

<b>BOAT</b> Name <b>LZ Yachting 1991</b> Sail Nr <b>BUL-1991</b>	<b>GPH</b> <b>560.0</b>	<b>HULL</b> Length Overall <b>12.450m</b> Maximum Beam <b>3.216m</b> Displacement <b>6,094kg</b> Draft <b>2.538m</b> Plan Review IMS Reg. Division <b>Cruiser/Racer</b> Dynamic Allowance <b>0.000%</b> Hull Construction <b>Cored</b> Carbon Rudder <b>Yes</b> Crew Arm Extension
<b>GENERAL</b> Class <b>Grand Soleil 42R</b> Designer <b>Botin Carkeek</b> Builder <b>Del Pardo</b> Series <b>04/2003</b> Age <b>04/2003</b> Age Allowance <b>0.487%</b> Offset File <b>GS42R.OFF - 28/02/2008 17:15:06</b> Measurement by - <b>23/07/2004</b>		IMSLS <b>10.900m</b> VCGD <b>-0.117m</b> Sink <b>22.71kg/mm</b> RL <b>10.481m</b> VCGM <b>-0.137m</b> WS <b>29.28m<sup>2</sup></b> LSM0 <b>10.443m</b> Displacement/Length ratio <b>5.3509</b>



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SCORING OPTIONS						
Time on Distance	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	<b>546.1</b>			<b>611.9</b>		
Time on Time	<b>1.0988</b>			<b>1.1032</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>635.8</b>	<b>497.9</b>	<b>444.0</b>	<b>826.9</b>	<b>616.2</b>	<b>537.6</b>
Time on Time	<b>1.0616</b>	<b>1.3558</b>	<b>1.5201</b>	<b>0.8163</b>	<b>1.0955</b>	<b>1.2555</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>912.3</b>	<b>745.4</b>	<b>675.1</b>	<b>652.2</b>	<b>642.5</b>	<b>626.8</b>	<b>624.5</b>
52°	<b>599.9</b>	<b>500.2</b>	<b>469.2</b>	<b>460.6</b>	<b>456.5</b>	<b>451.3</b>	<b>446.0</b>
60°	<b>568.0</b>	<b>482.9</b>	<b>456.5</b>	<b>447.8</b>	<b>443.2</b>	<b>439.8</b>	<b>431.2</b>
75°	<b>544.5</b>	<b>471.0</b>	<b>445.6</b>	<b>430.4</b>	<b>422.7</b>	<b>417.9</b>	<b>407.5</b>
90°	<b>533.1</b>	<b>461.9</b>	<b>434.1</b>	<b>416.1</b>	<b>405.3</b>	<b>394.9</b>	<b>385.0</b>
110°	<b>558.9</b>	<b>474.2</b>	<b>439.0</b>	<b>413.5</b>	<b>388.6</b>	<b>367.7</b>	<b>342.3</b>
120°	<b>594.3</b>	<b>487.6</b>	<b>445.6</b>	<b>416.4</b>	<b>388.8</b>	<b>368.8</b>	<b>327.3</b>
135°	<b>667.0</b>	<b>535.7</b>	<b>469.6</b>	<b>438.4</b>	<b>410.8</b>	<b>384.2</b>	<b>328.2</b>
150°	<b>796.9</b>	<b>632.1</b>	<b>530.5</b>	<b>471.2</b>	<b>441.5</b>	<b>415.7</b>	<b>366.0</b>
Run VMG	<b>920.1</b>	<b>729.9</b>	<b>612.6</b>	<b>538.4</b>	<b>490.6</b>	<b>455.0</b>	<b>405.6</b>

**Certificate**  
Number **004/20**  
ORC Ref **03850000HWO**  
Issued On **12/05/2020**  
VPP Ver. **2020 1.01**  
Valid until **31/12/2020**

**Crew Weight**  
Default **732kg**  
Maximum **760kg**  
Minimum\* **570kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **No**

**Special Scoring**  
ToD ToT  
Non Spin GPH **588.2 1.0201**  
Non Spin OSN **572.9 1.0473**

Selected Courses							
Windward / Leeward	<b>916.2</b>	<b>737.6</b>	<b>643.8</b>	<b>595.3</b>	<b>566.6</b>	<b>540.9</b>	<b>515.1</b>
Circular Random	<b>767.3</b>	<b>620.9</b>	<b>543.5</b>	<b>499.0</b>	<b>471.3</b>	<b>452.2</b>	<b>426.5</b>
Coastal / Long Distance	<b>916.6</b>	<b>693.3</b>	<b>580.6</b>	<b>518.4</b>	<b>484.5</b>	<b>454.2</b>	<b>406.2</b>
Non Spinnaker	<b>818.1</b>	<b>656.7</b>	<b>570.1</b>	<b>519.6</b>	<b>488.2</b>	<b>467.2</b>	<b>440.3</b>

**Sails Limitations**  
Headsails **6** 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	<b>42.8°</b>	<b>41.3°</b>	<b>39.0°</b>	<b>38.6°</b>	<b>38.3°</b>	<b>37.5°</b>	<b>38.1°</b>
Beat VMG	<b>3.95</b>	<b>4.83</b>	<b>5.33</b>	<b>5.52</b>	<b>5.60</b>	<b>5.74</b>	<b>5.76</b>
52°	<b>6.00</b>	<b>7.20</b>	<b>7.67</b>	<b>7.82</b>	<b>7.89</b>	<b>7.98</b>	<b>8.07</b>
60°	<b>6.34</b>	<b>7.46</b>	<b>7.89</b>	<b>8.04</b>	<b>8.12</b>	<b>8.19</b>	<b>8.35</b>
75°	<b>6.61</b>	<b>7.64</b>	<b>8.08</b>	<b>8.36</b>	<b>8.52</b>	<b>8.61</b>	<b>8.83</b>
90°	<b>6.75</b>	<b>7.79</b>	<b>8.29</b>	<b>8.65</b>	<b>8.88</b>	<b>9.12</b>	<b>9.35</b>
110°	<b>6.44</b>	<b>7.59</b>	<b>8.20</b>	<b>8.71</b>	<b>9.26</b>	<b>9.79</b>	<b>10.52</b>
120°	<b>6.06</b>	<b>7.38</b>	<b>8.08</b>	<b>8.65</b>	<b>9.26</b>	<b>9.76</b>	<b>11.00</b>
135°	<b>5.40</b>	<b>6.72</b>	<b>7.67</b>	<b>8.21</b>	<b>8.76</b>	<b>9.37</b>	<b>10.97</b>
150°	<b>4.52</b>	<b>5.70</b>	<b>6.79</b>	<b>7.64</b>	<b>8.15</b>	<b>8.66</b>	<b>9.84</b>
Run VMG	<b>3.91</b>	<b>4.93</b>	<b>5.88</b>	<b>6.69</b>	<b>7.34</b>	<b>7.91</b>	<b>8.88</b>
Gybe Angles	<b>142.0°</b>	<b>146.0°</b>	<b>149.0°</b>	<b>155.5°</b>	<b>168.0°</b>	<b>180.0°</b>	<b>180.0°</b>

**Class Division Length**  
CDL = **10.675**

**Storm Sails Areas**  
Heavy Weather Jib **32.96**  
Storm Jib (JL=10.16) **12.21**  
Storm Trysail **17.19**

**Owner**

<b>BOAT</b>	
Name <b>LZ Yachting 1991</b>	Sail Nr <b>BUL-1991</b>
File <b>BUL1991</b>	Data in <b>meters/kilograms</b>

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

P <b>16.450</b>	E <b>5.970</b>	MDT1 <b>0.120</b>	MW <b>0.242</b>
IG <b>15.520</b>	J <b>4.520</b>	MDL1 <b>0.242</b>	GO <b>0.272</b>
ISP <b>15.650</b>	SFJ	MDT2 <b>0.080</b>	BD <b>0.250</b>
BAS <b>1.690</b>	SPL <b>4.520</b>	MDL2 <b>0.180</b>	MWT <b>211.00</b>
FSD <b>0.034</b>	TPS <b>4.520</b>	TL <b>2.300</b>	MCG <b>5.490</b>

**INCLINING TEST AND FREEBOARDS**

Inclining Test <b>Current Inclining</b>			
Flotation date <b>07/04/2011</b>		SG <b>1.0258</b>	
FFM <b>1.387</b>	FF <b>1.387</b>	SFFP <b>0.100</b>	
FAM <b>1.104</b>	FA <b>1.105</b>	SAFP <b>11.988</b>	
W1 <b>100.0</b>	PD1 <b>491.6</b>	WD <b>12.100</b>	
W2 <b>100.0</b>	PD2 <b>491.4</b>	GSA <b>1.0</b>	
W3 <b>100.0</b>	PD3 <b>491.0</b>	RSA <b>1.0</b>	
W4 <b>100.0</b>	PD4 <b>490.5</b>	PLM <b>9000.0</b>	
LCF from stem on CL / on sheer		<b>6.694 / 6.869</b>	
Maximum beam station from stem		<b>7.940</b>	
RM Measured		<b>194.0kg-m</b>	
RM Default		<b>186.2kg-m</b>	
Limit of positive stability / Stab.Index		<b>127.7° / 133.6</b>	
Freeboard at mast at 4.520		<b>1.236</b>	



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<b>MIZZEN RIG AND SAILS</b>	
N/A	

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD <b>0.430</b>		
Type <b>Folding 2 blades</b>	PBW <b>0.105</b>		
Twin Screw <b>No</b>	PIPA <b>0.0037</b>		
ST1 <b>0.050</b>	ST3 <b>0.180</b>	ST5 <b>0.292</b>	
ST2 <b>0.180</b>	ST4 <b>0.112</b>	EDL <b>0.930</b>	

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<b>COMMENTS</b>	

<b>MOVABLE BALLAST</b>	
N/A	

<b>CENTERBOARD</b>	
N/A	



<b>SAILS (Maximum Areas)</b>									
<b>Mainsail</b>	<b>MHB</b>	<b>MUW</b>	<b>MTW</b>	<b>MHW</b>	<b>MQW</b>	<b>Area</b>	<b>Area (r)</b>	<b>Formula</b>	
	0.27	1.32	2.32	3.87	4.97	58.78	60.11	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
<b>Symmetric</b>	<b>SLU</b>	<b>SLE</b>	<b>SL</b>	<b>SHW</b>	<b>SFL</b>				
	15.55	15.55	15.55	8.20	7.78	105.17		SL · (SFL + 4·SHW) / 6	
<b>Asymmetric on centerline</b>	<b>SLU</b>	<b>SLE</b>	<b>SL</b>	<b>SHW</b>	<b>SFL</b>	<b>Area (r)</b>			
	15.86	13.98	14.92	5.13	6.73	67.76	83.94	AS · (SFL + 4·SHW) / 6	

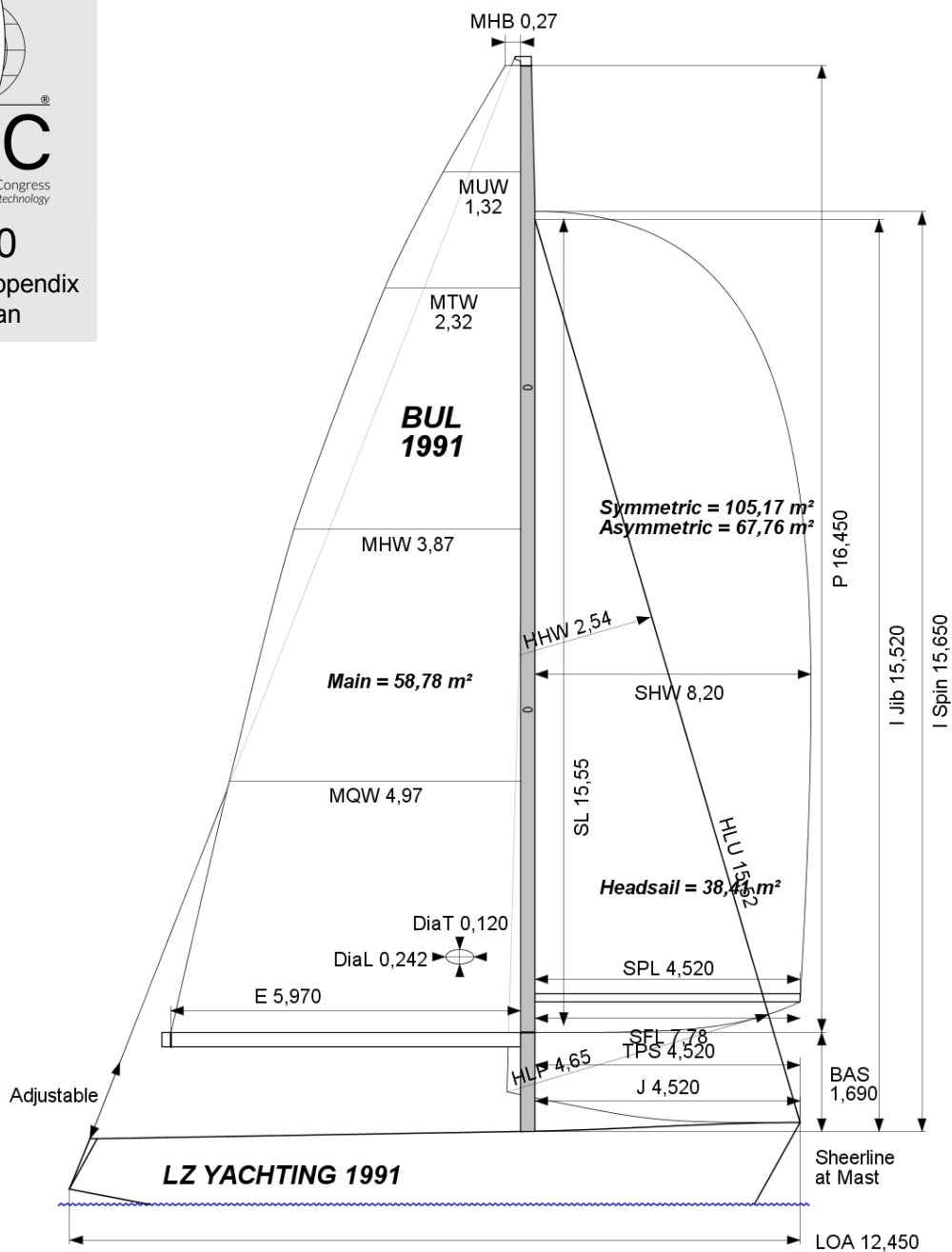
<b>HEADSAILS</b>												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
<b>HHB</b>	<b>HUW</b>	<b>HTW</b>	<b>HHW</b>	<b>HQW</b>	<b>HLP</b>	<b>HLU</b>	<b>Area</b>	<b>Btn</b>	<b>Flying</b>	<b>Meas.Date</b>	<b>Material</b>	<b>Comment</b>
0.16	0.80	1.44	2.54	3.58	4.65	15.52	38.41	Y	No	05/05/2019	Carbon	J1 new
0.10	0.67	1.27	2.45	3.56	4.75	15.53	37.58	Y	No	05/05/2019	Kevlar	J2 old
0.11	0.73	1.35	2.46	3.54	4.61	15.43	37.27	Y	No	05/05/2019	Carbon	J2 new
0.10	0.62	1.17	2.29	3.50	4.75	15.47	36.32	Y	No	05/05/2019	Carbon	J3 J3
0.08	0.60	1.18	2.38	3.58	4.72	14.02	33.36	Y	No	05/05/2019	Unknow	J4 old
0.10	0.59	1.14	2.25	3.41	4.58	14.07	32.11	Y	No	05/05/2019	Carbon	J4 new
					3.85	15.27	29.93		No	05/05/2019	Nylon	Windseeker

<b>MEASUREMENT INVENTORY</b>				
Measurer <b>SLO 03</b>				
Date <b>07/04/2011</b>				
Comment				
<b>Internal Ballast total = 0.0</b>				
<b>Id</b>	<b>Item</b>	<b>Weight</b>	<b>Distance</b>	<b>VCG Description</b>
1	Engine			Yanmar 29,4 KW
<b>Id</b>	<b>Item</b>	<b>Weight Description</b>		

<b>MEASUREMENT INVENTORY</b>							
<b>Id</b>	<b>Item</b>	<b>Tank Use</b>	<b>Tank Type</b>	<b>Capcty</b>	<b>Dist.</b>	<b>VCG</b>	<b>Condtn Description</b>
1	Tank	Water	PVC	100.0	5.82		0-0
2	Tank	Water	PVC	100.0	5.82		0-0
3	Tank	Fuel	Fix	60.0	8.52		40-0
<b>Id</b>	<b>Item</b>	<b>Weight</b>	<b>Distance</b>	<b>VCG Description</b>			
1	Ballast		7.62	8 pcs LEAD PRT			
2	Ballast		7.62	8 pcs LEAD STB			
3	Ballast		7.12	8 pcs LEAD PRT			
4	Ballast		7.12	8 pcs LEAD STB			
1	Battery	29.0	7.12	100 Ah			



**2020**  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

MAINSAIL (2)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
3Di	0.27	1.32	2.32	3.87	4.97	58.78		05/05/2019	NorthSails	Carbon						
2	0.23	1.29	2.23	3.81	4.95	58.07		05/05/2019	Quantum	Kevlar						
HEADSAILS (7)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
LM3DL	0.16	0.80	1.44	2.54	3.58	4.65	15.52	103%	38.41	Y	No		05/05/2019	North Sails	Carbon	J1 new
MH3	0.10	0.67	1.27	2.45	3.56	4.75	15.53	105%	37.58	Y	No		05/05/2019	Quantum	Kevlar	J2 old
MH3DL	0.11	0.73	1.35	2.46	3.54	4.61	15.43	102%	37.27	Y	No		05/05/2019	North Sails	Carbon	J2 new
J3	0.10	0.62	1.17	2.29	3.50	4.75	15.47	105%	36.32	Y	No		05/05/2019	Quantum	Carbon	J3 J3
J4	0.08	0.60	1.18	2.38	3.58	4.72	14.02	104%	33.36	Y	No		05/05/2019	Supreme	Unknow	J4 old
NS4	0.10	0.59	1.14	2.25	3.41	4.58	14.07	101%	32.11	Y	No		05/05/2019	North Sails	Carbon	J4 new
WS						3.85	15.27	85%	29.93		No		05/05/2019	CBS	Nylon	Windseeker
SYMMETRIC SPINNAKERS (6)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
S1,5	15.55	15.55	15.55	8.20	7.78	105.17		20/05/2019	NorthSails	Nylon	Yellow Superlite Kote 50					
s 2	15.64	15.64	15.64	8.12	7.78	104.95		05/05/2019	CBS	Nylon	Runner Medium					
S2	15.45	15.45	15.45	8.23	7.68	104.55		05/05/2019	North Sails	Nylon	Argus					
VMG - 2	15.60	15.60	15.60	7.88	7.80	102.24		05/05/2019	CBS	Nylon	VMG - big					
VMGS0	15.21	15.21	15.21	6.26	7.82	83.31		05/05/2019	North sails	Nylon						
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
Code0	15.86	13.98	14.92	5.13	6.73	67.77	asy77		05/05/2019	North Sails	Nylon	Code0				