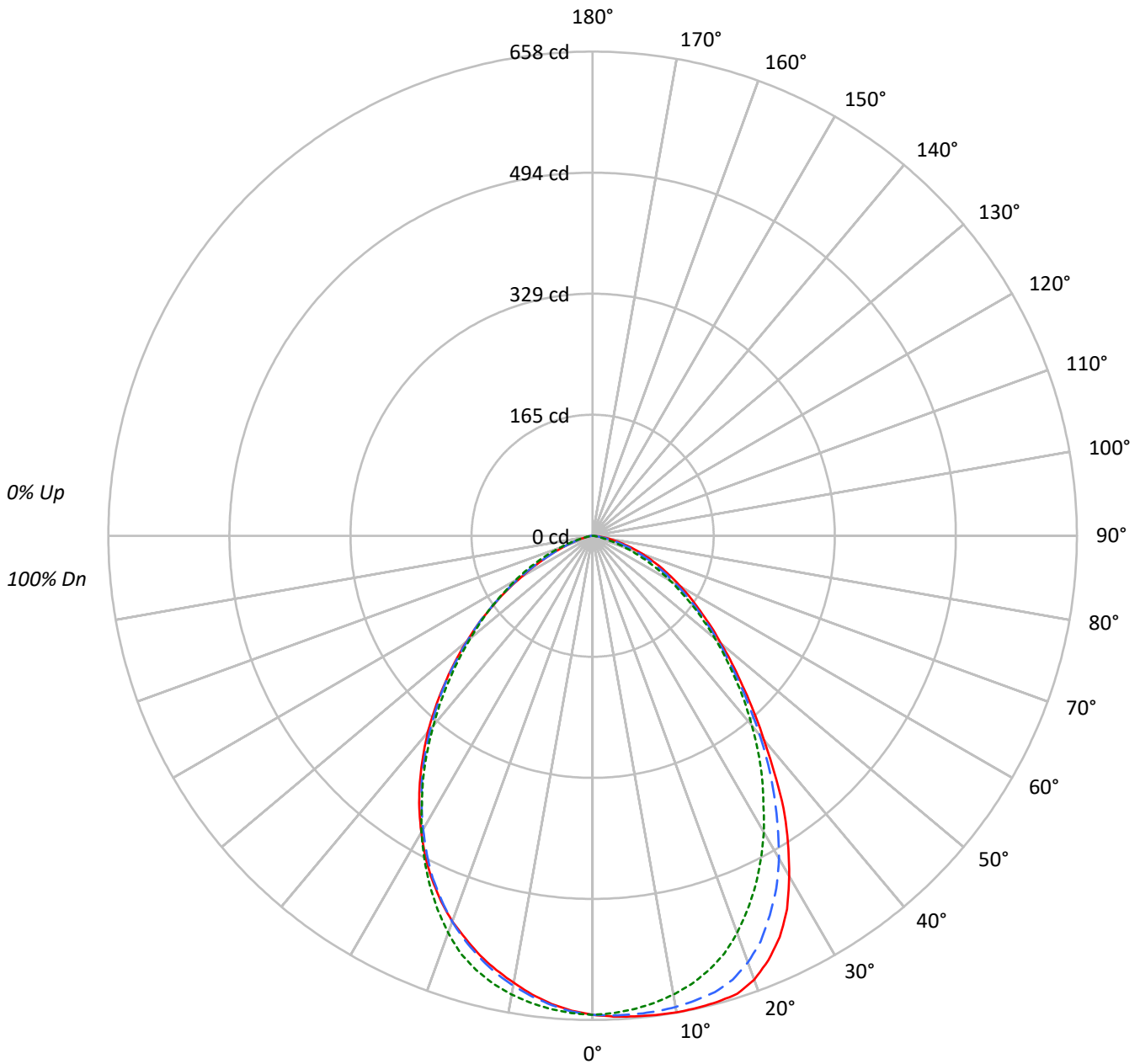
Lumens per Lamp: N/A  
Luminaire Lumens: 1226.9 lumens  
Efficiency: N/A  
Efficacy: 72.2 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 17  
Input Voltage (V):  
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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	88																			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68																			
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	71	63	57	80	69	62	57	67	61	56	66	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49	47																			
7	71	59	51	46	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39																			
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37	35																			
10	59	47	39	34	58	46	39	34	45	39	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	79978	79978	79978
5°	80863	79642	78766
10°	82047	78966	76957
15°	83397	77699	75130
20°	83934	75057	72899
25°	81522	71003	69919
30°	75767	66007	66035
35°	67819	60171	61430
40°	58055	53918	55890
45°	49985	47553	49342
50°	43462	41398	42640
55°	38233	35620	35298
60°	34006	29706	27372
65°	29854	23808	19796
70°	25647	16846	13398
75°	20791	9731	7832
80°	14857	4245	3891
85°	5638	1832	1832



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.4	5.0
10°-20°	173.7	14.2
20°-30°	248.0	20.2
30°-40°	259.4	21.1
40°-50°	217.4	17.7
50°-60°	152.1	12.4
60°-70°	82.8	6.8
70°-80°	28.7	2.3
80°-90°	3.3	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°	483.0	39.4
0°-40°	742.5	60.5
0°-60°	1112.0	90.6
0°-90°	1226.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1226.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	651	651	651	651	651	
5°	656	653	646	640	639	63
15°	656	642	611	593	591	185
25°	601	569	524	514	516	275
35°	452	430	401	404	410	280
45°	288	281	274	283	284	224
55°	178	172	166	166	165	161
65°	103	94	82	69	68	102
75°	44	36	20	16	16	47
85°	4	2	1	1	1	7
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°	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
2.5°	654.0	653.3	653.5	653.5	653.5	653.3	653.5	653.3	653.3	653.0	652.5
5°	655.7	655.2	655.2	655.2	655.0	654.8	654.8	654.5	654.0	653.7	652.8
7.5°	657.0	656.5	656.5	656.3	656.1	655.7	655.5	654.8	654.0	653.5	652.2
10°	657.7	657.0	657.0	656.5	656.1	655.7	655.2	654.3	653.3	652.0	650.2
12.5°	657.2	656.5	656.3	655.7	654.8	654.3	653.7	652.5	650.8	649.0	646.7
15°	655.7	655.2	654.8	654.0	652.8	652.0	651.5	649.5	647.3	644.7	642.0
17.5°	652.8	652.0	651.0	650.0	648.2	647.5	646.2	643.8	640.5	637.0	632.7
20°	642.0	641.5	640.5	638.7	636.0	635.0	633.2	629.9	625.7	621.5	616.9
22.5°	624.2	623.5	622.0	620.4	618.0	616.2	614.7	610.1	605.4	600.9	596.7
25°	601.4	600.6	598.6	596.7	594.2	591.1	589.6	586.1	581.4	575.7	569.3
27.5°	572.2	569.6	568.9	566.6	562.9	561.8	559.6	555.2	550.6	545.6	540.3
30°	534.1	534.1	532.5	531.6	528.1	527.0	524.6	519.8	517.3	510.3	506.3
32.5°	493.8	493.3	492.0	491.3	489.3	487.5	485.0	482.5	477.0	473.5	468.0
35°	452.2	449.2	449.7	448.2	447.0	444.9	444.7	441.9	436.9	434.9	429.9
37.5°	404.9	403.6	405.4	403.2	401.9	402.1	400.1	398.4	396.4	392.8	391.9
40°	362.0	363.1	362.8	360.8	361.8	360.5	358.5	356.8	355.8	353.6	352.8
42.5°	323.7	322.3	321.7	321.7	321.9	321.9	321.0	319.7	319.7	317.5	315.3
45°	287.7	287.7	287.1	288.7	286.4	286.4	285.7	285.5	284.4	284.0	281.2
47.5°	256.7	256.4	256.2	255.8	255.6	255.6	254.1	252.9	252.7	251.2	249.6
50°	227.4	228.9	228.3	227.1	226.5	226.9	225.8	225.1	224.9	222.3	222.6
52.5°	202.9	202.5	203.1	202.3	201.1	201.3	200.3	199.3	198.3	197.0	196.1
55°	178.5	179.8	179.3	178.5	178.3	177.8	177.0	175.8	175.6	172.8	172.5
57.5°	158.2	158.0	157.5	156.2	156.0	155.3	155.3	154.2	152.7	151.2	150.0
60°	138.4	138.4	137.7	137.5	136.4	136.2	135.9	135.0	133.2	132.0	130.0
62.5°	119.4	119.9	119.4	118.7	117.9	117.0	116.4	115.7	114.2	113.0	111.2
65°	102.7	102.4	102.2	101.1	100.9	99.9	99.6	98.1	96.7	95.6	93.6
67.5°	86.6	85.9	85.9	85.4	84.9	84.1	83.7	82.2	80.4	79.3	77.4
70°	71.4	70.9	70.9	70.9	69.6	68.9	68.6	67.9	65.4	64.3	62.3
72.5°	57.3	57.1	56.8	56.1	55.3	55.3	54.4	52.9	51.6	50.3	48.9
75°	43.8	44.3	43.8	42.8	42.5	42.1	41.4	40.1	38.8	37.3	35.5
77.5°	32.0	31.5	31.1	31.1	30.6	29.5	29.3	28.3	26.8	25.8	24.0
80°	21.0	20.7	20.3	19.8	19.6	19.2	19.0	18.0	16.5	15.8	14.3
82.5°	11.5	11.3	11.3	11.0	10.3	10.3	10.0	9.0	8.2	7.7	7.0
85°	4.0	4.0	4.0	3.8	3.8	3.8	3.5	3.3	3.0	2.7	2.2
87.5°	0.5	0.2	0.5	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2
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°	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
2.5°	652.0	651.5	651.3	651.0	650.8	650.6	650.2	649.7	649.5	649.3	648.8
5°	652.0	651.0	650.6	649.7	649.3	648.8	648.0	647.3	646.5	645.8	644.9
7.5°	651.0	649.5	648.5	647.0	646.5	645.8	644.2	643.3	642.0	640.5	638.7
10°	648.5	646.7	644.7	642.7	642.0	640.7	638.7	637.0	635.0	633.0	631.2
12.5°	644.5	641.8	639.2	636.5	635.0	633.7	631.0	628.4	626.0	623.7	620.7
15°	638.5	635.2	631.9	628.2	626.4	625.0	620.9	618.0	614.0	610.9	607.9
17.5°	628.8	623.7	619.7	614.9	612.5	610.7	607.2	602.4	598.6	595.4	592.0
20°	611.9	607.2	601.7	596.4	593.6	591.4	586.4	581.4	577.7	574.1	570.4
22.5°	589.9	583.9	579.9	573.3	571.1	568.4	562.3	557.9	553.6	550.1	546.6
25°	563.1	557.9	552.3	546.4	543.6	540.3	535.4	530.6	527.8	523.8	519.5
27.5°	532.3	528.1	521.3	516.0	513.3	510.7	506.1	501.7	497.7	495.0	491.0
30°	499.7	494.8	488.7	483.2	481.8	478.7	474.5	471.2	466.9	465.3	463.5
32.5°	464.0	458.2	453.7	450.2	447.2	444.7	442.4	437.1	436.4	431.9	431.4
35°	424.9	422.4	418.2	415.1	412.6	410.9	407.1	404.7	401.9	401.2	399.4
37.5°	388.0	385.1	381.1	378.3	376.6	376.3	373.6	372.1	370.1	369.1	367.1
40°	349.5	348.3	344.8	344.3	341.5	341.3	339.8	338.0	336.2	336.2	336.5
42.5°	314.0	312.5	310.9	309.3	307.8	307.8	306.9	306.5	306.0	305.2	306.5
45°	280.7	278.7	277.6	275.9	276.7	275.2	274.7	274.7	273.9	273.7	275.4
47.5°	249.6	247.4	246.4	245.9	245.9	246.1	243.9	244.6	244.4	244.8	245.6
50°	221.4	219.4	217.9	217.9	218.1	217.1	216.1	216.8	216.1	216.6	218.3
52.5°	195.0	193.0	192.3	192.3	190.8	190.6	191.0	190.1	190.3	190.6	191.5
55°	170.8	169.5	168.3	167.0	167.2	166.8	165.7	165.5	166.0	166.3	167.5
57.5°	149.0	147.2	145.4	145.0	144.5	144.5	143.2	143.0	143.5	142.3	142.3
60°	128.2	127.2	124.9	124.2	124.2	122.9	121.9	122.5	121.2	120.9	121.2
62.5°	108.9	108.2	106.7	105.1	104.7	104.2	102.9	102.4	102.0	100.9	99.4
65°	92.1	90.4	88.6	87.7	86.8	85.7	84.9	83.9	82.4	81.9	80.4
67.5°	75.4	73.6	71.8	71.1	70.3	69.6	68.3	67.1	65.4	63.4	61.6
70°	60.6	58.4	57.3	55.3	54.8	53.8	52.0	50.9	49.1	46.9	45.1
72.5°	46.3	44.8	43.4	41.6	40.3	39.6	38.1	36.1	34.1	32.8	31.1
75°	33.3	32.6	30.6	28.6	28.0	27.1	25.3	24.0	22.5	20.5	19.0
77.5°	22.5	21.0	19.8	18.0	17.6	16.5	15.5	14.3	13.2	12.1	11.0
80°	13.2	12.1	11.3	10.0	9.5	9.0	8.2	7.3	6.6	6.0	5.7
82.5°	6.6	5.5	5.3	4.5	4.2	4.0	3.5	3.3	2.7	2.7	2.7
85°	2.2	1.8	1.8	1.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3
87.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
2.5°	648.5	648.2	648.0	647.7	647.7	647.5	647.5	647.3	647.3	647.0	647.0
5°	644.0	643.3	642.7	642.2	642.2	641.5	641.0	640.5	640.2	640.2	639.8
7.5°	637.8	636.7	635.7	635.0	634.7	633.5	632.5	632.5	631.5	631.0	630.5
10°	629.5	627.7	626.2	625.5	624.4	623.7	622.4	621.7	620.9	619.7	619.5
12.5°	618.2	616.9	614.7	613.6	613.2	611.7	609.7	608.7	608.5	607.4	606.7
15°	605.4	602.6	600.6	599.5	599.5	596.9	595.9	594.4	593.4	592.7	592.4
17.5°	588.9	586.1	584.1	582.4	581.9	579.9	578.4	577.9	576.6	577.2	575.9
20°	567.6	565.4	563.8	561.6	561.6	560.3	559.9	558.6	558.1	557.6	558.1
22.5°	544.8	542.0	539.6	539.3	539.3	537.6	537.3	537.1	536.1	536.9	536.5
25°	518.0	516.0	514.5	514.3	514.3	513.3	512.3	512.7	513.6	513.3	514.0
27.5°	490.2	488.2	487.8	487.5	487.0	486.7	487.3	487.3	488.0	489.0	490.0
30°	460.2	459.8	458.9	458.7	458.2	459.4	460.0	460.7	460.5	462.0	462.9
32.5°	430.1	429.2	428.9	429.4	430.1	429.9	431.4	431.9	432.5	434.2	434.9
35°	399.9	399.6	399.2	399.2	399.4	401.4	401.4	403.2	404.1	404.7	406.7
37.5°	367.3	368.3	368.8	369.5	369.9	370.6	371.0	372.8	373.9	374.8	375.8
40°	337.5	337.1	339.3	337.8	338.2	340.6	341.5	341.3	342.8	344.3	345.3
42.5°	305.8	306.5	306.9	307.5	308.7	308.9	310.2	312.0	312.5	314.2	314.8
45°	274.9	275.2	276.1	277.2	277.9	280.0	280.4	281.2	282.7	282.7	283.4
47.5°	245.9	246.9	246.9	248.3	249.6	249.4	251.2	251.6	251.4	252.7	253.1
50°	218.1	219.6	219.4	220.3	220.8	221.0	222.6	223.1	222.1	223.4	223.6
52.5°	191.5	192.3	193.3	193.5	193.0	194.3	193.8	194.8	194.5	195.6	194.5
55°	167.2	167.0	167.0	167.5	167.0	167.5	168.1	167.0	166.3	167.2	167.0
57.5°	143.0	143.0	142.5	143.2	142.5	141.7	141.5	140.7	139.9	139.9	139.7
60°	120.1	119.7	118.7	118.5	118.5	117.2	116.7	115.7	115.7	114.6	113.7
62.5°	98.9	97.6	96.9	96.9	96.4	95.2	92.9	91.4	90.9	89.4	89.2
65°	78.9	77.6	76.9	75.4	74.1	73.6	71.4	69.6	68.9	67.4	67.6
67.5°	60.6	58.6	56.4	55.3	54.6	52.9	52.0	50.9	50.0	50.0	50.0
70°	43.6	41.8	39.6	38.8	38.3	36.8	36.1	35.9	36.6	36.3	36.6
72.5°	29.3	27.5	26.5	26.0	25.5	24.7	25.3	25.5	25.1	25.3	25.5
75°	17.8	17.2	16.5	16.3	16.3	16.5	16.3	16.3	16.5	16.5	16.8
77.5°	10.3	9.7	9.7	9.5	10.0	9.7	9.7	9.7	10.0	10.0	10.0
80°	5.5	5.5	5.5	5.5	5.7	5.5	5.7	5.7	5.7	5.7	5.7
82.5°	2.7	2.7	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.7
85°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
87.5°	0.2	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2
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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
2.5°	646.5	646.5	646.5	646.0	646.2	646.2	646.0	646.0
5°	639.4	639.2	638.7	638.7	638.3	638.7	638.5	638.7
7.5°	629.9	629.9	629.2	629.2	629.0	628.8	628.4	628.8
10°	618.7	618.7	618.2	618.0	618.2	617.2	617.2	616.9
12.5°	606.1	605.7	605.2	605.4	605.2	604.4	604.2	604.4
15°	591.6	590.9	591.1	590.4	590.4	590.2	590.7	590.7
17.5°	575.7	575.1	574.6	574.9	574.4	574.6	574.4	574.1
20°	557.9	557.6	557.6	556.6	556.8	556.6	556.8	557.6
22.5°	537.3	537.1	537.3	536.5	537.1	537.1	537.8	537.8
25°	514.8	514.5	515.1	515.3	515.5	516.3	515.5	515.8
27.5°	489.8	490.5	491.3	491.5	492.5	491.8	491.3	492.0
30°	464.5	464.5	464.2	465.3	466.0	466.7	465.5	465.5
32.5°	435.4	436.7	436.7	436.9	437.6	437.6	437.6	438.7
35°	407.6	408.4	408.7	407.6	408.1	407.8	409.6	409.6
37.5°	376.6	376.6	376.8	378.6	378.6	377.8	378.3	378.3
40°	347.0	347.3	346.3	346.8	348.1	347.5	348.1	348.5
42.5°	314.8	316.4	315.5	316.0	315.7	316.0	316.2	316.2
45°	284.0	284.4	284.4	284.7	285.1	285.7	284.2	284.0
47.5°	253.9	254.1	254.9	253.6	255.1	253.6	255.1	253.4
50°	223.6	224.6	223.8	224.3	223.6	223.6	223.4	223.1
52.5°	194.8	194.5	194.5	194.3	194.3	194.8	194.3	195.0
55°	166.0	166.3	165.7	165.5	165.2	166.0	165.2	164.8
57.5°	138.8	139.2	138.2	138.8	137.0	137.7	137.9	138.2
60°	113.4	112.6	112.6	111.7	111.7	112.4	111.4	111.4
62.5°	87.9	88.4	87.7	88.6	88.6	89.7	89.2	89.7
65°	67.4	67.6	67.9	67.9	67.9	69.4	68.9	68.1
67.5°	50.9	51.1	51.3	51.1	51.8	51.3	51.3	51.6
70°	36.8	37.0	37.3	37.3	37.0	37.3	37.3	37.3
72.5°	25.5	25.8	25.5	25.8	26.0	25.8	25.8	26.0
75°	16.8	16.8	16.5	16.5	16.5	16.5	16.8	16.5
77.5°	9.7	10.0	9.7	10.0	10.0	10.0	10.0	10.0
80°	5.7	5.7	5.7	5.5	5.7	5.7	5.7	5.5
82.5°	3.0	3.0	2.7	2.7	3.0	3.0	3.0	3.0
85°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
87.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
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)