

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: P843342

Luminaire Tested: **LD4C10DE010B50 EU4C10B50 4LBLWWH**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843342
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: LD4C10DE010B50 EU4C10B50 4LBLWWH
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

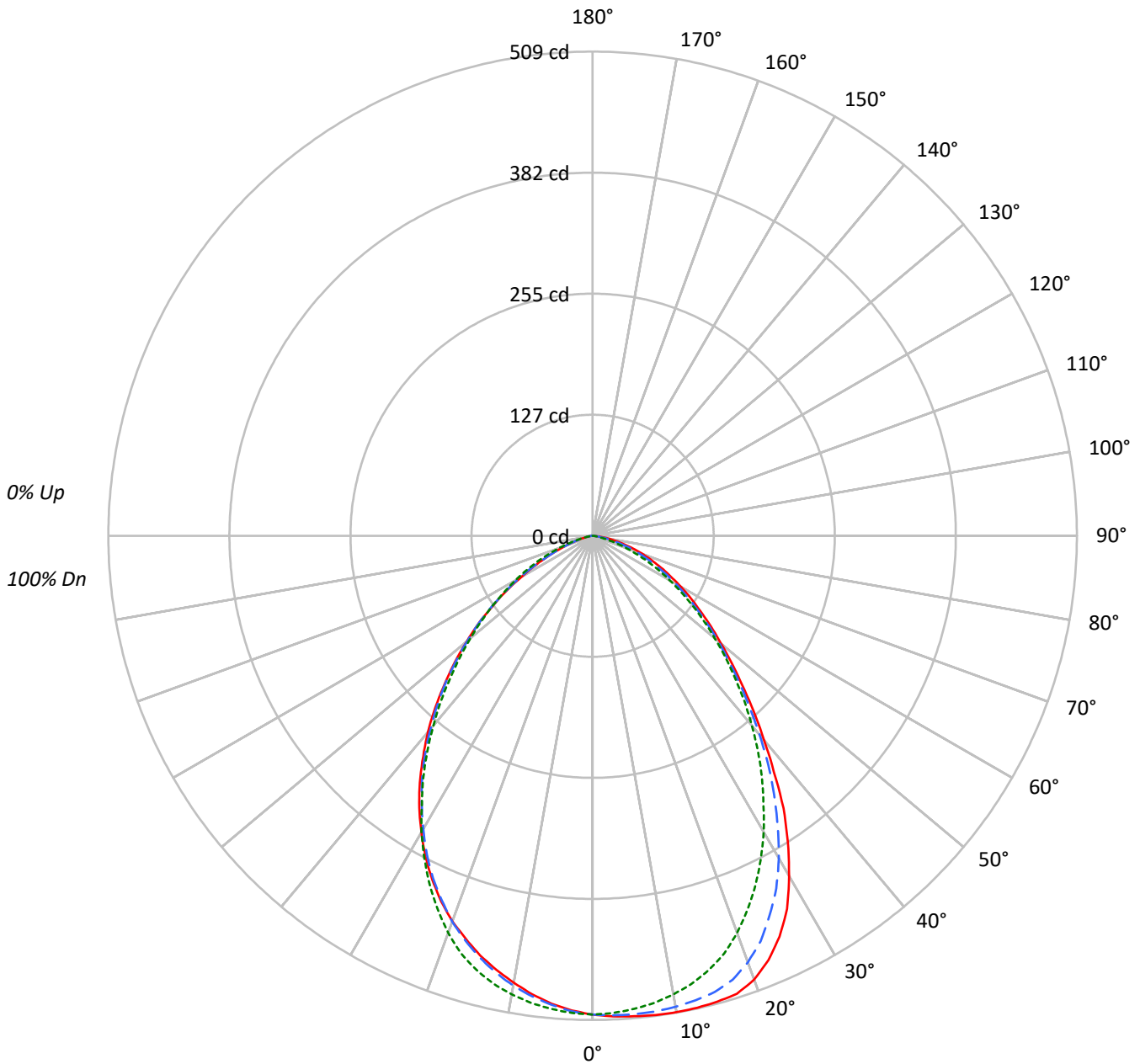
Lumens per Lamp: N/A
Luminaire Lumens: 948.7 lumens
Efficiency: N/A
Efficacy: 71.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	61844	61844	61844
5°	62525	61575	60909
10°	63447	61064	59518
15°	64484	60083	58099
20°	64911	58048	56374
25°	63033	54913	54059
30°	58588	51027	51055
35°	52447	46523	47513
40°	44905	41713	43221
45°	38640	36764	38154
50°	33600	32014	32969
55°	29558	27545	27288
60°	26291	22974	21180
65°	23081	18430	15320
70°	19828	13003	10381
75°	16044	7547	6076
80°	11532	3325	2971
85°	4370	1410	1410



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.4	5.0
10°-20°	134.3	14.2
20°-30°	191.8	20.2
30°-40°	200.6	21.1
40°-50°	168.1	17.7
50°-60°	117.6	12.4
60°-70°	64.1	6.8
70°-80°	22.2	2.3
80°-90°	2.6	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°	373.5	39.4
0°-40°	574.1	60.5
0°-60°	859.8	90.6
0°-90°	948.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	948.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	503	503	503	503	503	
5°	507	505	499	495	494	48
15°	507	496	472	459	457	143
25°	465	440	405	397	399	212
35°	350	332	310	312	317	217
45°	222	217	212	219	220	173
55°	138	133	129	129	127	125
65°	79	72	63	53	53	79
75°	34	28	16	13	13	36
85°	3	2	1	1	1	6
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°	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4
2.5°	505.8	505.1	505.3	505.3	505.3	505.1	505.3	505.1	505.1	504.9	504.6
5°	507.0	506.7	506.7	506.7	506.5	506.3	506.3	506.1	505.8	505.5	504.8
7.5°	508.1	507.7	507.7	507.5	507.2	507.0	506.9	506.3	505.8	505.3	504.4
10°	508.6	508.1	508.1	507.7	507.2	507.0	506.7	505.9	505.1	504.2	502.8
12.5°	508.2	507.7	507.5	507.0	506.3	505.9	505.5	504.6	503.2	501.8	500.2
15°	507.0	506.7	506.3	505.8	504.8	504.2	503.8	502.3	500.5	498.6	496.5
17.5°	504.8	504.2	503.4	502.6	501.3	500.7	499.7	497.8	495.3	492.5	489.3
20°	496.5	496.0	495.3	493.9	491.8	491.1	489.7	487.1	483.9	480.6	477.1
22.5°	482.7	482.1	480.9	479.7	477.8	476.5	475.3	471.8	468.2	464.7	461.3
25°	465.0	464.5	462.9	461.3	459.4	457.1	455.9	453.3	449.6	445.2	440.3
27.5°	442.4	440.5	439.9	438.2	435.2	434.5	432.8	429.3	425.8	421.9	417.9
30°	413.0	413.0	411.8	411.0	408.4	407.6	405.6	401.9	400.0	394.6	391.5
32.5°	381.8	381.4	380.4	379.9	378.3	376.9	375.0	373.1	368.8	366.2	361.8
35°	349.7	347.3	347.7	346.6	345.6	344.0	343.8	341.7	337.8	336.3	332.4
37.5°	313.1	312.1	313.5	311.7	310.7	310.9	309.4	308.1	306.5	303.8	303.0
40°	280.0	280.7	280.6	279.0	279.7	278.8	277.2	275.9	275.1	273.4	272.8
42.5°	250.3	249.2	248.8	248.8	249.0	249.0	248.2	247.3	247.3	245.5	243.8
45°	222.4	222.4	222.1	223.3	221.5	221.5	220.9	220.7	220.0	219.6	217.4
47.5°	198.4	198.3	198.1	197.9	197.7	197.7	196.5	195.6	195.3	194.2	193.0
50°	175.8	176.9	176.6	175.6	175.2	175.5	174.6	174.1	173.9	172.0	172.1
52.5°	156.8	156.6	157.1	156.4	155.5	155.7	154.9	154.1	153.4	152.4	151.6
55°	138.0	139.0	138.7	138.0	137.8	137.5	136.9	135.9	135.7	133.6	133.4
57.5°	122.4	122.2	121.7	120.8	120.6	120.0	120.0	119.3	118.1	117.0	116.0
60°	107.0	107.0	106.5	106.3	105.6	105.3	105.1	104.4	103.0	102.1	100.5
62.5°	92.3	92.8	92.3	91.8	91.2	90.4	90.0	89.5	88.3	87.4	86.0
65°	79.4	79.2	79.0	78.3	78.1	77.2	77.1	75.9	74.8	73.9	72.4
67.5°	66.9	66.4	66.4	66.0	65.7	65.0	64.6	63.5	62.2	61.3	59.9
70°	55.2	54.8	54.8	54.8	53.8	53.2	53.1	52.5	50.6	49.7	48.2
72.5°	44.3	44.1	44.0	43.4	42.8	42.8	42.0	40.8	39.9	38.9	37.8
75°	33.8	34.3	33.8	33.1	32.9	32.6	31.9	31.0	30.0	28.9	27.5
77.5°	24.7	24.4	24.0	24.0	23.6	22.8	22.6	21.9	20.7	20.0	18.6
80°	16.3	16.1	15.7	15.3	15.1	14.9	14.7	14.0	12.8	12.2	11.0
82.5°	8.9	8.7	8.7	8.6	7.9	7.9	7.7	7.0	6.3	6.0	5.4
85°	3.1	3.1	3.1	2.9	2.9	2.9	2.7	2.5	2.3	2.1	1.7
87.5°	0.4	0.2	0.4	0.2	0.4	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°	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4
2.5°	504.2	503.8	503.6	503.4	503.2	503.0	502.8	502.5	502.3	502.1	501.6
5°	504.2	503.4	503.0	502.5	502.1	501.6	501.1	500.5	499.9	499.3	498.8
7.5°	503.4	502.3	501.4	500.3	499.9	499.3	498.1	497.4	496.5	495.3	493.9
10°	501.4	500.2	498.6	497.0	496.5	495.5	493.9	492.5	491.1	489.5	488.1
12.5°	498.4	496.2	494.3	492.2	491.1	490.0	487.9	486.0	484.1	482.3	480.0
15°	493.7	491.2	488.7	485.8	484.4	483.2	480.2	477.8	474.8	472.4	470.1
17.5°	486.2	482.3	479.2	475.5	473.6	472.2	469.5	465.9	462.9	460.4	457.7
20°	473.2	469.5	465.3	461.2	459.0	457.3	453.4	449.6	446.6	444.0	441.0
22.5°	456.2	451.5	448.4	443.4	441.7	439.6	434.9	431.4	428.1	425.4	422.6
25°	435.4	431.4	427.1	422.4	420.3	417.9	414.0	410.3	408.1	405.1	401.8
27.5°	411.6	408.4	403.1	399.0	396.9	395.0	391.3	388.0	384.9	382.8	379.7
30°	386.5	382.5	377.9	373.7	372.5	370.2	366.9	364.4	361.1	359.7	358.4
32.5°	358.7	354.3	350.8	348.2	345.8	343.8	342.1	338.0	337.5	334.0	333.6
35°	328.6	326.6	323.3	321.0	319.1	317.7	314.9	312.8	310.7	310.2	308.8
37.5°	300.2	297.8	294.7	292.5	291.2	291.0	288.8	287.7	286.2	285.3	283.9
40°	270.3	269.3	266.6	266.2	264.1	263.9	262.7	261.3	260.1	260.1	260.2
42.5°	242.8	241.7	240.5	239.1	238.0	238.0	237.3	237.0	236.6	236.1	237.0
45°	217.0	215.5	214.7	213.3	214.0	212.8	212.4	212.4	211.8	211.6	213.0
47.5°	193.0	191.3	190.5	190.2	190.2	190.4	188.6	189.2	189.0	189.3	190.0
50°	171.1	169.6	168.5	168.5	168.6	167.8	167.1	167.6	167.1	167.5	168.8
52.5°	150.8	149.2	148.7	148.7	147.5	147.3	147.8	146.9	147.1	147.3	148.1
55°	132.1	131.0	130.1	129.1	129.3	128.9	128.2	128.0	128.4	128.6	129.6
57.5°	115.2	113.8	112.5	112.1	111.7	111.7	110.7	110.5	110.9	110.0	110.0
60°	99.1	98.4	96.6	96.0	96.0	95.1	94.3	94.7	93.7	93.5	93.7
62.5°	84.2	83.7	82.5	81.3	80.9	80.6	79.5	79.2	78.8	78.1	76.9
65°	71.3	69.9	68.5	67.8	67.2	66.2	65.7	64.8	63.7	63.4	62.2
67.5°	58.3	56.9	55.5	55.0	54.4	53.8	52.9	51.9	50.6	49.0	47.6
70°	46.9	45.2	44.3	42.8	42.4	41.7	40.3	39.3	38.0	36.2	34.9
72.5°	35.9	34.7	33.5	32.2	31.2	30.6	29.4	27.9	26.3	25.4	24.0
75°	25.7	25.2	23.6	22.1	21.7	20.9	19.6	18.6	17.5	15.9	14.7
77.5°	17.5	16.3	15.3	14.0	13.5	12.8	12.1	11.0	10.3	9.3	8.6
80°	10.3	9.3	8.7	7.7	7.4	7.0	6.3	5.6	5.1	4.7	4.4
82.5°	5.1	4.2	4.0	3.5	3.3	3.1	2.7	2.5	2.1	2.1	2.1
85°	1.7	1.4	1.4	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	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°	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4
2.5°	501.4	501.3	501.1	500.9	500.9	500.7	500.7	500.5	500.5	500.3	500.3
5°	497.9	497.4	497.0	496.7	496.7	496.0	495.6	495.3	495.1	495.1	494.7
7.5°	493.2	492.3	491.6	491.1	490.8	489.9	489.0	489.0	488.3	487.9	487.6
10°	486.7	485.3	484.2	483.7	482.9	482.3	481.3	480.8	480.2	479.2	479.0
12.5°	478.1	477.1	475.3	474.6	474.1	473.0	471.5	470.6	470.4	469.7	469.2
15°	468.2	466.0	464.5	463.6	463.6	461.6	460.8	459.6	458.9	458.3	458.1
17.5°	455.4	453.3	451.7	450.3	449.9	448.4	447.3	446.9	445.9	446.3	445.4
20°	438.9	437.2	436.1	434.3	434.3	433.3	432.9	431.9	431.6	431.2	431.6
22.5°	421.4	419.1	417.2	417.0	417.0	415.7	415.5	415.3	414.5	415.1	414.9
25°	400.6	399.0	397.9	397.7	397.7	396.9	396.2	396.5	397.1	396.9	397.5
27.5°	379.1	377.6	377.2	376.9	376.6	376.4	376.7	376.7	377.4	378.1	379.0
30°	355.9	355.5	354.9	354.7	354.3	355.3	355.7	356.2	356.1	357.3	358.0
32.5°	332.6	331.9	331.7	332.1	332.6	332.4	333.6	334.0	334.4	335.7	336.3
35°	309.3	309.0	308.6	308.6	308.8	310.4	310.4	311.7	312.5	312.8	314.4
37.5°	284.1	284.8	285.2	285.8	286.0	286.5	286.9	288.3	289.1	289.8	290.6
40°	261.0	260.6	262.4	261.2	261.6	263.4	264.1	263.9	265.0	266.2	266.9
42.5°	236.4	237.0	237.3	237.8	238.7	238.9	239.9	241.2	241.7	242.9	243.4
45°	212.6	212.8	213.5	214.4	214.9	216.5	216.8	217.4	218.6	218.6	219.1
47.5°	190.2	190.9	190.9	192.1	193.0	192.8	194.2	194.6	194.4	195.3	195.8
50°	168.6	169.8	169.6	170.4	170.8	170.9	172.1	172.5	171.8	172.7	172.9
52.5°	148.1	148.7	149.4	149.7	149.2	150.3	149.9	150.6	150.4	151.2	150.4
55°	129.3	129.1	129.1	129.6	129.1	129.6	129.9	129.1	128.6	129.3	129.1
57.5°	110.5	110.5	110.2	110.7	110.2	109.6	109.4	108.8	108.2	108.2	108.1
60°	93.0	92.5	91.8	91.6	91.6	90.6	90.2	89.5	89.5	88.6	87.9
62.5°	76.5	75.5	74.9	74.9	74.6	73.6	71.8	70.6	70.3	69.2	69.0
65°	61.0	60.1	59.4	58.3	57.3	56.9	55.2	53.8	53.2	52.0	52.2
67.5°	46.9	45.3	43.6	42.8	42.2	40.8	40.3	39.3	38.7	38.7	38.7
70°	33.7	32.4	30.6	30.0	29.6	28.5	27.9	27.7	28.2	28.0	28.2
72.5°	22.6	21.3	20.5	20.1	19.8	19.1	19.6	19.8	19.4	19.6	19.8
75°	13.7	13.3	12.8	12.6	12.6	12.8	12.6	12.6	12.8	12.8	13.0
77.5°	7.9	7.5	7.5	7.4	7.7	7.5	7.5	7.5	7.7	7.7	7.7
80°	4.2	4.2	4.2	4.2	4.4	4.2	4.4	4.4	4.4	4.4	4.4
82.5°	2.1	2.1	2.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.2	0.4	0.4	0.4	0.4	0.4	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°	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4
2.5°	499.9	499.9	499.9	499.5	499.7	499.7	499.5	499.5
5°	494.4	494.3	493.9	493.9	493.5	493.9	493.7	493.9
7.5°	487.1	487.1	486.5	486.5	486.4	486.2	486.0	486.2
10°	478.5	478.5	478.1	477.8	478.1	477.3	477.3	477.1
12.5°	468.7	468.3	468.0	468.2	468.0	467.4	467.2	467.4
15°	457.5	456.9	457.1	456.6	456.6	456.4	456.8	456.8
17.5°	445.2	444.7	444.3	444.5	444.2	444.3	444.2	444.0
20°	431.4	431.2	431.2	430.5	430.6	430.5	430.6	431.2
22.5°	415.5	415.3	415.5	414.9	415.3	415.3	415.9	415.9
25°	398.1	397.9	398.3	398.4	398.6	399.3	398.6	398.8
27.5°	378.7	379.3	379.9	380.1	380.9	380.2	379.9	380.4
30°	359.2	359.2	359.0	359.7	360.3	360.9	359.9	359.9
32.5°	336.8	337.7	337.7	337.8	338.4	338.4	338.4	339.2
35°	315.2	315.8	316.0	315.2	315.6	315.4	316.8	316.8
37.5°	291.2	291.2	291.4	292.8	292.8	292.1	292.5	292.5
40°	268.3	268.5	267.8	268.1	269.2	268.7	269.2	269.5
42.5°	243.4	244.7	244.0	244.3	244.1	244.3	244.5	244.5
45°	219.6	220.0	220.0	220.1	220.5	220.9	219.8	219.6
47.5°	196.3	196.5	197.1	196.1	197.2	196.1	197.2	196.0
50°	172.9	173.7	173.1	173.5	172.9	172.9	172.7	172.5
52.5°	150.6	150.4	150.4	150.3	150.3	150.6	150.3	150.8
55°	128.4	128.6	128.2	128.0	127.8	128.4	127.8	127.4
57.5°	107.2	107.7	106.9	107.2	105.9	106.5	106.7	106.9
60°	87.7	87.1	87.1	86.3	86.3	86.9	86.2	86.2
62.5°	68.0	68.3	67.8	68.5	68.5	69.3	69.0	69.3
65°	52.0	52.2	52.5	52.5	52.5	53.6	53.2	52.7
67.5°	39.3	39.4	39.7	39.4	40.1	39.7	39.7	39.9
70°	28.5	28.7	28.9	28.9	28.7	28.9	28.9	28.9
72.5°	19.8	20.0	19.8	20.0	20.1	20.0	20.0	20.1
75°	13.0	13.0	12.8	12.8	12.8	12.8	13.0	12.8
77.5°	7.5	7.7	7.5	7.7	7.7	7.7	7.7	7.7
80°	4.4	4.4	4.4	4.2	4.4	4.4	4.4	4.2
82.5°	2.3	2.3	2.1	2.1	2.3	2.3	2.3	2.3
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)