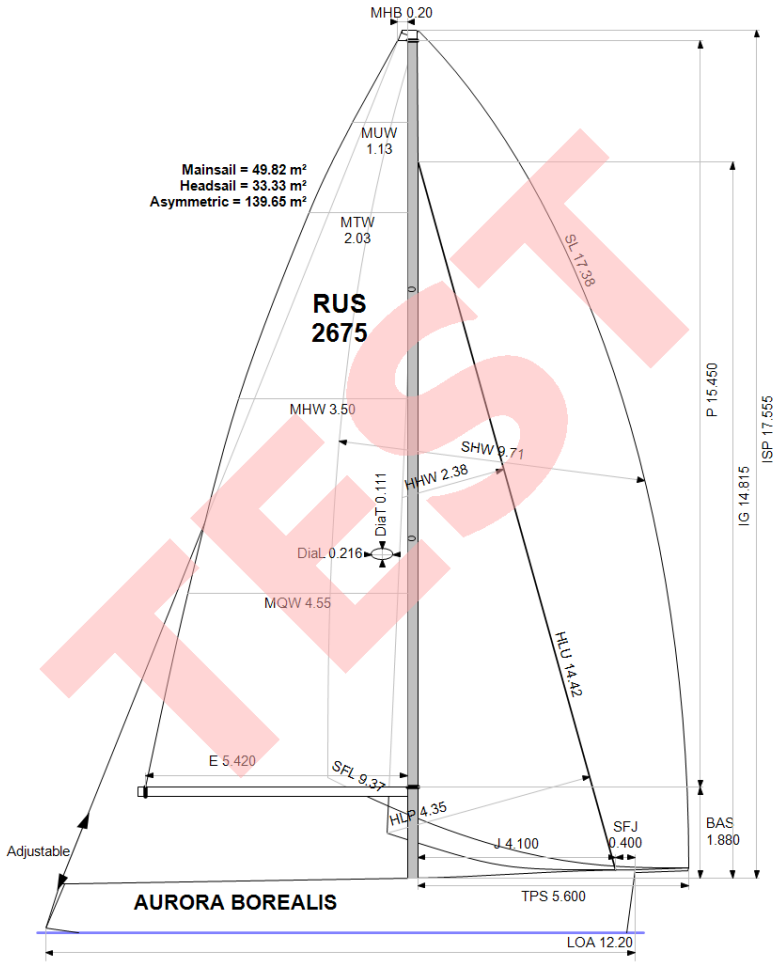
International Certificate **2022**

Boat
Aurora Borealis
RUS 2675

Novokolomiazhskii av 11-70
St-Petersburg
Russia



TEST

APH: **488.3** CDL: **11.245**

GPH: **548.7** CertNo: **2675.9**

BOAT

Class	**ELF1180**
Designer	**Mataruev/Kosorotov**
Builder	**CYC yachts**
Age date	**09.2016**
Series date	**04.2015**
Offset file	**ELF1220-DV.off**
Data file	**RU2675_Aurora**

HULL

Length Overall	**12.200 m**
Maximum Beam	**3.818 m**
Draft	**2.629 m**
Displacement	**5 595 kg**
DLR	**3.6968**
IMS Division	**Performance**
Dynamic Allowance	**0.000%**
Age Allowance	**0.228%**

PROPELLER

Installation	**Strut**
Type	**Folding 2 blades**
Diameter	**0.435m**

CREW

Maximum weight	**730 kg**
Minimum weight	**548 kg** ** when applied*
Non Manual Power	**No**
Crew Arm Extension	

SAIL AREAS (m²)

	Measured	Rated
Mainsail	**49.82**	**50.82**
Headsail Luffed	**33.33**	**33.33**
Headsail Flying		
Symmetric		
Asymmetric	**139.65**	**139.65**

(2 asymmetric(s) with SHW/SFL < 85%)

STORM SAIL AREAS (m²)

Trysail	**14.66**
Storm Jib	**11.09**
Heavy Weather Jib	**29.94**

SAIL LIMITS

Headsails	**6**
Spinnakers	**4**

STABILITY

Righting Moment	**188.5 kg·m**
Stability Index	**133.9**

The owner and any other person in charge is responsible that boat is complying with her certificate in accordance with RRS 78.1 and ORC Rule 304.

Rated boat velocities in knots							
Wind Velocity	**6 kt**	**8 kt**	**10 kt**	**12 kt**	**14 kt**	**16 kt**	**20 kt**
Beat Angles	43.0°	41.7°	40.2°	38.2°	37.6°	37.5°	36.6°
Beat VMG	3.75	4.61	5.29	5.65	5.79	5.86	6.00
52°	5.75	6.93	7.64	7.94	8.08	8.16	8.27
60°	6.25	7.38	7.83	8.15	8.34	8.46	8.58
75°	6.81	7.78	8.16	8.40	8.75	9.05	9.34
90°	7.03	7.96	8.48	8.93	9.25	9.55	10.16
110°	6.76	7.84	8.42	9.09	9.79	10.47	11.44
120°	6.35	7.67	8.33	9.05	9.77	10.50	12.16
135°	5.66	7.11	7.97	8.58	9.33	10.23	12.52
150°	4.76	6.02	7.16	7.91	8.38	8.97	10.70
Run VMG	4.12	5.22	6.20	6.86	7.25	7.77	9.27
Gybe Angles	143.0°	145.1°	148.7°	151.4°	149.2°	146.6°	142.8°

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Time Allowances in secs/NM							
Wind Velocity	**6 kt**	**8 kt**	**10 kt**	**12 kt**	**14 kt**	**16 kt**	**20 kt**
Beat VMG	958.9	780.2	680.1	637.0	621.5	613.9	599.5
52°	626.6	519.3	471.2	453.3	445.7	441.4	435.2
60°	575.7	487.6	459.7	442.0	431.4	425.3	419.6
75°	528.3	462.6	441.4	428.8	411.5	397.8	385.4
90°	512.0	452.4	424.3	403.2	389.4	377.0	354.5
110°	532.5	459.3	427.7	396.1	367.6	343.9	314.7
120°	566.6	469.6	432.2	397.9	368.4	343.0	296.0
135°	636.5	506.5	451.9	419.4	385.7	351.8	287.6
150°	756.2	597.6	502.7	455.3	429.7	401.5	336.3
Run VMG	873.2	690.1	580.4	524.6	496.2	463.6	388.3
Selected Courses							
Windward / Leeward	916.1	735.1	630.3	580.8	558.8	538.7	493.9
All purpose	691.5	568.7	505.7	472.4	452.2	434.5	401.6

Single Number Scoring Options		
Course	**Time On Distance**	**Time On Time**
Windward / Leeward	610.0	0.9837
All purpose	488.3	1.2288

Custom scoring options for Russia

Single Number	Time On Distance	Time On Time
Predominantly Upwind	532.9	1.1258
Predominantly Downwind	494.8	1.2126

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Data in **meters/kilograms (Metric)**

HULL AND APPENDAGES (Lightship Trim)

Class	**ELF1180**	LOA	**12.200**	VCGD	**-0.508**
Measurement	**29.07.2016**	Max. Beam	**3.818**	VCGM	**-0.496**
HIN		Draft	**2.629**	RM Measured (kg·m)	**188.5**
Plan review		Displacement	**5 595**	RM Default (kg·m)	**155.0**
Hull construction	**Cored**	Wetted area	**29.77**	Limit of positive stability(°)	**135.2**
Aramid Hull Core	**No**	IMS L	**11.501**	Stability Index	**133.9**
Carbon Rudder	**No**	LSM0	**11.480**		
Light stanchions	**No**	Acc. length	**12.200**		
Trim tab	**No**	Sink (kg/mm)	**21.70**		

PROPELLER

Propeller Type	**Folding 2 blades**						
Installation	**Strut**	PRD	**0.435**	EDL	**2.620**	ST3	**0.180**
Twin screw	**No**	PBW	**0.120**	ST1	**0.065**	ST4	**0.110**
Hydro generator	**No**	PIPA	**0.0033**	ST2	**0.180**	ST5	**0.110**

RIG

Forestay tension	**Aft**	P	**15.450**	E	**5.420**
Inner stay	**None Fitted**	IG	**14.815**	J	**4.100**
Carbon mast	**Yes**	ISP	**17.555**	BAS	**1.880**
Headsail furler	**No**	MDT1	**0.111**	FSD	**0.040**
Mainsail furler	**No**	MDL1	**0.216**	SFJ	**0.400**
Articulated bowsprit	**No**	MDT2	**0.111**	SPL	
Non-circular rigging	**No**	MDL2	**0.210**	WPL	
Fiber rigging	**No**	TL	**2.640**	TPS	**5.600**
Runners/Checkstays	**0**	MW	**0.216**	BD	
Spreaders	**2**	GO	**0.237**	MWT	**160.00**
				MCG	**5.725**

FLOTATION AND STABILITY

Calculation method	**Poles inclining**	SFFP	**0.500**	SAFP	**11.800**	W1	**129.3**	PD1	**190.0**	WD	**10.370**
Flotation Date	**16.06.2017**	FFM	**1.290**	FAM	**1.004**	W2	**129.3**	PD2	**190.0**	PLM	**1530.00**
Measurer	**RUS 209**	FF	**1.297**	FA	**1.012**	W3	**129.3**	PD3	**190.0**	GSA	**64.0**
Comment	**Empty boat. No matresses nor soft lining**	LCFcl	**6.873**	LCFsh	**7.111**	W4	**129.3**	PD4	**190.0**	RSA	**24025.0**
		SG	**1.0000**	HBI	**1.125**						

INVENTORY

TANKS

Id	*Description*	*Sp.Wght*	*Capacity*	*Condition*	*LCG*	*VCG*
F	Fuel fixed, plastic At CL under cokpit sole	0.9000	80	~~25~~	9.17	0.07
W	Water Fixed plastic flexible plastic tank		150	0	4.32	0.00
			Total deductible	**23**	**9.17**	**0.07**

OTHER ITEMS

Id	*Kind*	*Description*	*Weight*	*LCG*	*VCG*
S	Miscellaneous	Cooking stove 2-burns SB aft of blkh	3	4.80	1.00
B1	Battery	Varta Silver Dynamics G14 95 AH	26	6.72	-0.20
B2	Battery	Exide Start-Stop EK 950 95 AH	26	6.72	-0.20
E	Engine	Volvo Penta D1-30 Sail drive			
A1	Anchor	Danfort 15 kg in the aft peak	~~0~~	11.20	0.30
Ch1	Chain	rope d14 l50 6 kg	~~0~~	11.20	0.30
		Total deductible	**0**		

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MAINSAIL

Id	*MHB*	*MUW*	*MTW*	*MHW*	*MQW*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
M2	0.20	1.13	2.03	3.50	4.55	49.82	12.05.2018	SSSails	Dyneema	
OUK40	0.11	1.11	2.02	3.51	4.57	49.78	28.11.2019	North Sails	Carbon	

HEADSAIL

Id	*HHB*	*HUW*	*HTW*	*HHW*	*HQW*	*HLP*	*HLU*	*Btn*	*Flying*	*FT*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
OUK40	0.10	0.77	1.40	2.38	3.29	4.35	14.42	Yes	No		33.33	23.11.2019	North Sails	Carbon	J1
ODK 105903	0.10	0.72	1.34	2.35	3.30	4.40	14.42	Yes	No		33.15	09.11.2017	North Sails	Carbon	
J2-21	0.13	0.74	1.36	2.36	3.30	4.36	14.34	Yes	No		33.01	24.06.2021	Severnoie Sijanie	Dacron	Heavy
H2	0.05	0.49	0.97	2.05	3.32	4.44	14.17	Yes	No		30.48	12.05.2018	Unknown	Dacron	
OUK-40	0.10	0.54	1.01	1.98	2.95	3.90	12.57	Yes	No		24.89	23.11.2019	North Sails	Carbon	J4OSRHeavy
H3	0.08	0.51	0.94	1.87	2.80	3.68	11.56	Yes	No		21.61	12.05.2018	Ulman Sails	Dacron	OSR Heavy

ASYMMETRIC SPINNAKER

Id	*SLU*	*SLE*	*SL*	*SHW*	*SFL*	*Ratio*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
ODK 105903	18.80	15.96	17.38	9.71	9.37	104%	139.65	21.10.2017	North Sails	Unknown	A2
OUK40	19.03	16.01	17.52	9.59	9.46	101%	139.63	04.11.2019	North Sails	Unknown	A1.5
A2-21	18.71	15.90	17.31	9.70	9.31	104%	138.76	24.06.2021	Severnoie Sijanie	Nylon	
OUK 401168	15.96	14.42	15.19	7.45	9.49	79%	99.47	20.10.2018	North Sails	Unknown	A5
OUK 401168	17.62	16.44	17.03	5.94	7.92	75%	89.92	25.10.2018	North Sails	Unknown	A0