

BOAT Name LAVORO Sail Nr GRE-631	GPH 573.7	HULL Length Overall 10.910m Maximum Beam 3.588m Displacement 3,588kg Draft 2.235m Plan Review IMS Reg. Division Performance Dynamic Allowance 0.000% Hull Construction Cored Carbon Rudder No Crew Arm Extension IMSL 9.771m VCGD -0.093m Sink 16.45kg/mm RL 9.730m VCGM -0.091m WS 21.55m² LSM0 9.514m Displacement/Length ratio 4.1664
GENERAL Class MUMM 36 Designer BRUCE FARR Builder CARROLL Series 09/1993 Age 12/1993 Age Allowance 0.487% Offset File MUMM36.BOF - 08/06/1998 17:46:08 Measurement by - 26/04/2011		



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	559.3			627.0		
Time on Time	1.0728			1.0766		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	642.1	513.2	459.5	823.8	628.1	557.9
Time on Time	1.0512	1.3154	1.4691	0.8194	1.0746	1.2100

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	925.9	763.6	699.1	676.9	667.5	666.5	657.9
52°	609.6	519.8	493.8	484.7	480.0	477.3	470.6
60°	576.8	505.3	481.4	470.5	464.1	460.4	452.3
75°	552.4	495.7	469.3	449.2	437.4	430.3	424.3
90°	558.0	495.8	467.8	441.7	419.9	404.3	389.9
110°	575.6	491.7	456.2	432.6	413.9	397.1	366.4
120°	590.7	497.4	458.6	423.3	397.7	379.5	346.4
135°	653.7	529.5	479.5	444.3	409.1	373.8	312.4
150°	773.1	617.5	525.1	480.6	448.1	415.8	350.9
Run VMG	892.7	713.0	605.3	543.4	499.3	466.8	406.4

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Crew Weight
Default **641kg**
Maximum **641kg**
Minimum* **481kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Non Spin GPH **606.9 0.9886**
Non Spin OSN **592.2 1.0132**

Selected Courses							
Windward / Leeward	909.3	738.3	652.2	610.2	583.4	566.6	532.1
Circular Random	777.0	633.2	557.6	514.3	487.1	467.9	439.1
Coastal / Long Distance	907.7	696.4	592.7	534.9	499.8	471.0	419.2
Non Spinnaker	837.0	675.4	588.9	538.4	506.6	484.6	453.9

Sails Limitations
Headsails **5** Spinnakers **4**

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	42.4°	41.3°	38.6°	37.9°	37.5°	37.5°	37.5°
Beat VMG	3.89	4.71	5.15	5.32	5.39	5.40	5.47
52°	5.91	6.93	7.29	7.43	7.50	7.54	7.65
60°	6.24	7.13	7.48	7.65	7.76	7.82	7.96
75°	6.52	7.26	7.67	8.01	8.23	8.37	8.48
90°	6.45	7.26	7.70	8.15	8.57	8.90	9.23
110°	6.25	7.32	7.89	8.32	8.70	9.07	9.82
120°	6.09	7.24	7.85	8.50	9.05	9.49	10.39
135°	5.51	6.80	7.51	8.10	8.80	9.63	11.52
150°	4.66	5.83	6.86	7.49	8.03	8.66	10.26
Run VMG	4.03	5.05	5.95	6.63	7.21	7.71	8.86
Gybe Angles	143.4°	146.0°	151.5°	159.0°	180.0°	180.0°	151.5°

Class Division Length
CDL = **9.743**

Storm Sails Areas
Heavy Weather Jib **24.04**
Storm Jib (JL=8.68) **8.91**
Storm Trysail **11.82**

Owner

BOAT	
Name LAVORO	Sail Nr GRE-631
File GR49631	Data in meters/kilograms

RIG	
Forestay Tension Aft	Spreaders 2
Inner Stay None Fitted	Runners/Checkstays 2
Carbon Mast No	Jib Furler No
Fiber Rigging No	Main Furler No
Non-Circular Rigging No	
Articulated Bowsprit No	
P 13.601	E 4.965 MDT1 0.122 MW 0.182
IG 13.272	J 3.805 MDL1 0.190 GO 0.202
ISP 15.514	SFJ 0.179 MDT2 0.121 BD 0.153
BAS 1.796	SPL 4.650 MDL2 0.152 MWT 139.00
FSD 0.037	TPS TL 1.065 MCG 4.903

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 26/04/2011		SG	
FFM 1.141	FF 1.150	SFFP 0.414	
FAM 0.957	FA 0.956	SAFP 10.334	
W1 67.0	PD1 246.0	WD 10.410	
W2 67.0	PD2 246.0	GSA 50.2	
W3 67.0	PD3 246.0	RSA 5024.0	
W4 67.0	PD4 246.0	PLM 2000.0	
LCF from stem on CL / on sheer		5.988 / 6.221	
Maximum beam station from stem		6.703	
RM Measured		98.3kg-m	
RM Default		100.7kg-m	
Limit of positive stability / Stab.Index		118.8° / 113.9	
Freeboard at mast at 3.984		1.020	



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MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.370		
Type Folding 2 blades	PBW 0.118		
Twin Screw No	PIPA 0.0034		
ST1 0.042	ST3 0.182	ST5 0.286	
ST2 0.182	ST4 0.110	EDL 0.820	

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COMMENTS	
ex "MODUS VIVENDI III", ex "CODE ZERO". FBs adjusted for 50lt fuel.	

MOVABLE BALLAST			
N/A			

CENTERBOARD			
N/A			

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.22	1.03	1.88	3.26	4.26	40.74	41.69	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	15.37	15.37	15.37	8.30	7.87	105.21		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
0.08	0.66	1.27	2.53	3.87	5.30	13.60	35.29	N	No	29/02/2020	Carbon	#1.5 Medium
0.11	0.56	1.07	2.15	3.38	4.70	13.11	29.60		No	14/03/2017	Carbon	#2
0.09	0.48	0.90	1.80	2.73	3.63	13.27	24.16	Y	No	14/03/2017	Polyest	#3
0.10	0.47	0.88	1.75	2.61	3.43	11.84	20.67	Y	No	22/05/2019	Dacron	#4

MEASUREMENT INVENTORY				
Measurer GRE-16				
Date 26/04/2011				
Comment				
Internal Ballast total = 120.0				
Id	Item	Weight	Distance	VCG Description
2	Anchor	49.0	4.30	DANFORTH+rope
4	Anchor	49.0	4.30	DANFORTH+chain
4	Tools	40.8	6.60	2-toolboxes
Id	Item	Maker	Model	
1	Engine	YANMAR	18HP	
Id	Item	Weight	Description	
4	Deck Gear	7.3	1-set of guys,-	

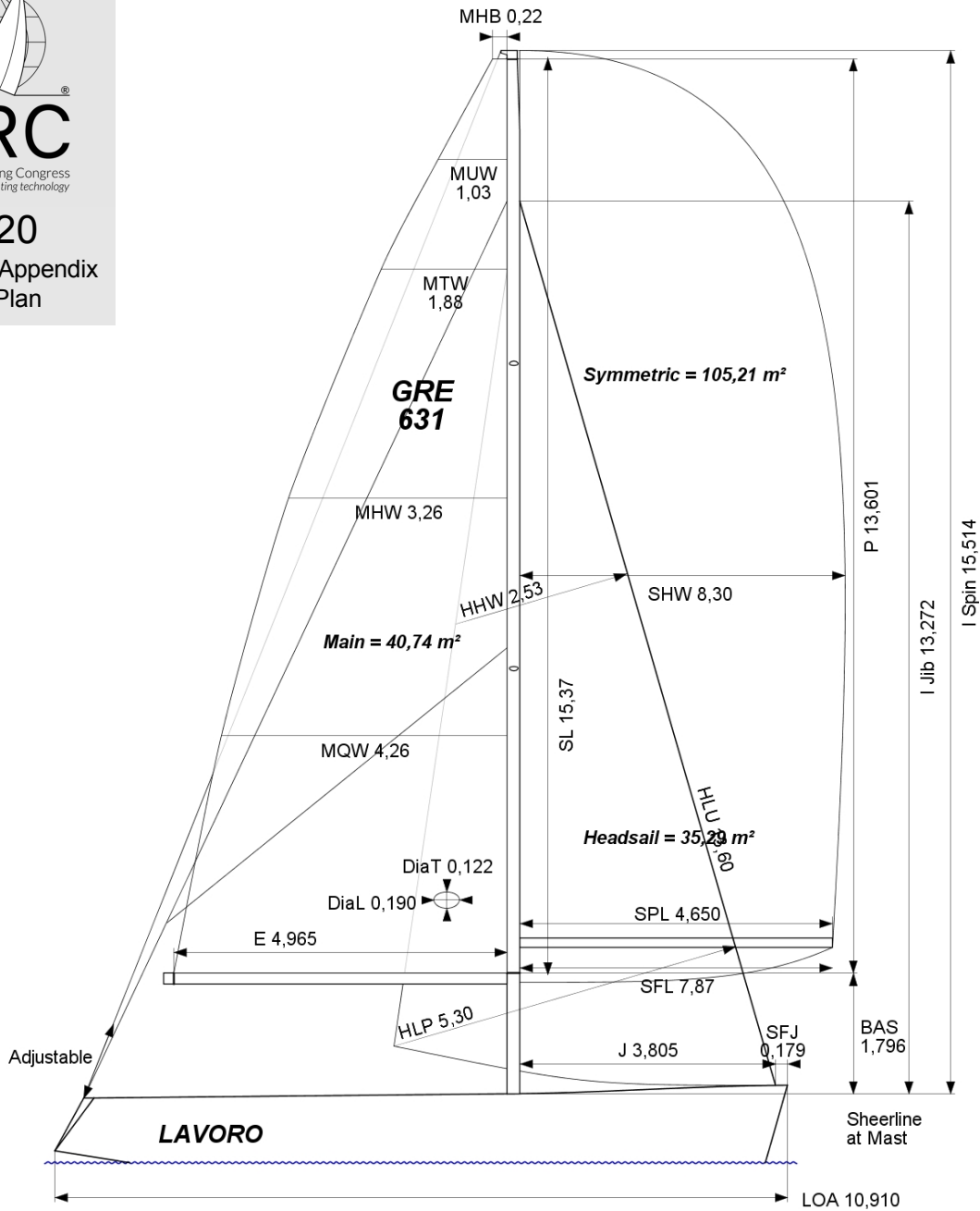
MEASUREMENT INVENTORY						
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG Condtn Description
1	Tank	FUEL	PLASTIC	50.0	7.55	
Id	Item	Weight	Distance	VCG Description		
1	Ballast	60.0	3.10	3 x 20kg		
2	Ballast	60.0	8.00	3 x 20kg		
2	Battery	21.0	8.00	80Ah		
1	Battery	36.0	7.15	60Ah + 72Ah		
4	Misc		6.00	CPU		
3	Misc		5.00	2 chargers		
2	Misc	5.0	7.10	fire extinguisher		
1	Misc	5.0	5.60	fire extinguisher		



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Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0,22	1,03	1,88	3,26	4,26	40,75		24/08/2013	NORTH	Carbon	+Twaron 3DL
2	0,16	1,08	1,90	3,19	4,21	40,43		27/04/2011	KAKITSIS	Kevlar	Light

HEADSAILS (4)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
1,5	0,08	0,66	1,27	2,53	3,87	5,30	13,60	139%	35,29	N	No		29/02/2020	QUANTUM	Carbon	#1,5 Medium
3	0,11	0,56	1,07	2,15	3,38	4,70	13,11	124%	29,60		No		14/03/2017	SAILOFT	Carbon	#2
5	0,09	0,48	0,90	1,80	2,73	3,63	13,27	95%	24,16	Y	No		14/03/2017	QUANTUM	Polyest	#3
4	0,10	0,47	0,88	1,75	2,61	3,43	11,84	90%	20,67	Y	No		22/05/2019	SAILOFT	Dacron	#4

SYMMETRIC SPINNAKERS (6)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
6	15,37	15,37	15,37	8,30	7,87	105,21		29/02/2020	QUANTUM	Nylon	S2
5	15,05	15,05	15,05	7,02	7,80	90,00		20/04/2005	YC	Nylon	S1
1	13,06	13,06	13,06	7,01	6,78	75,80		18/03/2016	NORTH	Nylon	S1,5
3	13,00	13,00	13,00	6,91	6,79	74,60		10/03/2013	NORTH	Nylon	S3
2	13,10	13,10	13,10	6,85	6,60	74,24		18/03/2016	NORTH	Nylon	S2

ASYMMETRIC SPINNAKERS (0)

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