

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: P843413

Luminaire Tested: **LD4C15DE010B50 EU4C15B50 4LBLWWLI**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843413  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C15DE010B50 EU4C15B50 4LBLWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

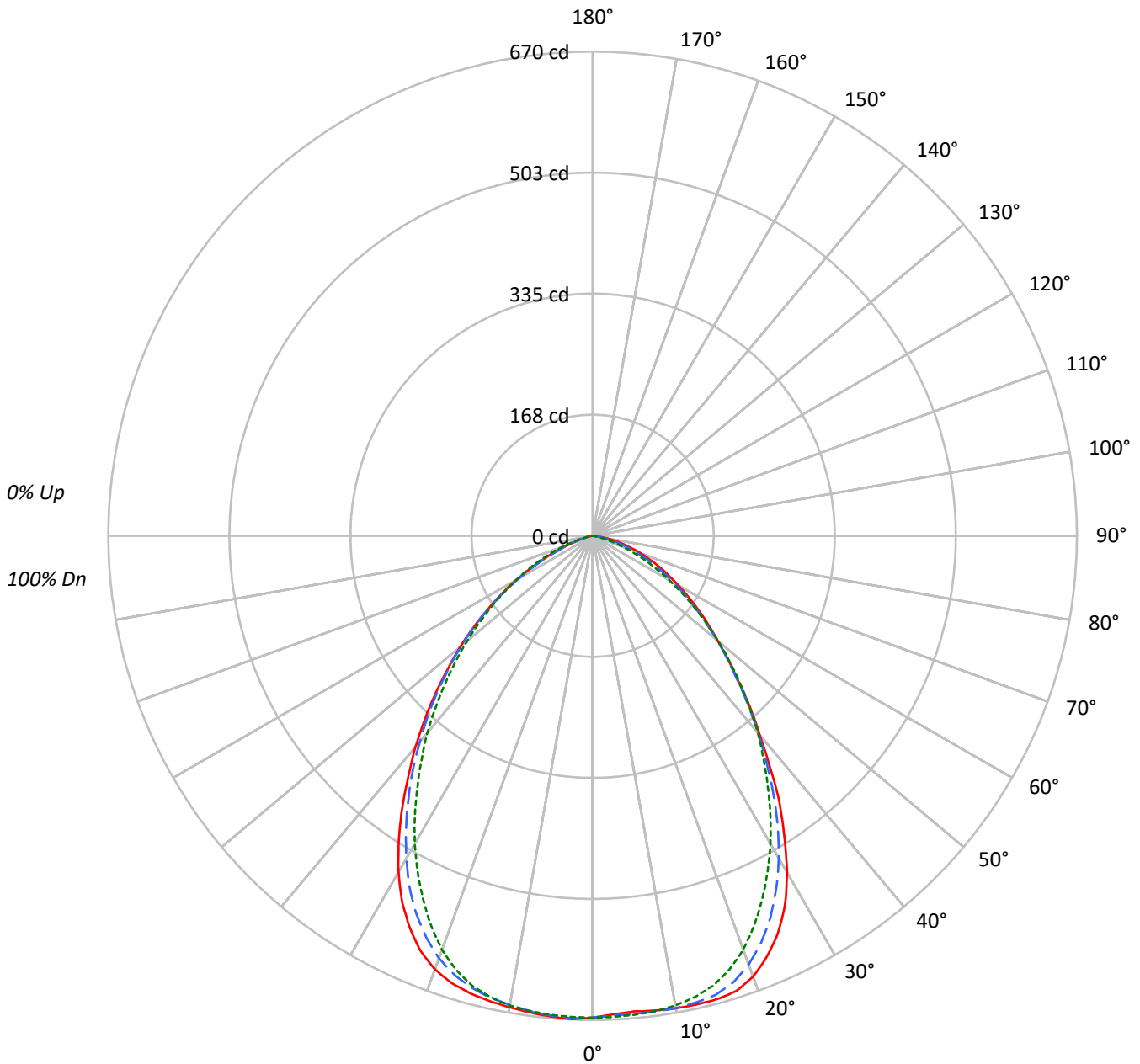
Lumens per Lamp: N/A  
Luminaire Lumens: 1278.7 lumens  
Efficiency: N/A  
Efficacy: 75.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78																			
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68																			
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60																			
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54																			
6	76	65	57	51	75	64	56	51	62	56	51	61	55	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39																			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33																			

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

	0°	90°	180°
0°	81931	81931	81931
5°	81479	82047	82343
10°	82833	82334	82646
15°	84452	81959	83333
20°	84875	79659	83463
25°	82268	75232	81143
30°	76348	69809	76207
35°	67609	63335	68884
40°	57638	57045	61102
45°	49516	50090	53217
50°	43214	43328	45622
55°	38190	36583	37804
60°	33465	29853	29731
65°	29651	23139	20610
70°	25252	15913	12249
75°	20411	8544	5554
80°	14008	2122	1415
85°	4229	705	705



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.4	5.0
10°-20°	183.5	14.4
20°-30°	265.1	20.7
30°-40°	274.1	21.4
40°-50°	226.5	17.7
50°-60°	156.3	12.2
60°-70°	81.8	6.4
70°-80°	25.8	2.0
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°	512.0	40.0
0°-40°	786.1	61.5
0°-60°	1168.9	91.4
0°-90°	1278.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1278.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	667	667	667	667	667	
5°	661	664	665	666	668	63
15°	664	658	644	647	655	187
25°	607	582	555	577	599	277
35°	451	436	422	444	459	280
45°	285	284	288	302	306	222
55°	178	173	171	176	176	160
65°	102	92	80	66	71	101
75°	43	34	18	12	12	46
85°	3	2	0	0	0	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°	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9
2.5°	662.7	662.9	662.9	663.5	663.5	663.5	663.7	663.7	664.0	664.2	664.4
5°	660.7	660.7	661.2	661.4	662.0	662.2	662.7	662.9	663.5	663.7	664.0
7.5°	662.7	662.7	662.9	663.2	663.2	663.5	663.5	663.7	664.0	664.2	664.2
10°	664.0	664.0	664.0	664.0	664.2	664.2	664.2	664.0	664.0	664.0	663.7
12.5°	664.4	664.4	664.2	664.0	664.2	664.0	664.0	663.2	662.7	662.2	661.4
15°	664.0	664.0	663.7	663.5	663.2	662.7	662.5	661.2	660.2	658.7	657.7
17.5°	660.7	660.2	659.6	659.2	658.2	657.4	656.9	654.7	653.0	650.4	647.7
20°	649.2	648.6	647.9	646.6	645.4	644.4	642.9	639.7	637.9	634.2	631.4
22.5°	630.3	629.9	630.1	627.9	625.4	623.9	622.8	620.1	617.1	612.4	609.3
25°	606.9	605.4	605.4	601.8	600.6	599.6	598.3	595.0	590.6	586.4	582.3
27.5°	576.3	574.3	573.2	572.8	569.7	567.5	565.7	563.3	559.5	555.8	550.3
30°	538.2	538.0	536.7	534.4	532.2	531.2	529.2	524.9	521.4	518.7	515.2
32.5°	493.4	493.2	493.2	493.2	491.6	491.4	488.4	486.1	483.3	479.1	476.9
35°	450.8	450.6	450.8	447.1	446.1	445.3	445.1	443.6	439.8	437.8	435.7
37.5°	402.7	403.5	403.0	402.0	403.3	400.9	402.7	399.5	398.0	397.5	395.2
40°	359.4	361.4	359.4	359.7	360.9	358.6	358.6	358.1	357.2	356.6	356.1
42.5°	322.4	319.8	321.3	320.0	321.3	320.6	319.3	320.0	320.4	319.3	319.1
45°	285.0	285.6	286.0	285.2	285.2	284.5	286.5	285.2	285.2	285.6	283.8
47.5°	254.7	253.9	254.5	253.9	254.3	253.7	254.3	254.5	253.9	253.9	252.5
50°	226.1	225.7	227.4	225.9	225.9	225.7	225.9	225.4	224.6	224.6	225.2
52.5°	201.4	200.3	200.1	201.4	199.6	199.6	199.9	199.4	198.3	197.9	196.6
55°	178.3	178.1	178.3	177.4	176.8	176.8	175.6	175.0	174.8	173.6	172.8
57.5°	156.7	156.0	156.3	156.0	155.0	154.7	153.8	153.8	152.8	151.8	150.5
60°	136.2	136.2	137.0	136.0	135.3	134.7	134.2	133.8	132.0	130.2	128.7
62.5°	117.9	118.2	117.9	117.2	116.8	116.2	115.7	114.2	112.7	111.7	110.0
65°	102.0	101.6	100.9	100.5	99.2	99.2	98.1	97.4	95.7	94.1	92.4
67.5°	85.5	84.9	84.9	84.9	83.4	83.1	82.6	81.1	79.6	77.6	76.1
70°	70.3	70.9	70.1	69.4	68.6	68.3	67.6	66.1	64.4	62.4	61.1
72.5°	56.1	56.6	55.8	55.6	54.0	53.6	53.3	52.1	50.1	48.9	46.9
75°	43.0	43.4	42.8	42.3	41.4	41.0	39.9	38.8	37.5	35.5	33.8
77.5°	31.1	30.6	30.6	29.5	28.6	28.6	28.3	26.8	25.1	23.6	22.0
80°	19.8	19.6	18.8	18.3	17.6	17.2	17.0	15.8	14.5	13.5	12.5
82.5°	10.0	9.7	9.5	9.3	8.8	8.2	8.6	7.5	7.0	6.0	5.3
85°	3.0	3.3	3.3	3.0	2.7	2.7	2.7	2.5	2.0	1.8	1.5
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9
2.5°	664.7	664.9	665.3	665.5	665.5	665.7	666.0	666.2	666.4	666.4	666.7
5°	664.2	664.7	664.7	664.9	664.9	664.9	665.3	665.3	665.3	665.3	665.5
7.5°	664.4	664.4	664.4	664.2	664.2	664.0	664.0	664.0	663.5	663.5	663.5
10°	663.2	662.9	662.7	662.2	662.0	661.7	661.2	660.7	660.2	660.0	659.4
12.5°	660.7	659.6	658.7	657.7	657.2	656.9	655.9	655.2	654.5	653.7	653.2
15°	655.7	654.1	652.5	650.4	649.9	649.4	647.7	646.2	645.2	644.4	643.1
17.5°	645.7	642.6	640.6	637.6	636.4	635.8	633.1	631.6	629.9	629.4	628.3
20°	627.9	625.2	621.4	618.6	617.1	615.6	613.3	611.3	609.3	609.3	608.1
22.5°	605.6	602.1	597.4	593.9	593.5	590.6	588.6	586.4	585.6	584.0	584.0
25°	577.6	574.5	569.3	566.3	564.8	564.0	560.8	557.8	556.2	555.0	556.0
27.5°	546.5	541.9	538.0	534.2	532.9	531.5	528.5	527.2	524.5	524.2	524.0
30°	510.9	506.4	502.4	500.7	498.1	496.9	494.7	493.2	492.1	492.1	491.6
32.5°	473.6	469.6	467.6	463.9	462.6	460.8	459.3	457.8	458.4	457.8	458.1
35°	433.3	432.3	428.6	426.2	426.2	426.0	423.5	422.5	422.0	422.3	423.5
37.5°	394.9	392.0	389.4	387.9	389.2	387.7	387.4	387.4	389.0	387.9	389.9
40°	354.1	353.9	352.9	353.4	353.7	351.9	352.4	352.6	353.7	355.7	355.9
42.5°	318.6	318.3	318.3	318.3	317.8	316.9	317.8	319.6	319.3	320.8	322.0
45°	284.3	283.8	284.7	284.0	285.6	286.0	285.2	285.8	287.3	288.3	290.3
47.5°	253.0	253.0	253.2	253.7	252.2	253.4	253.9	255.0	255.7	256.3	257.2
50°	223.9	223.9	223.4	223.4	223.4	224.1	223.2	224.4	224.6	226.7	227.9
52.5°	197.1	195.9	196.6	196.1	195.1	194.6	195.1	195.3	196.8	197.4	198.8
55°	171.5	171.5	169.5	169.0	169.9	169.5	169.3	169.3	170.1	170.8	172.1
57.5°	149.0	147.5	146.1	145.7	145.0	145.2	145.2	145.0	144.5	144.8	145.0
60°	127.8	126.7	124.5	124.5	124.3	124.0	122.7	122.5	121.2	121.5	120.5
62.5°	108.2	107.7	104.7	103.6	103.6	102.9	101.6	101.4	99.6	99.6	98.7
65°	90.6	89.2	87.4	85.7	85.7	84.6	83.9	81.6	80.4	79.6	78.2
67.5°	74.7	72.3	70.6	69.2	68.1	67.9	66.1	64.6	62.6	61.3	59.1
70°	59.1	57.3	55.6	54.0	53.1	52.1	50.3	48.1	46.5	44.3	42.8
72.5°	44.6	43.0	41.6	39.6	38.3	37.5	35.9	33.8	31.3	29.8	27.8
75°	32.0	30.4	28.3	26.5	25.8	25.1	23.1	21.6	19.8	18.0	16.1
77.5°	20.8	18.8	17.2	15.2	15.0	14.5	12.5	11.0	9.7	8.8	7.5
80°	11.0	10.0	8.8	7.5	7.0	6.2	5.3	4.5	3.8	3.0	2.5
82.5°	4.8	4.0	3.3	2.7	2.5	2.2	1.8	1.5	1.3	1.3	1.0
85°	1.3	1.0	1.0	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5
87.5°	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9
2.5°	666.9	667.2	667.5	667.5	667.7	668.0	668.0	668.2	668.4	668.7	668.7
5°	665.7	665.7	665.7	666.0	666.0	666.0	666.0	666.4	666.4	666.7	666.9
7.5°	663.2	663.2	663.2	663.2	662.9	663.2	662.9	662.9	663.5	663.7	664.0
10°	659.2	658.9	658.9	658.7	658.7	658.7	658.9	659.2	659.4	659.6	660.5
12.5°	653.0	652.7	652.7	652.5	652.5	652.7	653.0	653.4	654.5	654.9	655.9
15°	642.9	642.6	642.9	643.1	643.7	644.4	645.2	645.9	647.4	648.6	649.9
17.5°	628.3	628.7	628.9	629.4	630.1	631.1	633.1	635.1	636.9	638.9	640.9
20°	608.4	609.3	609.6	611.3	611.8	614.1	616.4	619.4	622.1	624.6	627.4
22.5°	584.3	585.1	586.0	588.0	589.3	592.3	595.0	598.6	601.6	604.9	608.9
25°	557.1	557.3	560.2	560.2	563.3	565.7	569.0	572.8	577.3	581.6	584.3
27.5°	526.0	527.2	529.5	530.5	532.7	536.7	539.5	543.9	548.5	552.3	555.3
30°	493.4	494.4	498.1	498.7	500.4	504.0	507.7	511.9	515.4	519.7	522.5
32.5°	459.1	461.9	464.1	465.9	466.3	471.6	473.6	476.6	480.6	484.9	487.7
35°	425.8	427.1	430.2	431.3	432.8	435.7	439.8	442.3	444.3	447.1	450.3
37.5°	390.5	394.2	394.9	398.0	398.5	401.3	403.3	406.2	408.8	411.2	411.7
40°	357.7	358.9	361.6	362.5	362.9	366.7	369.2	370.0	371.1	373.5	376.4
42.5°	324.4	325.5	328.6	327.9	330.1	331.9	333.2	336.1	337.4	338.1	338.1
45°	291.5	292.0	294.0	295.1	296.2	297.3	299.5	301.0	301.5	303.8	304.6
47.5°	260.2	260.7	262.2	264.0	263.5	264.7	267.3	268.0	268.2	269.7	270.4
50°	229.4	230.7	232.7	232.2	233.6	234.4	236.7	237.2	237.2	237.4	237.7
52.5°	200.6	201.6	202.1	202.6	203.4	204.7	205.6	205.1	206.1	207.1	206.3
55°	172.1	172.8	174.1	174.6	174.6	174.8	174.3	176.5	175.6	175.4	175.6
57.5°	146.1	145.0	144.8	146.1	146.5	146.3	145.5	146.5	146.5	146.1	145.2
60°	120.7	119.9	119.7	119.9	119.0	118.2	118.7	118.2	117.0	116.4	116.8
62.5°	97.7	96.9	94.9	94.9	94.4	94.1	92.1	92.4	91.4	89.9	90.4
65°	76.4	74.4	73.4	73.1	71.4	69.9	69.4	67.6	66.1	65.9	66.1
67.5°	57.3	55.1	53.3	52.6	51.6	50.3	48.5	47.1	47.6	47.4	48.3
70°	39.9	38.3	36.6	35.3	35.9	34.3	33.3	33.3	33.5	33.8	34.3
72.5°	26.5	24.5	23.8	23.1	22.5	21.6	22.0	22.0	21.8	22.0	21.6
75°	15.0	14.1	13.3	13.0	12.5	12.5	12.5	12.5	12.3	12.1	12.1
77.5°	6.8	6.2	6.0	5.7	5.7	5.7	5.5	5.3	5.3	5.3	5.0
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	1.0	1.0	1.3	1.3	1.3	1.0	1.3	1.3	1.0	1.0	1.3
85°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
87.5°	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.0	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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	666.9	666.9	666.9	666.9	666.9	666.9	666.9	666.9
2.5°	669.0	669.2	669.2	669.2	669.5	669.5	669.5	669.5
5°	667.2	667.5	667.5	667.5	667.7	667.7	667.7	667.7
7.5°	664.2	664.4	664.4	664.7	664.7	664.9	664.9	665.3
10°	660.7	661.2	661.4	661.7	662.0	662.2	662.2	662.5
12.5°	656.9	657.4	657.7	658.2	658.7	658.9	659.2	659.4
15°	651.4	652.5	653.0	653.2	654.1	654.7	654.9	655.2
17.5°	642.6	644.6	645.4	645.9	647.0	647.9	648.6	649.0
20°	630.1	632.4	633.4	634.7	636.2	637.4	637.9	638.4
22.5°	612.6	615.1	616.6	618.1	619.4	620.6	622.6	621.9
25°	587.5	591.9	593.5	594.3	597.0	598.6	599.6	598.6
27.5°	559.5	562.0	563.5	565.3	567.3	568.8	569.3	570.8
30°	525.7	530.0	529.7	531.5	534.0	535.5	536.0	537.2
32.5°	490.6	492.6	494.1	493.9	494.9	497.6	496.7	498.9
35°	453.3	453.6	456.1	455.8	457.8	457.8	457.8	459.3
37.5°	413.5	416.5	415.2	418.3	417.2	418.0	418.0	418.5
40°	377.2	378.2	378.2	379.2	379.9	379.2	379.7	381.0
42.5°	339.6	340.7	340.9	340.3	341.1	343.4	341.6	343.1
45°	304.6	305.3	306.3	305.6	306.8	306.1	306.8	306.3
47.5°	271.5	271.3	271.0	273.0	271.3	271.5	272.4	270.8
50°	237.7	239.1	238.2	238.9	239.4	239.4	238.7	238.7
52.5°	207.6	207.4	206.7	207.4	206.9	207.1	207.6	207.1
55°	176.5	177.6	177.0	176.8	177.0	177.0	178.5	176.5
57.5°	146.1	145.5	146.3	148.1	146.3	147.5	148.3	148.5
60°	117.0	117.0	118.5	117.7	119.2	120.5	121.5	121.0
62.5°	89.2	90.4	91.0	91.2	92.6	93.7	93.7	93.4
65°	66.1	67.9	67.9	68.9	69.4	69.4	69.9	70.9
67.5°	48.9	48.9	49.1	49.6	49.4	49.4	49.8	50.1
70°	34.1	33.5	34.3	34.1	34.1	33.8	34.1	34.1
72.5°	21.6	21.6	21.8	21.6	21.0	21.3	21.3	21.8
75°	11.5	12.1	11.5	11.5	11.7	11.3	11.5	11.7
77.5°	4.8	4.8	4.8	4.8	4.8	4.5	4.5	4.5
80°	2.2	2.2	2.2	2.2	2.2	2.2	2.0	2.0
82.5°	1.0	1.3	1.0	1.3	1.0	1.0	1.0	1.0
85°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
87.5°	0.0	0.2	0.0	0.2	0.0	0.0	0.0	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)