

FARR[®]

PERFORMANCE PREDICTION



**DESIGN #338
Mumm 30
for
Farr International**

Farr Yacht Design, Ltd.
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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).

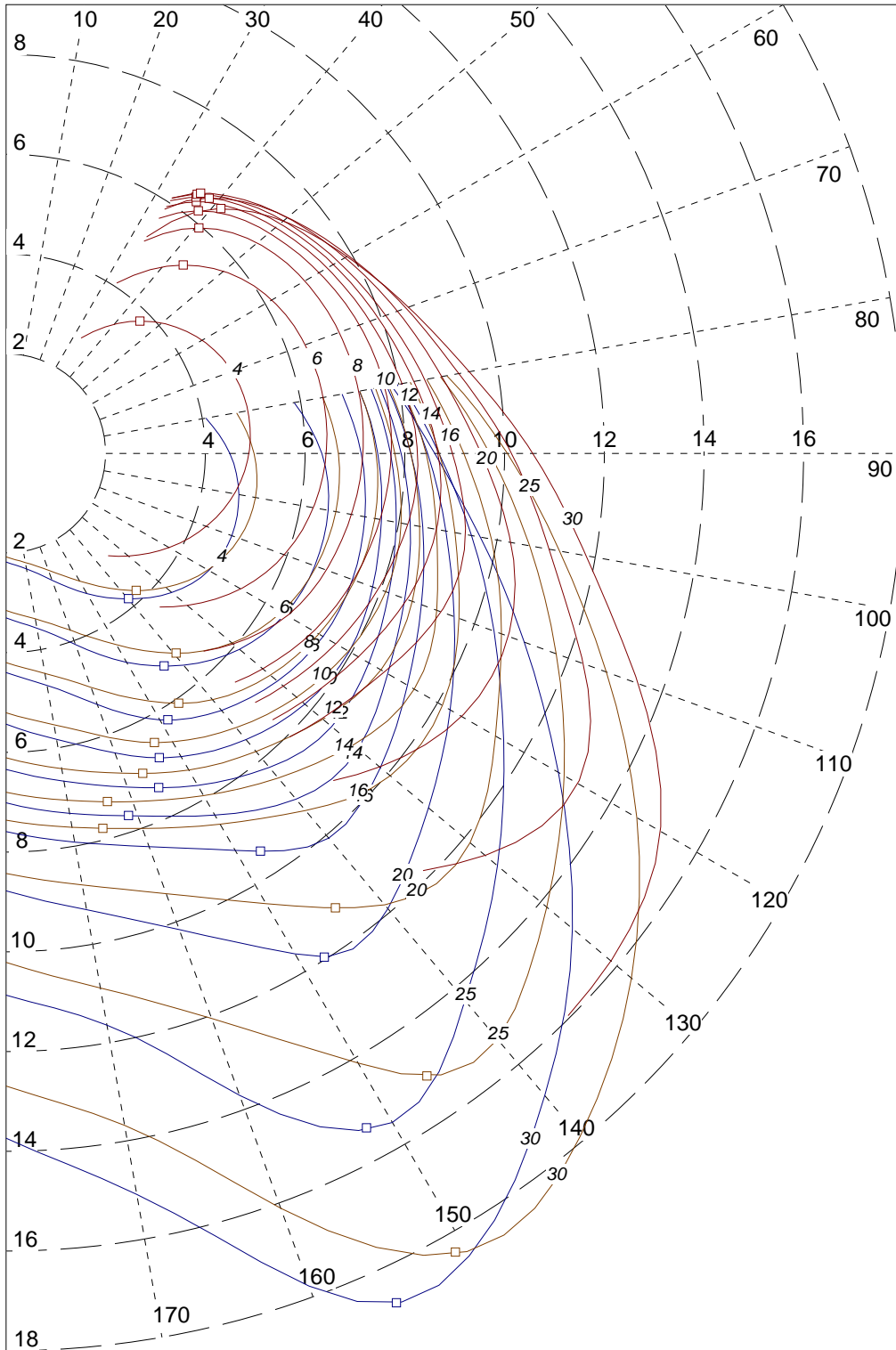
Times for 1 nm (secs)

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.

MUMM 30
For Farr International



Best Boatspeeds (kt)										
	4	6	8	10	12	14	16	20	25	30
33.0	2.76	4.08	5.08	5.62	5.90	6.04	6.11	6.10	5.84	5.18
36.0	3.04	4.45	5.47	5.97	6.23	6.35	6.42	6.45	6.28	5.80
39.0	3.30	4.78	5.81	6.26	6.48	6.59	6.65	6.69	6.59	6.28
50.0	4.07	5.69	6.57	6.88	7.05	7.17	7.26	7.36	7.37	7.26
60.0	4.54	6.16	6.92	7.25	7.44	7.58	7.69	7.85	7.93	7.90
70.0	4.82	6.38	7.11	7.54	7.76	7.94	8.10	8.35	8.53	8.58
80.0	4.92	6.46	7.21	7.71	8.06	8.31	8.52	8.88	9.22	9.43
90.0	4.97	6.66	7.42	7.80	8.25	8.66	8.95	9.53	10.13	10.57
105.0	5.05	6.68	7.50	8.11	8.56	8.96	9.40	10.57	11.63	12.58
120.0	4.70	6.46	7.34	7.94	8.68	9.45	10.10	11.33	13.24	15.15
135.0	4.08	5.85	6.93	7.68	8.43	9.24	10.01	12.20	14.79	17.17
140.0	3.81	5.54	6.72	7.49	8.21	9.05	10.07	11.91	15.34	17.90
150.0	3.25	4.83	6.17	7.02	7.68	8.37	9.19	11.58	15.49	18.58
165.0	2.49	3.77	4.99	6.08	6.88	7.51	8.12	9.66	12.46	16.25
180.0	2.18	3.30	4.39	5.43	6.33	7.01	7.58	8.77	10.86	13.73
Up.Vs(kts)	3.78	5.19	5.95	6.21	6.33	6.40	6.46	6.52	6.54	6.53
Up.Vs(s/m)	953.1	694.0	604.9	579.9	569.1	562.6	557.5	552.5	550.3	551.3
Up.Vs(s/L)	4.8	3.5	3.1	2.9	2.9	2.8	2.8	2.8	2.8	2.8
Up.Bt	45.3	43.2	40.5	38.4	37.1	36.6	36.4	36.8	38.5	41.3
Up.Vmg(kts)	2.66	3.78	4.52	4.86	5.05	5.14	5.19	5.22	5.12	4.91
Up.Vmg(s/m)	1355.9	952.7	796.0	740.2	713.5	700.4	693.1	690.3	703.5	733.6
Up.Heel	3.5	7.8	14.7	18.7	20.9	22.1	22.2	22.9	23.4	24.0
Up.Reef	1.00	1.00	1.00	1.00	1.00	0.97	0.90	0.80	0.68	0.60
Up.Flat	1.00	1.00	1.00	0.83	0.69	0.61	0.62	0.63	0.67	0.73
Up.Va	7.17	10.39	13.04	15.23	17.28	19.26	21.24	25.09	29.75	34.24
Up.Ba	23.3	23.1	22.7	22.7	23.1	23.7	24.5	26.1	28.7	31.9
Up.Leewy	2.47	2.69	3.25	3.45	3.60	3.75	3.91	4.30	4.84	5.45
Dn.Vs(kts)	3.81	5.31	6.25	6.83	7.37	7.67	9.47	11.94	15.34	18.75
Dn.Vs(s/m)	944.3	677.5	575.7	526.9	488.4	469.4	380.2	301.4	234.7	192.0
Dn.Vs(s/L)	4.8	3.4	2.9	2.7	2.5	2.4	1.9	1.5	1.2	1.0
Dn.Bt	139.8	143.3	148.7	153.3	155.4	161.3	147.4	147.7	151.9	155.3
Dn.Vmg(kts)	2.91	4.26	5.34	6.10	6.70	7.26	7.97	10.10	13.52	17.04
Dn.Vmg(s/m)	1235.6	844.8	673.6	590.0	537.1	495.6	451.5	356.5	266.2	211.3
Dn.Heel	1.2	2.0	2.2	2.0	2.2	1.8	7.6	12.9	16.3	18.5
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	2.69	3.62	4.19	4.96	6.12	7.17	9.45	11.54	13.16	14.62
Dn.Ba	73.7	82.0	98.0	115.0	125.4	141.3	115.1	115.5	120.7	125.6
Dn.Leewy	0.66	0.56	0.42	0.32	0.29	0.23	0.51	0.39	0.19	0.09

Shaded cells lie outside upwind and downwind optimum sailing angles.

Course Times

	LR 1.00 nm.	WL 1.00 nm.	OCEAN 1.00 nm.	OLYMPIC 1.00 nm.	CR 1.00 nm.
4.0	919.7	1295.7	0.0	1209.7	968.0
6.0	662.9	898.8	0.0	844.7	688.9
8.0	567.8	734.8	0.0	701.2	583.3
10.0	523.5	665.1	0.0	641.6	536.8
12.0	492.8	625.3	0.0	606.1	507.0
14.0	467.9	598.0	0.0	581.4	484.4
16.0	445.4	572.3	0.0	561.3	465.1
20.0	399.2	523.4	0.0	525.4	430.0
25.0	349.4	484.8	0.0	502.5	401.2
30.0	314.9	472.5	0.0	500.3	389.1

Times for 1 nm (secs)

	4	6	8	10	12	14	16	20	25	30
33.0	1303.8	883.2	708.7	640.2	609.8	595.6	589.4	589.8	616.5	695.5
36.0	1183.0	809.4	657.5	602.5	577.9	566.5	560.5	558.5	573.3	620.5
39.0	1090.2	752.8	620.0	575.2	555.8	546.5	541.1	537.8	546.0	573.5
50.0	884.6	632.9	547.8	523.1	510.5	502.0	495.8	489.1	488.6	496.1
60.0	792.7	584.8	520.4	496.5	484.1	474.9	467.9	458.6	453.8	455.7
70.0	746.7	564.0	506.5	477.3	463.8	453.3	444.4	431.1	421.8	419.4
80.0	731.0	557.6	499.6	467.1	446.5	433.3	422.3	405.6	390.3	381.6
90.0	723.8	540.2	485.0	461.8	436.2	415.6	402.3	377.9	355.2	340.7
105.0	712.2	538.8	480.3	444.1	420.6	401.7	382.8	340.7	309.5	286.2
120.0	766.7	557.6	490.5	453.2	414.8	380.8	356.3	317.8	272.0	237.6
135.0	881.3	615.4	519.8	469.0	426.9	389.8	359.6	295.0	243.4	209.6
140.0	946.1	650.1	535.5	480.6	438.3	397.9	357.5	302.2	234.8	201.1
150.0	1109.2	744.8	583.9	512.9	468.6	430.0	391.8	310.8	232.4	193.7
165.0	1443.4	955.0	721.7	592.5	523.5	479.3	443.2	372.6	288.8	221.6
180.0	1654.8	1091.7	820.2	663.4	568.3	513.8	475.0	410.6	331.3	262.2
Up	1355.9	952.7	796.0	740.2	713.5	700.4	693.1	690.3	703.5	733.6
Dn	1235.6	844.8	673.6	590.0	537.1	495.6	451.5	356.5	266.2	211.3

Equivalent ILC Average (using IMS formula): 0.00

Shaded cells lie outside upwind and downwind optimum sailing angles.

Best Performance

	<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>
	4.0	33.0	2.761	2.316	2.7	1.000	1.000	6.49	19.6	3.62	Up	33t4
	4.0	36.0	3.043	2.462	3.0	1.000	1.000	6.70	20.5	3.23	Up	33t4
	4.0	39.0	3.302	2.566	3.2	1.000	1.000	6.89	21.4	2.93	Up	33t4
OptUp >	4.0	45.3	3.777	2.655	3.5	1.000	1.000	7.17	23.3	2.47	Up	33t4
	4.0	50.0	4.070	2.616	3.7	1.000	1.000	7.31	24.7	2.23	Up	33t4
	4.0	60.0	4.541	2.271	3.8	1.000	1.000	7.40	27.9	1.84	Up	33t4
	4.0	70.0	4.821	1.649	3.7	1.000	1.000	7.24	31.2	1.55	Up	33t4
	4.0	80.0	4.925	0.855	3.2	1.000	1.000	6.86	35.0	1.31	Up	33t4
	4.0	90.0	4.974	-0.000	3.8	1.000	1.000	6.38	38.7	1.35	Dfrc	33t4
	4.0	105.0	5.055	-1.308	3.4	1.000	1.000	5.57	43.8	1.14	Dfrc	33t4
	4.0	120.0	4.695	-2.348	3.0	1.000	1.000	4.39	52.1	1.08	Msym	33t4
	4.0	135.0	4.085	-2.888	1.5	1.000	1.000	3.09	66.1	0.78	Msym	33t4
OptDn >	4.0	139.8	3.812	2.914	1.2	1.000	1.000	2.69	73.7	0.66	Msym	33t4
	4.0	140.0	3.805	-2.915	1.1	1.000	1.000	2.68	73.9	0.66	Msym	33t4
	4.0	150.0	3.246	-2.811	0.5	1.000	1.000	2.01	96.2	0.41	Msym	33t4
	4.0	165.0	2.494	-2.409	0.1	1.000	1.000	1.72	142.9	0.14	Msym	33t4
	4.0	180.0	2.176	-2.176	-0.0	1.000	1.000	1.82	180.0	-0.00	Msym	33t4
	6.0	33.0	4.076	3.419	6.3	1.000	1.000	9.67	19.6	3.66	Up	33t4
	6.0	36.0	4.448	3.598	6.8	1.000	1.000	9.94	20.6	3.29	Up	33t4
	6.0	39.0	4.782	3.717	7.3	1.000	1.000	10.16	21.6	3.00	Up	33t4
OptUp >	6.0	43.2	5.187	3.779	7.8	1.000	1.000	10.39	23.1	2.69	Up	33t4
	6.0	50.0	5.688	3.656	8.3	1.000	1.000	10.57	25.5	2.32	Up	33t4
	6.0	60.0	6.156	3.078	8.2	1.000	1.000	10.50	29.3	1.93	Up	33t4
	6.0	70.0	6.383	2.183	7.4	1.000	1.000	10.12	33.5	1.63	Up	33t4
	6.0	80.0	6.456	1.121	6.3	1.000	1.000	9.52	38.1	1.37	Up	33t4
	6.0	90.0	6.664	-0.000	8.9	1.000	1.000	8.92	41.7	1.54	Dfrc	33t4
	6.0	105.0	6.682	-1.729	7.0	1.000	1.000	7.71	48.3	1.22	Dfrc	33t4
	6.0	120.0	6.456	-3.228	6.6	1.000	1.000	6.21	56.2	1.15	Msym	33t4
	6.0	135.0	5.849	-4.136	3.4	1.000	1.000	4.53	69.2	0.77	Msym	33t4
	6.0	140.0	5.538	-4.242	2.5	1.000	1.000	3.97	76.3	0.64	Msym	33t4
OptDn >	6.0	143.3	5.313	4.261	2.0	1.000	1.000	3.62	82.0	0.56	Msym	33t4
	6.0	150.0	4.833	-4.186	1.0	1.000	1.000	3.02	96.9	0.40	Msym	33t4
	6.0	165.0	3.770	-3.641	0.2	1.000	1.000	2.55	142.5	0.13	Msym	33t4
	6.0	180.0	3.298	-3.298	-0.0	1.000	1.000	2.70	180.0	-0.00	Msym	33t4
	8.0	33.0	5.080	4.260	12.0	1.000	1.000	12.54	19.9	4.00	Up	33t4
	8.0	36.0	5.475	4.429	13.2	1.000	1.000	12.79	21.0	3.64	Up	33t4
	8.0	39.0	5.806	4.512	14.3	1.000	1.000	12.98	22.1	3.37	Up	33t4
OptUp >	8.0	40.5	5.951	4.523	14.7	1.000	1.000	13.04	22.7	3.25	Up	33t4
	8.0	50.0	6.572	4.225	15.8	1.000	1.000	13.12	26.7	2.72	Up	33t4
	8.0	60.0	6.918	3.459	14.1	1.000	1.000	12.82	31.6	2.26	Up	33t4
	8.0	70.0	7.107	2.431	11.7	1.000	1.000	12.29	36.8	1.87	Up	33t4
	8.0	80.0	7.206	1.251	19.2	1.000	0.990	11.37	40.9	2.22	Dfrc	33t4
	8.0	90.0	7.422	-0.000	17.6	1.000	1.000	10.64	45.8	1.95	Dfrc	33t4
	8.0	105.0	7.495	-1.940	10.8	1.000	1.000	9.33	54.5	1.36	Dfrc	33t4
	8.0	120.0	7.339	-3.670	11.0	1.000	1.000	7.58	63.9	1.32	Msym	33t4
	8.0	135.0	6.926	-4.897	5.4	1.000	1.000	5.77	77.3	0.81	Msym	33t4
	8.0	140.0	6.723	-5.150	4.1	1.000	1.000	5.16	83.4	0.66	Msym	33t4
OptDn >	8.0	148.7	6.254	5.344	2.2	1.000	1.000	4.19	98.0	0.42	Msym	33t4
	8.0	150.0	6.166	-5.340	1.9	1.000	1.000	4.07	100.8	0.39	Msym	33t4
	8.0	165.0	4.988	-4.818	0.4	1.000	1.000	3.43	142.9	0.13	Msym	33t4
	8.0	180.0	4.389	-4.389	-0.0	1.000	1.000	3.61	180.0	-0.00	Msym	33t4

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>
	10.0	33.0	5.624	4.716	16.8	1.000	0.841	14.95	20.4	4.00	Up	33t4
	10.0	36.0	5.975	4.834	17.9	1.000	0.832	15.14	21.7	3.66	Up	33t4
OptUp >	10.0	38.4	6.208	4.863	18.7	1.000	0.830	15.23	22.7	3.45	Up	33t4
	10.0	39.0	6.259	4.864	18.8	1.000	0.829	15.24	23.0	3.41	Up	33t4
	10.0	50.0	6.882	4.424	20.4	1.000	0.863	15.12	28.3	2.92	Up	33t4
	10.0	60.0	7.251	3.625	21.0	1.000	0.939	14.68	33.4	2.64	Up	33t4
	10.0	70.0	7.542	2.580	19.0	1.000	1.000	14.11	39.0	2.25	Up	33t4
	10.0	80.0	7.708	1.338	13.9	1.000	1.000	13.44	45.4	1.75	Up	33t4
	10.0	90.0	7.796	-0.000	20.1	0.948	0.941	12.20	50.3	1.99	Dfrc	33t4
	10.0	105.0	8.106	-2.098	17.1	1.000	1.000	10.76	59.1	1.54	Dfrc	33t4
	10.0	120.0	7.943	-3.971	18.4	1.000	1.000	8.73	70.3	1.55	Msym	33t4
	10.0	135.0	7.676	-5.428	7.8	1.000	1.000	7.03	85.1	0.89	Msym	33t4
	10.0	140.0	7.491	-5.738	5.7	1.000	1.000	6.40	91.5	0.71	Msym	33t4
	10.0	150.0	7.019	-6.079	2.7	1.000	1.000	5.26	108.2	0.41	Msym	33t4
OptDn >	10.0	153.3	6.833	6.102	2.0	1.000	1.000	4.96	115.0	0.32	Msym	33t4
	10.0	165.0	6.076	-5.869	0.6	1.000	1.000	4.42	144.2	0.13	Msym	33t4
	10.0	180.0	5.426	-5.426	-0.0	1.000	1.000	4.57	180.0	-0.00	Msym	33t4
	12.0	33.0	5.904	4.951	19.8	1.000	0.694	17.11	21.1	4.03	Up	33t4
	12.0	36.0	6.230	5.040	20.6	1.000	0.687	17.25	22.5	3.69	Up	33t4
OptUp >	12.0	37.1	6.326	5.045	20.9	1.000	0.686	17.28	23.1	3.60	Up	33t4
	12.0	39.0	6.477	5.033	21.2	1.000	0.686	17.30	24.0	3.46	Up	33t4
	12.0	50.0	7.052	4.533	21.8	0.964	0.785	17.05	30.0	2.99	Up	33t4
	12.0	60.0	7.437	3.718	21.4	0.920	0.952	16.56	35.8	2.70	Up	33t4
	12.0	70.0	7.762	2.655	21.4	0.946	1.000	15.84	41.5	2.39	Up	33t4
	12.0	80.0	8.063	1.400	21.0	1.000	1.000	14.99	47.4	2.07	Up	33t4
	12.0	90.0	8.253	-0.000	14.4	1.000	1.000	14.26	54.6	1.52	Up	33t4
	12.0	105.0	8.559	-2.215	20.7	0.955	1.000	12.14	63.3	1.60	Dfrc	33t4
	12.0	120.0	8.679	-4.339	11.8	1.000	1.000	10.52	75.2	1.02	Dfrc	33t4
	12.0	135.0	8.433	-5.963	11.0	1.000	1.000	8.33	90.4	0.94	Msym	33t4
	12.0	140.0	8.213	-6.291	7.8	1.000	1.000	7.70	97.3	0.76	Msym	33t4
	12.0	150.0	7.683	-6.654	3.6	1.000	1.000	6.57	114.3	0.43	Msym	33t4
OptDn >	12.0	155.4	7.370	6.703	2.2	1.000	1.000	6.12	125.4	0.29	Msym	33t4
	12.0	165.0	6.876	-6.642	0.9	1.000	1.000	5.65	146.6	0.15	Msym	33t4
	12.0	180.0	6.334	-6.334	-0.0	1.000	1.000	5.67	180.0	-0.00	Msym	33t4
	14.0	33.0	6.044	5.069	21.8	1.000	0.581	19.14	21.7	4.12	Up	33t4
	14.0	36.0	6.354	5.141	22.0	0.977	0.607	19.26	23.3	3.79	Up	33t4
OptUp >	14.0	36.6	6.398	5.140	22.1	0.973	0.614	19.26	23.7	3.75	Up	33t4
	14.0	39.0	6.587	5.119	22.2	0.953	0.645	19.28	25.0	3.58	Up	33t4
	14.0	50.0	7.172	4.610	21.9	0.879	0.820	18.99	31.6	3.09	Up	33t4
	14.0	60.0	7.581	3.791	21.5	0.841	0.994	18.43	37.7	2.77	Up	33t4
	14.0	70.0	7.942	2.716	21.7	0.882	1.000	17.65	43.8	2.41	Up	33t4
	14.0	80.0	8.308	1.443	21.8	0.939	1.000	16.71	50.0	2.08	Up	33t4
	14.0	90.0	8.662	-0.000	20.8	1.000	1.000	15.69	56.5	1.73	Up	33t4
	14.0	105.0	8.962	-2.320	21.1	0.887	1.000	13.70	67.1	1.53	Dfrc	33t4
	14.0	120.0	9.454	-4.727	17.7	1.000	1.000	11.81	78.0	1.06	Dfrc	33t4
	14.0	135.0	9.235	-6.530	16.5	1.000	1.000	9.51	94.0	0.98	Msym	33t4
	14.0	140.0	9.048	-6.931	10.7	1.000	1.000	9.00	100.7	0.77	Msym	33t4
	14.0	150.0	8.373	-7.251	4.6	1.000	1.000	7.92	118.3	0.45	Msym	33t4
OptDn >	14.0	161.3	7.669	7.264	1.8	1.000	1.000	7.17	141.3	0.23	Msym	33t4
	14.0	165.0	7.511	-7.255	1.2	1.000	1.000	7.02	148.9	0.18	Msym	33t4
	14.0	180.0	7.007	-7.007	-0.0	1.000	1.000	6.99	180.0	-0.00	Msym	33t4

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>
	16.0	33.0	6.107	5.122	22.1	0.934	0.577	21.13	22.5	4.30	Up	33t4
	16.0	36.0	6.422	5.196	22.2	0.906	0.615	21.23	24.2	3.94	Up	33t4
OptUp >	16.0	36.4	6.458	5.194	22.2	0.902	0.621	21.24	24.5	3.91	Up	33t4
	16.0	39.0	6.654	5.171	22.3	0.882	0.658	21.24	26.0	3.73	Up	33t4
	16.0	50.0	7.260	4.667	22.1	0.814	0.842	20.90	32.9	3.20	Up	33t4
	16.0	60.0	7.695	3.847	21.7	0.786	1.000	20.30	39.4	2.83	Up	33t4
	16.0	70.0	8.101	2.771	22.0	0.828	1.000	19.46	45.8	2.44	Up	33t4
	16.0	80.0	8.524	1.480	22.1	0.881	1.000	18.47	52.3	2.07	Up	33t4
	16.0	90.0	8.949	-0.000	22.1	0.951	1.000	17.31	58.9	1.74	Up	33t4
	16.0	105.0	9.404	-2.434	14.0	1.000	1.000	15.89	70.7	1.08	Up	33t4
	16.0	120.0	10.104	-5.052	22.1	0.973	1.000	13.01	80.7	1.07	Dfrc	33t4
	16.0	135.0	10.012	-7.079	23.6	1.000	1.000	10.45	97.2	1.02	Msym	33t4
OptDn >	16.0	147.4	9.469	7.974	7.6	1.000	1.000	9.45	115.1	0.51	Msym	33t4
	16.0	150.0	9.187	-7.956	5.9	1.000	1.000	9.23	120.4	0.45	Msym	33t4
	16.0	165.0	8.122	-7.846	1.7	1.000	1.000	8.42	150.5	0.20	Msym	33t4
	16.0	180.0	7.579	-7.579	-0.0	1.000	1.000	8.42	180.0	-0.00	Msym	33t4
	20.0	33.0	6.104	5.119	22.6	0.829	0.573	24.99	23.7	4.80	Up	33t4
	20.0	36.0	6.446	5.215	22.9	0.803	0.617	25.08	25.6	4.38	Up	33t4
OptUp >	20.0	36.8	6.515	5.215	22.9	0.796	0.631	25.09	26.1	4.30	Up	33t4
	20.0	39.0	6.694	5.203	22.8	0.777	0.668	25.08	27.6	4.10	Up	33t4
	20.0	50.0	7.361	4.731	22.4	0.710	0.880	24.69	35.0	3.45	Up	33t4
	20.0	60.0	7.850	3.925	22.3	0.699	1.000	23.99	41.9	2.99	Up	33t4
	20.0	70.0	8.352	2.856	22.5	0.737	1.000	23.07	48.8	2.52	Up	33t4
	20.0	80.0	8.876	1.541	22.7	0.786	1.000	21.97	55.8	2.09	Up	33t4
	20.0	90.0	9.526	-0.000	23.0	0.850	1.000	20.73	62.6	1.66	Up	33t4
	20.0	105.0	10.567	-2.735	23.6	0.985	1.000	18.51	73.1	1.14	Up	33t4
	20.0	120.0	11.327	-5.664	23.1	0.856	1.000	15.99	85.2	0.88	Dfrc	33t4
	20.0	135.0	12.202	-8.628	18.1	1.000	1.000	13.58	98.2	0.51	Dfrc	33t4
OptDn >	20.0	147.7	11.912	-9.125	25.7	0.975	1.000	12.07	106.4	0.67	Msym	33t4
	20.0	150.0	11.582	-10.031	9.9	1.000	1.000	11.40	120.2	0.36	Msym	33t4
	20.0	165.0	9.662	-9.333	3.0	1.000	1.000	10.95	151.8	0.20	Msym	33t4
	20.0	180.0	8.768	-8.768	-0.0	1.000	1.000	11.23	180.0	-0.00	Msym	33t4
	25.0	33.0	5.840	4.898	23.3	0.734	0.571	29.58	25.0	5.93	Up	33t4
	25.0	36.0	6.280	5.080	23.4	0.706	0.622	29.74	27.0	5.20	Up	33t4
OptUp >	25.0	38.5	6.542	5.117	23.4	0.685	0.670	29.75	28.7	4.84	Up	33t4
	25.0	39.0	6.594	5.124	23.4	0.681	0.680	29.76	29.0	4.77	Up	33t4
	25.0	50.0	7.368	4.736	22.9	0.618	0.905	29.33	37.0	3.86	Up	33t4
	25.0	60.0	7.932	3.966	23.0	0.616	1.000	28.54	44.3	3.27	Up	33t4
	25.0	70.0	8.534	2.919	23.4	0.649	1.000	27.51	51.6	2.69	Up	33t4
	25.0	80.0	9.223	1.602	23.7	0.694	1.000	26.31	59.0	2.15	Up	33t4
	25.0	90.0	10.134	-0.000	24.2	0.752	1.000	24.95	66.0	1.61	Up	33t4
	25.0	105.0	11.631	-3.010	24.9	0.871	1.000	22.51	76.7	1.00	Up	33t4
	25.0	120.0	13.237	-6.618	21.7	1.000	1.000	20.13	87.9	0.52	Up	33t4
	25.0	135.0	14.791	-10.459	25.4	0.925	1.000	16.23	100.2	0.37	Dfrc	33t4
	25.0	140.0	15.335	-11.747	24.5	1.000	1.000	15.11	104.6	0.29	Dfrc	33t4
OptDn >	25.0	151.9	15.337	13.525	16.3	1.000	1.000	13.16	120.7	0.19	Msym	33t4
	25.0	165.0	12.464	-12.040	4.7	1.000	1.000	13.35	151.1	0.14	Msym	33t4
	25.0	180.0	10.865	-10.865	-0.0	1.000	1.000	14.14	180.0	-0.00	Msym	33t4

Best Performance (cont)

	TWS	TWA	V	VMG	Heel	Reef	Flat	AWS	AWA	Lee	Sail	Flot
	30.0	33.0	5.176	4.341	23.6	0.663	0.567	33.83	26.3	8.37	Up	33t4
	30.0	36.0	5.802	4.694	23.9	0.636	0.622	34.12	28.2	6.79	Up	33t4
	30.0	39.0	6.277	4.878	24.1	0.612	0.682	34.25	30.2	5.87	Up	33t4
OptUp >	30.0	41.3	6.530	4.907	24.0	0.595	0.730	34.24	31.9	5.45	Up	33t4
	30.0	50.0	7.256	4.664	23.7	0.552	0.910	33.87	38.4	4.43	Up	33t4
	30.0	60.0	7.899	3.950	23.9	0.551	1.000	32.99	46.1	3.66	Up	33t4
	30.0	70.0	8.583	2.936	24.4	0.581	1.000	31.85	53.7	2.97	Up	33t4
	30.0	80.0	9.434	1.638	25.0	0.622	1.000	30.53	61.3	2.29	Up	33t4
	30.0	90.0	10.566	-0.000	25.6	0.675	1.000	29.05	68.7	1.63	Up	33t4
	30.0	105.0	12.578	-3.255	26.5	0.783	1.000	26.37	79.5	0.90	Up	33t4
	30.0	120.0	15.149	-7.575	27.2	0.935	1.000	23.11	89.6	0.42	Up	33t4
	30.0	135.0	17.174	-12.144	26.8	0.820	1.000	19.36	102.0	0.24	Dfrc	33t4
	30.0	140.0	17.898	-13.711	27.3	0.902	1.000	17.88	106.5	0.19	Dfrc	33t4
	30.0	150.0	18.583	-16.093	32.1	0.999	1.000	14.70	120.2	0.16	Msym	33t4
OptDn >	30.0	155.3	18.748	17.035	18.5	1.000	1.000	14.62	125.6	0.09	Msym	33t4
	30.0	165.0	16.247	-15.694	6.5	1.000	1.000	14.89	148.8	0.07	Msym	33t4
	30.0	180.0	13.732	-13.732	-0.0	1.000	1.000	16.27	180.0	-0.00	Msym	33t4