



PERFORMANCE PREDICTION



**DESIGN #543
Benteau 34.7
For Chantiers Beneteau
Deep Keel with Bowsprit**

Farr Yacht Design, Ltd.
Copyright July 29, 2005

P.O. Box 4964, Annapolis, MD 21403 USA
Tel: (410) 267-0780 Fax: (410) 268-0553
E-mail: info@farrdesign.com



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.

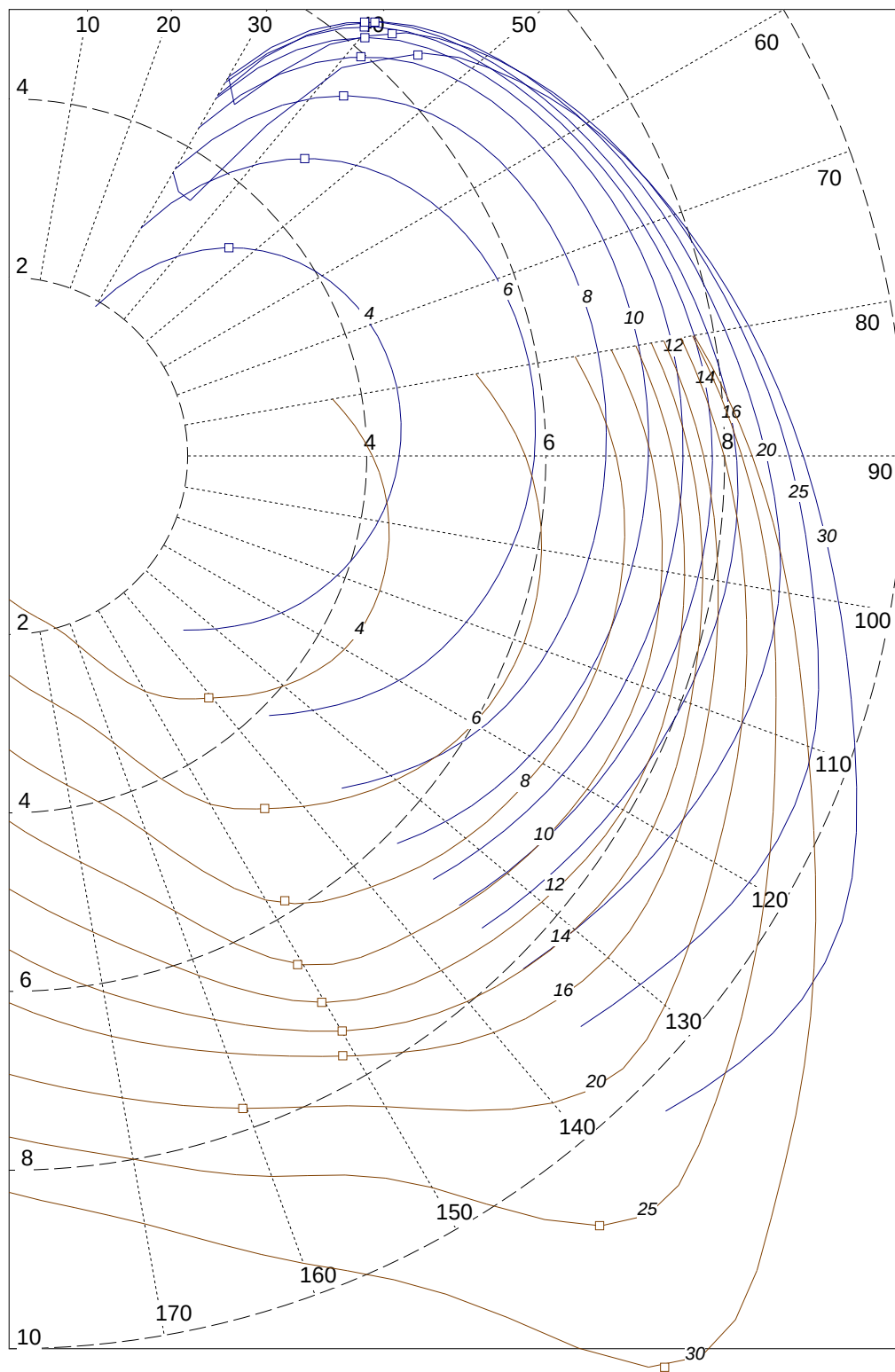
FARR YACHT DESIGN LTD

613 THIRD STREET SUITE 20 P. O. BOX 4964 ANNAPOLIS MD 21403 U.S.A.
T. 410 267 0780 F. 410 268 0553 info@farrdesign.com www.farrdesign.com

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 - Beneteau 34.7 - Asail on bowsprit
for Chantiers Beneteau**



Best Boatspeeds (kt)

	4	6	8	10	12	14	16	20	25	30
30.0	1.93	2.95	3.71	4.24	4.62	4.83	4.90	4.66	4.90	3.67
33.0	2.27	3.41	4.27	4.87	5.23	5.42	5.50	5.39	4.71	3.49
36.0	2.57	3.81	4.73	5.34	5.67	5.86	5.93	5.88	5.48	3.70
39.0	2.84	4.15	5.11	5.72	6.02	6.19	6.26	6.25	5.99	5.29
42.0	3.08	4.45	5.43	6.01	6.29	6.44	6.50	6.52	6.38	5.92
45.0	3.29	4.71	5.69	6.26	6.50	6.63	6.69	6.73	6.65	6.37
50.0	3.60	5.07	6.03	6.55	6.76	6.87	6.94	7.01	6.98	6.84
60.0	4.04	5.55	6.43	6.89	7.13	7.25	7.34	7.45	7.50	7.46
70.0	4.30	5.81	6.62	7.07	7.39	7.55	7.66	7.81	7.90	7.93
80.0	4.40	5.90	6.69	7.15	7.51	7.77	7.93	8.13	8.30	8.39
90.0	4.36	5.87	6.78	7.18	7.53	7.86	8.13	8.46	8.72	8.88
100.0	4.31	6.04	6.97	7.41	7.67	7.87	8.15	8.74	9.13	9.41
110.0	4.41	6.12	6.99	7.52	7.87	8.11	8.33	8.73	9.55	10.07
120.0	4.33	6.00	6.89	7.46	7.92	8.31	8.61	9.10	9.76	10.70
130.0	4.01	5.64	6.66	7.27	7.77	8.25	8.74	9.57	10.51	11.48
135.0	3.78	5.40	6.50	7.14	7.66	8.13	8.63	9.70	10.91	12.05
140.0	3.54	5.12	6.30	6.99	7.52	7.97	8.43	9.46	11.10	12.63
150.0	3.04	4.50	5.74	6.58	7.06	7.43	7.75	8.41	9.46	11.14
160.0	2.24	3.41	4.48	5.42	6.19	6.72	7.11	7.77	8.59	9.62
170.0	1.84	2.80	3.74	4.62	5.41	6.09	6.60	7.30	8.00	8.73
180.0	1.61	2.45	3.29	4.09	4.85	5.53	6.12	6.92	7.62	8.25
Up.Vs(fts)	3.39	4.69	5.50	5.95	6.15	6.23	6.28	6.35	6.38	6.41
Up.Vs(s/m)	1061.8	767.0	654.5	604.6	585.8	577.4	573.4	567.0	564.3	561.9
Up.Vs(s/L)	5.7	4.1	3.5	3.3	3.2	3.1	3.1	3.1	3.0	3.0
Up.Bt	46.5	44.8	42.8	41.4	40.3	39.6	39.3	40.1	42.2	45.5
Up.Vmg(fts)	2.33	3.33	4.03	4.47	4.68	4.81	4.86	4.86	4.73	4.49
Up.Vmg(s/m)	1542.9	1080.8	892.4	805.5	768.6	749.1	740.8	741.1	761.3	801.9
Up.Heel	2.7	5.8	10.0	16.1	18.9	20.9	22.4	22.9	23.5	23.7
Up.Reef	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.76	0.65
Up.Flat	1.00	1.00	1.00	0.98	0.83	0.71	0.61	0.63	0.65	0.76
Up.Va	6.79	9.89	12.57	14.88	16.97	18.96	20.88	24.69	29.28	33.71
Up.Ba	25.3	25.2	25.2	25.3	25.7	26.1	26.6	28.7	31.7	35.6
Up.Leewy	2.64	2.86	3.34	4.03	4.23	4.44	4.65	5.10	5.70	6.40
Dn.Vs(fts)	3.51	4.88	5.86	6.55	7.05	7.44	7.68	7.76	10.86	12.57
Dn.Vs(s/m)	1025.0	738.4	614.6	549.9	510.8	484.0	468.6	463.9	331.6	286.5
Dn.Vs(s/L)	5.5	4.0	3.3	3.0	2.8	2.6	2.5	2.5	1.8	1.5
Dn.Bt	140.5	144.1	148.2	150.5	150.3	150.0	151.0	160.3	142.6	144.3
Dn.Vmg(fts)	2.71	3.95	4.98	5.70	6.12	6.44	6.72	7.31	8.62	10.21
Dn.Vmg(s/m)	1329.0	911.8	723.0	632.0	588.4	559.1	536.0	492.7	417.6	352.6
Dn.Heel	0.7	1.2	1.4	1.7	2.1	2.7	2.9	1.9	15.7	20.5
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	3.52	4.32	5.38	6.84	8.42	10.00	12.96	17.18	20.20
Dn.Ba	80.5	89.7	102.6	113.6	119.5	123.8	129.1	148.7	121.6	125.8
Dn.Leewy	0.54	0.45	0.37	0.34	0.37	0.40	0.41	0.27	0.73	0.57

Course Times

	WL <u>1.00 nm.</u>	LR <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	1435.9	1025.9	0.0	1349.0	1078.0
6.0	996.3	730.8	0.0	941.4	761.7
8.0	807.7	615.3	0.0	772.7	635.1
10.0	718.7	562.0	0.0	694.7	577.1
12.0	678.5	533.2	0.0	657.3	547.7
14.0	654.1	514.0	0.0	634.0	528.9
16.0	638.4	499.3	0.0	618.4	515.5
20.0	616.9	475.8	0.0	598.6	496.2
25.0	589.4	445.6	0.0	585.2	476.0
30.0	577.3	419.5	0.0	587.5	466.0

Times for 1 nm (secs)

	4	6	8	10	12	14	16	20	25	30
30.0	1862.5	1221.8	969.2	848.5	778.7	745.4	734.2	772.5	734.1	981.4
33.0	1586.3	1054.4	843.0	739.1	688.7	664.2	654.5	668.1	765.0	1030.9
36.0	1401.6	945.2	761.1	673.6	634.8	614.8	606.7	612.4	656.8	972.8
39.0	1269.2	867.6	704.0	629.8	598.1	582.0	575.2	576.0	600.9	680.1
42.0	1169.9	809.2	663.5	598.5	572.2	559.3	553.6	551.8	564.4	608.1
45.0	1093.3	764.0	633.0	575.3	553.8	543.2	538.1	534.9	541.6	565.3
50.0	1000.6	709.8	597.2	549.6	532.7	524.0	518.9	513.9	515.6	526.4
60.0	890.6	648.8	559.7	522.4	505.1	496.8	490.8	483.3	480.2	482.8
70.0	837.0	619.9	544.0	509.2	487.5	476.7	470.1	461.2	455.4	454.2
80.0	817.8	609.9	538.5	503.8	479.2	463.0	454.2	443.0	433.7	429.0
90.0	825.4	613.3	530.7	501.6	478.0	458.1	442.8	425.3	412.9	405.6
100.0	835.0	595.8	516.7	486.0	469.6	457.4	441.8	411.9	394.2	382.4
110.0	816.5	588.0	514.9	478.5	457.7	444.2	432.4	412.6	376.8	357.5
120.0	831.8	600.2	522.8	482.6	454.3	433.0	418.3	395.6	368.8	336.5
130.0	898.4	637.8	540.5	495.2	463.2	436.4	412.1	376.2	342.5	313.7
135.0	951.7	666.6	553.8	504.2	470.0	442.8	417.0	371.1	330.1	298.7
140.0	1018.1	702.9	571.7	514.9	478.7	451.7	427.1	380.7	324.4	285.1
150.0	1183.2	799.3	627.4	547.4	509.6	484.2	464.3	428.0	380.7	323.2
160.0	1604.0	1054.3	803.0	663.7	581.9	536.1	506.1	463.1	419.3	374.2
170.0	1959.9	1284.4	962.8	779.9	665.1	591.1	545.7	493.3	450.3	412.3
180.0	2241.8	1469.3	1094.5	880.4	742.9	651.1	588.1	520.1	472.2	436.6
Up	1542.9	1080.8	892.4	805.5	768.6	749.1	740.8	741.1	761.3	801.9
Dn	1329.0	911.8	723.0	632.0	588.4	559.1	536.0	492.7	417.6	352.6

Equivalent ILC Average (using IMS formula): 709.87

Best Performance

	TWS	TWA	V	VMG	Heel	Reef	Flat	AWS	AWA	Lee	Sail	Flot
	4.0	30.0	1.933	1.674	1.8	1.000	1.000	5.76	20.3	5.50	Up	54al
	4.0	33.0	2.269	1.903	2.0	1.000	1.000	6.03	21.2	4.45	Up	54al
	4.0	36.0	2.568	2.078	2.2	1.000	1.000	6.26	22.0	3.80	Up	54al
	4.0	39.0	2.836	2.204	2.4	1.000	1.000	6.46	22.9	3.35	Up	54al
	4.0	42.0	3.077	2.287	2.5	1.000	1.000	6.61	23.8	3.01	Up	54al
	4.0	45.0	3.293	2.328	2.6	1.000	1.000	6.74	24.8	2.75	Up	54al
OptUp >	4.0	46.5	3.390	2.333	2.7	1.000	1.000	6.79	25.3	2.64	Up	54al
	4.0	50.0	3.598	2.313	2.8	1.000	1.000	6.89	26.4	2.42	Up	54al
	4.0	60.0	4.042	2.021	2.9	1.000	1.000	6.96	29.8	1.96	Up	54al
	4.0	70.0	4.301	1.471	2.7	1.000	1.000	6.80	33.5	1.63	Up	54al
	4.0	80.0	4.402	0.764	2.4	1.000	1.000	6.44	37.7	1.38	Up	54al
	4.0	90.0	4.361	-0.000	1.9	1.000	1.000	5.92	42.5	1.15	Up	54al
	4.0	100.0	4.311	-0.749	3.0	1.000	1.000	5.34	47.4	1.45	Dn	54al
	4.0	110.0	4.409	-1.508	2.7	1.000	1.000	4.83	51.0	1.25	Dn	54al
	4.0	120.0	4.328	-2.164	2.2	1.000	1.000	4.17	56.1	1.04	Dn	54al
	4.0	130.0	4.007	-2.576	1.4	1.000	1.000	3.38	64.9	0.80	Dn	54al
	4.0	135.0	3.783	-2.675	1.0	1.000	1.000	2.98	71.4	0.67	Dn	54al
	4.0	140.0	3.536	-2.709	0.7	1.000	1.000	2.61	79.6	0.55	Dn	54al
OptDn >	4.0	140.5	3.512	2.709	0.7	1.000	1.000	2.58	80.5	0.54	Dn	54al
	4.0	150.0	3.043	-2.635	0.3	1.000	1.000	2.04	101.9	0.33	Dn	54al
	4.0	160.0	2.244	-2.109	0.1	1.000	1.000	2.04	137.9	0.16	Dn	54al
	4.0	170.0	1.837	-1.809	0.0	1.000	1.000	2.21	161.7	0.07	Dn	54al
	4.0	180.0	1.606	-1.606	-0.0	1.000	1.000	2.39	180.0	-0.00	Dn	54al
	6.0	30.0	2.946	2.552	4.1	1.000	1.000	8.67	20.2	5.35	Up	54al
	6.0	33.0	3.414	2.863	4.6	1.000	1.000	9.05	21.1	4.41	Up	54al
	6.0	36.0	3.809	3.081	5.0	1.000	1.000	9.35	22.1	3.82	Up	54al
	6.0	39.0	4.149	3.224	5.3	1.000	1.000	9.58	23.1	3.41	Up	54al
	6.0	42.0	4.449	3.306	5.6	1.000	1.000	9.76	24.2	3.10	Up	54al
OptUp >	6.0	44.8	4.694	3.331	5.8	1.000	1.000	9.89	25.2	2.86	Up	54al
	6.0	45.0	4.712	3.332	5.8	1.000	1.000	9.90	25.2	2.85	Up	54al
	6.0	50.0	5.072	3.260	6.1	1.000	1.000	10.03	27.1	2.52	Up	54al
	6.0	60.0	5.549	2.774	6.0	1.000	1.000	9.99	31.2	2.06	Up	54al
	6.0	70.0	5.807	1.986	5.5	1.000	1.000	9.66	35.5	1.72	Up	54al
	6.0	80.0	5.903	1.025	4.7	1.000	1.000	9.11	40.3	1.44	Up	54al
	6.0	90.0	5.870	-0.000	3.8	1.000	1.000	8.38	45.6	1.19	Up	54al
	6.0	100.0	6.043	-1.049	6.9	1.000	1.000	7.71	49.6	1.58	Dn	54al
	6.0	110.0	6.122	-2.094	6.0	1.000	1.000	6.93	54.0	1.34	Dn	54al
	6.0	120.0	5.998	-2.999	4.5	1.000	1.000	5.98	59.9	1.07	Dn	54al
	6.0	130.0	5.644	-3.628	2.9	1.000	1.000	4.93	68.7	0.79	Dn	54al
	6.0	135.0	5.401	-3.819	2.2	1.000	1.000	4.39	74.7	0.66	Dn	54al
	6.0	140.0	5.122	-3.923	1.6	1.000	1.000	3.89	82.2	0.54	Dn	54al
OptDn >	6.0	144.1	4.875	3.948	1.2	1.000	1.000	3.52	89.7	0.45	Dn	54al
	6.0	150.0	4.504	-3.901	0.7	1.000	1.000	3.08	103.0	0.33	Dn	54al
	6.0	160.0	3.415	-3.209	0.2	1.000	1.000	3.03	137.3	0.16	Dn	54al
	6.0	170.0	2.803	-2.760	0.0	1.000	1.000	3.28	161.5	0.07	Dn	54al
	6.0	180.0	2.450	-2.450	-0.0	1.000	1.000	3.55	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	3.714	3.217	7.4	1.000	0.997	11.36	20.4	5.78	Up	54al
	8.0	33.0	4.271	3.582	8.2	1.000	1.000	11.80	21.4	4.79	Up	54al
	8.0	36.0	4.730	3.827	8.9	1.000	1.000	12.13	22.5	4.17	Up	54al
	8.0	39.0	5.114	3.974	9.5	1.000	1.000	12.37	23.7	3.73	Up	54al
	8.0	42.0	5.426	4.032	9.9	1.000	1.000	12.53	24.9	3.41	Up	54al
	8.0	42.8	5.501	4.034	10.0	1.000	1.000	12.57	25.2	3.34	Up	54al
	8.0	45.0	5.687	4.022	10.2	1.000	1.000	12.64	26.1	3.16	Up	54al
	8.0	50.0	6.028	3.875	10.4	1.000	1.000	12.69	28.4	2.82	Up	54al
	8.0	60.0	6.433	3.216	9.8	1.000	1.000	12.47	33.2	2.32	Up	54al
	8.0	70.0	6.617	2.263	8.5	1.000	1.000	11.95	38.5	1.94	Up	54al
OptDn >	8.0	80.0	6.685	1.161	7.1	1.000	1.000	11.24	44.1	1.61	Up	54al
	8.0	90.0	6.783	-0.000	14.3	1.000	1.000	10.30	48.8	2.24	Dn	54al
	8.0	100.0	6.967	-1.210	12.9	1.000	1.000	9.49	54.0	1.94	Dn	54al
	8.0	110.0	6.992	-2.391	9.9	1.000	1.000	8.54	60.1	1.55	Dn	54al
	8.0	120.0	6.886	-3.443	6.9	1.000	1.000	7.46	67.2	1.17	Dn	54al
	8.0	130.0	6.661	-4.281	4.5	1.000	1.000	6.30	76.0	0.84	Dn	54al
	8.0	135.0	6.500	-4.596	3.5	1.000	1.000	5.71	81.5	0.69	Dn	54al
	8.0	140.0	6.297	-4.824	2.6	1.000	1.000	5.14	88.1	0.56	Dn	54al
	8.0	148.2	5.858	4.979	1.4	1.000	1.000	4.32	102.6	0.37	Dn	54al
	8.0	150.0	5.738	-4.970	1.1	1.000	1.000	4.17	106.6	0.33	Dn	54al
OptUp >	8.0	160.0	4.483	-4.213	0.3	1.000	1.000	4.09	138.0	0.16	Dn	54al
	8.0	170.0	3.739	-3.682	0.1	1.000	1.000	4.37	161.4	0.07	Dn	54al
	8.0	180.0	3.289	-3.289	-0.0	1.000	1.000	4.71	180.0	-0.00	Dn	54al
	10.0	30.0	4.243	3.675	11.0	1.000	0.939	13.81	20.8	6.25	Up	54al
	10.0	33.0	4.871	4.085	12.8	1.000	0.960	14.28	21.8	5.27	Up	54al
	10.0	36.0	5.344	4.324	14.2	1.000	0.967	14.59	23.0	4.67	Up	54al
	10.0	39.0	5.716	4.442	15.2	1.000	0.970	14.79	24.2	4.24	Up	54al
	10.0	41.4	5.955	4.469	16.1	1.000	0.981	14.88	25.3	4.03	Up	54al
	10.0	42.0	6.015	4.470	16.3	1.000	0.984	14.90	25.5	3.98	Up	54al
	10.0	45.0	6.257	4.425	17.2	1.000	1.000	14.94	26.9	3.78	Up	54al
OptDn >	10.0	50.0	6.550	4.210	17.0	1.000	1.000	14.90	29.4	3.39	Up	54al
	10.0	60.0	6.892	3.446	14.9	1.000	1.000	14.54	35.1	2.76	Up	54al
	10.0	70.0	7.070	2.418	12.3	1.000	1.000	13.94	41.2	2.26	Up	54al
	10.0	80.0	7.146	1.241	9.8	1.000	1.000	13.15	47.5	1.85	Up	54al
	10.0	90.0	7.178	-0.000	20.7	0.943	1.000	11.79	52.5	2.69	Dn	54al
	10.0	100.0	7.408	-1.286	21.7	1.000	1.000	10.77	58.2	2.47	Dn	54al
	10.0	110.0	7.524	-2.573	15.1	1.000	1.000	9.96	65.7	1.81	Dn	54al
	10.0	120.0	7.460	-3.730	9.8	1.000	1.000	8.88	73.9	1.32	Dn	54al
	10.0	130.0	7.269	-4.672	6.2	1.000	1.000	7.66	83.7	0.94	Dn	54al
	10.0	135.0	7.141	-5.049	4.8	1.000	1.000	7.05	89.4	0.77	Dn	54al
OptDn >	10.0	140.0	6.992	-5.356	3.6	1.000	1.000	6.45	95.9	0.62	Dn	54al
	10.0	150.0	6.577	-5.695	1.6	1.000	1.000	5.42	112.6	0.35	Dn	54al
	10.0	150.5	6.546	5.696	1.7	1.000	1.000	5.38	113.6	0.34	Dn	54al
	10.0	160.0	5.424	-5.097	0.5	1.000	1.000	5.24	139.3	0.17	Dn	54al
	10.0	170.0	4.616	-4.546	0.1	1.000	1.000	5.51	161.6	0.07	Dn	54al
	10.0	180.0	4.089	-4.089	-0.0	1.000	1.000	5.91	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	4.623	4.004	14.1	1.000	0.820	16.10	21.2	6.35	Up	54al
	12.0	33.0	5.228	4.384	15.9	1.000	0.816	16.53	22.3	5.30	Up	54al
	12.0	36.0	5.672	4.588	17.3	1.000	0.820	16.79	23.6	4.73	Up	54al
	12.0	39.0	6.019	4.678	18.5	1.000	0.827	16.93	25.0	4.35	Up	54al
	12.0	40.3	6.146	4.684	18.9	1.000	0.831	16.97	25.7	4.23	Up	54al
	12.0	42.0	6.292	4.676	19.4	1.000	0.838	16.99	26.5	4.09	Up	54al
	12.0	45.0	6.500	4.596	20.1	1.000	0.853	16.97	28.0	3.91	Up	54al
	12.0	50.0	6.758	4.344	20.9	1.000	0.889	16.83	30.7	3.70	Up	54al
	12.0	60.0	7.128	3.564	21.8	1.000	0.986	16.29	36.3	3.39	Up	54al
	12.0	70.0	7.385	2.526	18.0	1.000	1.000	15.72	43.0	2.70	Up	54al
	12.0	80.0	7.512	1.305	13.5	1.000	1.000	14.97	50.1	2.13	Up	54al
	12.0	90.0	7.532	-0.000	10.1	1.000	1.000	14.01	57.5	1.69	Up	54al
OptDn >	12.0	100.0	7.666	-1.331	21.8	0.913	1.000	12.31	63.0	2.46	Dn	54al
	12.0	110.0	7.866	-2.690	22.2	1.000	1.000	11.10	70.2	2.18	Dn	54al
	12.0	120.0	7.924	-3.962	13.8	1.000	1.000	10.27	79.2	1.51	Dn	54al
	12.0	130.0	7.773	-4.996	8.4	1.000	1.000	9.09	89.6	1.06	Dn	54al
	12.0	135.0	7.659	-5.416	6.5	1.000	1.000	8.47	95.6	0.87	Dn	54al
	12.0	140.0	7.521	-5.761	4.9	1.000	1.000	7.87	102.3	0.69	Dn	54al
	12.0	150.0	7.065	-6.118	2.2	1.000	1.000	6.86	119.0	0.37	Dn	54al
	12.0	150.3	7.047	6.119	2.1	1.000	1.000	6.84	119.5	0.37	Dn	54al
	12.0	160.0	6.187	-5.814	0.7	1.000	1.000	6.54	141.1	0.18	Dn	54al
	12.0	170.0	5.412	-5.330	0.2	1.000	1.000	6.74	162.0	0.07	Dn	54al
	12.0	180.0	4.846	-4.846	-0.0	1.000	1.000	7.15	180.0	-0.00	Dn	54al
OptUp >	14.0	30.0	4.830	4.183	16.7	1.000	0.703	18.23	21.6	6.51	Up	54al
	14.0	33.0	5.420	4.545	18.4	1.000	0.700	18.62	22.9	5.48	Up	54al
	14.0	36.0	5.855	4.737	19.6	1.000	0.699	18.85	24.3	4.86	Up	54al
	14.0	39.0	6.186	4.807	20.7	1.000	0.706	18.95	25.8	4.49	Up	54al
	14.0	39.6	6.235	4.806	20.9	1.000	0.708	18.96	26.1	4.44	Up	54al
	14.0	42.0	6.437	4.783	21.5	1.000	0.717	18.96	27.4	4.24	Up	54al
	14.0	45.0	6.627	4.686	22.1	1.000	0.731	18.90	29.0	4.06	Up	54al
	14.0	50.0	6.870	4.416	22.8	1.000	0.763	18.70	31.9	3.84	Up	54al
	14.0	60.0	7.246	3.623	22.7	0.957	0.935	18.11	38.1	3.50	Up	54al
	14.0	70.0	7.552	2.583	22.9	0.981	1.000	17.30	44.5	3.16	Up	54al
	14.0	80.0	7.775	1.350	18.8	1.000	1.000	16.57	52.0	2.50	Up	54al
	14.0	90.0	7.859	-0.000	13.2	1.000	1.000	15.73	60.0	1.91	Up	54al
OptDn >	14.0	100.0	7.871	-1.367	22.2	0.845	1.000	13.88	66.9	2.51	Dn	54al
	14.0	110.0	8.105	-2.772	22.7	0.927	1.000	12.58	74.7	2.21	Dn	54al
	14.0	120.0	8.314	-4.157	19.9	1.000	1.000	11.48	83.4	1.75	Dn	54al
	14.0	130.0	8.250	-5.303	11.3	1.000	1.000	10.54	94.1	1.18	Dn	54al
	14.0	135.0	8.130	-5.749	8.5	1.000	1.000	9.95	100.2	0.96	Dn	54al
	14.0	140.0	7.970	-6.105	6.2	1.000	1.000	9.36	107.1	0.76	Dn	54al
	14.0	150.0	7.438	6.438	2.7	1.000	1.000	8.42	123.8	0.40	Dn	54al
	14.0	150.0	7.435	-6.438	2.6	1.000	1.000	8.42	123.8	0.40	Dn	54al
	14.0	160.0	6.715	-6.310	0.9	1.000	1.000	8.03	143.4	0.20	Dn	54al
	14.0	170.0	6.091	-5.998	0.3	1.000	1.000	8.07	162.5	0.08	Dn	54al
	14.0	180.0	5.529	-5.529	-0.0	1.000	1.000	8.47	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	4.903	4.246	18.6	1.000	0.606	20.23	22.0	6.86	Up	54al
	16.0	33.0	5.500	4.613	20.3	1.000	0.603	20.61	23.4	5.73	Up	54al
	16.0	36.0	5.934	4.801	21.5	1.000	0.604	20.81	24.9	5.08	Up	54al
	16.0	39.0	6.259	4.864	22.4	1.000	0.608	20.88	26.5	4.67	Up	54al
	16.0	39.3	6.278	4.860	22.4	1.000	0.609	20.88	26.6	4.65	Up	54al
	16.0	42.0	6.502	4.832	22.6	0.977	0.650	20.88	28.2	4.41	Up	54al
	16.0	45.0	6.690	4.731	22.8	0.954	0.701	20.81	30.1	4.23	Up	54al
	16.0	50.0	6.938	4.460	22.8	0.922	0.790	20.60	33.3	4.00	Up	54al
	16.0	60.0	7.335	3.668	22.9	0.889	0.952	19.95	39.8	3.63	Up	54al
	16.0	70.0	7.658	2.619	23.0	0.919	1.000	19.07	46.5	3.24	Up	54al
	16.0	80.0	7.927	1.376	23.3	0.984	1.000	18.00	53.5	2.88	Up	54al
	16.0	90.0	8.131	-0.000	17.7	1.000	1.000	17.27	61.9	2.17	Up	54al
OptDn >	16.0	100.0	8.149	-1.415	11.8	1.000	1.000	16.33	70.8	1.62	Up	54al
	16.0	110.0	8.326	-2.848	23.1	0.864	1.000	14.12	78.3	2.23	Dn	54al
	16.0	120.0	8.607	-4.303	23.7	0.967	1.000	12.70	87.3	1.92	Dn	54al
	16.0	130.0	8.736	-5.615	15.6	1.000	1.000	11.91	97.5	1.30	Dn	54al
	16.0	135.0	8.633	-6.104	11.1	1.000	1.000	11.42	103.6	1.04	Dn	54al
	16.0	140.0	8.429	-6.457	7.8	1.000	1.000	10.88	110.6	0.82	Dn	54al
	16.0	150.0	7.753	-6.715	3.2	1.000	1.000	10.05	127.4	0.44	Dn	54al
	16.0	151.0	7.682	6.716	2.9	1.000	1.000	10.00	129.1	0.41	Dn	54al
	16.0	160.0	7.113	-6.684	1.2	1.000	1.000	9.63	145.4	0.22	Dn	54al
	16.0	170.0	6.597	-6.496	0.4	1.000	1.000	9.57	163.1	0.09	Dn	54al
	16.0	180.0	6.122	-6.122	-0.0	1.000	1.000	9.88	180.0	-0.00	Dn	54al
OptUp >	20.0	30.0	4.660	4.036	20.5	0.981	0.482	23.89	23.1	8.41	Up	54al
	20.0	33.0	5.389	4.519	21.8	0.942	0.528	24.36	24.5	6.68	Up	54al
	20.0	36.0	5.879	4.756	22.4	0.910	0.570	24.59	26.2	5.78	Up	54al
	20.0	39.0	6.250	4.857	22.9	0.890	0.606	24.69	28.0	5.23	Up	54al
	20.0	40.1	6.349	4.857	22.9	0.880	0.626	24.69	28.7	5.10	Up	54al
	20.0	42.0	6.524	4.848	23.0	0.863	0.660	24.68	29.9	4.89	Up	54al
	20.0	45.0	6.731	4.759	23.1	0.840	0.717	24.59	31.9	4.65	Up	54al
	20.0	50.0	7.005	4.503	23.1	0.809	0.814	24.35	35.4	4.36	Up	54al
	20.0	60.0	7.449	3.725	23.2	0.781	0.981	23.62	42.4	3.90	Up	54al
	20.0	70.0	7.805	2.670	23.5	0.819	1.000	22.62	49.6	3.44	Up	54al
	20.0	80.0	8.126	1.411	23.7	0.878	1.000	21.44	57.3	3.02	Up	54al
	20.0	90.0	8.465	-0.000	24.0	0.957	1.000	20.13	65.1	2.62	Up	54al
OptDn >	20.0	100.0	8.741	-1.518	19.5	1.000	1.000	19.30	74.2	1.98	Up	54al
	20.0	110.0	8.726	-2.984	12.3	1.000	1.000	18.46	84.1	1.44	Up	54al
	20.0	120.0	9.101	-4.551	24.7	0.851	1.000	15.76	93.3	1.93	Dn	54al
	20.0	130.0	9.570	-6.151	25.8	0.989	1.000	14.18	103.4	1.55	Dn	54al
	20.0	135.0	9.701	-6.860	19.2	1.000	1.000	14.08	108.4	1.15	Dn	54al
	20.0	140.0	9.456	-7.244	12.1	1.000	1.000	13.87	115.0	0.89	Dn	54al
	20.0	150.0	8.411	-7.285	4.7	1.000	1.000	13.37	131.8	0.53	Dn	54al
	20.0	160.0	7.774	-7.306	1.8	1.000	1.000	12.97	148.2	0.28	Dn	54al
	20.0	160.3	7.761	7.307	1.9	1.000	1.000	12.96	148.7	0.27	Dn	54al
	20.0	170.0	7.298	-7.187	0.6	1.000	1.000	12.88	164.4	0.12	Dn	54al
	20.0	180.0	6.922	-6.922	-0.0	1.000	1.000	13.08	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	4.904	4.247	34.5	0.979	0.979	28.48	21.2	15.00	Up	54al
	25.0	33.0	4.706	3.947	21.6	0.847	0.505	28.62	26.2	9.63	Up	54al
	25.0	36.0	5.481	4.434	22.7	0.808	0.564	29.06	27.8	7.46	Up	54al
	25.0	39.0	5.991	4.656	23.0	0.778	0.619	29.25	29.7	6.39	Up	54al
	25.0	42.0	6.379	4.740	23.3	0.751	0.678	29.31	31.6	5.73	Up	54al
	25.0	42.2	6.380	4.729	23.5	0.765	0.652	29.28	31.7	5.70	Up	54al
	25.0	45.0	6.648	4.701	23.4	0.730	0.740	29.24	33.7	5.35	Up	54al
	25.0	50.0	6.982	4.488	23.4	0.703	0.839	28.98	37.3	4.92	Up	54al
	25.0	60.0	7.498	3.749	23.6	0.682	0.994	28.17	44.8	4.30	Up	54al
	25.0	70.0	7.904	2.703	24.1	0.720	1.000	27.04	52.5	3.76	Up	54al
	25.0	80.0	8.300	1.441	24.4	0.774	1.000	25.74	60.6	3.25	Up	54al
	25.0	90.0	8.718	-0.000	24.9	0.847	1.000	24.29	69.0	2.79	Up	54al
	25.0	100.0	9.131	-1.586	25.3	0.940	1.000	22.76	77.9	2.36	Up	54al
	25.0	110.0	9.553	-3.267	21.5	1.000	1.000	21.89	87.4	1.74	Up	54al
	25.0	120.0	9.762	-4.881	25.9	0.741	1.000	19.66	98.0	1.88	Dn	54al
OptDn >	25.0	130.0	10.511	-6.756	27.2	0.872	1.000	17.91	108.1	1.40	Dn	54al
	25.0	135.0	10.906	-7.712	28.0	0.969	1.000	17.01	113.5	1.19	Dn	54al
	25.0	140.0	11.099	-8.502	20.9	1.000	1.000	17.03	118.2	0.85	Dn	54al
	25.0	142.6	10.858	8.621	15.7	1.000	1.000	17.18	121.6	0.73	Dn	54al
	25.0	150.0	9.457	-8.190	7.4	1.000	1.000	17.39	134.5	0.59	Dn	54al
	25.0	160.0	8.586	-8.068	3.1	1.000	1.000	17.18	150.2	0.34	Dn	54al
	25.0	170.0	7.995	-7.874	1.1	1.000	1.000	17.18	165.4	0.15	Dn	54al
	25.0	180.0	7.625	-7.625	-0.0	1.000	1.000	17.38	180.0	-0.00	Dn	54al
OptUp >	30.0	30.0	3.668	3.177	8.9	0.500	1.000	33.15	26.6	13.78	Up	54al
	30.0	33.0	3.492	2.929	35.0	0.500	0.600	31.62	25.0	12.87	Up	54al
	30.0	36.0	3.701	2.994	35.0	0.500	0.805	31.48	27.3	15.00	Up	54al
	30.0	39.0	5.293	4.114	22.9	0.697	0.627	33.48	31.3	9.01	Up	54al
	30.0	42.0	5.920	4.400	23.3	0.672	0.685	33.71	33.2	7.34	Up	54al
	30.0	45.0	6.368	4.503	23.7	0.651	0.750	33.74	35.2	6.46	Up	54al
	30.0	45.5	6.407	4.489	23.7	0.648	0.760	33.71	35.6	6.40	Up	54al
	30.0	50.0	6.838	4.396	23.9	0.626	0.847	33.53	38.8	5.68	Up	54al
	30.0	60.0	7.457	3.728	24.2	0.609	0.993	32.65	46.5	4.81	Up	54al
	30.0	70.0	7.926	2.711	24.7	0.643	1.000	31.41	54.6	4.16	Up	54al
	30.0	80.0	8.392	1.457	25.2	0.692	1.000	29.98	63.0	3.56	Up	54al
	30.0	90.0	8.876	-0.000	25.9	0.758	1.000	28.41	71.8	3.03	Up	54al
	30.0	100.0	9.414	-1.635	26.6	0.843	1.000	26.75	81.0	2.51	Up	54al
	30.0	110.0	10.070	-3.444	27.1	0.946	1.000	25.10	90.4	1.98	Up	54al
	30.0	120.0	10.697	-5.349	22.3	1.000	1.000	24.43	100.1	1.32	Up	54al
	30.0	130.0	11.477	-7.377	28.6	0.784	1.000	21.63	111.2	1.25	Dn	54al
OptDn >	30.0	135.0	12.051	-8.521	29.6	0.879	1.000	20.60	116.4	1.01	Dn	54al
	30.0	140.0	12.627	-9.672	29.9	1.000	1.000	19.67	121.8	0.79	Dn	54al
	30.0	144.3	12.567	10.209	20.5	1.000	1.000	20.20	125.8	0.57	Dn	54al
	30.0	150.0	11.140	-9.647	11.2	1.000	1.000	20.90	135.2	0.53	Dn	54al
	30.0	160.0	9.621	-9.041	4.5	1.000	1.000	21.20	151.2	0.36	Dn	54al
	30.0	170.0	8.731	-8.599	1.6	1.000	1.000	21.45	165.9	0.18	Dn	54al
	30.0	180.0	8.246	-8.246	-0.0	1.000	1.000	21.75	180.0	-0.00	Dn	54al

Best Performance (cont)
