

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: P843398

Luminaire Tested: **LD4C15DE010B40 EU4C15B40 4LBLWWH**

Issue Date: 5/7/2024

Test Information

Test Method: LM-79-08
Report Number: P843398
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: LD4C15DE010B40 EU4C15B40 4LBLWWH
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

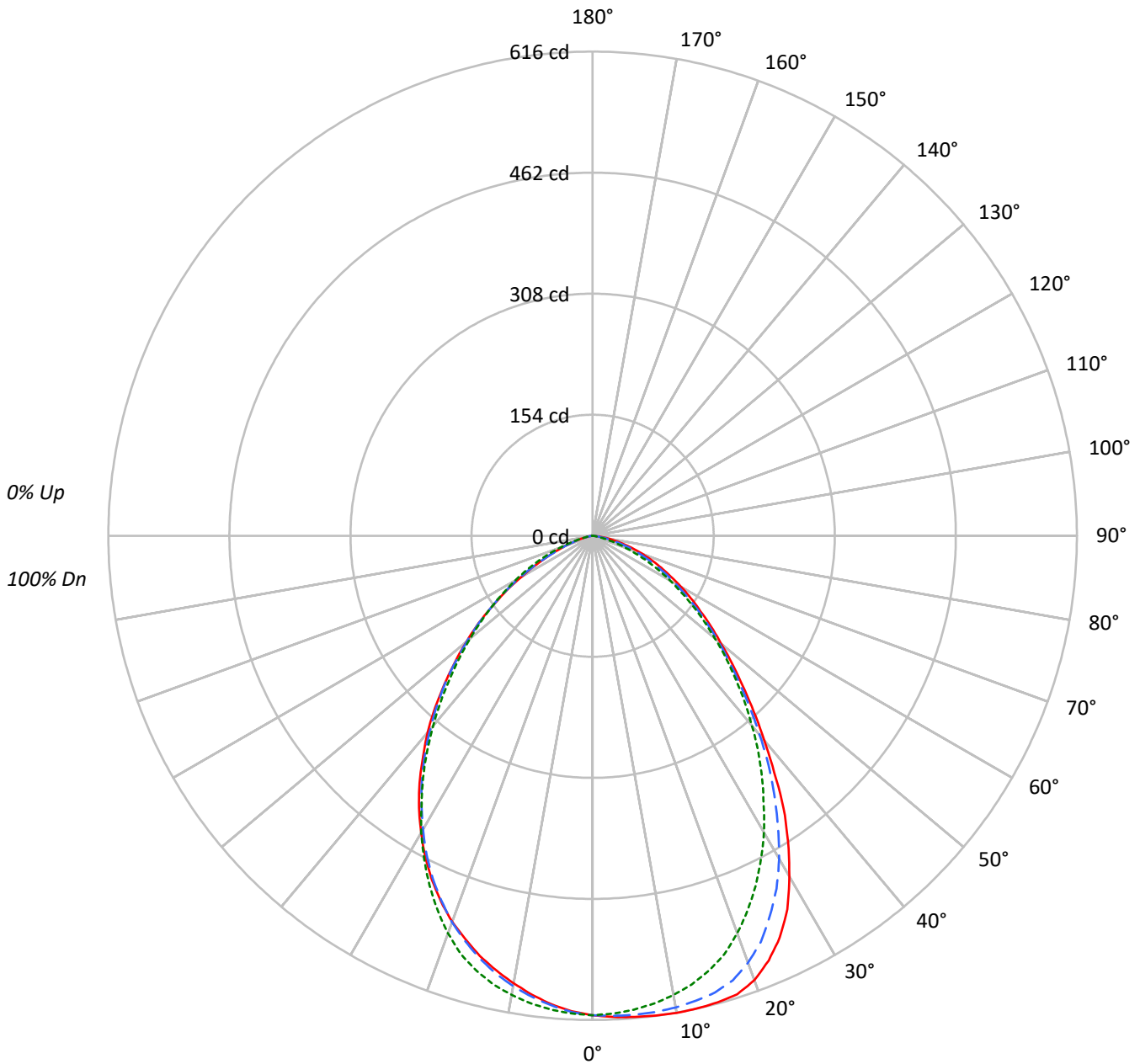
Lumens per Lamp: N/A
Luminaire Lumens: 1149.7 lumens
Efficiency: N/A
Efficacy: 67.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.09 / 1.17
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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									
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°	74941	74941	74941
5°	75782	74623	73809
10°	76895	73988	72117
15°	78157	72815	70398
20°	78652	70337	68311
25°	76398	66530	65513
30°	71000	61851	61879
35°	63545	56376	57561
40°	54415	50534	52378
45°	46841	44565	46232
50°	40710	38799	39964
55°	35834	33371	33071
60°	31893	27839	25652
65°	27965	22296	18546
70°	23995	15769	12572
75°	19461	9114	7310
80°	13937	3962	3679
85°	5215	1692	1692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.5	5.0
10°-20°	162.7	14.2
20°-30°	232.4	20.2
30°-40°	243.1	21.1
40°-50°	203.7	17.7
50°-60°	142.6	12.4
60°-70°	77.6	6.8
70°-80°	26.9	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°	452.6	39.4
0°-40°	695.7	60.5
0°-60°	1042.0	90.6
0°-90°	1149.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1149.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	610	610	610	610	610	
5°	614	612	605	600	598	59
15°	614	602	572	556	554	174
25°	564	534	491	481	483	257
35°	424	403	376	379	384	263
45°	270	264	256	265	266	210
55°	167	162	156	156	154	151
65°	96	88	77	64	64	96
75°	41	33	19	15	15	44
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°	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0
2.5°	612.9	612.2	612.4	612.4	612.4	612.2	612.4	612.2	612.2	611.9	611.4
5°	614.5	614.1	614.1	614.1	613.7	613.5	613.5	613.3	612.9	612.6	611.6
7.5°	615.6	615.2	615.2	614.9	614.7	614.5	614.3	613.5	612.9	612.4	611.2
10°	616.4	615.6	615.6	615.2	614.7	614.5	614.1	613.1	612.2	611.0	609.3
12.5°	615.9	615.2	614.9	614.5	613.5	613.1	612.6	611.4	609.8	608.1	606.0
15°	614.5	614.1	613.5	612.9	611.6	611.0	610.5	608.7	606.6	604.1	601.6
17.5°	611.6	611.0	610.0	609.1	607.4	606.8	605.6	603.3	600.2	596.9	592.9
20°	601.6	601.2	600.2	598.5	596.0	595.0	593.3	590.4	586.4	582.3	578.1
22.5°	585.0	584.2	582.9	581.4	579.1	577.5	576.0	571.8	567.3	563.1	559.1
25°	563.6	562.9	561.0	559.1	556.7	554.0	552.5	549.2	544.8	539.4	533.6
27.5°	536.1	533.8	533.0	530.9	527.4	526.5	524.4	520.1	515.9	511.3	506.3
30°	500.5	500.5	499.1	498.1	494.9	493.9	491.6	487.0	484.7	478.2	474.5
32.5°	462.7	462.2	461.0	460.4	458.5	456.8	454.5	452.1	447.0	443.7	438.5
35°	423.7	420.9	421.4	420.0	418.8	416.9	416.7	414.2	409.4	407.5	402.9
37.5°	379.4	378.2	379.9	377.8	376.6	376.8	374.9	373.3	371.4	368.2	367.2
40°	339.3	340.2	339.9	338.1	339.1	337.9	336.0	334.3	333.4	331.3	330.6
42.5°	303.3	302.0	301.5	301.5	301.7	301.7	300.8	299.6	299.6	297.5	295.4
45°	269.6	269.6	269.2	270.5	268.4	268.4	267.7	267.5	266.5	266.1	263.5
47.5°	240.5	240.3	240.0	239.8	239.6	239.6	238.2	237.0	236.7	235.3	233.9
50°	213.0	214.5	214.0	212.8	212.4	212.6	211.6	210.9	210.7	208.4	208.6
52.5°	190.1	189.8	190.3	189.5	188.4	188.7	187.7	186.8	185.8	184.7	183.7
55°	167.3	168.5	168.0	167.3	167.1	166.6	165.8	164.7	164.5	161.9	161.6
57.5°	148.3	148.1	147.5	146.4	146.2	145.4	145.4	144.6	143.1	141.7	140.6
60°	129.8	129.8	129.0	128.8	127.9	127.7	127.4	126.5	124.8	123.6	121.7
62.5°	111.9	112.4	111.9	111.3	110.5	109.6	109.1	108.4	107.0	105.9	104.2
65°	96.2	95.9	95.7	94.8	94.6	93.6	93.4	92.0	90.5	89.6	87.8
67.5°	81.2	80.5	80.5	80.0	79.5	78.8	78.4	77.0	75.3	74.4	72.4
70°	66.8	66.4	66.4	66.4	65.3	64.5	64.3	63.6	61.2	60.3	58.4
72.5°	53.7	53.5	53.3	52.6	51.8	51.8	50.9	49.5	48.3	47.2	45.8
75°	41.0	41.6	41.0	40.1	39.9	39.4	38.7	37.5	36.4	35.0	33.3
77.5°	30.0	29.6	29.1	29.1	28.7	27.7	27.5	26.5	25.1	24.1	22.5
80°	19.7	19.5	19.0	18.5	18.3	18.1	17.9	16.9	15.4	14.8	13.3
82.5°	10.8	10.6	10.6	10.4	9.6	9.6	9.4	8.5	7.7	7.3	6.6
85°	3.7	3.7	3.7	3.5	3.5	3.5	3.3	3.1	2.9	2.5	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°	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0
2.5°	611.0	610.5	610.3	610.0	609.8	609.5	609.3	608.9	608.7	608.4	607.9
5°	611.0	610.0	609.5	608.9	608.4	607.9	607.2	606.6	605.8	605.1	604.4
7.5°	610.0	608.7	607.7	606.2	605.8	605.1	603.7	602.7	601.6	600.2	598.5
10°	607.7	606.0	604.1	602.3	601.6	600.4	598.5	596.9	595.0	593.1	591.5
12.5°	603.9	601.4	599.0	596.4	595.0	593.9	591.2	588.9	586.6	584.4	581.6
15°	598.3	595.2	592.2	588.7	587.0	585.6	581.9	579.1	575.4	572.5	569.6
17.5°	589.1	584.4	580.7	576.2	573.9	572.3	569.0	564.6	561.0	557.9	554.6
20°	573.4	569.0	563.8	558.9	556.3	554.2	549.5	544.8	541.3	538.0	534.5
22.5°	552.8	547.1	543.4	537.3	535.2	532.6	527.0	522.8	518.8	515.5	512.2
25°	527.7	522.8	517.6	512.0	509.4	506.3	501.6	497.2	494.5	490.8	486.8
27.5°	498.8	494.9	488.5	483.6	481.0	478.7	474.1	470.2	466.4	463.9	460.1
30°	468.3	463.7	458.0	452.9	451.4	448.6	444.6	441.6	437.5	436.0	434.3
32.5°	434.8	429.4	425.2	421.9	419.0	416.7	414.6	409.6	409.0	404.8	404.2
35°	398.2	395.8	391.9	389.0	386.7	385.0	381.5	379.2	376.6	375.9	374.2
37.5°	363.7	360.9	357.1	354.5	352.9	352.6	350.1	348.7	346.8	345.8	343.9
40°	327.5	326.4	323.1	322.6	320.0	319.8	318.3	316.8	315.1	315.1	315.4
42.5°	294.2	292.9	291.4	289.8	288.3	288.3	287.7	287.1	286.7	286.0	287.1
45°	263.0	261.1	260.2	258.6	259.2	257.9	257.4	257.4	256.7	256.5	258.1
47.5°	233.9	231.8	230.9	230.4	230.4	230.7	228.6	229.2	229.0	229.5	230.1
50°	207.4	205.5	204.1	204.1	204.3	203.4	202.4	203.2	202.4	203.0	204.5
52.5°	182.8	180.9	180.2	180.2	178.7	178.5	179.1	178.1	178.3	178.5	179.5
55°	160.0	158.9	157.7	156.5	156.7	156.2	155.4	155.0	155.6	155.8	157.0
57.5°	139.6	137.9	136.3	135.8	135.4	135.4	134.2	134.0	134.4	133.3	133.3
60°	120.1	119.2	117.1	116.3	116.3	115.2	114.2	114.8	113.6	113.3	113.6
62.5°	102.1	101.3	99.9	98.6	98.0	97.6	96.5	95.9	95.5	94.6	93.2
65°	86.3	84.7	83.0	82.1	81.4	80.3	79.5	78.6	77.2	76.7	75.3
67.5°	70.6	69.0	67.4	66.6	65.9	65.3	64.1	62.9	61.2	59.3	57.7
70°	56.8	54.7	53.7	51.8	51.4	50.4	48.8	47.6	46.0	43.9	42.2
72.5°	43.4	42.0	40.6	38.9	37.8	37.1	35.6	33.7	31.9	30.8	29.1
75°	31.2	30.5	28.7	26.8	26.2	25.4	23.7	22.5	21.2	19.2	17.9
77.5°	21.2	19.7	18.5	16.9	16.4	15.4	14.6	13.3	12.5	11.2	10.4
80°	12.5	11.2	10.6	9.4	8.9	8.5	7.7	6.8	6.1	5.6	5.4
82.5°	6.1	5.2	5.0	4.2	4.0	3.7	3.3	3.1	2.5	2.5	2.5
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°	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0
2.5°	607.7	607.4	607.2	607.0	607.0	606.8	606.8	606.6	606.6	606.2	606.2
5°	603.5	602.7	602.3	601.8	601.8	601.2	600.6	600.2	599.9	599.9	599.5
7.5°	597.6	596.6	595.8	595.0	594.8	593.6	592.7	592.7	591.7	591.2	590.8
10°	589.8	588.3	586.8	586.1	585.2	584.4	583.3	582.5	581.9	580.7	580.4
12.5°	579.3	578.1	576.0	575.0	574.6	573.2	571.3	570.4	570.2	569.2	568.5
15°	567.3	564.8	562.9	561.7	561.7	559.4	558.4	557.1	556.1	555.4	555.2
17.5°	551.9	549.2	547.4	545.7	545.3	543.4	542.0	541.5	540.3	540.8	539.6
20°	531.9	529.8	528.4	526.3	526.3	525.1	524.6	523.4	523.0	522.5	523.0
22.5°	510.5	508.0	505.7	505.3	505.3	503.8	503.5	503.3	502.4	503.0	502.8
25°	485.5	483.6	482.2	482.0	482.0	481.0	480.1	480.5	481.2	481.0	481.6
27.5°	459.4	457.5	457.0	456.8	456.4	456.2	456.6	456.6	457.3	458.3	459.1
30°	431.2	430.8	430.0	429.8	429.4	430.6	431.0	431.7	431.5	432.9	433.8
32.5°	403.1	402.1	401.9	402.4	403.1	402.9	404.2	404.8	405.2	406.9	407.5
35°	374.7	374.5	374.0	374.0	374.2	376.1	376.1	377.8	378.7	379.2	381.1
37.5°	344.2	345.1	345.6	346.3	346.6	347.2	347.7	349.3	350.3	351.2	352.2
40°	316.2	315.8	317.9	316.5	317.0	319.1	320.0	319.8	321.2	322.6	323.5
42.5°	286.5	287.1	287.7	288.1	289.3	289.6	290.7	292.3	292.9	294.4	295.0
45°	257.6	257.9	258.8	259.8	260.4	262.3	262.8	263.5	264.9	264.9	265.6
47.5°	230.4	231.3	231.3	232.8	233.9	233.7	235.3	235.9	235.5	236.7	237.2
50°	204.3	205.8	205.5	206.5	207.0	207.2	208.6	209.1	208.1	209.3	209.5
52.5°	179.5	180.2	181.2	181.4	180.9	182.0	181.6	182.5	182.3	183.3	182.3
55°	156.7	156.5	156.5	157.0	156.5	157.0	157.5	156.5	155.8	156.7	156.5
57.5°	134.0	134.0	133.5	134.2	133.5	132.8	132.5	131.9	131.1	131.1	130.9
60°	112.6	112.1	111.3	110.9	110.9	109.8	109.4	108.4	108.4	107.5	106.5
62.5°	92.6	91.5	90.9	90.9	90.3	89.2	87.0	85.7	85.1	83.8	83.6
65°	73.9	72.8	72.0	70.6	69.5	69.0	66.8	65.3	64.5	63.1	63.4
67.5°	56.8	54.9	52.8	51.8	51.2	49.5	48.8	47.6	47.0	47.0	47.0
70°	40.8	39.1	37.1	36.4	35.9	34.5	33.7	33.5	34.3	34.1	34.3
72.5°	27.5	25.8	24.9	24.4	23.9	23.3	23.7	23.9	23.5	23.7	23.9
75°	16.7	16.2	15.4	15.2	15.2	15.4	15.2	15.2	15.4	15.4	15.8
77.5°	9.6	9.2	9.2	8.9	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°	2.5	2.5	2.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.5
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	0.2	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°	610.0	610.0	610.0	610.0	610.0	610.0	610.0	610.0
2.5°	605.8	605.8	605.8	605.4	605.6	605.6	605.4	605.4
5°	599.3	599.0	598.5	598.5	598.1	598.5	598.3	598.5
7.5°	590.4	590.4	589.6	589.6	589.4	589.1	588.9	589.1
10°	579.8	579.8	579.3	579.1	579.3	578.3	578.3	578.1
12.5°	568.1	567.5	567.1	567.3	567.1	566.4	566.2	566.4
15°	554.4	553.7	554.0	553.2	553.2	553.0	553.5	553.5
17.5°	539.4	539.0	538.4	538.7	538.2	538.4	538.2	538.0
20°	522.8	522.5	522.5	521.6	521.8	521.6	521.8	522.5
22.5°	503.5	503.3	503.5	502.8	503.3	503.3	504.0	504.0
25°	482.4	482.2	482.6	482.9	483.1	483.8	483.1	483.3
27.5°	458.9	459.6	460.4	460.6	461.6	460.8	460.4	461.0
30°	435.2	435.2	435.0	436.0	436.6	437.3	436.2	436.2
32.5°	408.0	409.2	409.2	409.4	410.2	410.2	410.2	411.1
35°	382.0	382.7	382.9	382.0	382.4	382.2	383.8	383.8
37.5°	352.9	352.9	353.1	354.7	354.7	354.1	354.5	354.5
40°	325.2	325.4	324.5	325.0	326.2	325.6	326.2	326.6
42.5°	295.0	296.6	295.6	296.1	295.8	296.1	296.3	296.3
45°	266.1	266.5	266.5	266.7	267.3	267.7	266.3	266.1
47.5°	237.9	238.2	238.8	237.7	239.1	237.7	239.1	237.4
50°	209.5	210.5	209.7	210.3	209.5	209.5	209.3	209.1
52.5°	182.5	182.3	182.3	182.0	182.0	182.5	182.0	182.8
55°	155.6	155.8	155.4	155.0	154.8	155.6	154.8	154.4
57.5°	130.0	130.4	129.6	130.0	128.3	129.0	129.2	129.6
60°	106.3	105.6	105.6	104.6	104.6	105.3	104.4	104.4
62.5°	82.4	82.8	82.1	83.0	83.0	84.0	83.6	84.0
65°	63.1	63.4	63.6	63.6	63.6	65.0	64.5	63.8
67.5°	47.6	47.9	48.1	47.9	48.5	48.1	48.1	48.3
70°	34.5	34.7	35.0	35.0	34.7	35.0	35.0	35.0
72.5°	23.9	24.1	23.9	24.1	24.4	24.1	24.1	24.4
75°	15.8	15.8	15.4	15.4	15.4	15.4	15.8	15.4
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	2.5	2.5	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)