

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: P843399

Luminaire Tested: **LD4C15DE010B40 EU4C15B40 4LBLWWLI**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843399  
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: LD4C15DE010B40 EU4C15B40 4LBLWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

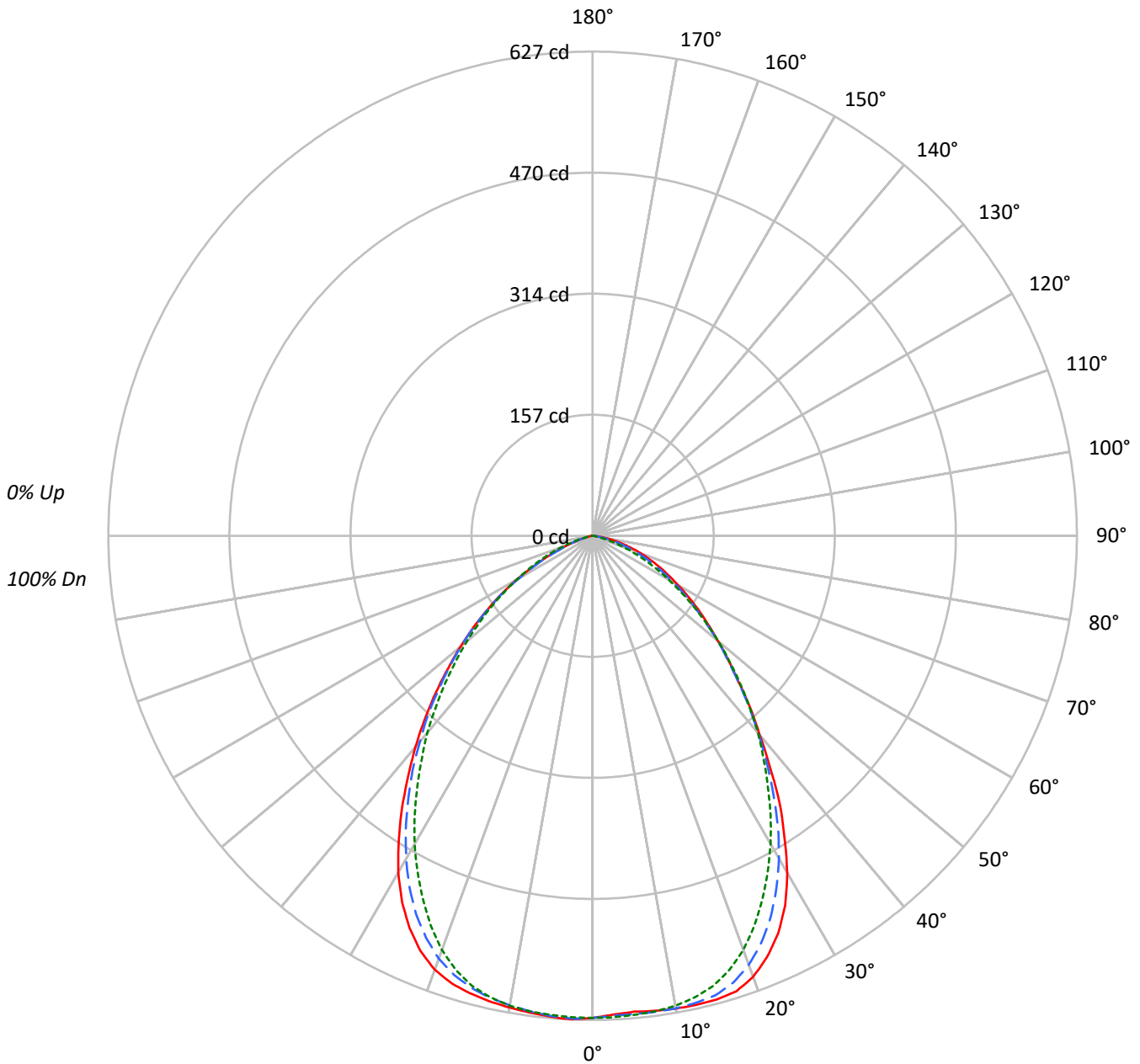
Lumens per Lamp: N/A  
Luminaire Lumens: 1197.2 lumens  
Efficiency: N/A  
Efficacy: 70.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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°	76710	76710	76710
5°	76287	76805	77101
10°	77556	77082	77382
15°	79072	76745	78017
20°	79463	74599	78155
25°	77022	70434	75964
30°	71497	65369	71355
35°	63305	59286	64490
40°	53966	53388	57189
45°	46354	46893	49829
50°	40461	40576	42717
55°	35769	34249	35405
60°	31352	27937	27839
65°	27732	21686	19273
70°	23671	14907	11458
75°	19129	8022	5221
80°	13088	2052	1344
85°	4088	564	564



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.3	5.0
10°-20°	171.8	14.4
20°-30°	248.3	20.7
30°-40°	256.6	21.4
40°-50°	212.1	17.7
50°-60°	146.4	12.2
60°-70°	76.6	6.4
70°-80°	24.1	2.0
80°-90°	2.0	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°	479.4	40.0
0°-40°	736.1	61.5
0°-60°	1094.5	91.4
0°-90°	1197.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1197.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	624	624	624	624	624	
5°	619	622	623	624	625	59
15°	622	616	603	606	613	175
25°	568	545	520	541	560	259
35°	422	408	395	416	430	262
45°	267	266	270	282	287	208
55°	167	162	160	164	165	150
65°	95	86	75	62	66	95
75°	40	32	17	12	11	43
85°	3	1	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°	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4
2.5°	620.5	620.7	620.7	621.1	621.1	621.1	621.5	621.5	621.7	621.9	622.1
5°	618.6	618.6	619.0	619.4	619.8	620.0	620.5	620.7	621.1	621.5	621.7
7.5°	620.5	620.5	620.7	620.9	620.9	621.1	621.1	621.5	621.7	621.9	621.9
10°	621.7	621.7	621.7	621.7	621.9	621.9	621.9	621.7	621.7	621.7	621.5
12.5°	622.1	622.1	621.9	621.7	621.9	621.7	621.7	620.9	620.5	620.0	619.4
15°	621.7	621.7	621.5	621.1	620.9	620.5	620.3	619.0	618.2	616.7	615.8
17.5°	618.6	618.2	617.7	617.2	616.3	615.5	615.1	613.0	611.3	609.0	606.4
20°	607.8	607.4	606.7	605.5	604.3	603.4	602.0	598.9	597.2	593.8	591.2
22.5°	590.3	589.7	590.1	587.9	585.5	584.1	583.2	580.6	577.8	573.3	570.6
25°	568.2	566.8	566.8	563.5	562.3	561.4	560.2	557.2	552.9	549.0	545.2
27.5°	539.6	537.7	536.7	536.3	533.5	531.4	529.8	527.4	523.8	520.4	515.2
30°	504.0	503.8	502.6	500.5	498.4	497.4	495.5	491.5	488.2	485.7	482.4
32.5°	462.0	461.8	461.8	461.8	460.3	460.1	457.3	455.2	452.6	448.6	446.5
35°	422.1	421.9	422.1	418.6	417.7	416.9	416.7	415.3	411.7	409.9	408.0
37.5°	377.0	377.8	377.4	376.4	377.6	375.5	377.0	374.0	372.6	372.2	370.1
40°	336.5	338.3	336.5	336.8	337.9	335.8	335.8	335.4	334.4	333.9	333.5
42.5°	301.8	299.4	300.9	299.7	300.9	300.2	299.0	299.7	299.9	299.0	298.8
45°	266.8	267.4	267.8	267.1	267.1	266.4	268.3	267.1	267.1	267.4	265.7
47.5°	238.5	237.8	238.3	237.8	238.0	237.5	238.0	238.3	237.8	237.8	236.4
50°	211.7	211.3	212.9	211.5	211.5	211.3	211.5	211.1	210.4	210.4	210.8
52.5°	188.6	187.6	187.4	188.6	186.9	186.9	187.1	186.7	185.7	185.3	184.1
55°	167.0	166.7	167.0	166.0	165.5	165.5	164.4	163.9	163.7	162.6	161.8
57.5°	146.8	146.1	146.4	146.1	145.1	144.9	143.9	143.9	143.1	142.1	141.0
60°	127.6	127.6	128.3	127.3	126.6	126.2	125.6	125.2	123.5	121.9	120.6
62.5°	110.4	110.7	110.4	109.8	109.3	108.8	108.3	106.9	105.6	104.6	102.9
65°	95.4	95.2	94.6	94.0	92.9	92.9	91.9	91.3	89.6	88.2	86.5
67.5°	80.0	79.5	79.5	79.5	78.1	77.8	77.4	75.9	74.6	72.7	71.3
70°	65.9	66.3	65.7	64.9	64.3	64.0	63.4	61.9	60.3	58.4	57.2
72.5°	52.6	53.0	52.2	52.0	50.7	50.1	49.9	48.8	46.9	45.7	43.9
75°	40.3	40.6	40.1	39.7	38.7	38.5	37.3	36.4	35.2	33.3	31.6
77.5°	29.1	28.7	28.7	27.7	26.8	26.8	26.5	25.1	23.5	22.0	20.6
80°	18.5	18.3	17.6	17.1	16.4	16.2	16.0	14.8	13.6	12.7	11.7
82.5°	9.4	9.1	8.9	8.7	8.2	7.7	7.9	7.1	6.6	5.6	5.0
85°	2.9	3.1	3.1	2.9	2.5	2.5	2.5	2.3	1.9	1.7	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4
2.5°	622.4	622.6	622.8	623.1	623.1	623.3	623.6	623.8	624.0	624.0	624.2
5°	621.9	622.4	622.4	622.6	622.6	622.6	622.8	622.8	622.8	622.8	623.1
7.5°	622.1	622.1	622.1	621.9	621.9	621.7	621.7	621.7	621.1	621.1	621.1
10°	620.9	620.7	620.5	620.0	619.8	619.6	619.0	618.6	618.2	617.9	617.4
12.5°	618.6	617.7	616.7	615.8	615.3	615.1	614.2	613.4	612.8	612.1	611.6
15°	614.0	612.5	610.9	609.0	608.6	608.0	606.4	605.0	604.1	603.4	602.2
17.5°	604.5	601.7	599.9	597.0	595.9	595.4	592.8	591.4	589.7	589.3	588.4
20°	587.9	585.3	581.8	579.3	577.8	576.4	574.3	572.4	570.6	570.6	569.3
22.5°	567.0	563.7	559.3	556.0	555.8	552.9	551.0	549.0	548.3	546.9	546.9
25°	540.8	537.9	533.0	530.2	528.8	528.1	525.0	522.3	520.8	519.6	520.6
27.5°	511.7	507.5	503.8	500.2	499.0	497.6	494.8	493.6	491.1	490.8	490.5
30°	478.4	474.1	470.4	468.7	466.4	465.3	463.1	461.8	460.8	460.8	460.3
32.5°	443.5	439.7	437.9	434.3	433.1	431.5	430.0	428.7	429.2	428.7	428.9
35°	405.7	404.8	401.3	399.2	399.2	398.9	396.5	395.6	395.1	395.3	396.5
37.5°	369.9	367.0	364.7	363.2	364.5	363.0	362.8	362.8	364.1	363.2	365.1
40°	331.6	331.4	330.4	330.9	331.1	329.5	330.0	330.2	331.1	332.9	333.3
42.5°	298.3	298.0	298.0	298.0	297.6	296.7	297.6	299.2	299.0	300.4	301.5
45°	266.2	265.7	266.6	265.9	267.4	267.8	267.1	267.6	269.0	269.9	271.8
47.5°	236.8	236.8	237.1	237.5	236.2	237.3	237.8	238.7	239.4	239.9	240.8
50°	209.6	209.6	209.2	209.2	209.2	209.8	209.0	210.2	210.4	212.3	213.4
52.5°	184.6	183.4	184.1	183.6	182.7	182.2	182.7	182.9	184.3	184.8	186.1
55°	160.7	160.7	158.8	158.3	159.0	158.8	158.5	158.5	159.3	159.9	161.1
57.5°	139.5	138.1	136.8	136.4	135.8	136.0	136.0	135.8	135.3	135.6	135.8
60°	119.6	118.7	116.6	116.6	116.3	116.1	114.9	114.6	113.5	113.7	112.7
62.5°	101.3	100.8	98.0	97.1	97.1	96.4	95.2	95.0	93.3	93.3	92.4
65°	84.9	83.4	81.9	80.2	80.2	79.2	78.6	76.5	75.3	74.6	73.2
67.5°	69.9	67.8	66.1	64.7	63.8	63.6	61.9	60.5	58.6	57.4	55.3
70°	55.3	53.7	52.0	50.7	49.7	48.8	47.2	45.1	43.6	41.5	40.1
72.5°	41.8	40.3	38.9	37.0	35.9	35.2	33.5	31.6	29.3	27.9	26.0
75°	30.0	28.3	26.5	24.9	24.1	23.5	21.6	20.2	18.5	16.9	15.0
77.5°	19.5	17.6	16.2	14.3	14.1	13.6	11.7	10.4	9.1	8.2	7.1
80°	10.4	9.4	8.2	7.1	6.6	5.8	5.0	4.2	3.5	2.9	2.3
82.5°	4.4	3.7	3.1	2.5	2.3	2.1	1.7	1.4	1.2	1.2	1.0
85°	1.2	1.0	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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°	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4
2.5°	624.4	624.7	625.0	625.0	625.2	625.4	625.4	625.7	625.9	626.1	626.1
5°	623.3	623.3	623.3	623.6	623.6	623.6	623.6	624.0	624.0	624.2	624.4
7.5°	620.9	620.9	620.9	620.9	620.7	620.9	620.7	620.7	621.1	621.5	621.7
10°	617.2	617.0	617.0	616.7	616.7	616.7	617.0	617.2	617.4	617.7	618.4
12.5°	611.3	611.1	611.1	610.9	610.9	611.1	611.3	611.8	612.8	613.2	614.2
15°	602.0	601.7	602.0	602.2	602.6	603.4	604.1	604.8	606.2	607.4	608.6
17.5°	588.4	588.6	588.8	589.3	590.1	590.9	592.8	594.7	596.3	598.2	600.1
20°	569.6	570.6	570.8	572.4	572.9	575.0	577.2	579.9	582.5	584.9	587.4
22.5°	547.1	547.7	548.7	550.6	551.8	554.6	557.2	560.4	563.3	566.4	570.1
25°	521.5	521.7	524.6	524.6	527.4	529.8	532.8	536.3	540.6	544.5	547.1
27.5°	492.4	493.6	495.7	496.7	498.8	502.6	505.1	509.4	513.6	517.1	519.9
30°	462.0	462.9	466.4	466.9	468.5	471.8	475.3	479.3	482.6	486.6	489.2
32.5°	429.8	432.5	434.6	436.2	436.6	441.6	443.5	446.2	450.0	454.0	456.6
35°	398.6	399.8	402.9	403.8	405.2	408.0	411.7	414.2	416.0	418.6	421.7
37.5°	365.6	369.1	369.9	372.6	373.1	375.7	377.6	380.3	382.8	385.1	385.5
40°	334.8	336.0	338.7	339.3	339.8	343.3	345.6	346.4	347.5	349.7	352.5
42.5°	303.6	304.8	307.7	306.9	309.0	310.7	311.9	314.8	315.9	316.5	316.5
45°	273.0	273.4	275.3	276.3	277.4	278.4	280.5	281.9	282.4	284.5	285.1
47.5°	243.7	244.1	245.5	247.2	246.7	247.9	250.2	250.9	251.2	252.6	253.3
50°	214.8	216.0	217.9	217.3	218.8	219.5	221.6	222.1	222.1	222.3	222.5
52.5°	187.8	188.8	189.2	189.7	190.4	191.5	192.5	192.1	193.0	194.0	193.2
55°	161.1	161.8	163.0	163.4	163.4	163.7	163.2	165.3	164.4	164.1	164.4
57.5°	136.8	135.8	135.6	136.8	137.2	137.0	136.2	137.2	137.2	136.8	136.0
60°	113.1	112.3	112.1	112.3	111.4	110.7	111.2	110.7	109.5	109.0	109.3
62.5°	91.5	90.7	88.8	88.8	88.4	88.2	86.3	86.5	85.6	84.2	84.6
65°	71.5	69.7	68.7	68.4	66.8	65.5	64.9	63.4	61.9	61.7	61.9
67.5°	53.7	51.6	49.9	49.3	48.3	47.2	45.5	44.1	44.5	44.3	45.3
70°	37.3	35.9	34.3	33.1	33.5	32.2	31.2	31.2	31.4	31.6	32.2
72.5°	24.9	23.0	22.3	21.6	21.2	20.2	20.6	20.6	20.4	20.6	20.2
75°	14.1	13.1	12.5	12.2	11.7	11.7	11.7	11.7	11.5	11.2	11.2
77.5°	6.3	5.8	5.6	5.4	5.4	5.4	5.2	5.0	5.0	5.0	4.7
80°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
82.5°	1.0	1.0	1.2	1.2	1.2	1.0	1.2	1.2	1.0	1.0	1.2
85°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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°	624.4	624.4	624.4	624.4	624.4	624.4	624.4	624.4
2.5°	626.3	626.5	626.5	626.5	626.9	626.9	626.9	626.9
5°	624.7	625.0	625.0	625.0	625.2	625.2	625.2	625.2
7.5°	621.9	622.1	622.1	622.4	622.4	622.6	622.6	622.8
10°	618.6	619.0	619.4	619.6	619.8	620.0	620.0	620.3
12.5°	615.1	615.5	615.8	616.3	616.7	617.0	617.2	617.4
15°	609.9	610.9	611.3	611.6	612.5	613.0	613.2	613.4
17.5°	601.7	603.6	604.3	604.8	605.7	606.7	607.4	607.6
20°	590.1	592.2	593.0	594.2	595.7	596.8	597.2	597.8
22.5°	573.6	576.0	577.4	578.7	579.9	581.1	583.0	582.2
25°	550.2	554.1	555.8	556.4	559.1	560.4	561.4	560.4
27.5°	523.8	526.2	527.7	529.2	531.1	532.5	533.0	534.4
30°	492.2	496.2	495.9	497.6	499.9	501.3	501.8	503.0
32.5°	459.4	461.2	462.7	462.4	463.3	466.0	465.0	467.2
35°	424.4	424.6	427.1	426.8	428.7	428.7	428.7	430.0
37.5°	387.2	389.9	388.8	391.6	390.7	391.4	391.4	391.9
40°	353.1	354.1	354.1	355.0	355.8	355.0	355.5	356.6
42.5°	318.0	318.9	319.2	318.7	319.4	321.5	319.8	321.3
45°	285.1	285.9	286.8	286.1	287.3	286.5	287.3	286.8
47.5°	254.1	253.9	253.7	255.6	253.9	254.1	255.1	253.5
50°	222.5	223.9	223.1	223.7	224.2	224.2	223.5	223.5
52.5°	194.4	194.2	193.4	194.2	193.7	194.0	194.4	194.0
55°	165.3	166.3	165.8	165.5	165.8	165.8	167.2	165.3
57.5°	136.8	136.2	137.0	138.6	137.0	138.1	138.9	139.1
60°	109.5	109.5	110.9	110.2	111.6	112.7	113.7	113.3
62.5°	83.4	84.6	85.1	85.4	86.7	87.7	87.7	87.5
65°	61.9	63.6	63.6	64.5	64.9	64.9	65.5	66.3
67.5°	45.7	45.7	46.0	46.4	46.2	46.2	46.6	46.9
70°	31.9	31.4	32.2	31.9	31.9	31.6	31.9	31.9
72.5°	20.2	20.2	20.4	20.2	19.7	19.9	19.9	20.4
75°	10.8	11.2	10.8	10.8	11.0	10.6	10.8	11.0
77.5°	4.4	4.4	4.4	4.4	4.4	4.2	4.2	4.2
80°	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.9
82.5°	1.0	1.2	1.0	1.2	1.0	1.0	1.0	1.0
85°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
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)