BOAT

Name **ZIRALLA PRIMERO**
Sail Nr **ESP-5858**

GPH

643.3

GENERAL

Class	**ASTRAEA 330**
Designer	**FAUROUX JACQUES**
Builder	**ASTRAEA**
Series	**01/2000**
Age	**04/2001**
Age Allow ance	**0.487%**
Offset File	**AST3302.OFF - 09/07/2003 19:41:00**
Measurement by	**- 20/01/2015**

HULL

Length Overall	**9.968m**
Maximum Beam	**3.226m**
Displacement	**3,519kg**
Draft	**1.899m**
Plan Review	
IMS Reg. Division	**Cruiser/Racer**
Dynamic Allow ance	**0.189%**
Hull Construction	**Solid**
Carbon Rudder	**No**
Crew Arm Extension	

IMSL	**9.373m**	VCGD	**0.416m**	Sink	**15.63kg/mm**
RL	**7.920m**	VCGM	**0.195m**	WS	**20.23m²**
LSM0	**9.283m**	Displacement/Length ratio			**4.3990**

SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**625.0**			**699.8**		
Time on Time	**0.9599**			**0.9646**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**738.3**	**569.3**	**507.2**	**955.4**	**701.6**	**612.2**
Time on Time	**0.9143**	**1.1857**	**1.3308**	**0.7065**	**0.9621**	**1.1025**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**1096.2**	**904.2**	**797.3**	**750.3**	**736.0**	**731.9**	**722.2**
52°	**712.7**	**601.3**	**544.6**	**523.3**	**516.3**	**513.2**	**507.1**
60°	**672.1**	**572.3**	**528.4**	**509.4**	**501.0**	**497.1**	**492.4**
75°	**644.0**	**551.9**	**516.1**	**495.8**	**480.9**	**470.9**	**463.8**
90°	**651.2**	**546.8**	**507.4**	**491.4**	**471.6**	**452.6**	**428.5**
110°	**647.3**	**538.6**	**498.0**	**470.0**	**446.3**	**432.0**	**408.6**
120°	**667.8**	**550.2**	**503.4**	**473.4**	**443.5**	**417.0**	**385.0**
135°	**740.9**	**601.1**	**528.2**	**494.6**	**465.6**	**435.2**	**375.6**
150°	**880.9**	**696.5**	**588.5**	**526.3**	**495.3**	**468.5**	**412.9**
Run VMG	**1017.2**	**804.2**	**678.8**	**597.8**	**541.5**	**505.7**	**453.8**
Selected Courses							
Windward / Leeward	**1056.7**	**854.2**	**738.1**	**674.1**	**638.8**	**618.8**	**588.0**
Circular Random	**886.9**	**715.6**	**624.0**	**571.1**	**538.6**	**517.0**	**487.3**
Coastal / Long Distance	**1052.7**	**801.7**	**665.8**	**590.3**	**550.2**	**517.9**	**463.9**
Non Spinnaker	**959.0**	**766.3**	**661.5**	**600.0**	**562.0**	**537.1**	**505.5**

Velocity Prediction in Knots for True Wind Speeds

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	**43.1°**	**41.3°**	**40.5°**	**39.8°**	**39.0°**	**39.0°**	**39.4°**
Beat VMG	**3.28**	**3.98**	**4.52**	**4.80**	**4.89**	**4.92**	**4.98**
52°	**5.05**	**5.99**	**6.61**	**6.88**	**6.97**	**7.01**	**7.10**
60°	**5.36**	**6.29**	**6.81**	**7.07**	**7.19**	**7.24**	**7.31**
75°	**5.59**	**6.52**	**6.98**	**7.26**	**7.49**	**7.64**	**7.76**
90°	**5.53**	**6.58**	**7.10**	**7.33**	**7.63**	**7.95**	**8.40**
110°	**5.56**	**6.68**	**7.23**	**7.66**	**8.07**	**8.33**	**8.81**
120°	**5.39**	**6.54**	**7.15**	**7.60**	**8.12**	**8.63**	**9.35**
135°	**4.86**	**5.99**	**6.82**	**7.28**	**7.73**	**8.27**	**9.58**
150°	**4.09**	**5.17**	**6.12**	**6.84**	**7.27**	**7.68**	**8.72**
Run VMG	**3.54**	**4.48**	**5.30**	**6.02**	**6.65**	**7.12**	**7.93**
Gybe Angles	**145.0°**	**149.0°**	**151.0°**	**158.0°**	**180.0°**	**180.0°**	**180.0°**

Rating Office

Offshore Racing Congress

Certificate

Number **585801**
ORC Ref **03510000BFP**
Issued On **20/01/2020**
VPP Ver. **2020 1.00**
Valid until **31/12/2020**

Crew Weight

Default	619kg
Maximum	**550kg**
Minimum*	**413kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**683.1**	**0.8783**
Non Spin OSN	**660.2**	**0.9088**

Sails Limitations

Headsails	Spinnakers
5	**4**

Class Division Length

CDL = **8.640**

Storm Sails Areas

Heavy Weather Jib	**20.01**
Storm Jib (JL=7.92)	**7.41**
Storm Trysail	**9.40**

Owner

BOAT

Name **ZIRALLA PRIMERO** Sail Nr **ESP-5858**
File **E5858** Data in **meters/kilograms**

RIG

Forestay Tension	**Aft**	Spreaders	**2**
Inner Stay	**None Fitted**	Runners/Checkstays	**0**
Carbon Mast	**No**	Jib Furler	**No**
Fiber Rigging	**No**	Main Furler	**No**
Non-Circular Rigging	**No**		
Articulated Bowsprit	**No**		

P	**11.750**	E	**4.570**	MDT1	**0.105**	MW	**0.160**
IG	**12.122**	J	**3.610**	MDL1	**0.160**	GO	**0.175**
ISP	**12.617**	SFJ	**0.064**	MDT2	**0.074**	BD	**0.145**
BAS	**1.502**	SPL	**3.610**	MDL2	**0.113**	MWT	**97.20**
FSD	**0.031**	TPS		TL	**0.940**	MCG	**4.450**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**
Flotation date **20/01/2015** SG **1.0250**

FFM	**1.122**	FF	**1.122**	SFFP	**0.203**
FAM	**0.852**	FA	**0.852**	SAFP	**9.108**
W1	**42.0**	PD1	**515.7**	WD	**10.000**
W2	**42.0**	PD2	**486.5**	GSA	**1.0**
W3	**42.0**	PD3	**504.7**	RSA	**1.0**
W4	**42.0**	PD4	**499.3**	PLM	**9000.0**

LCF from stem on CL / on sheer	**5.630 / 5.853**
Maximum beam station from stem	**6.739**
RM Measured	**66.0kg·m**
RM Default	**74.8kg·m**
Limit of positive stability / Stab.Index	**103.2° / 100.6**
Freeboard at mast at 3.674	**0.990**

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IMS Measurement Certificate

MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**			PRD	**0.407**
Type	**Folding 2 blades**			PBW	
Twin Screw	**No**			PIPA	**0.0031**
ST1	**0.039**	ST3	**0.179**	ST5	**0.195**
ST2	**0.179**	ST4	**0.112**	EDL	**1.547**

Certificate

Number **585801**
ORC Ref **03510000BFP**
Issued On **20/01/2020**
VPP Ver. **2020 1.00**
Valid until **31/12/2020**

COMMENTS

SIN LASTRE EN SENTINA 01/15

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

SAILS (Maximum Areas)

Mainsail	**MHB**	**MUW**	**MTW**	**MHW**	**MQW**	**Area**	**Area (r)**	**Formula**
	0.19	0.92	1.68	2.90	3.82	31.64	32.38	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	**SLU**	**SLE**	**SL**	**SHW**	**SFL**			
	12.35	12.35	12.35	6.35	6.44	65.54		SL · (SFL + 4·SHW) / 6

Asymmetric
Not Available

HEADSAILS

Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)

HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Flying	Meas.Date	Material	Comment
0.09	0.57	1.06	1.93	2.81	3.65	11.57	22.08	Y	No	17/12/2016	Unknow	

MEASUREMENT INVENTORY

Measurer **ESP 492**
Date **20/01/2015**
Comment
Internal Ballast total = 0.0

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
1	Tank	AGUA	FLEXIBLE	60.0	2.00		~~0.0~~	
1	Tank	GASOIL	RIG	50.0	7.60		~~0.0~~	

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
1	Battery	0.0	5.85		2 x 95 amp.

SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
002	0.19	0.92	1.68	2.90	3.82	31.65		27/01/2016		Unknown	
001	0.16	0.83	1.50	2.67	3.69	30.04		17/12/2009	NORTH	Kevlar	

HEADSAILS (1)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
SALOM	0.09	0.57	1.06	1.93	2.81	3.65	11.57	101%	22.08	Y	No		17/12/2016		Unknow	

SYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
001	12.35	12.35	12.35	6.35	6.44	65.54		30/11/2009	NORTH	Nylon	S-3
003	12.20	12.20	12.20	6.50	6.02	65.11		20/01/2015		Unknown	

ASYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment