

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: P843397

Luminaire Tested: **LD4C15DE010B40 EU4C15B40 4LBLDWWLI**

Issue Date: 5/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P843397  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C15DE010B40 EU4C15B40 4LBLDWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

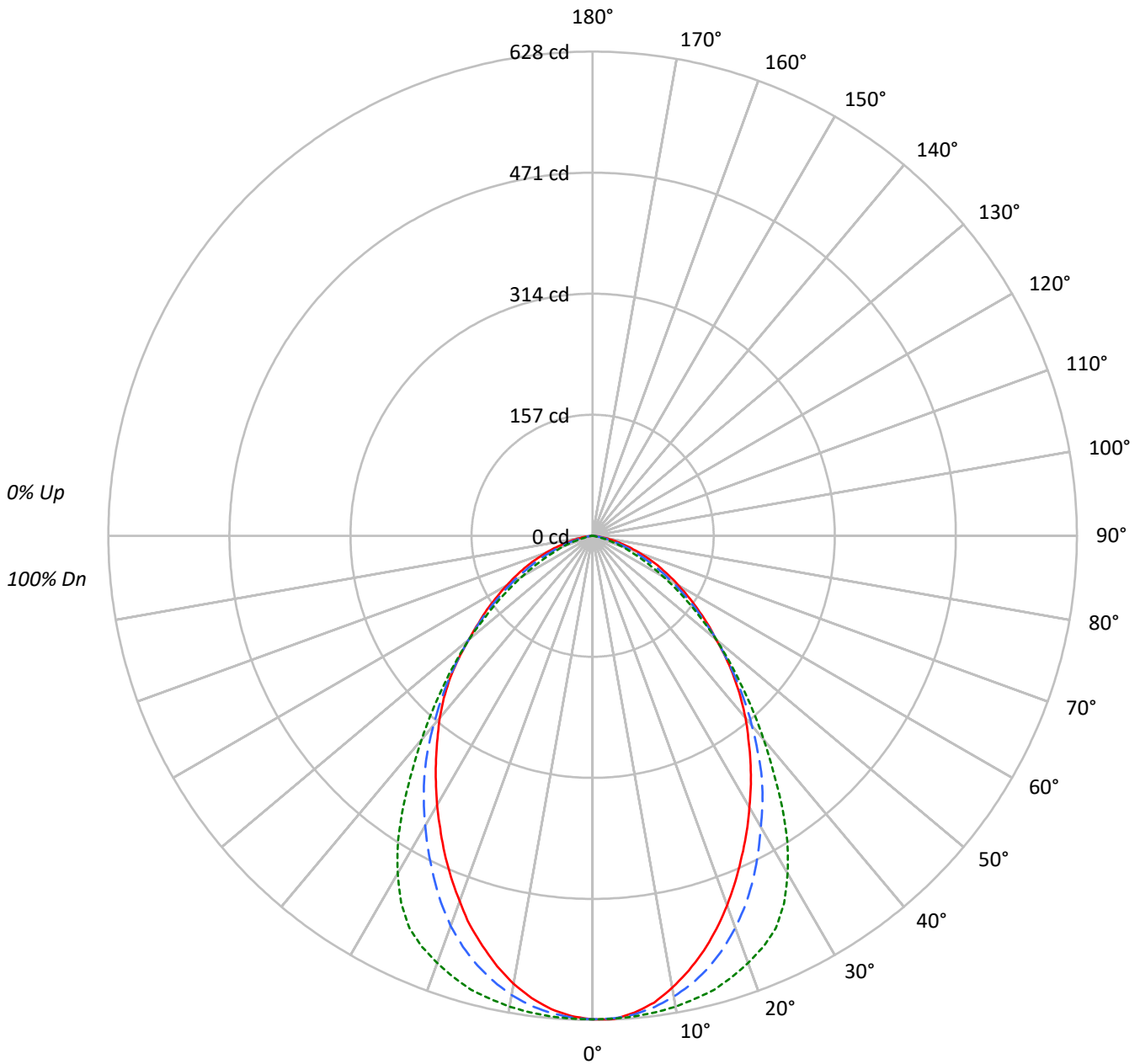
Lumens per Lamp: N/A  
Luminaire Lumens: 1151.8 lumens  
Efficiency: N/A  
Efficacy: 67.8 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	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°	77054	77054	77054
5°	76583	77163	76016
10°	74250	77357	73614
15°	70856	77521	70067
20°	66663	77083	65931
25°	62097	76168	61582
30°	57694	71738	57226
35°	53497	64160	53107
40°	49459	55329	49427
45°	45068	47223	45416
50°	39792	39945	40022
55°	35662	32642	35812
60°	31524	25947	31573
65°	27761	19767	27500
70°	22989	14152	22989
75°	17943	8117	17278
80°	11603	2052	11178
85°	4370	564	3242



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.9	5.1
10°-20°	162.9	14.1
20°-30°	227.7	19.8
30°-40°	240.2	20.9
40°-50°	204.3	17.7
50°-60°	144.2	12.5
60°-70°	81.7	7.1
70°-80°	29.2	2.5
80°-90°	2.8	0.2
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°	449.4	39.0
0°-40°	689.6	59.9
0°-60°	1038.1	90.1
0°-90°	1151.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1151.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	627	627	627	627	627	
5°	621	623	626	621	616	58
15°	557	580	610	577	551	156
25°	458	492	562	488	454	211
35°	357	382	428	380	354	223
45°	259	263	272	264	261	199
55°	166	161	152	161	167	150
65°	96	82	68	82	95	95
75°	38	26	17	25	36	41
85°	3	1	0	1	2	5
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°	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2
2.5°	627.6	626.4	626.4	626.4	626.4	626.4	626.4	626.4	626.4	626.6	626.6
5°	621.0	620.5	620.3	620.3	620.3	620.3	620.5	621.5	622.0	622.6	623.2
7.5°	610.7	609.7	610.3	610.3	610.7	611.2	611.8	612.8	614.3	615.1	616.4
10°	595.2	594.3	595.4	596.0	597.4	598.1	599.3	600.6	603.5	604.9	606.8
12.5°	577.2	576.7	577.2	579.1	580.4	581.4	582.8	585.8	588.7	591.7	595.0
15°	557.1	555.8	556.5	558.9	561.2	562.9	564.0	568.1	571.8	576.5	580.4
17.5°	534.5	532.8	534.7	536.6	539.6	541.1	542.7	547.1	552.3	557.5	561.9
20°	509.9	509.4	510.5	513.2	516.2	518.0	519.5	524.4	528.8	535.9	541.1
22.5°	484.3	484.8	485.7	488.5	490.6	493.2	495.3	499.7	504.9	511.5	518.0
25°	458.1	458.7	460.4	462.3	465.8	467.2	469.8	474.5	478.9	485.0	492.2
27.5°	432.7	432.9	434.8	435.7	439.0	442.1	443.3	448.2	453.3	458.1	464.4
30°	406.7	407.4	408.6	411.1	414.4	415.5	417.0	421.5	425.5	431.3	436.3
32.5°	381.8	381.4	382.8	384.1	387.9	390.1	390.7	395.9	399.4	405.3	409.9
35°	356.7	355.6	357.7	359.1	362.3	364.2	365.2	369.1	372.4	377.4	382.5
37.5°	331.7	332.5	333.5	334.6	336.3	336.8	339.6	340.6	344.8	348.5	351.3
40°	308.4	308.0	307.5	308.6	310.7	311.7	311.9	314.5	315.5	319.2	321.3
42.5°	283.6	283.8	283.6	283.8	284.9	284.9	285.7	287.3	288.0	289.2	291.8
45°	259.4	259.4	258.7	258.9	259.1	258.9	259.1	259.9	261.2	261.2	263.1
47.5°	234.3	233.8	234.8	234.1	233.6	233.3	234.1	233.3	234.8	234.8	235.2
50°	208.2	208.2	209.4	209.2	209.6	208.8	209.0	209.0	209.2	209.0	209.9
52.5°	188.0	187.6	187.2	185.9	186.5	185.5	185.5	185.7	185.1	184.8	183.6
55°	166.5	167.0	166.3	165.8	165.8	164.9	164.7	163.2	162.2	161.6	160.9
57.5°	147.0	147.5	147.3	146.1	144.7	144.9	144.5	143.1	141.0	139.5	138.3
60°	128.3	128.7	128.3	127.1	126.6	125.8	125.4	123.6	121.9	120.0	118.7
62.5°	111.4	111.4	111.2	109.6	108.3	108.6	107.5	106.0	103.9	101.3	99.2
65°	95.5	95.2	94.0	93.4	92.4	91.3	90.5	88.4	86.7	84.7	81.9
67.5°	79.5	78.8	78.4	77.6	75.5	75.3	74.4	72.4	70.1	68.5	66.1
70°	64.0	63.8	62.8	62.8	61.2	60.5	59.1	57.4	55.3	53.0	51.1
72.5°	50.7	50.2	49.3	48.3	46.9	46.4	45.3	43.6	41.8	39.4	37.0
75°	37.8	37.3	37.0	35.9	34.7	33.5	33.1	31.4	29.5	27.9	25.8
77.5°	26.5	26.0	25.3	24.6	23.9	23.3	22.5	21.2	19.5	18.1	16.2
80°	16.4	16.0	15.4	15.2	14.5	14.3	13.3	12.7	11.2	10.4	9.1
82.5°	8.5	8.5	7.9	7.7	7.3	7.1	6.8	6.1	5.4	4.7	4.0
85°	3.1	3.1	2.9	2.5	2.5	2.3	2.3	2.1	1.7	1.7	1.2
87.5°	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2
2.5°	626.9	626.6	626.9	626.9	627.2	627.2	627.2	626.9	627.2	626.9	626.9
5°	623.2	623.8	624.3	624.7	625.1	625.3	625.3	625.5	625.7	625.7	625.5
7.5°	617.2	618.7	620.1	621.0	621.5	622.0	622.6	623.2	623.6	623.4	623.2
10°	609.5	611.8	613.7	615.6	616.6	617.2	618.4	619.4	619.9	620.1	619.4
12.5°	598.5	601.8	604.9	607.9	609.3	610.3	612.6	614.3	615.1	615.1	614.5
15°	584.7	589.4	593.9	597.8	600.2	601.6	605.1	607.4	608.9	609.5	608.4
17.5°	568.1	573.4	578.8	584.0	586.4	588.5	593.3	596.6	599.7	600.2	598.7
20°	546.7	553.5	559.6	565.9	568.5	571.8	577.4	582.8	587.5	589.6	585.6
22.5°	522.8	530.3	535.9	543.6	547.1	550.7	557.9	564.8	572.9	577.4	570.4
25°	497.9	504.3	511.0	518.6	523.4	527.2	535.7	544.4	555.4	561.9	552.1
27.5°	471.2	476.8	485.0	493.2	497.0	501.6	511.8	521.1	531.7	537.5	530.3
30°	443.5	450.6	458.3	465.8	471.2	475.6	483.9	491.8	500.7	505.7	500.3
32.5°	416.1	422.8	429.4	437.6	440.7	444.6	451.9	458.7	465.6	470.0	463.7
35°	387.2	393.3	399.4	405.1	406.4	411.1	417.0	420.9	424.2	427.8	423.6
37.5°	355.8	360.4	363.5	369.6	372.0	372.7	377.4	380.2	383.7	384.3	384.1
40°	323.8	328.1	330.7	334.4	336.3	336.3	339.6	342.1	344.8	345.0	344.8
42.5°	294.1	296.2	298.4	300.7	300.2	303.0	304.4	305.6	307.5	307.5	308.0
45°	264.1	265.7	267.6	268.1	269.9	269.9	271.1	271.6	272.6	271.8	270.9
47.5°	236.2	236.9	237.1	239.2	239.7	238.1	239.4	239.7	239.4	239.4	239.0
50°	209.6	210.2	209.9	209.2	209.4	210.2	209.4	208.5	209.0	209.0	209.4
52.5°	183.9	183.0	182.4	182.4	181.5	181.5	180.3	179.9	179.7	178.7	179.9
55°	160.2	158.8	156.6	156.2	155.5	155.3	153.9	152.7	152.2	152.4	152.2
57.5°	137.4	135.3	133.9	133.5	132.7	131.4	129.7	128.5	128.3	127.9	127.9
60°	116.8	114.4	112.3	110.2	110.4	109.6	107.9	107.1	106.5	105.6	106.3
62.5°	98.0	95.5	93.1	91.0	89.6	88.8	87.7	86.5	85.9	85.1	86.1
65°	79.5	77.4	74.8	72.7	72.0	71.3	70.1	68.2	68.0	68.0	68.5
67.5°	62.8	60.5	58.2	56.8	55.8	54.9	54.4	53.5	52.8	52.2	52.6
70°	48.3	46.0	44.1	42.7	42.0	41.8	40.1	39.9	39.7	39.4	39.1
72.5°	35.2	33.3	31.6	30.7	29.8	29.1	28.7	27.9	27.7	27.7	27.7
75°	24.1	22.7	20.8	19.7	19.2	18.5	17.9	17.3	16.9	17.1	17.1
77.5°	14.5	13.1	12.0	11.0	10.8	10.0	9.4	8.9	8.2	8.2	8.5
80°	7.9	6.8	5.8	5.2	4.7	4.4	3.7	3.5	3.1	2.9	2.9
82.5°	3.5	2.9	2.3	2.1	1.9	1.7	1.4	1.2	1.2	1.0	1.2
85°	1.2	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
87.5°	0.2	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2
2.5°	626.6	626.6	626.4	626.4	626.4	625.9	625.9	625.7	625.5	625.3	624.7
5°	625.1	624.7	624.3	624.1	623.8	623.2	622.4	622.0	621.3	620.3	619.9
7.5°	622.6	622.0	621.0	620.5	619.9	618.2	617.0	615.9	614.7	613.0	611.2
10°	618.7	617.2	615.9	614.9	613.7	611.6	609.3	607.4	604.9	602.5	599.9
12.5°	613.0	611.4	608.6	607.2	605.8	602.7	599.7	595.7	592.2	588.9	585.8
15°	606.0	603.0	599.7	597.8	595.7	590.8	586.0	581.9	577.2	573.2	568.3
17.5°	595.7	591.2	586.6	584.4	581.6	576.0	570.4	564.5	559.1	554.2	548.1
20°	580.2	575.2	569.2	565.9	563.6	556.1	550.7	544.2	538.4	532.4	525.5
22.5°	562.1	555.4	548.6	543.8	541.3	533.8	526.5	520.7	514.5	507.6	502.6
25°	541.7	533.4	525.1	520.5	516.4	508.4	501.4	495.3	487.8	481.8	476.8
27.5°	518.8	509.1	499.5	494.9	491.1	482.4	474.9	468.6	461.3	455.9	450.8
30°	491.4	482.7	473.5	469.8	465.3	456.4	447.7	442.1	434.2	428.4	422.8
32.5°	457.1	451.5	444.2	439.0	436.7	428.4	421.3	414.4	407.6	403.2	397.6
35°	419.6	414.7	408.6	405.7	402.6	397.6	391.6	385.8	380.4	376.2	371.0
37.5°	381.6	376.6	372.9	369.9	368.0	363.3	359.8	355.3	351.6	347.5	344.8
40°	342.1	340.8	336.8	335.4	335.0	329.8	326.7	323.2	320.9	318.5	316.9
42.5°	307.2	304.9	301.8	302.1	300.7	297.8	295.7	293.4	291.8	290.5	288.9
45°	272.8	270.9	269.5	270.6	268.3	267.4	265.7	265.5	264.3	262.2	261.4
47.5°	239.9	239.7	239.9	239.2	238.7	238.3	238.5	237.3	236.2	235.4	234.5
50°	209.9	210.2	210.6	211.3	209.6	210.4	210.2	209.9	209.9	209.2	209.6
52.5°	180.9	181.1	181.5	182.2	182.4	182.4	183.2	183.6	184.6	185.7	185.7
55°	153.4	155.0	156.0	157.2	156.4	157.8	158.5	160.7	161.4	161.4	162.2
57.5°	129.0	130.6	131.4	132.7	133.3	134.4	136.2	137.4	139.1	140.5	141.9
60°	106.7	107.5	109.3	111.4	110.9	113.7	115.2	117.1	119.1	120.0	121.9
62.5°	86.7	87.7	89.2	89.8	91.5	92.9	96.1	98.0	99.9	102.3	104.2
65°	69.0	69.9	71.3	72.7	73.4	75.5	77.2	80.5	82.1	84.7	86.7
67.5°	52.8	54.2	55.3	56.3	56.8	58.9	61.4	62.8	65.9	68.5	70.1
70°	39.4	40.6	42.0	41.8	42.7	44.3	46.2	48.3	50.7	53.0	54.9
72.5°	27.4	28.7	29.5	29.8	30.7	31.9	33.3	34.9	36.8	39.1	41.8
75°	17.3	17.6	18.5	19.0	19.5	20.8	22.0	23.7	25.3	27.2	28.9
77.5°	8.7	9.4	9.8	10.4	10.6	11.7	12.9	14.3	15.8	17.6	19.2
80°	3.3	3.5	4.2	4.4	5.0	5.6	6.6	7.3	8.5	9.8	10.8
82.5°	1.2	1.4	1.7	1.7	1.9	2.3	2.5	3.3	4.0	4.4	5.0
85°	0.4	0.4	0.4	0.4	0.4	0.7	0.7	1.0	1.2	1.4	1.4
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°	627.2	627.2	627.2	627.2	627.2	627.2	627.2	627.2
2.5°	624.5	624.5	624.3	624.1	624.1	624.1	623.8	623.8
5°	618.9	618.2	618.0	617.6	617.2	617.0	616.4	616.4
7.5°	609.7	608.9	608.1	607.4	606.4	605.8	605.8	604.9
10°	597.6	595.7	594.8	593.9	592.7	591.2	590.8	590.1
12.5°	582.8	579.1	578.1	576.5	574.6	573.7	572.0	572.0
15°	564.5	560.5	558.4	557.5	555.2	553.5	552.8	550.9
17.5°	543.2	540.1	536.9	535.5	532.8	530.7	529.8	529.6
20°	521.6	516.7	514.5	512.4	509.4	507.6	506.1	504.3
22.5°	496.8	492.2	489.3	487.8	485.2	482.0	479.6	479.6
25°	470.4	466.5	464.8	461.8	458.7	457.5	454.8	454.3
27.5°	445.4	441.4	438.1	436.5	432.9	431.3	429.0	428.0
30°	419.4	414.7	412.3	412.1	407.8	406.2	404.3	403.4
32.5°	393.3	389.3	387.0	385.6	383.7	380.9	379.3	378.3
35°	367.5	364.9	362.8	361.2	358.1	356.7	355.3	354.1
37.5°	340.6	338.2	337.3	335.8	334.4	331.9	331.4	330.4
40°	314.5	311.5	311.5	310.5	309.1	308.8	308.2	308.2
42.5°	287.3	285.9	285.7	285.9	284.9	284.5	283.8	285.5
45°	260.3	261.0	259.9	260.1	259.6	260.6	260.6	261.4
47.5°	235.4	234.5	235.0	235.4	236.2	236.2	236.0	235.7
50°	209.0	209.9	210.9	209.6	210.2	210.4	209.2	209.4
52.5°	186.2	186.5	187.2	186.5	187.2	186.9	187.4	186.5
55°	164.1	164.1	165.1	165.3	165.6	166.3	166.5	167.2
57.5°	142.8	144.0	145.2	144.9	145.8	146.8	146.1	146.8
60°	124.3	125.2	126.4	126.9	127.6	128.1	128.1	128.5
62.5°	105.6	107.5	108.3	109.3	109.3	110.2	111.2	111.4
65°	88.6	90.7	91.5	92.1	92.6	93.6	94.8	94.6
67.5°	72.7	74.1	75.1	75.5	76.9	77.4	78.4	79.3
70°	57.0	58.9	59.5	60.5	61.7	62.6	63.6	64.0
72.5°	43.6	45.1	45.5	46.4	47.6	48.5	49.0	49.7
75°	30.5	32.8	33.1	33.7	34.7	35.9	36.6	36.4
77.5°	20.2	21.8	22.0	23.0	23.9	24.9	25.1	25.3
80°	12.0	12.9	13.1	13.6	14.3	14.8	15.2	15.8
82.5°	5.6	6.1	6.6	6.6	7.1	7.5	7.5	7.7
85°	1.9	1.9	2.1	2.1	2.3	2.3	2.5	2.3
87.5°	0.2	0.2	0.0	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)