



PERFORMANCE PREDICTION



**DESIGN #543
Benteau 34.7
For Chantiers Beneteau
Shallow Keel with bowsprit**

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DESCRIPTION OF SYMBOLS IN VPP OUTPUT

The accompanying document contains a large amount information about the predicted performance of your boat. To allow this document to be used as a valuable racing tool we have prepared the following explanation of the important terms it contains.

General Terms:

Vt or TWS	True Wind Speed
Bt or TWA	True Wind Angle
V or Vs	Boat Speed
VMG	Boat Velocity Made Good
HEEL	Heel Angle
REEF	Measure of Reduction in Sail Area
FLAT	Measure of Reduction in Sail Lift
Va, AWS	Apparent Wind Speed
Ba, AWA	Apparent Wind Angle
Lee	Leeway Angle
Sail	Sail Combination Designator (Upwind or Downwind)
Flot	Flotation Designator (Varies Only For Water Ballasted Boats)

VPP Polar diagram

This is a graphical representation of the boats performance across a range of windspeeds and true wind directions. Optimal upwind and downwind conditions are marked as small rectangles on the boat speed contours for each windspeed.

Best Boatspeeds

The upper portion of this page gives a numerical representation of the polar diagram. Boatspeeds in knots are given for a series of true windspeeds at masthead height, across a range of true wind angles. All boatspeeds and windspeeds are given in knots. The shaded cells lie beyond the upwind and downwind optimum points. The two tables on the lower portion of the page provide a ready reference of useful details about the optimum upwind and downwind sailing conditions as a function of the true windspeeds (Vt's) across the top of the page. In addition to indicating the optimum upwind and downwind boat speeds in knots, they are also expressed in seconds/mile and in seconds/boat length. VMG is also expressed in seconds/mile.

Course Times

This page shows the predicted boat performance over a series of 1.0 nautical mile courses in various windspeeds. Times around the course are expressed as seconds. The courses reflect five different course conditions:- LEEWARD, LINEAR RANDOM (LR), WINDWARD-LEEWARD (WL), WINDWARD and CIRCULAR-RANDOM (CR).

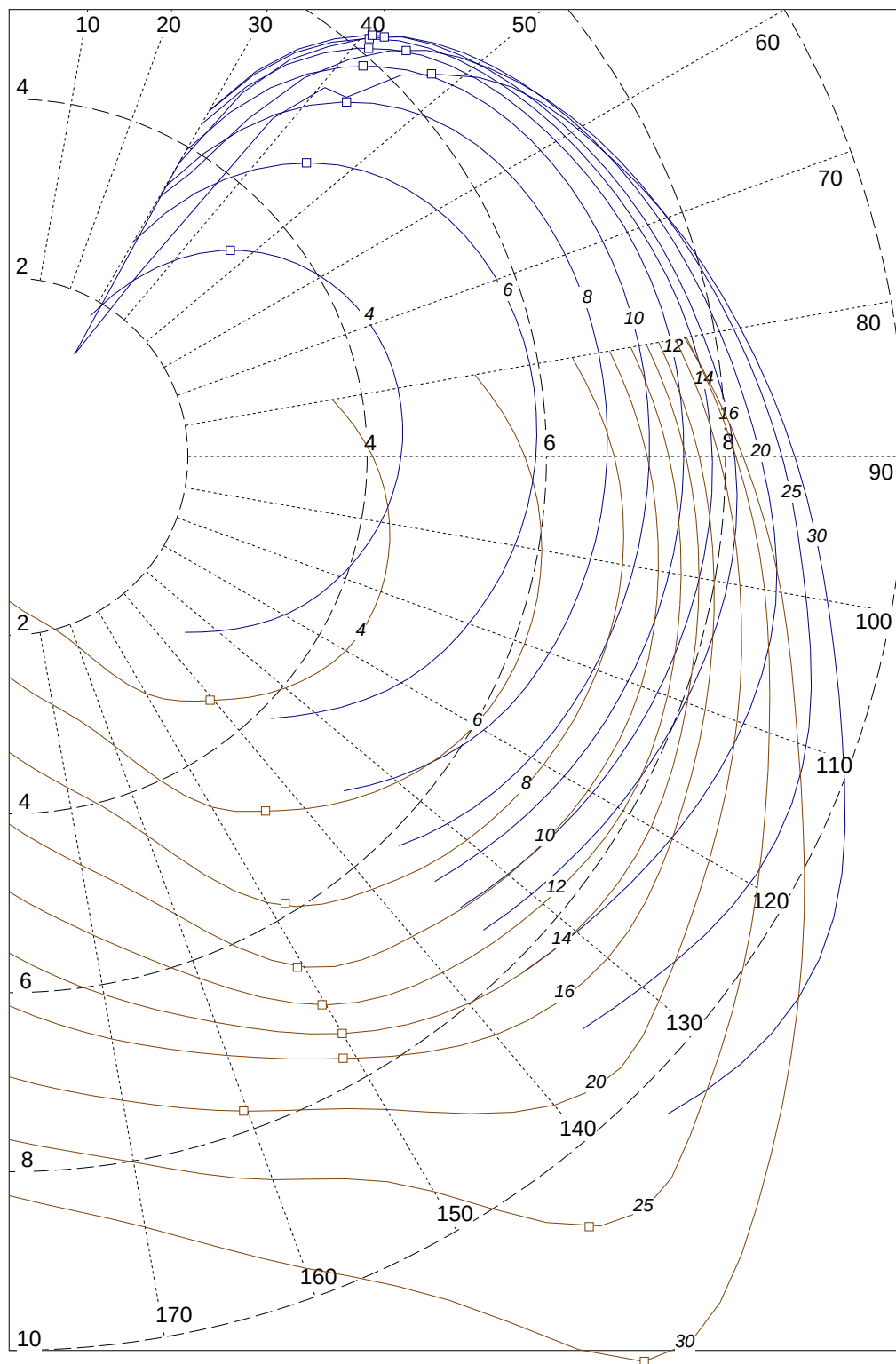
Times for 1 nm (secs)

This page is similar to the Best Boatspeeds page in that it represents the boatspeeds for a series of true windspeeds and true wind angles. Boatspeeds are expressed as seconds/nautical mile. Shaded areas again depict the off optimum conditions. Optimum upwind and downwind values, in terms of VMG, are presented underneath the table.

Best Performance

This page is a detailed representation of the polar diagram showing a list of predicted performance variables for each windspeed over the range of true wind angles. All of those items listed in the “General Terms” section are listed and optimum upwind and downwind settings are included in bold type.

**Design 543 - Benteau 34.7 - Shallow keel
for Chantiers Beneteau**



Best Boatspeeds (kt)

	4	6	8	10	12	14	16	20	25	30
30.0	1.82	2.78	3.49	3.95	4.30	4.46	4.47	3.78	3.35	3.86
33.0	2.18	3.29	4.09	4.65	4.99	5.16	5.20	4.95	3.86	1.27
36.0	2.50	3.71	4.58	5.17	5.48	5.63	5.68	5.55	4.88	3.23
39.0	2.78	4.06	4.99	5.56	5.85	6.00	6.05	5.96	5.59	5.32
42.0	3.03	4.37	5.33	5.88	6.15	6.28	6.34	6.33	6.07	5.35
45.0	3.25	4.65	5.60	6.14	6.38	6.50	6.56	6.58	6.44	5.97
50.0	3.57	5.02	5.97	6.47	6.67	6.77	6.83	6.89	6.84	6.63
60.0	4.03	5.52	6.40	6.85	7.06	7.17	7.25	7.36	7.39	7.33
70.0	4.30	5.80	6.61	7.05	7.34	7.49	7.59	7.73	7.82	7.83
80.0	4.41	5.90	6.68	7.14	7.50	7.74	7.86	8.05	8.21	8.29
90.0	4.38	5.88	6.76	7.15	7.53	7.85	8.10	8.39	8.63	8.77
100.0	4.31	6.04	6.95	7.36	7.62	7.82	8.15	8.70	9.03	9.28
110.0	4.42	6.12	6.99	7.51	7.82	8.05	8.27	8.73	9.47	9.91
120.0	4.34	6.01	6.89	7.46	7.92	8.28	8.55	9.03	9.65	10.59
130.0	4.03	5.66	6.67	7.28	7.78	8.26	8.73	9.47	10.36	11.27
135.0	3.80	5.42	6.51	7.15	7.67	8.14	8.64	9.66	10.75	11.82
140.0	3.56	5.14	6.31	7.00	7.53	7.98	8.44	9.47	11.01	12.35
150.0	3.06	4.53	5.76	6.59	7.08	7.45	7.77	8.43	9.49	11.18
160.0	2.26	3.44	4.51	5.45	6.21	6.73	7.13	7.79	8.61	9.66
170.0	1.85	2.82	3.76	4.64	5.43	6.11	6.61	7.31	8.01	8.75
180.0	1.61	2.46	3.31	4.11	4.87	5.55	6.14	6.94	7.64	8.26
Up.Vs(kts)	3.38	4.67	5.47	5.89	6.08	6.16	6.22	6.29	6.35	6.37
Up.Vs(s/m)	1064.0	770.5	658.0	611.1	592.0	584.0	579.1	572.1	567.2	565.1
Up.Vs(s/L)	5.7	4.2	3.6	3.3	3.2	3.2	3.1	3.1	3.1	3.1
Up.Bt	47.0	45.3	43.5	42.1	41.3	40.7	40.7	41.8	44.3	47.8
Up.Vmg(kts)	2.31	3.28	3.97	4.37	4.57	4.67	4.71	4.69	4.54	4.28
Up.Vmg(s/m)	1559.5	1095.9	907.5	824.2	788.5	770.5	764.0	767.1	793.0	841.4
Up.Heel	2.7	6.0	10.4	15.8	18.6	20.6	21.6	22.1	22.2	22.7
Up.Reef	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.85	0.72	0.62
Up.Flat	1.00	1.00	1.00	0.94	0.80	0.68	0.62	0.65	0.72	0.80
Up.Va	6.77	9.85	12.51	14.79	16.86	18.83	20.75	24.54	29.13	33.52
Up.Ba	25.5	25.5	25.7	25.9	26.5	27.0	27.9	30.2	33.7	37.7
Up.Leewy	3.17	3.45	4.03	4.70	4.91	5.16	5.38	5.92	6.60	7.38
Dn.Vs(kts)	3.53	4.89	5.87	6.56	7.06	7.45	7.69	7.78	10.78	12.36
Dn.Vs(s/m)	1019.3	735.8	613.1	549.0	510.0	483.4	467.9	463.0	334.0	291.3
Dn.Vs(s/L)	5.5	4.0	3.3	3.0	2.8	2.6	2.5	2.5	1.8	1.6
Dn.Bt	140.5	144.1	148.3	150.6	150.3	150.0	151.0	160.3	143.0	145.0
Dn.Vmg(kts)	2.73	3.97	5.00	5.71	6.13	6.45	6.73	7.32	8.61	10.12
Dn.Vmg(s/m)	1321.1	907.8	720.5	630.3	587.0	558.0	535.0	491.8	418.0	355.7
Dn.Heel	0.7	1.2	1.5	1.7	2.2	2.7	3.0	2.0	15.7	20.2
Dn.Reef	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dn.Flat	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dn.Va	2.58	3.51	4.30	5.36	6.83	8.41	9.99	12.95	17.15	20.25
Dn.Ba	80.1	89.5	102.6	113.7	119.6	123.8	129.1	148.6	122.5	127.1
Dn.Leewy	0.64	0.54	0.44	0.40	0.44	0.48	0.49	0.32	0.86	0.68

Course Times

	LR <u>1.00 nm.</u>	WL <u>1.00 nm.</u>	OCEAN <u>1.00 nm.</u>	OLYMPIC <u>1.00 nm.</u>	CR <u>1.00 nm.</u>
4.0	1026.4	1440.3	0.0	1355.4	1080.0
6.0	732.5	1001.8	0.0	948.4	764.6
8.0	617.6	814.0	0.0	780.3	638.6
10.0	565.2	727.3	0.0	704.6	581.9
12.0	536.9	687.8	0.0	667.9	553.1
14.0	518.2	664.2	0.0	645.5	535.0
16.0	503.7	649.5	0.0	631.0	522.0
20.0	480.7	629.4	0.0	613.2	503.8
25.0	451.9	605.5	0.0	604.1	486.0
30.0	427.6	598.5	0.0	611.5	479.3

Times for 1 nm (secs)

	4	6	8	10	12	14	16	20	25	30
30.0	1979.2	1296.7	1032.1	910.3	838.1	806.8	805.2	952.9	1075.9	931.4
33.0	1648.8	1095.0	879.2	774.8	721.6	698.2	692.2	727.7	932.6	2833.5
36.0	1441.0	971.2	785.4	696.9	657.5	638.9	633.4	648.8	737.3	1113.5
39.0	1295.7	886.0	721.0	647.3	615.4	600.2	595.2	603.5	644.6	676.1
42.0	1188.6	823.0	675.9	612.3	585.7	572.8	567.8	568.9	593.2	672.4
45.0	1106.9	774.8	642.6	586.4	564.0	553.6	548.8	547.2	559.3	602.6
50.0	1009.1	716.9	603.3	556.6	540.0	531.7	526.7	522.6	526.6	542.7
60.0	894.0	652.0	562.1	525.3	510.3	502.3	496.3	489.1	486.9	491.1
70.0	837.6	621.1	544.9	510.4	490.2	480.9	474.3	465.6	460.4	459.9
80.0	816.4	609.8	538.6	504.1	480.1	465.3	457.7	447.0	438.3	434.3
90.0	822.5	612.2	532.9	503.7	478.0	458.5	444.4	429.1	417.2	410.4
100.0	834.6	596.2	517.7	489.1	472.6	460.1	441.8	413.9	398.5	388.1
110.0	815.3	587.8	514.9	479.5	460.3	446.9	435.4	412.5	380.1	363.2
120.0	829.4	599.2	522.3	482.3	454.6	435.0	421.2	398.9	373.2	340.1
130.0	894.1	635.8	539.5	494.6	462.7	436.1	412.5	380.1	347.4	319.5
135.0	946.4	664.1	552.6	503.3	469.4	442.2	416.6	372.6	335.0	304.6
140.0	1012.1	700.0	570.1	513.9	477.9	451.0	426.4	380.1	326.8	291.5
150.0	1176.3	795.5	625.0	546.0	508.4	483.2	463.4	427.0	379.4	322.0
160.0	1592.4	1047.0	798.5	660.8	579.9	534.8	505.1	462.1	418.3	372.9
170.0	1948.9	1277.4	958.0	776.5	662.6	589.2	544.4	492.3	449.4	411.3
180.0	2229.8	1461.5	1089.0	876.4	739.9	648.7	586.2	519.0	471.3	435.7
Up	1559.5	1095.9	907.5	824.2	788.5	770.5	764.0	767.1	793.0	841.4
Dn	1321.1	907.8	720.5	630.3	587.0	558.0	535.0	491.8	418.0	355.7

Equivalent ILC Average (using IMS formula): 719.80

Best Performance

	TWS	TWA	V	VMG	Heel	Reef	Flat	AWS	AWA	Lee	Sail	Flot
	4.0	30.0	1.819	1.575	1.8	1.000	1.000	5.65	20.7	7.20	Up	54al
	4.0	33.0	2.183	1.831	2.0	1.000	1.000	5.95	21.5	5.63	Up	54al
	4.0	36.0	2.498	2.021	2.2	1.000	1.000	6.20	22.3	4.73	Up	54al
	4.0	39.0	2.778	2.159	2.4	1.000	1.000	6.40	23.1	4.12	Up	54al
	4.0	42.0	3.029	2.251	2.5	1.000	1.000	6.57	24.0	3.68	Up	54al
	4.0	45.0	3.252	2.300	2.7	1.000	1.000	6.71	24.9	3.35	Up	54al
OptUp >	4.0	47.0	3.383	2.308	2.7	1.000	1.000	6.77	25.5	3.17	Up	54al
	4.0	50.0	3.568	2.293	2.8	1.000	1.000	6.86	26.5	2.93	Up	54al
	4.0	60.0	4.027	2.014	2.9	1.000	1.000	6.95	29.9	2.36	Up	54al
	4.0	70.0	4.298	1.470	2.8	1.000	1.000	6.80	33.5	1.96	Up	54al
	4.0	80.0	4.410	0.766	2.4	1.000	1.000	6.45	37.6	1.65	Up	54al
	4.0	90.0	4.377	-0.000	2.0	1.000	1.000	5.93	42.4	1.38	Up	54al
	4.0	100.0	4.314	-0.749	3.1	1.000	1.000	5.35	47.4	1.74	Dn	54al
	4.0	110.0	4.416	-1.510	2.8	1.000	1.000	4.84	50.9	1.49	Dn	54al
	4.0	120.0	4.341	-2.170	2.2	1.000	1.000	4.18	55.9	1.24	Dn	54al
	4.0	130.0	4.026	-2.588	1.5	1.000	1.000	3.39	64.6	0.95	Dn	54al
	4.0	135.0	3.804	-2.690	1.1	1.000	1.000	2.99	71.0	0.80	Dn	54al
	4.0	140.0	3.557	-2.725	0.8	1.000	1.000	2.62	79.1	0.65	Dn	54al
OptDn >	4.0	140.5	3.532	2.725	0.7	1.000	1.000	2.58	80.1	0.64	Dn	54al
	4.0	150.0	3.060	-2.650	0.3	1.000	1.000	2.04	101.4	0.40	Dn	54al
	4.0	160.0	2.261	-2.124	0.1	1.000	1.000	2.03	137.6	0.20	Dn	54al
	4.0	170.0	1.847	-1.819	0.0	1.000	1.000	2.20	161.6	0.09	Dn	54al
	4.0	180.0	1.614	-1.614	-0.0	1.000	1.000	2.39	180.0	-0.00	Dn	54al
	6.0	30.0	2.776	2.404	4.1	1.000	0.990	8.52	20.6	6.93	Up	54al
	6.0	33.0	3.288	2.757	4.6	1.000	1.000	8.93	21.4	5.57	Up	54al
	6.0	36.0	3.707	2.999	5.1	1.000	1.000	9.25	22.3	4.75	Up	54al
	6.0	39.0	4.063	3.158	5.4	1.000	1.000	9.50	23.3	4.21	Up	54al
	6.0	42.0	4.374	3.251	5.7	1.000	1.000	9.69	24.3	3.80	Up	54al
	6.0	45.0	4.646	3.285	5.9	1.000	1.000	9.84	25.4	3.48	Up	54al
OptUp >	6.0	45.3	4.672	3.285	6.0	1.000	1.000	9.85	25.5	3.45	Up	54al
	6.0	50.0	5.022	3.228	6.2	1.000	1.000	9.99	27.2	3.06	Up	54al
	6.0	60.0	5.521	2.761	6.2	1.000	1.000	9.97	31.2	2.49	Up	54al
	6.0	70.0	5.796	1.982	5.6	1.000	1.000	9.65	35.6	2.07	Up	54al
	6.0	80.0	5.903	1.025	4.8	1.000	1.000	9.11	40.3	1.72	Up	54al
	6.0	90.0	5.880	-0.000	3.9	1.000	1.000	8.39	45.5	1.43	Up	54al
	6.0	100.0	6.038	-1.049	7.2	1.000	1.000	7.70	49.6	1.89	Dn	54al
	6.0	110.0	6.125	-2.095	6.2	1.000	1.000	6.93	54.0	1.60	Dn	54al
	6.0	120.0	6.008	-3.004	4.7	1.000	1.000	5.99	59.8	1.28	Dn	54al
	6.0	130.0	5.662	-3.640	3.0	1.000	1.000	4.93	68.5	0.95	Dn	54al
	6.0	135.0	5.421	-3.833	2.3	1.000	1.000	4.40	74.5	0.79	Dn	54al
	6.0	140.0	5.143	-3.940	1.7	1.000	1.000	3.89	81.9	0.65	Dn	54al
OptDn >	6.0	144.1	4.893	3.966	1.2	1.000	1.000	3.51	89.5	0.54	Dn	54al
	6.0	150.0	4.525	-3.919	0.8	1.000	1.000	3.07	102.6	0.39	Dn	54al
	6.0	160.0	3.438	-3.231	0.2	1.000	1.000	3.01	137.0	0.19	Dn	54al
	6.0	170.0	2.818	-2.775	0.1	1.000	1.000	3.26	161.4	0.08	Dn	54al
	6.0	180.0	2.463	-2.463	-0.0	1.000	1.000	3.54	180.0	-0.00	Dn	54al

Best Performance (cont)

	<i>TWS</i>	<i>TWA</i>	<i>V</i>	<i>VMG</i>	<i>Heel</i>	<i>Reef</i>	<i>Flat</i>	<i>AWS</i>	<i>AWA</i>	<i>Lee</i>	<i>Sail</i>	<i>Flot</i>
OptUp >	8.0	30.0	3.488	3.021	6.9	1.000	0.942	11.15	20.9	7.18	Up	54al
	8.0	33.0	4.095	3.434	8.3	1.000	1.000	11.63	21.8	6.12	Up	54al
	8.0	36.0	4.584	3.708	9.1	1.000	1.000	11.99	22.8	5.23	Up	54al
	8.0	39.0	4.993	3.880	9.7	1.000	1.000	12.26	23.9	4.64	Up	54al
	8.0	42.0	5.326	3.958	10.2	1.000	1.000	12.44	25.1	4.21	Up	54al
	8.0	43.5	5.471	3.967	10.4	1.000	1.000	12.51	25.7	4.03	Up	54al
	8.0	45.0	5.603	3.962	10.5	1.000	1.000	12.56	26.3	3.87	Up	54al
	8.0	50.0	5.967	3.836	10.7	1.000	1.000	12.64	28.5	3.43	Up	54al
	8.0	60.0	6.405	3.202	10.2	1.000	1.000	12.44	33.2	2.80	Up	54al
	8.0	70.0	6.606	2.260	8.8	1.000	1.000	11.94	38.5	2.33	Up	54al
OptDn >	8.0	80.0	6.684	1.161	7.3	1.000	1.000	11.24	44.1	1.93	Up	54al
	8.0	90.0	6.756	-0.000	15.3	1.000	1.000	10.26	48.8	2.71	Dn	54al
	8.0	100.0	6.953	-1.207	13.7	1.000	1.000	9.46	54.0	2.35	Dn	54al
	8.0	110.0	6.991	-2.391	10.4	1.000	1.000	8.53	60.1	1.87	Dn	54al
	8.0	120.0	6.893	-3.446	7.2	1.000	1.000	7.46	67.2	1.40	Dn	54al
	8.0	130.0	6.673	-4.289	4.7	1.000	1.000	6.30	75.9	1.00	Dn	54al
	8.0	135.0	6.515	-4.606	3.6	1.000	1.000	5.71	81.4	0.83	Dn	54al
	8.0	140.0	6.315	-4.837	2.7	1.000	1.000	5.14	87.9	0.67	Dn	54al
	8.0	148.3	5.871	4.997	1.5	1.000	1.000	4.30	102.6	0.44	Dn	54al
	8.0	150.0	5.760	-4.988	1.2	1.000	1.000	4.17	106.3	0.40	Dn	54al
OptUp >	8.0	160.0	4.508	-4.236	0.3	1.000	1.000	4.07	137.7	0.19	Dn	54al
	8.0	170.0	3.758	-3.701	0.1	1.000	1.000	4.35	161.4	0.08	Dn	54al
	8.0	180.0	3.306	-3.306	-0.0	1.000	1.000	4.69	180.0	-0.00	Dn	54al
	10.0	30.0	3.955	3.425	10.1	1.000	0.887	13.54	21.3	7.85	Up	54al
	10.0	33.0	4.646	3.897	12.1	1.000	0.920	14.08	22.2	6.49	Up	54al
	10.0	36.0	5.166	4.179	13.7	1.000	0.933	14.43	23.3	5.66	Up	54al
	10.0	39.0	5.562	4.322	14.8	1.000	0.934	14.66	24.5	5.08	Up	54al
	10.0	42.0	5.880	4.370	15.8	1.000	0.943	14.79	25.8	4.71	Up	54al
	10.0	42.1	5.891	4.368	15.8	1.000	0.944	14.79	25.9	4.70	Up	54al
	10.0	45.0	6.139	4.341	16.7	1.000	0.959	14.85	27.1	4.44	Up	54al
OptDn >	10.0	50.0	6.468	4.157	17.9	1.000	0.995	14.81	29.5	4.15	Up	54al
	10.0	60.0	6.853	3.427	15.9	1.000	1.000	14.49	35.1	3.36	Up	54al
	10.0	70.0	7.054	2.413	12.9	1.000	1.000	13.91	41.2	2.73	Up	54al
	10.0	80.0	7.141	1.240	10.2	1.000	1.000	13.14	47.5	2.23	Up	54al
	10.0	90.0	7.147	-0.000	7.9	1.000	1.000	12.21	54.2	1.79	Up	54al
	10.0	100.0	7.360	-1.278	20.6	0.971	1.000	10.80	58.6	2.81	Dn	54al
	10.0	110.0	7.508	-2.568	16.2	1.000	1.000	9.91	65.6	2.19	Dn	54al
	10.0	120.0	7.464	-3.732	10.2	1.000	1.000	8.87	73.9	1.59	Dn	54al
	10.0	130.0	7.279	-4.679	6.5	1.000	1.000	7.66	83.6	1.12	Dn	54al
	10.0	135.0	7.152	-5.057	5.0	1.000	1.000	7.04	89.3	0.92	Dn	54al
OptDn >	10.0	140.0	7.005	-5.366	3.8	1.000	1.000	6.45	95.8	0.74	Dn	54al
	10.0	150.0	6.593	-5.710	1.7	1.000	1.000	5.41	112.5	0.42	Dn	54al
	10.0	150.6	6.557	5.712	1.7	1.000	1.000	5.36	113.7	0.40	Dn	54al
	10.0	160.0	5.448	-5.119	0.5	1.000	1.000	5.22	139.1	0.20	Dn	54al
	10.0	170.0	4.636	-4.566	0.1	1.000	1.000	5.49	161.6	0.08	Dn	54al
	10.0	180.0	4.108	-4.108	-0.0	1.000	1.000	5.89	180.0	-0.00	Dn	54al

Best Performance (cont)

	<i>TWS</i>	<i>TWA</i>	<i>V</i>	<i>VMG</i>	<i>Heel</i>	<i>Reef</i>	<i>Flat</i>	<i>AWS</i>	<i>AWA</i>	<i>Lee</i>	<i>Sail</i>	<i>Flot</i>
OptUp >	12.0	30.0	4.295	3.720	13.1	1.000	0.782	15.81	21.7	8.12	Up	54al
	12.0	33.0	4.989	4.184	15.0	1.000	0.781	16.32	22.7	6.51	Up	54al
	12.0	36.0	5.476	4.430	16.6	1.000	0.784	16.62	24.0	5.70	Up	54al
	12.0	39.0	5.850	4.547	17.9	1.000	0.791	16.79	25.3	5.20	Up	54al
	12.0	41.3	6.081	4.566	18.6	1.000	0.798	16.86	26.5	4.91	Up	54al
	12.0	42.0	6.147	4.568	18.8	1.000	0.800	16.87	26.8	4.83	Up	54al
	12.0	45.0	6.383	4.513	19.6	1.000	0.814	16.88	28.3	4.57	Up	54al
	12.0	50.0	6.667	4.285	20.5	1.000	0.846	16.76	30.9	4.29	Up	54al
	12.0	60.0	7.055	3.528	21.4	1.000	0.938	16.25	36.5	3.91	Up	54al
	12.0	70.0	7.344	2.512	19.3	1.000	1.000	15.63	42.9	3.30	Up	54al
	12.0	80.0	7.499	1.302	14.3	1.000	1.000	14.93	50.1	2.57	Up	54al
	12.0	90.0	7.532	-0.000	10.5	1.000	1.000	14.00	57.4	2.03	Up	54al
OptDn >	12.0	100.0	7.617	-1.323	21.1	0.891	1.000	12.33	63.3	2.84	Dn	54al
	12.0	110.0	7.821	-2.675	21.7	0.976	1.000	11.12	70.5	2.52	Dn	54al
	12.0	120.0	7.919	-3.960	14.7	1.000	1.000	10.23	79.2	1.82	Dn	54al
	12.0	130.0	7.781	-5.001	8.8	1.000	1.000	9.09	89.6	1.27	Dn	54al
	12.0	135.0	7.670	-5.423	6.7	1.000	1.000	8.47	95.5	1.04	Dn	54al
	12.0	140.0	7.533	-5.770	5.0	1.000	1.000	7.86	102.2	0.83	Dn	54al
	12.0	150.0	7.081	-6.132	2.3	1.000	1.000	6.85	118.9	0.45	Dn	54al
	12.0	150.3	7.059	6.132	2.2	1.000	1.000	6.83	119.6	0.44	Dn	54al
	12.0	160.0	6.208	-5.833	0.7	1.000	1.000	6.52	141.0	0.21	Dn	54al
	12.0	170.0	5.433	-5.351	0.2	1.000	1.000	6.72	161.9	0.09	Dn	54al
	12.0	180.0	4.866	-4.866	-0.0	1.000	1.000	7.13	180.0	-0.00	Dn	54al
OptUp >	14.0	30.0	4.462	3.864	15.3	1.000	0.667	17.91	22.1	8.37	Up	54al
	14.0	33.0	5.156	4.324	17.6	1.000	0.669	18.39	23.3	6.77	Up	54al
	14.0	36.0	5.635	4.559	19.0	1.000	0.669	18.66	24.6	5.91	Up	54al
	14.0	39.0	5.998	4.661	20.0	1.000	0.672	18.80	26.1	5.35	Up	54al
	14.0	40.7	6.165	4.672	20.6	1.000	0.679	18.83	27.0	5.16	Up	54al
	14.0	42.0	6.285	4.671	20.9	1.000	0.683	18.84	27.7	5.00	Up	54al
	14.0	45.0	6.503	4.598	21.6	1.000	0.695	18.81	29.3	4.74	Up	54al
	14.0	50.0	6.770	4.352	21.9	0.979	0.759	18.65	32.2	4.46	Up	54al
	14.0	60.0	7.168	3.584	21.9	0.935	0.934	18.09	38.5	4.05	Up	54al
	14.0	70.0	7.486	2.560	22.2	0.958	1.000	17.29	44.8	3.64	Up	54al
	14.0	80.0	7.737	1.343	20.3	1.000	1.000	16.45	51.8	3.06	Up	54al
	14.0	90.0	7.851	-0.000	14.0	1.000	1.000	15.69	60.0	2.30	Up	54al
	14.0	100.0	7.825	-1.359	9.7	1.000	1.000	14.62	68.4	1.75	Up	54al
OptDn >	14.0	110.0	8.055	-2.755	22.1	0.905	1.000	12.62	75.0	2.55	Dn	54al
	14.0	120.0	8.277	-4.138	21.5	1.000	1.000	11.36	83.5	2.14	Dn	54al
	14.0	130.0	8.256	-5.307	11.9	1.000	1.000	10.52	94.1	1.42	Dn	54al
	14.0	135.0	8.141	-5.756	8.9	1.000	1.000	9.94	100.2	1.16	Dn	54al
	14.0	140.0	7.982	-6.115	6.5	1.000	1.000	9.35	107.0	0.91	Dn	54al
	14.0	150.0	7.450	-6.452	2.7	1.000	1.000	8.41	123.8	0.48	Dn	54al
	14.0	150.0	7.448	6.452	2.7	1.000	1.000	8.41	123.8	0.48	Dn	54al
	14.0	160.0	6.731	-6.325	1.0	1.000	1.000	8.01	143.3	0.23	Dn	54al
	14.0	170.0	6.110	-6.018	0.3	1.000	1.000	8.05	162.4	0.09	Dn	54al
	14.0	180.0	5.549	-5.549	-0.0	1.000	1.000	8.45	180.0	-0.00	Dn	54al

Best Performance (cont)

	<i>TWS</i>	<i>TWA</i>	<i>V</i>	<i>VMG</i>	<i>Heel</i>	<i>Reef</i>	<i>Flat</i>	<i>AWS</i>	<i>AWA</i>	<i>Lee</i>	<i>Sail</i>	<i>Flot</i>
OptUp >	16.0	30.0	4.471	3.872	17.2	1.000	0.575	19.86	22.6	9.02	Up	54al
	16.0	33.0	5.201	4.362	19.2	1.000	0.573	20.36	23.8	7.10	Up	54al
	16.0	36.0	5.684	4.598	20.7	1.000	0.576	20.60	25.3	6.21	Up	54al
	16.0	39.0	6.048	4.700	21.4	0.987	0.596	20.72	26.9	5.61	Up	54al
	16.0	40.7	6.217	4.712	21.6	0.970	0.623	20.75	27.9	5.38	Up	54al
	16.0	42.0	6.340	4.712	21.7	0.959	0.644	20.77	28.6	5.21	Up	54al
	16.0	45.0	6.560	4.638	21.9	0.935	0.697	20.73	30.4	4.97	Up	54al
	16.0	50.0	6.835	4.393	22.1	0.906	0.780	20.54	33.6	4.66	Up	54al
	16.0	60.0	7.254	3.627	22.1	0.869	0.951	19.94	40.1	4.20	Up	54al
	16.0	70.0	7.589	2.596	22.4	0.898	1.000	19.07	46.8	3.75	Up	54al
	16.0	80.0	7.865	1.366	22.6	0.960	1.000	18.02	53.8	3.32	Up	54al
	16.0	90.0	8.101	-0.000	19.0	1.000	1.000	17.16	61.8	2.64	Up	54al
OptDn >	16.0	100.0	8.148	-1.415	12.4	1.000	1.000	16.30	70.8	1.94	Up	54al
	16.0	110.0	8.268	-2.828	22.5	0.842	1.000	14.17	78.6	2.58	Dn	54al
	16.0	120.0	8.547	-4.274	23.1	0.942	1.000	12.76	87.5	2.21	Dn	54al
	16.0	130.0	8.727	-5.610	16.8	1.000	1.000	11.84	97.6	1.57	Dn	54al
	16.0	135.0	8.642	-6.111	11.7	1.000	1.000	11.40	103.6	1.25	Dn	54al
	16.0	140.0	8.444	-6.468	8.2	1.000	1.000	10.87	110.5	0.98	Dn	54al
	16.0	150.0	7.768	-6.727	3.3	1.000	1.000	10.04	127.3	0.53	Dn	54al
	16.0	151.0	7.694	6.729	3.0	1.000	1.000	9.99	129.1	0.49	Dn	54al
	16.0	160.0	7.128	-6.698	1.2	1.000	1.000	9.62	145.3	0.26	Dn	54al
	16.0	170.0	6.613	-6.512	0.4	1.000	1.000	9.56	163.1	0.11	Dn	54al
	16.0	180.0	6.141	-6.141	-0.0	1.000	1.000	9.86	180.0	-0.00	Dn	54al
OptUp >	20.0	30.0	3.778	3.272	18.0	0.989	0.447	23.14	24.3	13.44	Up	54al
	20.0	33.0	4.947	4.149	20.4	0.932	0.514	24.00	25.2	8.76	Up	54al
	20.0	36.0	5.549	4.489	21.3	0.904	0.551	24.33	26.8	7.24	Up	54al
	20.0	39.0	5.965	4.636	22.8	0.941	0.503	24.44	28.3	6.33	Up	54al
	20.0	41.8	6.293	4.693	22.1	0.848	0.651	24.54	30.2	5.92	Up	54al
	20.0	42.0	6.328	4.702	22.1	0.846	0.655	24.55	30.3	5.86	Up	54al
	20.0	45.0	6.580	4.652	22.2	0.822	0.714	24.51	32.3	5.50	Up	54al
	20.0	50.0	6.889	4.428	22.3	0.791	0.814	24.31	35.7	5.12	Up	54al
	20.0	60.0	7.360	3.680	22.4	0.763	0.979	23.62	42.7	4.54	Up	54al
	20.0	70.0	7.732	2.644	22.8	0.799	1.000	22.64	49.9	3.99	Up	54al
	20.0	80.0	8.054	1.399	23.0	0.856	1.000	21.48	57.5	3.51	Up	54al
	20.0	90.0	8.390	-0.000	23.3	0.933	1.000	20.19	65.4	3.04	Up	54al
OptDn >	20.0	100.0	8.698	-1.510	20.8	1.000	1.000	19.14	74.2	2.42	Up	54al
	20.0	110.0	8.728	-2.985	13.0	1.000	1.000	18.41	84.1	1.73	Up	54al
	20.0	120.0	9.025	-4.513	24.0	0.828	1.000	15.85	93.5	2.24	Dn	54al
	20.0	130.0	9.471	-6.088	25.1	0.962	1.000	14.28	103.7	1.80	Dn	54al
	20.0	135.0	9.661	-6.831	20.6	1.000	1.000	13.98	108.7	1.40	Dn	54al
	20.0	140.0	9.470	-7.254	12.8	1.000	1.000	13.84	115.0	1.06	Dn	54al
	20.0	150.0	8.430	-7.301	4.9	1.000	1.000	13.35	131.7	0.63	Dn	54al
	20.0	160.0	7.790	-7.320	2.0	1.000	1.000	12.95	148.1	0.33	Dn	54al
	20.0	160.3	7.776	7.320	2.0	1.000	1.000	12.95	148.6	0.32	Dn	54al
	20.0	170.0	7.312	-7.201	0.7	1.000	1.000	12.86	164.3	0.14	Dn	54al
	20.0	180.0	6.937	-6.937	-0.0	1.000	1.000	13.06	180.0	-0.00	Dn	54al

Best Performance (cont)

	<i>TWS</i>	<i>TWA</i>	<i>V</i>	<i>VMG</i>	<i>Heel</i>	<i>Reef</i>	<i>Flat</i>	<i>AWS</i>	<i>AWA</i>	<i>Lee</i>	<i>Sail</i>	<i>Flot</i>
OptUp >	25.0	30.0	3.346	2.898	6.1	0.500	1.000	27.92	26.4	13.91	Up	54al
	25.0	33.0	3.860	3.238	19.8	1.000	1.000	27.94	27.3	15.00	Up	54al
	25.0	36.0	4.883	3.950	20.9	0.798	0.553	28.62	28.7	10.37	Up	54al
	25.0	39.0	5.585	4.340	21.7	0.764	0.614	28.97	30.3	8.24	Up	54al
	25.0	42.0	6.068	4.510	22.1	0.737	0.674	29.12	32.2	7.13	Up	54al
	25.0	44.3	6.347	4.540	22.2	0.719	0.723	29.13	33.7	6.60	Up	54al
	25.0	45.0	6.437	4.551	22.3	0.715	0.734	29.14	34.1	6.44	Up	54al
	25.0	50.0	6.837	4.395	22.6	0.687	0.838	28.94	37.7	5.83	Up	54al
	25.0	60.0	7.394	3.697	22.9	0.664	1.000	28.17	45.1	5.04	Up	54al
	25.0	70.0	7.820	2.674	23.4	0.702	1.000	27.08	52.8	4.38	Up	54al
	25.0	80.0	8.214	1.426	23.7	0.754	1.000	25.80	60.9	3.80	Up	54al
	25.0	90.0	8.629	-0.000	24.3	0.825	1.000	24.37	69.3	3.26	Up	54al
	25.0	100.0	9.034	-1.569	24.7	0.915	1.000	22.86	78.2	2.76	Up	54al
	25.0	110.0	9.471	-3.239	22.9	1.000	1.000	21.66	87.6	2.15	Up	54al
	25.0	120.0	9.645	-4.823	25.3	0.721	1.000	19.79	98.3	2.21	Dn	54al
OptDn >	25.0	130.0	10.363	-6.661	26.5	0.848	1.000	18.07	108.4	1.65	Dn	54al
	25.0	135.0	10.746	-7.599	27.2	0.941	1.000	17.19	113.8	1.40	Dn	54al
	25.0	140.0	11.015	-8.438	22.2	1.000	1.000	16.95	118.7	1.04	Dn	54al
	25.0	143.0	10.777	8.612	15.7	1.000	1.000	17.15	122.5	0.86	Dn	54al
	25.0	150.0	9.489	-8.217	7.6	1.000	1.000	17.36	134.5	0.70	Dn	54al
	25.0	160.0	8.606	-8.087	3.2	1.000	1.000	17.16	150.2	0.40	Dn	54al
	25.0	170.0	8.010	-7.889	1.1	1.000	1.000	17.17	165.4	0.18	Dn	54al
	25.0	180.0	7.638	-7.638	-0.0	1.000	1.000	17.36	180.0	-0.00	Dn	54al
	30.0	30.0	3.865	3.347	8.5	0.500	1.000	33.33	26.4	14.96	Up	54al
	30.0	33.0	1.270	1.066	10.4	0.691	0.000	30.93	31.3	15.00	Up	54al
OptUp >	30.0	36.0	3.233	2.616	35.0	0.500	0.530	31.07	27.7	15.00	Up	54al
	30.0	39.0	5.325	4.138	34.8	0.898	0.891	32.56	28.4	15.00	Up	54al
	30.0	42.0	5.354	3.979	21.8	0.658	0.685	33.34	34.0	10.09	Up	54al
	30.0	45.0	5.975	4.225	22.4	0.636	0.747	33.52	35.8	8.28	Up	54al
	30.0	47.8	6.370	4.279	22.7	0.621	0.803	33.52	37.7	7.38	Up	54al
	30.0	50.0	6.633	4.264	22.8	0.611	0.843	33.47	39.3	6.83	Up	54al
	30.0	60.0	7.330	3.665	23.4	0.594	0.993	32.66	46.9	5.68	Up	54al
	30.0	70.0	7.827	2.677	24.1	0.626	1.000	31.46	54.9	4.87	Up	54al
	30.0	80.0	8.290	1.439	24.6	0.674	1.000	30.06	63.3	4.18	Up	54al
	30.0	90.0	8.772	-0.000	25.3	0.738	1.000	28.51	72.1	3.56	Up	54al
	30.0	100.0	9.277	-1.611	25.9	0.819	1.000	26.88	81.3	2.97	Up	54al
	30.0	110.0	9.912	-3.390	26.4	0.918	1.000	25.26	90.8	2.35	Up	54al
	30.0	120.0	10.586	-5.293	23.7	1.000	1.000	24.19	100.5	1.65	Up	54al
	30.0	130.0	11.269	-7.244	27.8	0.761	1.000	21.85	111.5	1.49	Dn	54al
	30.0	135.0	11.820	-8.358	28.6	0.853	1.000	20.85	116.8	1.21	Dn	54al
	30.0	140.0	12.349	-9.460	29.2	0.975	1.000	19.91	122.3	0.96	Dn	54al
OptDn >	30.0	145.0	12.359	10.121	20.2	1.000	1.000	20.25	127.1	0.68	Dn	54al
	30.0	150.0	11.179	-9.681	11.7	1.000	1.000	20.85	135.2	0.63	Dn	54al
	30.0	160.0	9.655	-9.073	4.7	1.000	1.000	21.17	151.1	0.43	Dn	54al
	30.0	170.0	8.752	-8.619	1.7	1.000	1.000	21.44	165.9	0.22	Dn	54al
	30.0	180.0	8.263	-8.263	-0.0	1.000	1.000	21.74	180.0	-0.00	Dn	54al

Best Performance (cont)
