

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: P843327

Luminaire Tested: **LD4C10DE010B40 EU4C10B40 4LBLDWWLI**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843327  
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: LD4C10DE010B40 EU4C10B40 4LBDWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

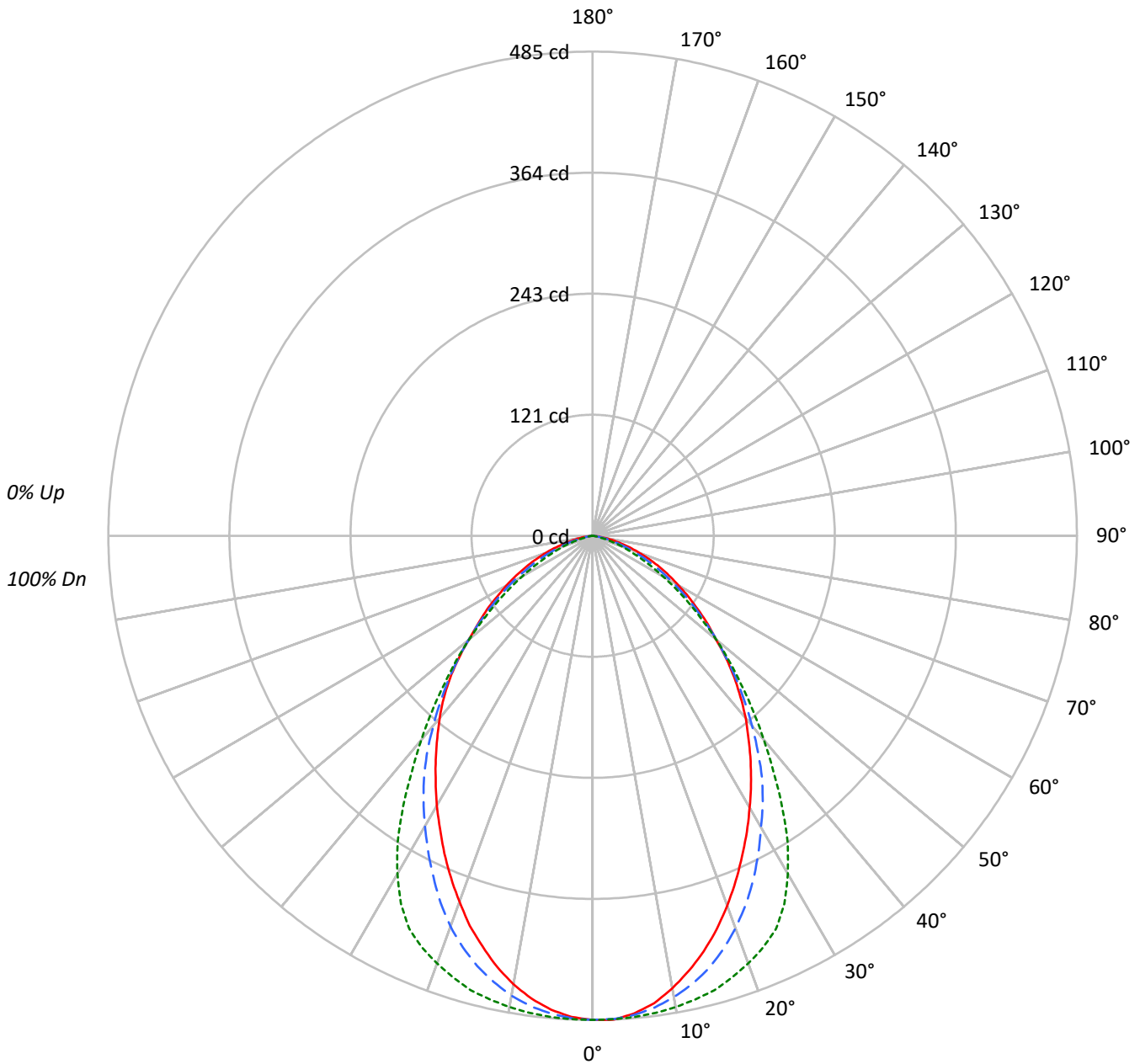
Lumens per Lamp: N/A  
Luminaire Lumens: 890.5 lumens  
Efficiency: N/A  
Efficacy: 67.0 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 13.3  
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°	59572	59572	59572
5°	59220	59664	58776
10°	57409	59805	56923
15°	54780	59943	54169
20°	51537	59590	50962
25°	48000	58898	47606
30°	44600	55467	44246
35°	41363	49597	41064
40°	38249	42772	38217
45°	34835	36520	35130
50°	30771	30886	30943
55°	27566	25231	27673
60°	24374	20050	24423
65°	21453	15291	21250
70°	17780	10956	17780
75°	13860	6266	13338
80°	8985	1556	8631
85°	3242	423	2537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.5	5.1
10°-20°	125.9	14.1
20°-30°	176.0	19.8
30°-40°	185.7	20.9
40°-50°	158.0	17.7
50°-60°	111.5	12.5
60°-70°	63.2	7.1
70°-80°	22.5	2.5
80°-90°	2.2	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°	347.5	39.0
0°-40°	533.2	59.9
0°-60°	802.6	90.1
0°-90°	890.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	890.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	485	485	485	485	485	
5°	480	482	484	480	477	45
15°	431	449	471	446	426	121
25°	354	381	434	377	351	163
35°	276	296	331	294	274	172
45°	200	204	210	204	202	154
55°	129	124	118	125	129	116
65°	74	63	53	64	73	73
75°	29	20	13	20	28	32
85°	2	1	0	1	2	4
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°	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9
2.5°	485.2	484.3	484.3	484.3	484.3	484.3	484.3	484.3	484.3	484.5	484.5
5°	480.2	479.8	479.6	479.6	479.6	479.6	479.8	480.5	480.9	481.4	481.8
7.5°	472.2	471.5	471.8	471.8	472.2	472.6	473.1	473.8	474.9	475.6	476.6
10°	460.2	459.5	460.4	460.8	461.9	462.4	463.3	464.4	466.5	467.7	469.1
12.5°	446.2	445.9	446.2	447.7	448.8	449.5	450.7	453.0	455.1	457.5	460.1
15°	430.7	429.7	430.4	432.1	433.9	435.2	436.1	439.2	442.1	445.7	448.8
17.5°	413.2	411.9	413.4	414.9	417.2	418.3	419.6	423.1	427.1	431.0	434.5
20°	394.2	393.9	394.8	396.7	399.2	400.5	401.7	405.5	408.9	414.4	418.3
22.5°	374.4	374.8	375.6	377.7	379.4	381.4	383.0	386.5	390.4	395.4	400.5
25°	354.1	354.7	356.0	357.4	360.1	361.2	363.2	366.8	370.3	375.0	380.6
27.5°	334.5	334.7	336.2	337.0	339.5	341.8	342.7	346.5	350.5	354.1	359.1
30°	314.4	315.0	315.9	317.9	320.5	321.3	322.4	325.9	328.9	333.5	337.3
32.5°	295.2	294.9	295.9	297.0	299.9	301.5	302.1	306.1	308.8	313.4	317.0
35°	275.8	274.9	276.6	277.6	280.2	281.6	282.4	285.5	288.0	291.8	295.7
37.5°	256.4	257.1	257.9	258.8	260.1	260.4	262.6	263.2	266.5	269.5	271.6
40°	238.5	238.1	237.8	238.6	240.3	241.0	241.1	243.1	243.9	246.7	248.4
42.5°	219.2	219.5	219.2	219.5	220.3	220.3	220.8	222.1	222.6	223.6	225.6
45°	200.5	200.5	200.0	200.2	200.4	200.2	200.4	201.0	202.0	202.0	203.5
47.5°	181.2	180.7	181.5	181.0	180.6	180.4	181.0	180.4	181.5	181.5	181.9
50°	161.0	161.0	161.9	161.7	162.1	161.4	161.6	161.6	161.7	161.6	162.2
52.5°	145.4	145.1	144.7	143.8	144.2	143.4	143.4	143.6	143.1	142.9	141.9
55°	128.7	129.1	128.6	128.2	128.2	127.4	127.3	126.2	125.4	124.9	124.4
57.5°	113.7	114.0	113.9	113.0	111.9	112.1	111.7	110.6	108.9	107.9	107.0
60°	99.2	99.5	99.2	98.3	97.9	97.2	97.0	95.6	94.3	92.9	91.8
62.5°	86.1	86.1	86.0	84.7	83.8	84.0	83.0	82.0	80.4	78.4	76.7
65°	73.8	73.6	72.8	72.1	71.5	70.5	70.0	68.3	67.1	65.5	63.2
67.5°	61.4	60.9	60.6	60.1	58.4	58.2	57.5	56.1	54.3	53.0	51.1
70°	49.5	49.3	48.5	48.5	47.3	46.7	45.7	44.4	42.8	40.9	39.6
72.5°	39.1	38.8	38.1	37.3	36.3	35.9	35.0	33.7	32.3	30.5	28.7
75°	29.2	28.9	28.7	27.7	26.9	25.9	25.6	24.3	22.8	21.6	20.0
77.5°	20.5	20.1	19.6	19.0	18.5	18.0	17.5	16.3	15.0	14.0	12.5
80°	12.7	12.4	12.0	11.7	11.2	11.1	10.4	9.8	8.7	7.9	7.1
82.5°	6.6	6.6	6.1	6.0	5.6	5.4	5.3	4.8	4.1	3.6	3.1
85°	2.3	2.3	2.2	2.0	2.0	1.8	1.8	1.6	1.3	1.3	1.0
87.5°	0.2	0.2	0.3	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°	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9
2.5°	484.7	484.5	484.7	484.7	484.9	484.9	484.9	484.7	484.9	484.7	484.7
5°	481.8	482.4	482.7	483.0	483.2	483.4	483.4	483.7	483.8	483.8	483.7
7.5°	477.3	478.4	479.4	480.2	480.5	480.9	481.4	481.8	482.2	482.0	481.8
10°	471.3	473.1	474.6	476.0	476.7	477.3	478.2	478.9	479.2	479.4	478.9
12.5°	462.7	465.3	467.7	470.0	471.1	471.8	473.6	474.9	475.6	475.6	475.1
15°	452.0	455.7	459.1	462.2	464.0	465.1	467.8	469.7	470.8	471.3	470.3
17.5°	439.2	443.4	447.5	451.5	453.3	455.0	458.8	461.3	463.7	464.0	462.9
20°	422.7	427.9	432.7	437.5	439.6	442.1	446.4	450.7	454.3	455.8	452.8
22.5°	404.2	410.0	414.4	420.3	423.1	425.8	431.4	436.7	443.0	446.4	441.0
25°	385.0	389.8	395.1	400.9	404.8	407.6	414.2	420.8	429.4	434.5	426.9
27.5°	364.2	368.7	375.0	381.4	384.2	387.8	395.7	403.0	411.1	415.7	410.0
30°	342.9	348.4	354.3	360.1	364.2	367.7	374.1	380.2	387.2	391.0	386.8
32.5°	321.7	326.9	332.0	338.3	340.8	343.8	349.4	354.7	359.9	363.4	358.5
35°	299.4	304.1	308.8	313.2	314.2	317.9	322.4	325.5	328.1	330.7	327.4
37.5°	275.1	278.7	281.1	285.8	287.6	288.1	291.8	293.9	296.7	297.2	297.0
40°	250.4	253.7	255.6	258.6	260.1	260.1	262.6	264.5	266.5	266.7	266.5
42.5°	227.4	229.0	230.7	232.5	232.2	234.3	235.3	236.3	237.8	237.8	238.1
45°	204.2	205.5	206.9	207.3	208.7	208.7	209.6	209.9	210.7	210.2	209.4
47.5°	182.7	183.2	183.3	185.0	185.3	184.0	185.2	185.3	185.2	185.2	184.8
50°	162.1	162.5	162.2	161.7	161.9	162.5	161.9	161.2	161.6	161.6	161.9
52.5°	142.1	141.4	141.1	141.1	140.3	140.3	139.4	139.1	138.9	138.1	139.1
55°	123.8	122.8	121.1	120.8	120.3	120.0	119.0	118.0	117.7	117.8	117.7
57.5°	106.3	104.6	103.5	103.2	102.6	101.5	100.3	99.4	99.2	98.8	98.8
60°	90.3	88.5	86.8	85.2	85.5	84.7	83.4	82.9	82.3	81.6	82.2
62.5°	75.8	73.8	72.0	70.3	69.3	68.7	67.8	66.9	66.4	65.8	66.5
65°	61.4	59.9	57.9	56.3	55.6	55.1	54.3	52.8	52.6	52.6	53.0
67.5°	48.5	46.7	44.9	43.9	43.2	42.4	42.1	41.4	40.8	40.4	40.6
70°	37.3	35.5	34.1	33.0	32.5	32.3	31.0	30.8	30.7	30.5	30.2
72.5°	27.2	25.7	24.4	23.8	23.1	22.5	22.1	21.6	21.4	21.4	21.4
75°	18.7	17.6	16.2	15.2	14.9	14.3	13.7	13.4	13.0	13.2	13.2
77.5°	11.2	10.2	9.2	8.6	8.4	7.8	7.3	6.9	6.3	6.3	6.6
80°	6.1	5.3	4.5	4.0	3.6	3.5	2.9	2.7	2.3	2.2	2.2
82.5°	2.7	2.2	1.8	1.6	1.5	1.3	1.1	1.0	1.0	0.7	1.0
85°	1.0	0.7	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
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°	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9
2.5°	484.5	484.5	484.3	484.3	484.3	484.0	484.0	483.8	483.7	483.4	483.0
5°	483.2	483.0	482.7	482.5	482.4	481.8	481.2	480.9	480.4	479.6	479.2
7.5°	481.4	480.9	480.2	479.8	479.2	477.9	477.1	476.1	475.3	474.0	472.6
10°	478.4	477.3	476.1	475.4	474.6	472.9	471.1	469.7	467.7	465.9	463.9
12.5°	474.0	472.8	470.5	469.5	468.4	466.0	463.7	460.6	457.8	455.3	453.0
15°	468.5	466.2	463.7	462.2	460.6	456.8	453.2	449.9	446.2	443.1	439.3
17.5°	460.6	457.1	453.5	451.9	449.7	445.4	441.0	436.5	432.3	428.4	423.8
20°	448.6	444.8	440.1	437.5	435.7	429.9	425.8	420.7	416.4	411.6	406.3
22.5°	434.7	429.4	424.1	420.5	418.5	412.7	407.1	402.5	397.9	392.4	388.6
25°	418.9	412.4	406.0	402.4	399.3	393.1	387.7	383.0	377.2	372.5	368.7
27.5°	401.2	393.7	386.2	382.7	379.7	373.0	367.2	362.3	356.6	352.5	348.5
30°	379.9	373.1	366.2	363.2	359.8	352.8	346.2	341.8	335.7	331.3	326.9
32.5°	353.5	349.0	343.4	339.5	337.6	331.3	325.6	320.5	315.2	311.7	307.3
35°	324.4	320.6	315.9	313.7	311.4	307.3	302.8	298.3	294.1	290.8	286.8
37.5°	295.1	291.3	288.3	286.0	284.5	280.9	278.2	274.8	271.8	268.7	266.5
40°	264.5	263.5	260.4	259.3	258.9	255.0	252.6	249.9	248.0	246.2	244.9
42.5°	237.5	235.7	233.4	233.5	232.5	230.2	228.7	226.9	225.6	224.6	223.4
45°	210.9	209.4	208.4	209.3	207.4	206.8	205.5	205.3	204.3	202.7	202.2
47.5°	185.5	185.3	185.5	185.0	184.6	184.2	184.5	183.5	182.7	182.0	181.4
50°	162.2	162.5	162.9	163.4	162.1	162.7	162.5	162.2	162.2	161.7	162.1
52.5°	139.8	140.0	140.3	140.9	141.1	141.1	141.6	141.9	142.7	143.6	143.6
55°	118.6	119.8	120.6	121.5	121.0	122.1	122.6	124.2	124.8	124.8	125.4
57.5°	99.7	101.0	101.5	102.6	103.0	103.9	105.3	106.3	107.6	108.6	109.7
60°	82.5	83.0	84.5	86.1	85.8	88.0	89.1	90.5	92.1	92.9	94.3
62.5°	67.1	67.8	69.0	69.5	70.8	71.8	74.4	75.8	77.2	79.1	80.5
65°	53.3	54.0	55.1	56.3	56.8	58.4	59.7	62.2	63.5	65.5	67.1
67.5°	40.8	41.9	42.8	43.5	43.9	45.5	47.5	48.5	51.0	53.0	54.3
70°	30.5	31.4	32.5	32.3	33.0	34.3	35.7	37.3	39.1	40.9	42.4
72.5°	21.3	22.1	22.8	23.1	23.8	24.6	25.7	27.0	28.5	30.2	32.3
75°	13.4	13.6	14.3	14.7	15.0	16.2	17.0	18.3	19.6	21.0	22.3
77.5°	6.7	7.3	7.6	7.9	8.1	9.1	9.9	11.1	12.2	13.6	14.9
80°	2.5	2.7	3.3	3.5	3.8	4.3	5.1	5.6	6.6	7.6	8.4
82.5°	1.0	1.1	1.3	1.3	1.5	1.8	2.0	2.5	3.1	3.5	3.8
85°	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.7	1.0	1.1	1.1
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°	484.9	484.9	484.9	484.9	484.9	484.9	484.9	484.9
2.5°	482.9	482.9	482.7	482.5	482.5	482.5	482.4	482.4
5°	478.6	477.9	477.8	477.4	477.3	477.1	476.6	476.6
7.5°	471.5	470.8	470.2	469.7	469.0	468.4	468.4	467.7
10°	462.1	460.6	459.9	459.1	458.3	457.1	456.8	456.3
12.5°	450.7	447.7	447.0	445.7	444.3	443.6	442.3	442.3
15°	436.5	433.4	431.7	431.0	429.2	427.9	427.4	425.9
17.5°	420.0	417.7	415.1	414.0	411.9	410.4	409.6	409.4
20°	403.3	399.5	397.9	396.2	393.9	392.4	391.3	389.8
22.5°	384.0	380.6	378.2	377.2	375.1	372.6	370.8	370.8
25°	363.7	360.7	359.4	357.1	354.7	353.8	351.6	351.2
27.5°	344.4	341.3	338.8	337.5	334.7	333.5	331.7	330.9
30°	324.3	320.6	318.8	318.6	315.4	314.1	312.6	311.9
32.5°	304.1	301.0	299.2	298.1	296.7	294.4	293.2	292.5
35°	284.2	282.2	280.5	279.2	276.9	275.8	274.8	273.8
37.5°	263.2	261.4	260.7	259.6	258.6	256.6	256.3	255.5
40°	243.1	240.8	240.8	240.1	239.0	238.8	238.3	238.3
42.5°	222.1	221.0	220.8	221.0	220.3	220.0	219.5	220.7
45°	201.3	201.8	201.0	201.1	200.7	201.5	201.5	202.2
47.5°	182.0	181.4	181.7	182.0	182.7	182.7	182.4	182.2
50°	161.6	162.2	163.0	162.1	162.5	162.7	161.7	161.9
52.5°	143.9	144.2	144.7	144.2	144.7	144.5	144.9	144.2
55°	126.9	126.9	127.7	127.9	128.0	128.6	128.7	129.2
57.5°	110.4	111.4	112.2	112.1	112.7	113.5	113.0	113.5
60°	96.1	96.9	97.7	98.1	98.7	99.0	99.0	99.4
62.5°	81.6	83.0	83.8	84.5	84.5	85.2	86.0	86.1
65°	68.5	70.2	70.8	71.3	71.6	72.3	73.3	73.1
67.5°	56.3	57.3	58.1	58.4	59.4	59.9	60.6	61.3
70°	44.1	45.5	46.0	46.7	47.7	48.4	49.2	49.5
72.5°	33.7	34.8	35.2	35.9	36.8	37.5	37.9	38.4
75°	23.6	25.4	25.6	26.1	26.9	27.7	28.2	28.1
77.5°	15.5	16.8	17.0	17.8	18.5	19.2	19.4	19.6
80°	9.2	9.9	10.2	10.5	11.1	11.4	11.7	12.2
82.5°	4.3	4.8	5.1	5.1	5.4	5.8	5.8	6.0
85°	1.5	1.5	1.6	1.6	1.8	1.8	2.0	1.8
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)