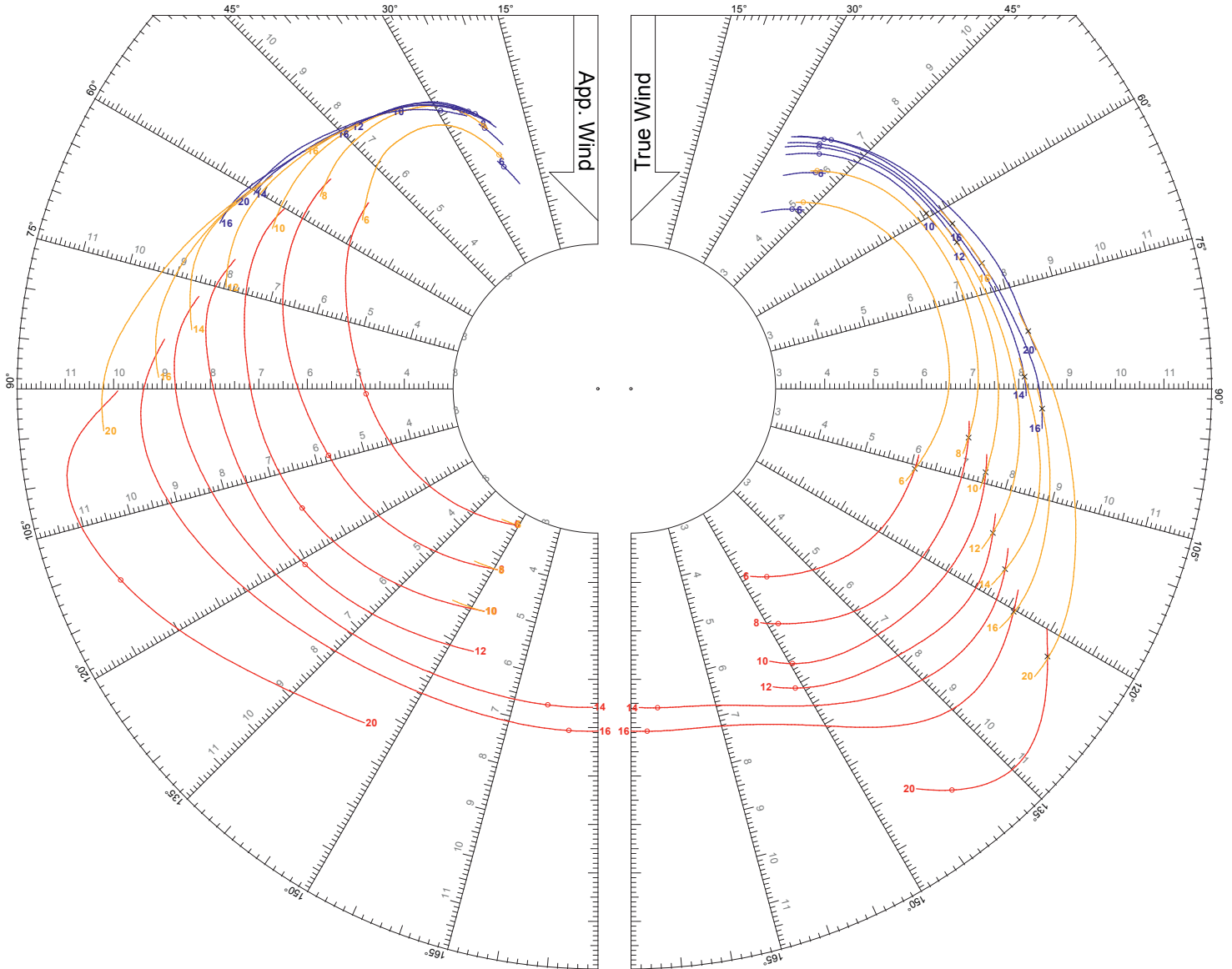


SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 6, 8, 10, 12, 14, 16, 20 kts

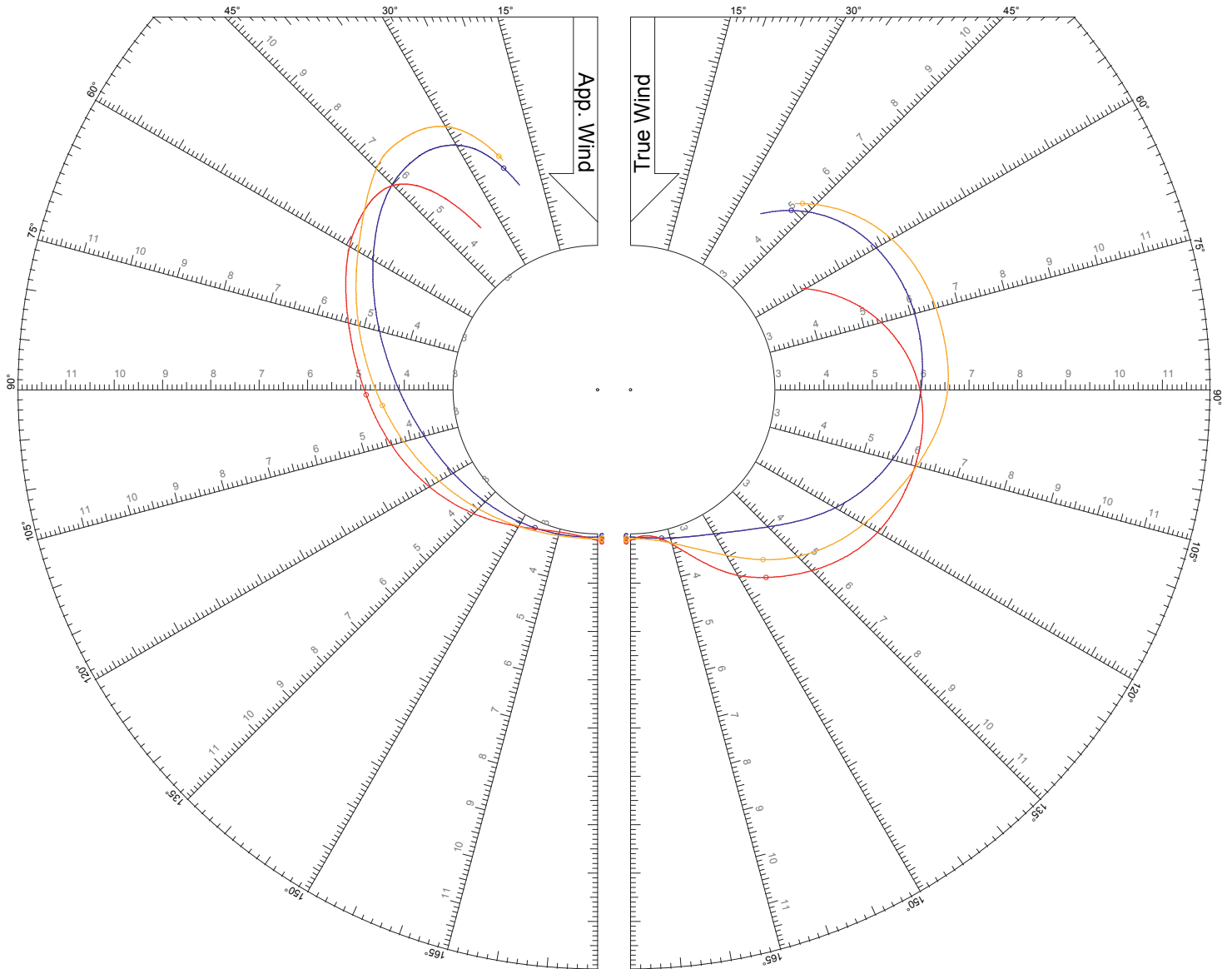
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 6 kts

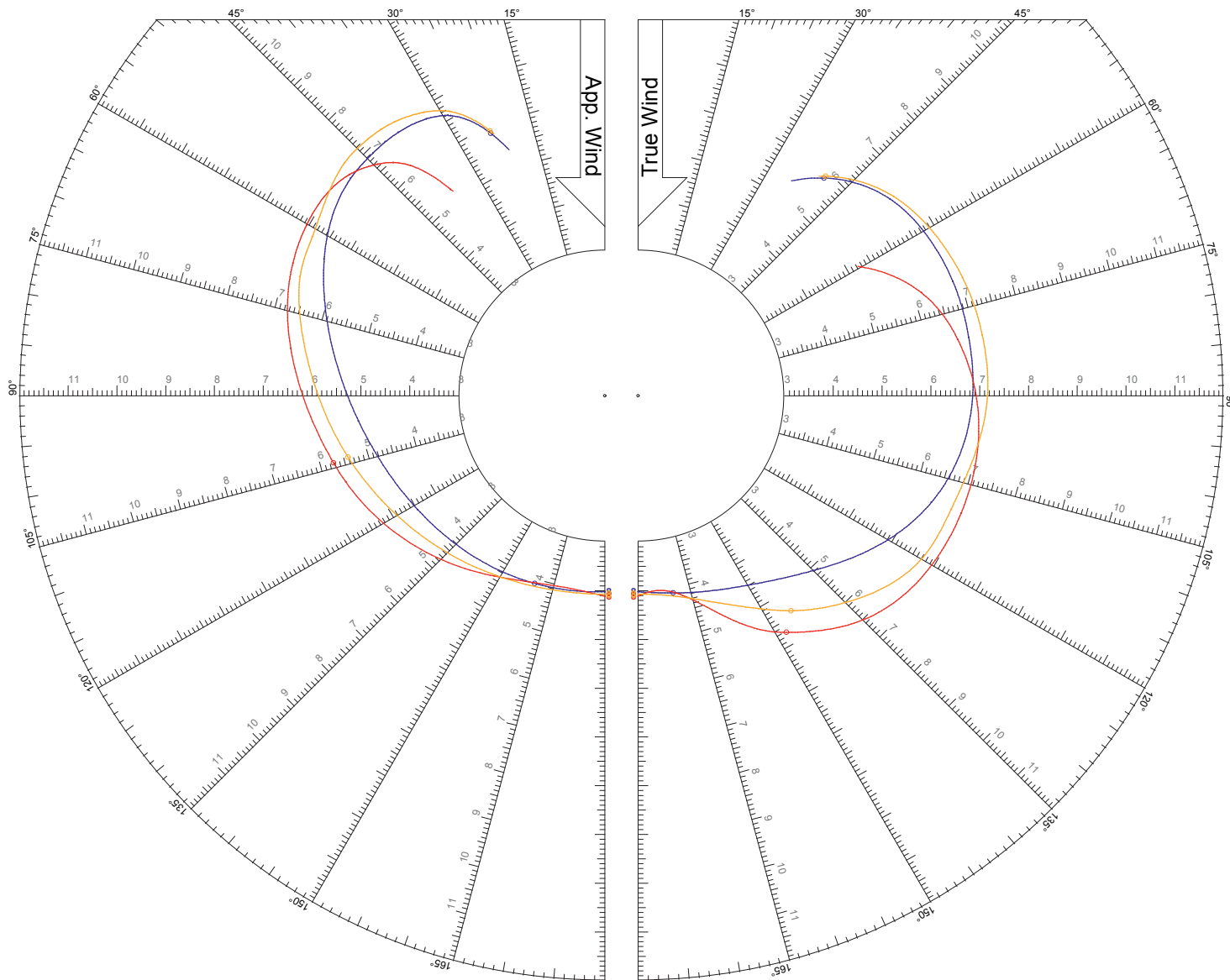
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 8 kts

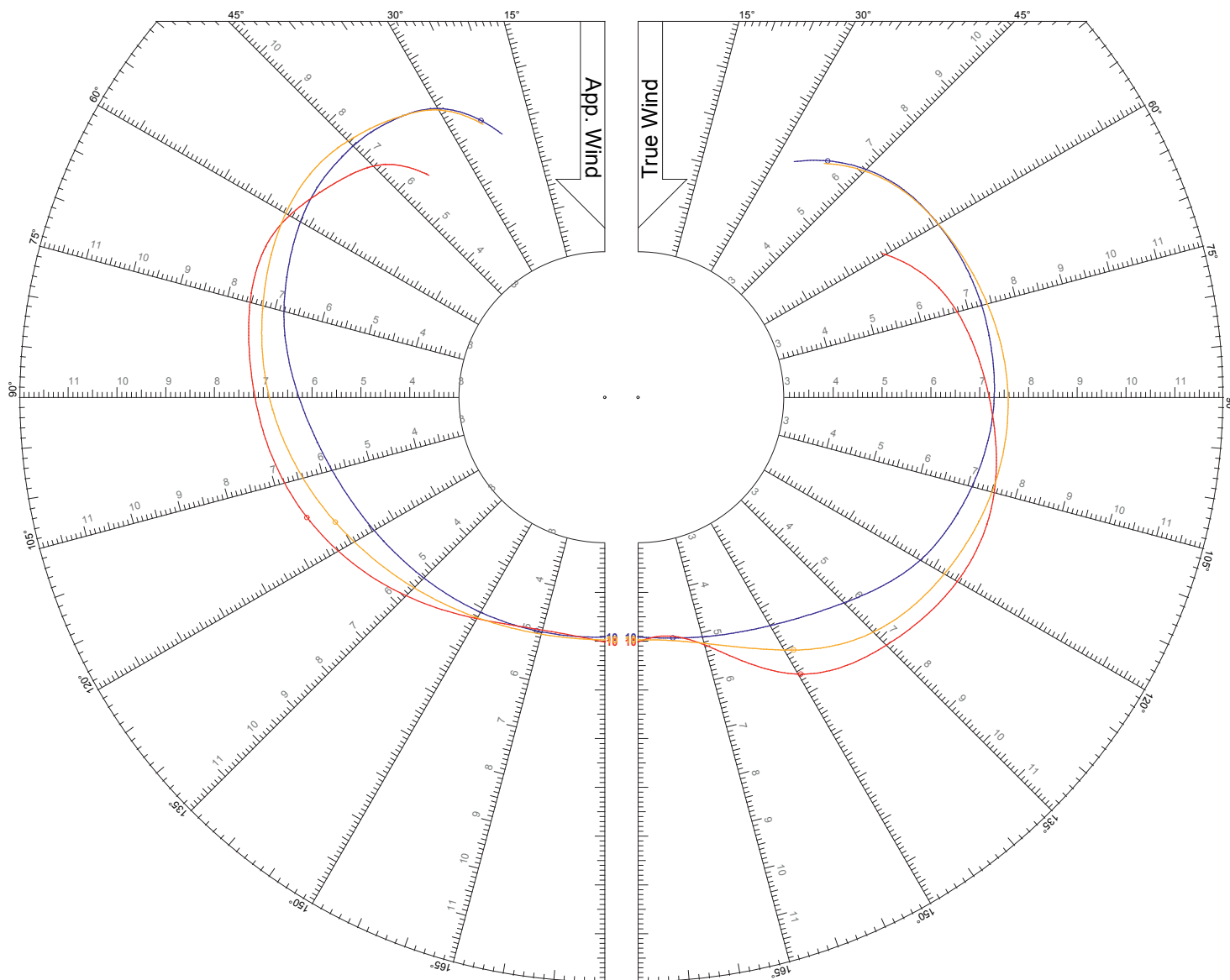
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 10 kts

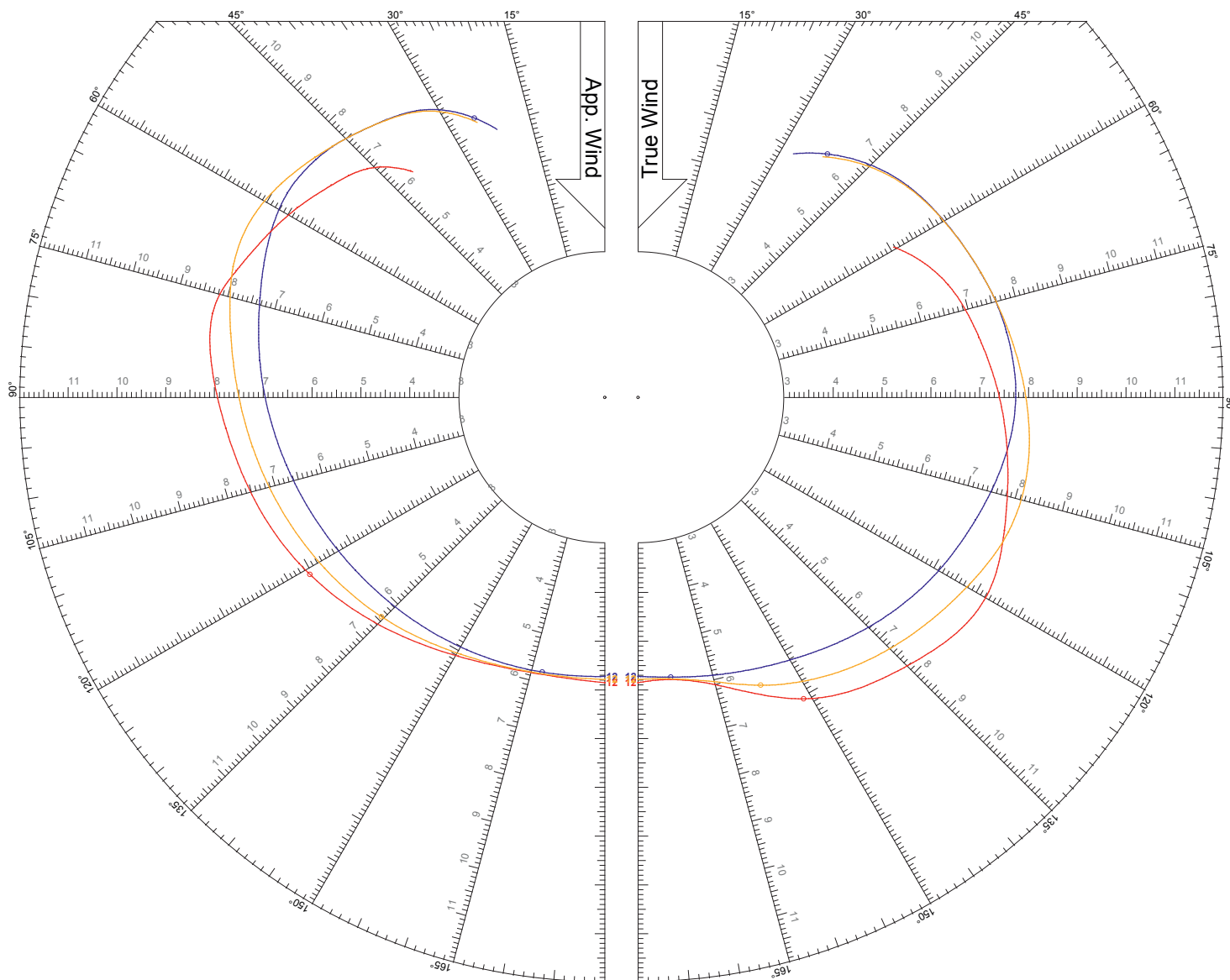
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 12 kts

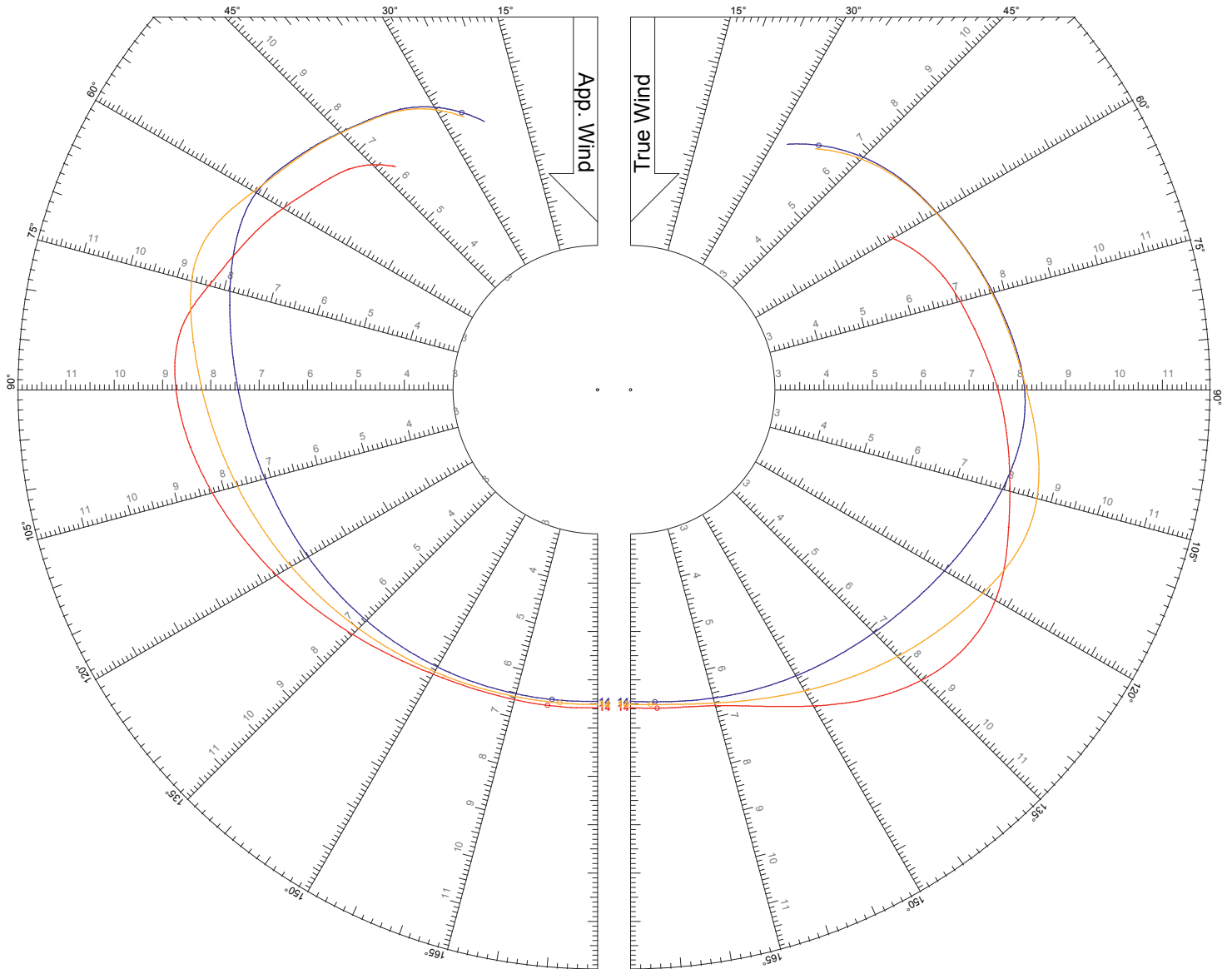
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 14 kts

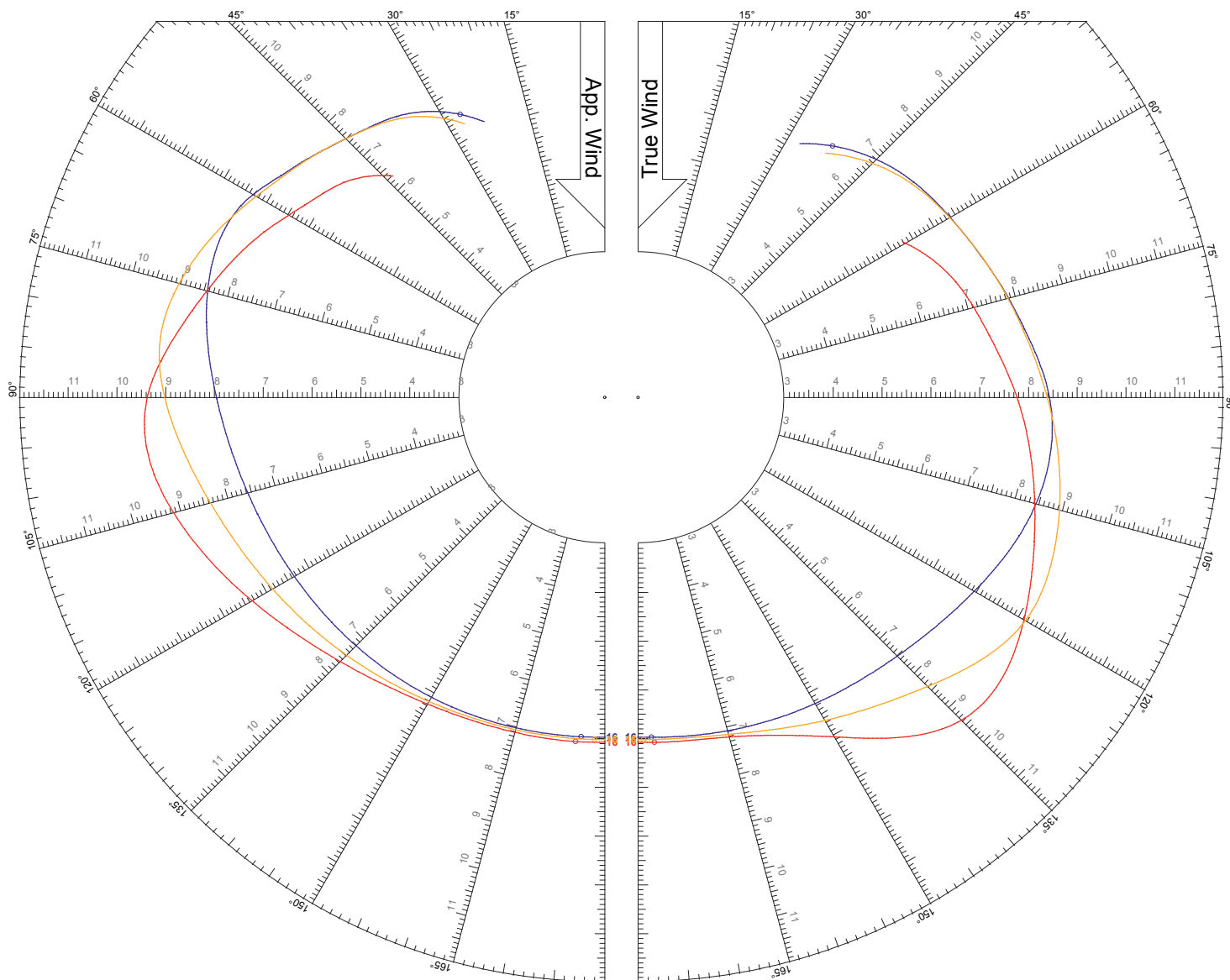
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 16 kts

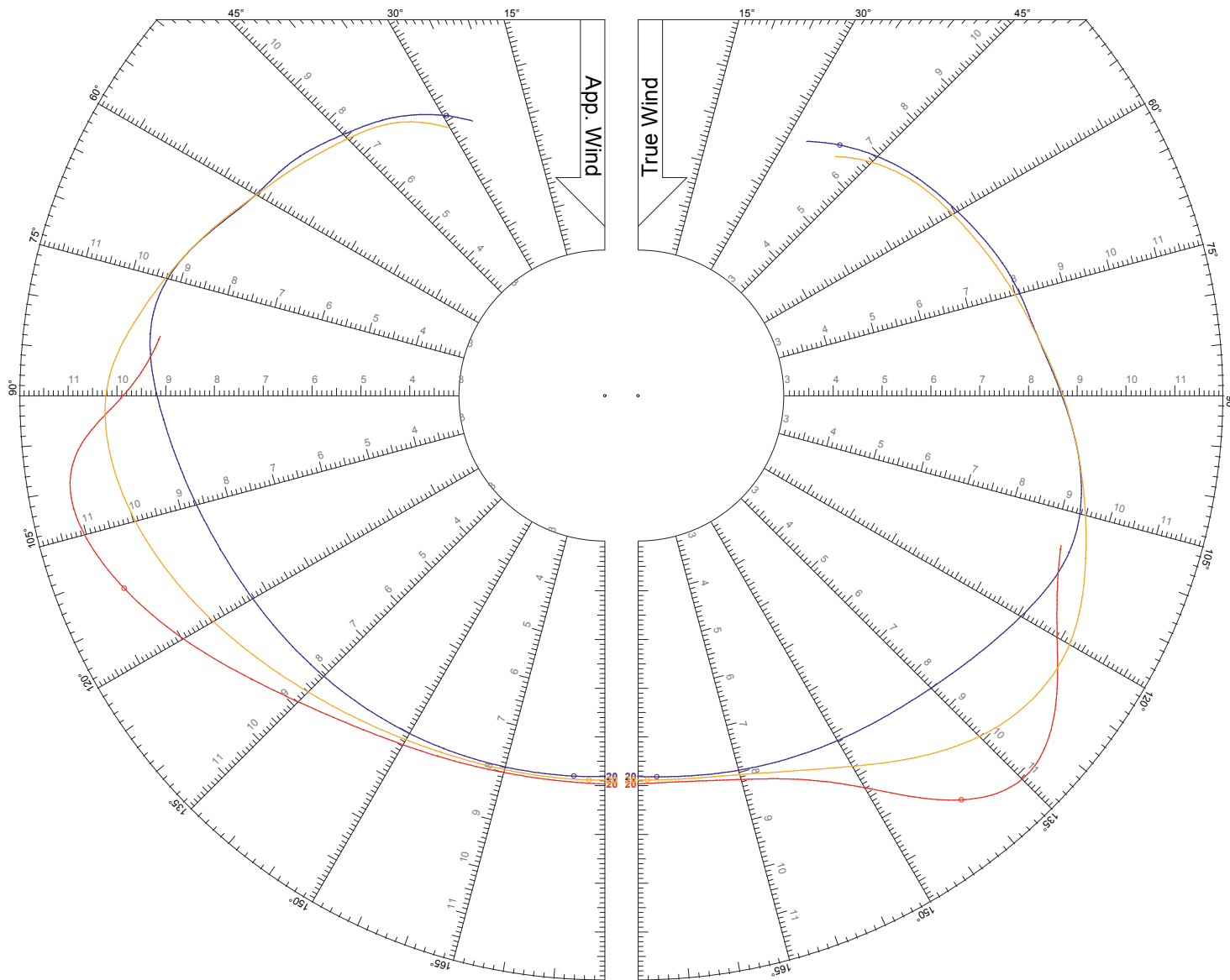
Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



TWS: 20 kts

Jib

Asymmetric Spinnaker on Centerline

Code Zero

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



World Leader in Rating Technology
© Offshore Racing Congress 2018
www.orc.org

TWS = 6 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
42.8° (b)	5.24	3.85	10.47	22.9°	12.3°	1.00	0.95
52°	5.87	3.62	10.67	26.3°	13.9°	1.00	0.96
60°	6.24	3.12	10.60	29.4°	14.3°	1.00	0.97
70°	6.48	2.22	10.23	33.5°	13.7°	1.00	0.98
75°	6.54	1.69	9.95	35.6°	13.0°	1.00	0.99
80°	6.57	1.14	9.63	37.8°	12.1°	1.00	0.99
90°	6.56	0.00	8.89	42.5°	10.6°	1.00	1.00
110°	6.05	2.07	6.91	54.6°	8.4°	1.00	1.00
120°	5.90	2.95	5.95	60.8°	6.9°	1.00	1.00
135°	5.29	3.74	4.37	76.1°	4.7°	1.00	1.00
150°	4.43	3.84	3.10	104.3°	3.1°	1.00	1.00
165°	3.31	3.19	2.93	148.1°	2.6°	1.00	1.00
180°	3.12	3.12	2.88	180.0°	2.3°	1.00	1.00
144.2° (r)	4.79	3.88	3.51	91.3°	3.6°	1.00	1.00

TWS = 8 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
40.5° (b)	5.92	4.50	13.08	23.4°	20.6°	1.00	0.89
52°	6.64	4.09	13.17	28.6°	22.4°	1.00	0.88
60°	6.89	3.45	12.91	32.5°	23.6°	1.00	0.92
70°	7.08	2.42	12.36	37.5°	22.2°	1.00	0.95
75°	7.13	1.85	12.02	40.0°	20.8°	1.00	0.96
80°	7.16	1.24	11.63	42.7°	19.2°	1.00	0.97
90°	7.16	0.00	10.74	48.2°	15.4°	1.00	1.00
110°	7.04	2.41	8.66	60.2°	14.8°	1.00	1.00
120°	6.95	3.47	7.53	67.0°	9.9°	1.00	1.00
135°	6.51	4.60	5.72	81.4°	5.9°	1.00	1.00
150°	5.60	4.85	4.22	108.4°	3.6°	1.00	1.00
165°	4.33	4.19	3.97	148.6°	2.8°	1.00	1.00
180°	4.11	4.11	3.89	180.0°	2.3°	1.00	1.00
147.9° (r)	5.73	4.85	4.37	103.9°	3.8°	1.00	1.00

TWS = 10 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.7° (b)	6.22	4.85	15.35	24.1°	22.3°	1.00	0.87
52°	6.91	4.26	15.26	31.1°	24.2°	1.00	0.92
60°	7.11	3.55	14.88	35.6°	24.8°	1.00	0.74
70°	7.32	2.50	14.27	41.2°	25.2°	1.00	0.80
75°	7.41	1.92	13.90	44.0°	25.1°	1.00	0.85
80°	7.49	1.30	13.50	46.9°	25.5°	1.00	0.91
90°	7.58	0.00	12.55	52.8°	20.8°	1.00	0.98
110°	7.61	2.60	10.29	66.0°	21.5°	1.00	0.97
120°	7.55	3.78	9.03	73.6°	14.8°	1.00	1.00
135°	7.19	5.08	7.07	89.0°	7.0°	1.00	1.00
150°	6.55	5.68	5.43	112.8°	4.1°	1.00	1.00
165°	5.25	5.07	5.11	149.6°	3.1°	1.00	1.00
180°	5.02	5.02	4.98	180.0°	2.4°	1.00	1.00
149.6° (r)	6.58	5.68	5.46	112.0°	4.2°	1.00	1.00

TWS = 12 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.9° (b)	6.32	4.99	17.43	25.0°	23.4°	1.00	0.72
52°	7.03	4.33	17.24	33.3°	25.2°	1.00	0.77
60°	7.24	3.62	16.83	38.1°	25.5°	1.00	0.82
70°	7.48	2.56	16.16	44.2°	26.1°	0.98	0.70
75°	7.59	1.97	15.78	47.3°	26.5°	0.97	0.78
80°	7.72	1.34	15.35	50.3°	26.9°	1.00	0.78
90°	7.95	0.00	14.39	56.5°	26.5°	1.00	0.93
110°	8.07	2.76	11.95	70.6°	15.5°	1.00	1.00
120°	8.22	4.11	10.63	77.9°	21.6°	1.00	1.00
135°	7.79	5.51	8.51	94.7°	8.4°	1.00	1.00
150°	7.13	6.18	6.83	118.5°	4.6°	1.00	1.00
165°	6.10	5.89	6.31	150.5°	3.5°	1.00	1.00
180°	5.85	5.85	6.15	180.0°	2.5°	1.00	1.00
151.2° (r)	7.05	6.18	6.74	121.0°	4.4°	1.00	1.00

TWS = 14 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.6° (b)	6.38	5.06	19.45	26.1°	22.4°	0.94	0.60
52°	7.09	4.37	19.20	35.1°	25.5°	1.00	0.65
60°	7.32	3.66	18.76	40.3°	26.1°	1.00	0.70
70°	7.61	2.60	18.08	46.7°	26.8°	1.00	0.77
75°	7.76	2.01	17.67	49.9°	27.1°	1.00	0.82
80°	7.90	1.37	17.23	53.1°	27.2°	1.00	0.88
90°	8.19	0.00	16.22	59.7°	28.3°	0.99	0.85
110°	8.72	2.98	13.73	73.4°	21.7°	1.00	1.00
120°	8.71	4.36	12.24	82.0°	22.0°	0.96	0.94
135°	8.50	6.01	10.00	98.0°	11.0°	1.00	1.00
150°	7.55	6.54	8.36	123.1°	5.2°	1.00	1.00
165°	6.77	6.54	7.67	151.8°	4.0°	1.00	1.00
180°	6.58	6.58	7.42	180.0°	2.5°	1.00	1.00
175.2° (r)	6.61	6.59	7.43	171.0°	3.0°	1.00	1.00

TWS = 16 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.7° (b)	6.52	5.16	21.53	27.1°	22.3°	0.54	0.60
52°	7.17	4.41	21.18	36.5°	23.7°	0.73	0.60
60°	7.38	3.69	20.70	42.0°	23.8°	0.86	0.60
70°	7.69	2.63	19.98	48.8°	26.6°	0.83	0.76
75°	7.86	2.03	19.57	52.2°	27.9°	1.00	0.72
80°	8.04	1.40	19.12	55.5°	28.3°	1.00	0.77
90°	8.43	0.00	18.09	62.2°	28.6°	1.00	0.92
110°	9.08	3.11	15.46	76.5°	22.1°	0.96	0.94
120°	9.16	4.58	13.91	85.2°	18.4°	1.00	1.00
135°	9.37	6.62	11.48	99.8°	15.1°	1.00	1.00
150°	8.04	6.96	9.89	126.0°	5.9°	1.00	1.00
165°	7.21	6.97	9.22	153.3°	4.5°	1.00	1.00
180°	7.07	7.07	8.93	180.0°	2.7°	1.00	1.00
177.3° (r)	7.08	7.08	8.93	175.2°	3.0°	1.00	1.00

TWS = 20 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.8° (b)	6.60	5.14	25.48	29.5°	25.5°	0.44	0.60
52°	7.26	4.47	25.13	38.8°	26.9°	0.46	0.60
60°	7.56	3.78	24.66	44.6°	27.7°	0.48	0.60
70°	7.94	2.72	23.91	51.8°	25.9°	0.50	0.60
75°	8.10	2.10	23.44	55.5°	25.0°	0.62	0.60
80°	8.22	1.43	22.91	59.3°	25.0°	0.80	0.60
90°	8.71	0.00	21.81	66.5°	29.6°	0.83	0.85
110°	9.76	3.34	19.02	81.2°	30.3°	0.98	0.93
120°	10.21	5.10	17.32	89.3°	22.1°	0.94	0.94
135°	11.13	7.87	14.46	102.0°	22.2°	0.99	0.94
150°	9.28	8.04	12.83	128.8°	7.8°	1.00	1.00
165°	8.15	7.87	12.31	155.1°	5.8°	1.00	1.00
180°	7.96	7.96	12.04	180.0°	2.9°	1.00	1.00
141.4° (r)	10.61	8.29	13.45	111.9°	13.9°	1.00	0.96

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



World Leader in Rating Technology
© Offshore Racing Congress 2018
www.orc.org

TWS = 6 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
41.9° (b)	4.98	3.71	9.96	22.1°	10.1°	1.00	0.99
52°	5.59	3.44	10.12	25.9°	10.4°	1.00	1.00
60°	5.87	2.93	9.99	29.2°	10.2°	1.00	1.00
70°	6.05	2.07	9.59	33.5°	9.7°	1.00	1.00
75°	6.08	1.57	9.32	35.7°	9.4°	1.00	1.00
80°	6.08	1.06	8.99	38.1°	9.1°	1.00	1.00
90°	6.01	0.00	8.25	43.3°	8.3°	1.00	1.00
110°	5.39	1.84	6.35	57.3°	6.2°	1.00	1.00
120°	4.89	2.44	5.35	67.8°	4.6°	1.00	1.00
135°	4.01	2.84	4.07	90.8°	3.3°	1.00	1.00
150°	3.44	2.98	3.26	118.2°	2.8°	1.00	1.00
165°	3.17	3.07	2.78	147.9°	2.5°	1.00	1.00
180°	3.05	3.05	2.68	180.0°	2.3°	1.00	1.00
168.1° (r)	3.14	3.07	2.73	154.5°	2.5°	1.00	1.00

TWS = 8 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
40.5° (b)	5.87	4.46	12.56	22.1°	16.5°	1.00	0.97
52°	6.55	4.03	12.58	26.9°	17.7°	1.00	1.00
60°	6.75	3.38	12.29	30.9°	16.4°	1.00	1.00
70°	6.86	2.35	11.72	36.2°	14.1°	1.00	1.00
75°	6.88	1.78	11.38	39.0°	12.9°	1.00	1.00
80°	6.88	1.19	11.00	41.8°	11.7°	1.00	1.00
90°	6.86	0.00	10.16	47.5°	10.1°	1.00	1.00
110°	6.40	2.19	8.05	62.0°	7.6°	1.00	1.00
120°	5.91	2.96	6.91	72.4°	6.1°	1.00	1.00
135°	5.07	3.59	5.43	93.8°	4.1°	1.00	1.00
150°	4.49	3.89	4.39	119.3°	3.3°	1.00	1.00
165°	4.18	4.04	3.76	148.3°	2.8°	1.00	1.00
180°	4.02	4.02	3.61	180.0°	2.4°	1.00	1.00
169.9° (r)	4.11	4.05	3.66	158.5°	2.7°	1.00	1.00

TWS = 10 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.7° (b)	6.22	4.85	14.62	21.9°	22.3°	1.00	0.87
52°	6.91	4.26	14.40	28.0°	24.2°	1.00	0.92
60°	7.10	3.55	14.00	32.4°	23.3°	1.00	0.95
70°	7.25	2.48	13.36	38.3°	21.1°	1.00	0.99
75°	7.29	1.89	13.01	41.5°	19.4°	1.00	1.00
80°	7.30	1.27	12.63	44.9°	17.2°	1.00	1.00
90°	7.30	0.00	11.79	51.8°	13.0°	1.00	1.00
110°	6.97	2.38	9.61	67.4°	8.6°	1.00	1.00
120°	6.68	3.34	8.44	77.1°	7.2°	1.00	1.00
135°	5.96	4.21	6.81	97.0°	5.1°	1.00	1.00
150°	5.41	4.68	5.59	121.2°	4.0°	1.00	1.00
165°	5.09	4.91	4.81	149.2°	3.2°	1.00	1.00
180°	4.92	4.92	4.63	180.0°	2.5°	1.00	1.00
171.8° (r)	4.99	4.93	4.66	163.0°	2.8°	1.00	1.00

TWS = 12 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.9° (b)	6.32	4.99	16.47	22.6°	23.4°	1.00	0.72
52°	7.03	4.33	16.10	29.9°	25.2°	1.00	0.77
60°	7.24	3.62	15.59	34.4°	25.5°	1.00	0.82
70°	7.48	2.56	14.80	40.0°	26.0°	1.00	0.90
75°	7.59	1.96	14.42	43.2°	25.2°	1.00	0.94
80°	7.67	1.33	14.06	46.7°	23.3°	1.00	0.97
90°	7.74	0.00	13.29	54.4°	18.3°	1.00	1.00
110°	7.36	2.52	11.17	72.1°	9.6°	1.00	1.00
120°	7.11	3.56	9.95	82.1°	8.1°	1.00	1.00
135°	6.67	4.72	8.23	100.3°	6.4°	1.00	1.00
150°	6.22	5.39	6.83	123.1°	4.9°	1.00	1.00
165°	5.90	5.70	5.95	150.2°	3.6°	1.00	1.00
180°	5.72	5.72	5.73	180.0°	2.6°	1.00	1.00
173.3° (r)	5.78	5.74	5.75	166.6°	3.0°	1.00	1.00

TWS = 14 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.6° (b)	6.38	5.06	18.29	23.8°	22.4°	0.94	0.60
52°	7.09	4.37	17.77	31.6°	25.5°	1.00	0.65
60°	7.32	3.66	17.20	36.3°	26.1°	1.00	0.70
70°	7.61	2.60	16.33	42.3°	26.8°	1.00	0.77
75°	7.76	2.01	15.86	45.3°	27.1°	1.00	0.82
80°	7.90	1.37	15.36	48.5°	27.2°	1.00	0.88
90°	8.15	0.00	14.57	56.0°	23.9°	1.00	0.98
110°	7.81	2.67	12.76	75.3°	11.0°	1.00	1.00
120°	7.49	3.75	11.50	86.1°	9.1°	1.00	1.00
135°	7.11	5.03	9.72	104.2°	7.5°	1.00	1.00
150°	6.84	5.92	8.19	125.6°	6.0°	1.00	1.00
165°	6.60	6.38	7.18	151.3°	4.2°	1.00	1.00
180°	6.45	6.45	6.92	180.0°	2.7°	1.00	1.00
175.5° (r)	6.48	6.46	6.92	171.3°	3.1°	1.00	1.00

TWS = 16 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
37.7° (b)	6.52	5.16	20.01	24.7°	22.3°	0.54	0.60
52°	7.17	4.41	19.48	33.3°	23.7°	0.73	0.60
60°	7.38	3.69	18.94	38.5°	23.8°	0.86	0.60
70°	7.69	2.63	17.86	44.3°	27.2°	1.00	0.67
75°	7.86	2.03	17.33	47.4°	27.9°	1.00	0.72
80°	8.04	1.40	16.78	50.6°	28.3°	1.00	0.77
90°	8.43	0.00	15.65	57.4°	28.6°	1.00	0.92
110°	8.31	2.84	14.25	77.5°	14.3°	1.00	1.00
120°	7.95	3.98	13.07	88.7°	10.2°	1.00	1.00
135°	7.51	5.31	11.24	107.3°	8.4°	1.00	1.00
150°	7.25	6.28	9.68	128.3°	7.0°	1.00	1.00
165°	7.08	6.84	8.61	152.8°	4.9°	1.00	1.00
180°	6.97	6.97	8.30	180.0°	2.9°	1.00	1.00
177.8° (r)	6.98	6.97	8.30	175.9°	3.2°	1.00	1.00

TWS = 20 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.8° (b)	6.60	5.14	23.15	26.3°	25.5°	0.44	0.60
52°	7.26	4.47	22.46	34.7°	26.9°	0.46	0.60
60°	7.56	3.78	21.78	40.0°	27.7°	0.48	0.60
70°	7.94	2.72	21.05	47.5°	25.9°	0.50	0.60
75°	8.10	2.10	20.65	51.4°	25.0°	0.62	0.60
80°	8.22	1.43	20.14	55.4°	25.0°	0.80	0.60
90°	8.69	0.00	18.14	61.4°	31.3°	1.00	0.74
110°	9.40	3.22	16.40	79.8°	25.0°	1.00	1.00
120°	9.06	4.53	15.90	91.8°	16.3°	1.00	1.00
135°	8.49	6.00	14.24	110.8°	10.8°	1.00	1.00
150°	8.17	7.07	12.62	131.6°	8.8°	1.00	1.00
165°	7.95	7.68	11.56	154.9°	6.7°	1.00	1.00
180°	7.81	7.81	11.28	180.0°	3.4°	1.00	1.00
177.2° (r)	7.83	7.82	11.27	175.2°	4.0°	1.00	1.00

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



World Leader in Rating Technology
 © Offshore Racing Congress 2018
 www.orc.org

TWS = 6 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	4.18	2.09	8.69	35.2°	7.9°	1.00	0.95
70°	5.04	1.73	8.87	37.5°	9.7°	1.00	0.96
75°	5.37	1.39	8.83	38.8°	10.7°	1.00	0.96
80°	5.64	0.98	8.70	40.2°	11.4°	1.00	0.96
90°	5.98	0.00	8.27	43.6°	11.4°	1.00	0.96
110°	6.05	2.07	6.77	53.1°	8.4°	1.00	1.00
120°	5.90	2.95	5.84	59.3°	6.9°	1.00	1.00
135°	5.29	3.74	4.29	74.5°	4.7°	1.00	1.00
150°	4.43	3.84	2.99	102.3°	3.1°	1.00	1.00
165°	3.31	3.19	2.78	147.1°	2.6°	1.00	1.00
180°	3.12	3.12	2.71	180.0°	2.3°	1.00	1.00
144.2° (r)	4.79	3.88	3.42	89.4°	3.6°	1.00	1.00

TWS = 8 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	5.28	2.64	11.22	35.2°	15.5°	1.00	0.95
70°	6.18	2.11	11.14	37.6°	20.5°	1.00	0.94
75°	6.46	1.67	10.92	39.3°	21.9°	1.00	0.92
80°	6.65	1.15	10.65	41.4°	22.1°	1.00	0.90
90°	6.93	0.00	9.98	46.0°	21.5°	1.00	0.95
110°	7.04	2.41	8.30	58.0°	14.8°	1.00	1.00
120°	6.95	3.47	7.30	65.2°	9.9°	1.00	1.00
135°	6.51	4.60	5.57	79.6°	5.9°	1.00	1.00
150°	5.60	4.85	4.06	106.6°	3.6°	1.00	1.00
165°	4.33	4.19	3.77	147.7°	2.8°	1.00	1.00
180°	4.11	4.11	3.66	180.0°	2.3°	1.00	1.00
147.9° (r)	5.73	4.85	4.23	102.1°	3.8°	1.00	1.00

TWS = 10 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	5.86	2.93	13.16	35.9°	21.9°	0.95	0.88
70°	6.56	2.24	12.87	40.2°	22.0°	0.90	0.85
75°	6.77	1.75	12.58	42.7°	22.0°	0.90	0.84
80°	6.93	1.20	12.23	45.4°	22.1°	0.90	0.85
90°	7.20	0.00	11.41	50.9°	22.0°	0.91	0.92
110°	7.61	2.60	9.47	62.9°	21.5°	1.00	0.97
120°	7.55	3.78	8.55	71.5°	14.8°	1.00	1.00
135°	7.19	5.08	6.82	87.2°	7.0°	1.00	1.00
150°	6.55	5.68	5.21	111.2°	4.1°	1.00	1.00
165°	5.25	5.07	4.85	148.7°	3.1°	1.00	1.00
180°	5.02	5.02	4.69	180.0°	2.4°	1.00	1.00
149.6° (r)	6.58	5.68	5.24	110.3°	4.2°	1.00	1.00

TWS = 12 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	6.12	3.06	14.93	37.7°	22.0°	0.84	0.85
70°	6.76	2.31	14.51	42.9°	22.0°	0.80	0.84
75°	6.94	1.80	14.16	45.8°	22.0°	0.81	0.85
80°	7.09	1.23	13.76	48.8°	22.0°	0.82	0.85
90°	7.40	0.00	12.87	54.9°	22.0°	0.82	0.93
110°	7.99	2.73	10.80	67.9°	22.0°	0.93	0.93
120°	8.22	4.11	9.63	75.3°	21.6°	1.00	1.00
135°	7.79	5.51	8.15	93.1°	8.4°	1.00	1.00
150°	7.13	6.18	6.50	116.9°	4.6°	1.00	1.00
165°	6.10	5.89	5.95	149.7°	3.5°	1.00	1.00
180°	5.85	5.85	5.78	180.0°	2.5°	1.00	1.00
151.2° (r)	7.05	6.18	6.40	119.4°	4.4°	1.00	1.00

TWS = 14 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	6.27	3.13	16.61	39.4°	22.1°	0.75	0.85
70°	6.88	2.35	16.10	45.1°	22.0°	0.73	0.85
75°	7.06	1.83	15.71	48.3°	22.0°	0.74	0.86
80°	7.22	1.25	15.26	51.5°	22.0°	0.72	0.92
90°	7.60	0.00	14.35	58.0°	21.9°	0.74	0.94
110°	8.32	2.85	12.18	72.0°	22.0°	0.86	0.93
120°	8.71	4.36	10.97	79.5°	22.0°	0.96	0.94
135°	8.50	6.01	9.47	96.6°	11.0°	1.00	1.00
150°	7.55	6.54	7.95	121.8°	5.2°	1.00	1.00
165°	6.77	6.54	7.24	151.1°	4.0°	1.00	1.00
180°	6.58	6.58	6.98	180.0°	2.5°	1.00	1.00
175.2° (r)	6.61	6.59	6.99	170.7°	3.0°	1.00	1.00

TWS = 16 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	6.32	3.16	18.25	40.9°	22.4°	0.71	0.77
70°	6.93	2.37	17.69	47.1°	22.4°	0.71	0.74
75°	7.12	1.84	17.28	50.5°	22.3°	0.71	0.75
80°	7.31	1.27	16.83	54.0°	22.3°	0.71	0.77
90°	7.76	0.00	15.86	60.7°	22.1°	0.71	0.85
110°	8.64	2.96	13.60	75.2°	22.0°	0.80	0.93
120°	9.13	4.56	12.33	83.0°	22.1°	0.90	0.94
135°	9.37	6.62	10.67	98.5°	15.1°	1.00	1.00
150°	8.04	6.96	9.40	124.9°	5.9°	1.00	1.00
165°	7.21	6.97	8.73	152.7°	4.5°	1.00	1.00
180°	7.07	7.07	8.43	180.0°	2.7°	1.00	1.00
177.3° (r)	7.08	7.08	8.43	175.0°	3.0°	1.00	1.00

TWS = 20 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
60°	-0.01	-0.01	17.40	57.7°	24.3°	0.71	0.62
70°	-0.01	0.00	17.18	68.3°	24.3°	0.71	0.62
75°	-0.01	0.00	17.09	73.7°	24.3°	0.71	0.62
80°	-0.01	0.00	17.03	79.1°	24.3°	0.71	0.62
90°	-0.01	0.00	16.98	90.0°	24.3°	0.71	0.62
110°	9.21	3.15	16.46	80.1°	22.3°	0.71	0.91
120°	9.91	4.96	15.11	88.1°	22.1°	0.79	0.94
135°	11.13	7.87	12.82	101.1°	22.2°	0.99	0.94
150°	9.28	8.04	12.17	128.0°	7.8°	1.00	1.00
165°	8.15	7.87	11.68	154.7°	5.8°	1.00	1.00
180°	7.96	7.96	11.41	180.0°	2.9°	1.00	1.00
141.4° (r)	10.61	8.29	12.55	111.0°	13.9°	1.00	0.96

SPEED GUIDE

COMPOSITE KEEL WITH LEAD BULB



World Leader in Rating Technology
© Offshore Racing Congress 2018
www.orc.org

TWS = 6 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
42.8° (b)	5.24	3.85	10.17	21.9°	12.3°	1.00	0.95
52°	5.87	3.62	10.36	24.9°	13.9°	1.00	0.96
60°	6.24	3.12	10.28	27.8°	14.3°	1.00	0.97
70°	6.48	2.22	9.91	31.7°	13.7°	1.00	0.98
75°	6.54	1.69	9.65	33.8°	13.0°	1.00	0.99
80°	6.57	1.14	9.35	36.0°	12.1°	1.00	0.99
90°	6.56	0.00	8.64	40.6°	10.6°	1.00	1.00
110°	5.93	2.03	6.65	53.4°	7.7°	1.00	1.00
120°	5.56	2.78	5.64	61.6°	5.2°	1.00	1.00
135°	4.88	3.45	4.14	78.7°	3.7°	1.00	1.00
150°	3.95	3.42	3.05	109.7°	2.8°	1.00	1.00
165°	3.29	3.17	2.73	146.9°	2.4°	1.00	1.00
180°	3.09	3.09	2.68	180.0°	2.3°	1.00	1.00
142.0° (r)	4.46	3.52	3.54	91.2°	3.2°	1.00	1.00

TWS = 8 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
40.5° (b)	5.92	4.50	12.55	21.5°	20.6°	1.00	0.89
52°	6.64	4.09	12.56	26.0°	22.4°	1.00	0.88
60°	6.89	3.45	12.24	29.3°	23.6°	1.00	0.92
70°	7.08	2.42	11.69	34.3°	22.2°	1.00	0.95
75°	7.13	1.85	11.38	36.9°	20.8°	1.00	0.96
80°	7.16	1.24	11.03	39.8°	19.2°	1.00	0.97
90°	7.16	0.00	10.25	45.7°	15.4°	1.00	1.00
110°	6.82	2.33	8.27	59.5°	8.3°	1.00	1.00
120°	6.70	3.35	7.19	66.5°	6.4°	1.00	1.00
135°	6.00	4.24	5.44	83.9°	4.4°	1.00	1.00
150°	5.05	4.37	4.15	112.6°	3.1°	1.00	1.00
165°	4.31	4.16	3.71	147.5°	2.6°	1.00	1.00
180°	4.07	4.07	3.61	180.0°	2.4°	1.00	1.00
144.6° (r)	5.41	4.41	4.52	100.7°	3.5°	1.00	1.00

TWS = 10 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
39.2° (b)	6.18	4.79	14.55	22.1°	23.0°	1.00	0.71
52°	6.89	4.24	14.36	28.0°	24.2°	1.00	0.71
60°	7.11	3.55	13.93	32.0°	24.8°	1.00	0.74
70°	7.32	2.50	13.23	37.2°	25.2°	1.00	0.80
75°	7.41	1.92	12.83	39.9°	25.1°	1.00	0.85
80°	7.49	1.30	12.39	42.5°	25.5°	1.00	0.91
90°	7.58	0.00	11.66	49.5°	20.8°	1.00	0.98
110°	7.44	2.54	9.75	64.7°	11.2°	1.00	1.00
120°	7.24	3.62	8.58	73.4°	7.6°	1.00	1.00
135°	6.81	4.82	6.75	89.7°	5.2°	1.00	1.00
150°	5.98	5.18	5.32	115.9°	3.5°	1.00	1.00
165°	5.22	5.04	4.77	148.6°	2.8°	1.00	1.00
180°	4.97	4.97	4.63	180.0°	2.5°	1.00	1.00
148.4° (r)	6.09	5.18	5.43	112.6°	3.7°	1.00	1.00

TWS = 12 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.4° (b)	6.29	4.93	16.39	23.0°	23.7°	0.97	0.62
52°	7.01	4.31	16.05	29.9°	25.0°	0.97	0.62
60°	7.23	3.62	15.55	34.3°	25.7°	0.99	0.62
70°	7.48	2.56	14.76	39.9°	26.1°	0.98	0.70
75°	7.59	1.97	14.30	42.7°	26.5°	0.97	0.78
80°	7.72	1.34	13.84	45.7°	26.9°	1.00	0.78
90°	7.95	0.00	12.87	51.9°	26.5°	1.00	0.93
110°	8.07	2.76	11.17	68.2°	15.5°	1.00	1.00
120°	7.78	3.89	10.02	78.3°	9.7°	1.00	1.00
135°	7.29	5.16	8.13	95.9°	5.9°	1.00	1.00
150°	6.73	5.83	6.60	119.5°	4.0°	1.00	1.00
165°	6.04	5.83	5.92	149.7°	3.0°	1.00	1.00
180°	5.79	5.79	5.74	180.0°	2.6°	1.00	1.00
156.9° (r)	6.42	5.90	6.15	132.9°	3.5°	1.00	1.00

TWS = 14 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.6° (b)	6.36	4.97	18.12	24.2°	23.6°	0.89	0.62
52°	7.06	4.35	17.66	31.6°	25.0°	0.87	0.68
60°	7.30	3.65	17.09	36.3°	25.6°	0.86	0.73
70°	7.59	2.60	16.26	42.2°	26.4°	0.90	0.74
75°	7.74	2.00	15.79	45.3°	26.9°	0.92	0.75
80°	7.87	1.37	15.27	48.4°	27.4°	0.93	0.80
90°	8.19	0.00	14.17	54.7°	28.3°	0.99	0.85
110°	8.72	2.98	12.35	70.3°	21.7°	1.00	1.00
120°	8.41	4.21	11.41	81.3°	13.4°	1.00	1.00
135°	7.80	5.52	9.57	100.1°	6.7°	1.00	1.00
150°	7.20	6.23	8.04	123.6°	4.6°	1.00	1.00
165°	6.71	6.48	7.20	151.1°	3.3°	1.00	1.00
180°	6.51	6.51	6.94	180.0°	2.7°	1.00	1.00
176.3° (r)	6.53	6.51	6.94	172.9°	3.0°	1.00	1.00

TWS = 16 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
38.9° (b)	6.41	4.99	19.81	25.4°	23.5°	0.83	0.62
52°	7.12	4.38	19.31	33.0°	25.1°	0.84	0.62
60°	7.37	3.69	18.72	38.0°	25.8°	0.86	0.62
70°	7.69	2.63	17.77	44.2°	26.6°	0.83	0.76
75°	7.85	2.03	17.27	47.4°	27.1°	0.86	0.77
80°	8.01	1.39	16.73	50.8°	27.5°	0.88	0.79
90°	8.39	0.00	15.57	57.4°	28.5°	0.93	0.85
110°	9.08	3.11	13.76	73.5°	22.1°	0.96	0.94
120°	9.16	4.58	12.63	83.0°	18.4°	1.00	1.00
135°	8.39	5.93	11.02	102.9°	7.8°	1.00	1.00
150°	7.65	6.63	9.51	126.4°	5.1°	1.00	1.00
165°	7.16	6.91	8.68	152.7°	3.7°	1.00	1.00
180°	7.02	7.02	8.35	180.0°	2.9°	1.00	1.00
179.0° (r)	7.02	7.02	8.35	178.2°	3.0°	1.00	1.00

TWS = 20 Kts							
TWA	BTV	VMG	AWS	AWA	Heel	Reef	Flat
40.5° (b)	6.44	4.90	22.99	28.2°	23.1°	0.70	0.69
52°	7.15	4.40	22.40	34.9°	26.6°	0.75	0.62
60°	7.44	3.72	21.71	40.3°	27.3°	0.77	0.62
70°	7.80	2.67	20.61	47.1°	28.2°	0.74	0.79
75°	8.00	2.07	20.02	50.5°	28.9°	0.76	0.79
80°	8.20	1.42	19.66	54.6°	27.5°	0.77	0.82
90°	8.71	0.00	18.25	61.5°	29.6°	0.83	0.85
110°	9.76	3.34	15.60	77.6°	30.3°	0.98	0.93
120°	10.21	5.10	15.19	87.2°	22.1°	0.94	0.94
135°	9.89	6.99	13.71	105.4°	12.4°	1.00	1.00
150°	8.78	7.60	12.35	129.5°	6.5°	1.00	1.00
165°	8.05	7.77	11.66	154.8°	4.5°	1.00	1.00
180°	7.88	7.88	11.32	180.0°	3.5°	1.00	1.00
178.6° (r)	7.89	7.88	11.32	177.6°	3.7°	1.00	1.00