

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: P843384

Luminaire Tested: **LD4C15DE010B35 EU4C15B35 4LBLWWH**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843384  
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: LD4C15DE010B35 EU4C15B35 4LBLWWH  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

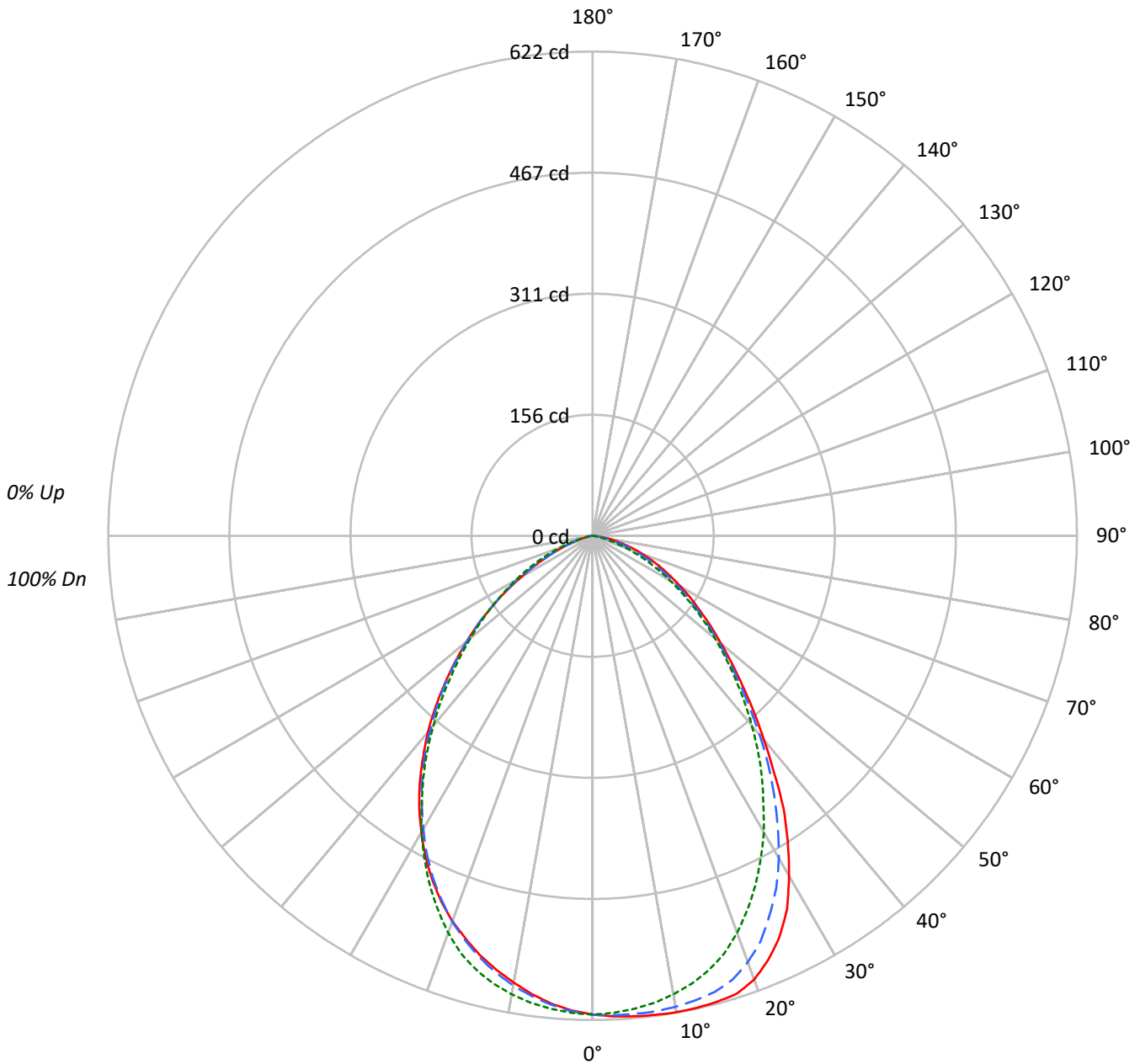
Lumens per Lamp: N/A  
Luminaire Lumens: 1159.2 lumens  
Efficiency: N/A  
Efficacy: 68.2 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 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				20				
RC	80				70				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°	75567	75567	75567
5°	76411	75239	74425
10°	77531	74612	72716
15°	78805	73425	70983
20°	79306	70925	68873
25°	77035	67086	66069
30°	71582	62361	62390
35°	64085	56841	58041
40°	54848	50951	52811
45°	47223	44929	46615
50°	41054	39124	40289
55°	36134	33649	33349
60°	32138	28060	25848
65°	28198	22471	18692
70°	24210	15877	12644
75°	19651	9209	7452
80°	14079	4033	3679
85°	5356	1692	1692



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.0	5.0
10°-20°	164.1	14.2
20°-30°	234.3	20.2
30°-40°	245.1	21.1
40°-50°	205.4	17.7
50°-60°	143.7	12.4
60°-70°	78.3	6.8
70°-80°	27.2	2.3
80°-90°	3.1	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°	456.4	39.4
0°-40°	701.5	60.5
0°-60°	1050.6	90.6
0°-90°	1159.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1159.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	615	615	615	615	615	
5°	620	617	610	605	604	59
15°	620	607	577	561	558	175
25°	568	538	495	485	487	259
35°	427	406	379	382	387	265
45°	272	266	259	267	268	211
55°	169	163	157	157	156	152
65°	97	88	77	65	64	97
75°	41	34	19	16	16	45
85°	4	2	1	1	1	7
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°	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1
2.5°	617.9	617.2	617.4	617.4	617.4	617.2	617.4	617.2	617.2	617.0	616.5
5°	619.6	619.1	619.1	619.1	618.8	618.6	618.6	618.4	617.9	617.7	616.7
7.5°	620.7	620.3	620.3	620.1	619.8	619.6	619.4	618.6	617.9	617.4	616.3
10°	621.5	620.7	620.7	620.3	619.8	619.6	619.1	618.2	617.2	616.1	614.4
12.5°	621.0	620.3	620.1	619.6	618.6	618.2	617.7	616.5	614.8	613.2	611.1
15°	619.6	619.1	618.6	617.9	616.7	616.1	615.5	613.6	611.5	609.2	606.6
17.5°	616.7	616.1	615.1	614.2	612.5	611.7	610.6	608.2	605.2	601.8	597.8
20°	606.6	606.1	605.2	603.5	600.8	599.9	598.3	595.2	591.2	587.2	582.9
22.5°	589.7	589.1	587.6	586.2	583.8	582.2	580.7	576.5	572.1	567.7	563.7
25°	568.3	567.5	565.6	563.7	561.4	558.5	557.2	553.8	549.3	543.8	537.9
27.5°	540.6	538.2	537.5	535.4	531.8	530.8	528.7	524.5	520.3	515.5	510.5
30°	504.6	504.6	503.2	502.3	498.9	497.9	495.6	491.2	488.7	482.2	478.4
32.5°	466.5	466.0	464.8	464.2	462.3	460.6	458.3	455.8	450.7	447.4	442.2
35°	427.3	424.4	424.9	423.5	422.3	420.4	420.2	417.6	412.8	410.9	406.2
37.5°	382.5	381.4	383.0	380.9	379.7	379.9	378.0	376.4	374.5	371.2	370.3
40°	342.0	343.0	342.8	340.9	341.8	340.7	338.8	337.1	336.1	334.0	333.4
42.5°	305.9	304.5	304.0	304.0	304.3	304.3	303.3	302.1	302.1	299.9	297.8
45°	271.8	271.8	271.4	272.8	270.6	270.6	269.9	269.7	268.7	268.3	265.7
47.5°	242.5	242.2	242.0	241.8	241.6	241.6	240.1	238.9	238.7	237.2	235.9
50°	214.8	216.2	215.8	214.6	214.1	214.4	213.4	212.7	212.5	210.0	210.4
52.5°	191.6	191.4	191.9	191.1	190.0	190.2	189.2	188.3	187.4	186.1	185.2
55°	168.7	169.9	169.4	168.7	168.5	168.0	167.2	166.0	165.8	163.2	163.0
57.5°	149.5	149.2	148.8	147.6	147.4	146.7	146.7	145.7	144.3	142.9	141.7
60°	130.8	130.8	130.1	129.9	128.9	128.7	128.5	127.6	125.9	124.7	122.8
62.5°	112.8	113.3	112.8	112.1	111.5	110.5	110.0	109.3	107.9	106.7	105.0
65°	97.0	96.8	96.6	95.6	95.3	94.3	94.1	92.8	91.3	90.3	88.5
67.5°	81.9	81.1	81.1	80.7	80.2	79.5	79.0	77.6	75.9	75.0	73.1
70°	67.4	66.9	66.9	66.9	65.8	65.0	64.8	64.1	61.8	60.8	58.9
72.5°	54.2	53.9	53.7	53.0	52.2	52.2	51.3	49.9	48.8	47.6	46.1
75°	41.4	41.9	41.4	40.4	40.2	39.8	39.0	37.9	36.7	35.2	33.6
77.5°	30.2	29.8	29.3	29.3	28.9	27.9	27.7	26.8	25.3	24.3	22.7
80°	19.9	19.7	19.1	18.7	18.4	18.2	18.0	17.0	15.7	14.9	13.4
82.5°	10.9	10.7	10.7	10.4	9.7	9.7	9.4	8.6	7.8	7.3	6.7
85°	3.8	3.8	3.8	3.6	3.6	3.6	3.3	3.1	2.9	2.6	2.1
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°	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1
2.5°	616.1	615.5	615.3	615.1	614.8	614.6	614.4	613.9	613.6	613.4	613.0
5°	616.1	615.1	614.6	613.9	613.4	613.0	612.3	611.5	610.8	610.1	609.4
7.5°	615.1	613.6	612.7	611.3	610.8	610.1	608.7	607.7	606.6	605.2	603.5
10°	612.7	611.1	609.2	607.3	606.6	605.4	603.5	601.8	599.9	598.1	596.4
12.5°	608.9	606.3	604.0	601.4	599.9	598.7	596.2	593.8	591.4	589.3	586.5
15°	603.3	600.2	597.1	593.5	591.9	590.5	586.7	583.8	580.1	577.3	574.4
17.5°	594.1	589.3	585.5	581.1	578.6	577.0	573.7	569.2	565.6	562.6	559.3
20°	578.2	573.7	568.5	563.5	560.9	558.7	554.1	549.3	545.7	542.5	538.9
22.5°	557.4	551.7	547.9	541.7	539.6	537.1	531.4	527.1	523.1	519.7	516.4
25°	532.1	527.1	521.8	516.2	513.6	510.5	505.8	501.3	498.7	494.9	490.8
27.5°	502.9	498.9	492.5	487.6	484.9	482.6	478.2	474.1	470.3	467.7	463.9
30°	472.2	467.5	461.8	456.6	455.2	452.3	448.3	445.3	441.2	439.6	437.9
32.5°	438.4	432.9	428.7	425.4	422.5	420.2	418.0	413.0	412.4	408.0	407.6
35°	401.5	399.0	395.0	392.3	389.8	388.3	384.7	382.3	379.7	379.0	377.4
37.5°	366.7	363.8	360.0	357.5	355.8	355.6	352.9	351.6	349.7	348.7	346.8
40°	330.3	329.0	325.8	325.3	322.7	322.5	321.0	319.4	317.7	317.7	317.9
42.5°	296.7	295.3	293.8	292.1	290.7	290.7	290.0	289.6	289.1	288.4	289.6
45°	265.1	263.4	262.4	260.7	261.4	260.0	259.5	259.5	258.8	258.6	260.2
47.5°	235.9	233.7	232.8	232.4	232.4	232.6	230.5	231.1	230.9	231.4	232.0
50°	209.1	207.2	205.8	205.8	206.0	205.1	204.1	204.9	204.1	204.7	206.2
52.5°	184.2	182.4	181.7	181.7	180.2	180.0	180.5	179.6	179.8	180.0	181.0
55°	161.3	160.1	159.0	157.8	158.0	157.6	156.6	156.4	156.8	157.1	158.2
57.5°	140.8	139.1	137.5	137.0	136.5	136.5	135.3	135.1	135.6	134.3	134.3
60°	121.1	120.1	118.0	117.3	117.3	116.1	115.2	115.7	114.5	114.2	114.5
62.5°	102.9	102.2	100.8	99.3	98.9	98.5	97.2	96.8	96.2	95.3	93.9
65°	87.0	85.4	83.8	82.8	82.1	80.9	80.2	79.2	77.8	77.3	75.9
67.5°	71.2	69.6	67.9	67.2	66.5	65.8	64.6	63.4	61.8	59.9	58.2
70°	57.2	55.1	54.2	52.2	51.8	50.9	49.2	48.0	46.3	44.2	42.6
72.5°	43.8	42.3	40.9	39.2	38.1	37.3	36.0	34.1	32.2	31.0	29.3
75°	31.4	30.8	28.9	27.0	26.5	25.6	23.9	22.7	21.3	19.4	18.0
77.5°	21.3	19.9	18.7	17.0	16.6	15.7	14.7	13.4	12.6	11.3	10.4
80°	12.6	11.3	10.7	9.4	9.0	8.6	7.8	6.9	6.1	5.7	5.4
82.5°	6.1	5.2	5.0	4.2	4.0	3.8	3.3	3.1	2.6	2.6	2.6
85°	2.1	1.7	1.7	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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°	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1
2.5°	612.7	612.5	612.3	612.1	612.1	611.7	611.7	611.5	611.5	611.3	611.3
5°	608.5	607.7	607.3	606.8	606.8	606.1	605.6	605.2	604.9	604.9	604.4
7.5°	602.5	601.6	600.6	599.9	599.7	598.5	597.6	597.6	596.6	596.2	595.7
10°	594.7	593.1	591.6	590.9	590.1	589.3	588.2	587.4	586.7	585.5	585.3
12.5°	584.1	582.9	580.7	579.8	579.4	577.9	576.1	575.1	574.8	573.9	573.2
15°	572.1	569.4	567.5	566.4	566.4	563.9	563.1	561.6	560.7	559.9	559.7
17.5°	556.4	553.8	551.9	550.3	549.8	547.9	546.5	546.1	544.8	545.3	544.2
20°	536.3	534.2	532.7	530.6	530.6	529.5	528.9	527.8	527.3	526.8	527.3
22.5°	514.8	512.2	509.8	509.6	509.6	507.9	507.7	507.5	506.5	507.2	506.9
25°	489.5	487.6	486.2	485.9	485.9	484.9	484.0	484.5	485.2	484.9	485.7
27.5°	463.2	461.3	460.8	460.6	460.2	459.9	460.4	460.4	461.0	462.0	462.9
30°	434.8	434.4	433.6	433.4	432.9	434.2	434.6	435.3	435.0	436.5	437.4
32.5°	406.4	405.5	405.3	405.7	406.4	406.2	407.6	408.0	408.6	410.3	410.9
35°	377.8	377.6	377.0	377.0	377.4	379.3	379.3	380.9	381.8	382.3	384.2
37.5°	347.0	348.0	348.5	349.1	349.4	350.1	350.6	352.3	353.2	354.1	355.0
40°	318.9	318.5	320.6	319.1	319.6	321.7	322.7	322.5	323.8	325.3	326.3
42.5°	288.8	289.6	290.0	290.5	291.7	291.9	293.1	294.8	295.3	296.9	297.4
45°	259.8	260.0	260.9	261.9	262.6	264.5	264.9	265.7	267.1	267.1	267.8
47.5°	232.4	233.2	233.2	234.7	235.9	235.6	237.2	237.8	237.5	238.7	239.1
50°	206.0	207.5	207.2	208.1	208.7	208.9	210.4	210.8	209.8	211.0	211.2
52.5°	181.0	181.7	182.7	182.9	182.4	183.6	183.1	184.0	183.8	184.8	183.8
55°	158.0	157.8	157.8	158.2	157.8	158.2	158.8	157.8	157.1	158.0	157.8
57.5°	135.1	135.1	134.6	135.3	134.6	133.9	133.7	132.9	132.2	132.2	132.0
60°	113.6	113.1	112.1	111.9	111.9	110.7	110.2	109.3	109.3	108.3	107.5
62.5°	93.5	92.2	91.6	91.6	91.1	89.9	87.8	86.3	85.9	84.5	84.2
65°	74.6	73.3	72.7	71.2	70.0	69.6	67.4	65.8	65.0	63.7	63.9
67.5°	57.2	55.3	53.2	52.2	51.6	49.9	49.2	48.0	47.3	47.3	47.3
70°	41.1	39.6	37.3	36.7	36.2	34.8	34.1	33.8	34.6	34.3	34.6
72.5°	27.7	26.0	25.1	24.6	24.1	23.4	23.9	24.1	23.7	23.9	24.1
75°	16.8	16.3	15.7	15.3	15.3	15.7	15.3	15.3	15.7	15.7	15.9
77.5°	9.7	9.2	9.2	9.0	9.4	9.2	9.2	9.2	9.4	9.4	9.4
80°	5.2	5.2	5.2	5.2	5.4	5.2	5.4	5.4	5.4	5.4	5.4
82.5°	2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6
85°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
87.5°	0.2	0.4	0.4	0.4	0.4	0.4	0.4	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°	615.1	615.1	615.1	615.1	615.1	615.1	615.1	615.1
2.5°	610.8	610.8	610.8	610.4	610.6	610.6	610.4	610.4
5°	604.2	604.0	603.5	603.5	603.1	603.5	603.3	603.5
7.5°	595.2	595.2	594.5	594.5	594.3	594.1	593.8	594.1
10°	584.6	584.6	584.1	583.8	584.1	583.2	583.2	582.9
12.5°	572.7	572.3	571.8	572.1	571.8	571.1	570.8	571.1
15°	559.1	558.3	558.5	557.8	557.8	557.6	558.1	558.1
17.5°	543.8	543.4	542.9	543.2	542.7	542.9	542.7	542.5
20°	527.1	526.8	526.8	525.9	526.2	525.9	526.2	526.8
22.5°	507.7	507.5	507.7	506.9	507.5	507.5	508.2	508.2
25°	486.4	486.2	486.6	486.8	487.1	487.8	487.1	487.4
27.5°	462.7	463.5	464.2	464.4	465.4	464.6	464.2	464.8
30°	438.8	438.8	438.6	439.6	440.3	440.9	439.8	439.8
32.5°	411.4	412.6	412.6	412.8	413.5	413.5	413.5	414.5
35°	385.1	385.8	386.0	385.1	385.6	385.4	387.0	387.0
37.5°	355.8	355.8	356.0	357.7	357.7	357.0	357.5	357.5
40°	327.9	328.1	327.1	327.7	328.8	328.4	328.8	329.3
42.5°	297.4	299.0	298.0	298.6	298.4	298.6	298.8	298.8
45°	268.3	268.7	268.7	269.0	269.5	269.9	268.5	268.3
47.5°	239.9	240.1	240.8	239.7	241.0	239.7	241.0	239.4
50°	211.2	212.2	211.5	211.9	211.2	211.2	211.0	210.8
52.5°	184.0	183.8	183.8	183.6	183.6	184.0	183.6	184.2
55°	156.8	157.1	156.6	156.4	156.1	156.8	156.1	155.7
57.5°	131.0	131.6	130.6	131.0	129.5	130.1	130.3	130.6
60°	107.1	106.5	106.5	105.6	105.6	106.2	105.2	105.2
62.5°	83.0	83.6	82.8	83.8	83.8	84.7	84.2	84.7
65°	63.7	63.9	64.1	64.1	64.1	65.6	65.0	64.3
67.5°	48.0	48.2	48.5	48.2	49.0	48.5	48.5	48.8
70°	34.8	35.0	35.2	35.2	35.0	35.2	35.2	35.2
72.5°	24.1	24.3	24.1	24.3	24.6	24.3	24.3	24.6
75°	15.9	15.9	15.7	15.7	15.7	15.7	15.9	15.7
77.5°	9.2	9.4	9.2	9.4	9.4	9.4	9.4	9.4
80°	5.4	5.4	5.4	5.2	5.4	5.4	5.4	5.2
82.5°	2.9	2.9	2.6	2.6	2.9	2.9	2.9	2.9
85°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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)