



**ORC**

Offshore Racing Congress  
World leader in rating technology

**2020  
ORC Club  
Certificate**

**Rating Office**

**Offshore  
Racing  
Congress**



**Certificate**

Number **049/20**  
Issued On **27/07/2020**  
ORC Ref **03850000N70**  
VPP Ver. **2020 1.02**  
Valid until **31/12/2020**

**Crew Weight**

Default 790kg  
Maximum **455kg**  
Minimum\* **341kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **Sheets**

**Special Scoring**

	ToD	ToT
Non Spin GPH	<b>664.8</b>	<b>0.9025</b>
Non Spin OSN	<b>644.1</b>	<b>0.9316</b>

**Sails Limitations**

Headsails **1** Spinnakers **4**

**Asymmetric on centerline**

**Spinnaker configuration**  
Symmetric: **No**  
Asymmetric: **Yes 125.04**  
Flying H/S: **No**  
Spin. Pole: **No**

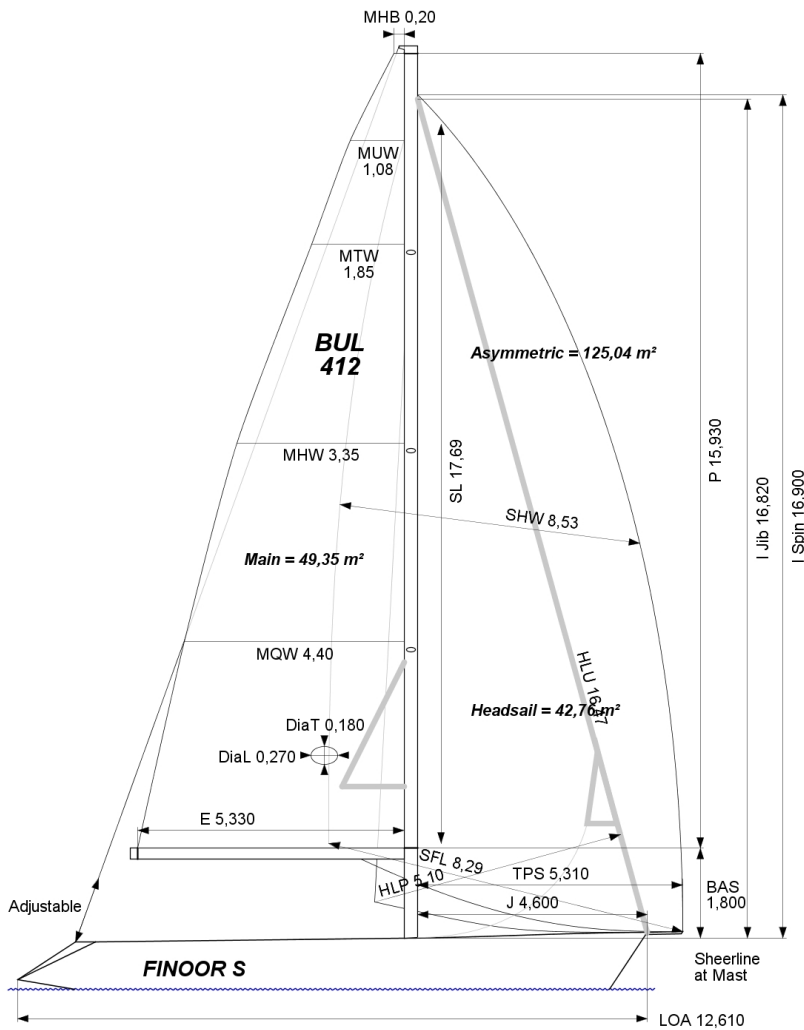
**Class Division Length**

**CDL = 9.495**

**Stability (Estimated)**

Limit Positive Stab.: **104.7°**  
Stability Index: **111.3**

**Owner**



BOAT		GPH	HULL			
Name <b>Finoor S</b>	Sail Nr <b>BUL-412</b>	<b>629.6</b>	Data File <b>BUL412</b>	LOA <b>12.610m</b>		
			Offset File <b>HR412CL.OFF</b>	MB <b>4.110m</b>		
			Displacement <b>11,500kg</b>	Draft <b>2.047m</b>		
<b>CLASS</b>			IMS Division <b>Cruiser/Racer</b>	Dynamic All. <b>0.491%</b>		
Class <b>Hallberg Rassy 412</b>	Designer <b>German Frers</b>		Plan Review	Construction <b>Solid</b>		
Builder <b>Hallberg Rassy</b>	Series <b>01/2013</b>		Fiber Rigging <b>No</b>	Aramid Core <b>No</b>		
Age Date <b>01/2015</b>	Age Allowance <b>0.228%</b>		Crew Arm Ex	Carbon Rudder <b>No</b>		
				Light Stanchions <b>No</b>		
<b>COMMENTS</b>			IMSL <b>10.999m</b>	VCGD <b>0.238m</b>		
			RL <b>7.989m</b>	VCGM <b>0.087m</b>		
			LSM0 <b>11.015m</b>	Displacement/Length ratio <b>8.6049</b>		
			Water Ballast <b>0</b>	Trim Tab <b>No</b>		
			BLR Index <b>0.0000</b>			
<b>PROPELLER</b>			<b>CENTERBOARD</b>			
Installation <b>Strut</b>	PRD <b>0.482</b>		<b>N/A</b>			
Type <b>Folding 3 blades</b>	PBW <b>0.120</b>					
	PIPA <b>0.0041</b>					
<b>SCORING OPTIONS</b>						
	<b>COASTAL / LONG DISTANCE</b>			<b>WINDWARD / LEEWARD</b>		
Time on Distance	<b>612.7</b>			<b>691.6</b>		
Time on Time	<b>0.9793</b>			<b>0.9760</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>725.8</b>	<b>556.7</b>	<b>495.7</b>	<b>941.0</b>	<b>699.0</b>	<b>601.7</b>
Time on Time	<b>0.9300</b>	<b>1.2126</b>	<b>1.3616</b>	<b>0.7173</b>	<b>0.9656</b>	<b>1.1218</b>

# 2020

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>Finoor S</b>	Certificate Number <b>049/20</b>
Sail Nr <b>BUL-412</b>	Issued On <b>27/07/2020</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1100.3</b>	<b>912.9</b>	<b>810.7</b>	<b>747.1</b>	<b>712.1</b>	<b>697.1</b>	<b>690.8</b>
52°	<b>709.8</b>	<b>603.2</b>	<b>536.8</b>	<b>501.1</b>	<b>484.8</b>	<b>477.9</b>	<b>473.5</b>
60°	<b>667.3</b>	<b>571.0</b>	<b>511.8</b>	<b>484.6</b>	<b>470.9</b>	<b>463.4</b>	<b>458.4</b>
75°	<b>636.0</b>	<b>544.9</b>	<b>494.8</b>	<b>472.3</b>	<b>459.1</b>	<b>449.5</b>	<b>437.7</b>
90°	<b>635.3</b>	<b>531.4</b>	<b>480.6</b>	<b>459.9</b>	<b>451.9</b>	<b>443.3</b>	<b>423.8</b>
110°	<b>627.9</b>	<b>521.2</b>	<b>473.7</b>	<b>451.9</b>	<b>435.5</b>	<b>421.2</b>	<b>405.4</b>
120°	<b>645.1</b>	<b>535.7</b>	<b>480.0</b>	<b>455.5</b>	<b>437.7</b>	<b>420.8</b>	<b>391.7</b>
135°	<b>713.5</b>	<b>586.6</b>	<b>508.0</b>	<b>470.9</b>	<b>450.5</b>	<b>433.3</b>	<b>400.1</b>
150°	<b>842.1</b>	<b>674.0</b>	<b>578.1</b>	<b>515.0</b>	<b>482.9</b>	<b>463.4</b>	<b>436.3</b>
Run VMG	<b>972.3</b>	<b>778.3</b>	<b>667.5</b>	<b>594.7</b>	<b>556.9</b>	<b>513.5</b>	<b>461.8</b>
<b>Selected Courses</b>							
Windward / Leeward	<b>1036.3</b>	<b>845.6</b>	<b>739.1</b>	<b>670.9</b>	<b>634.5</b>	<b>605.3</b>	<b>576.3</b>
Circular Random	<b>869.3</b>	<b>701.3</b>	<b>610.7</b>	<b>558.0</b>	<b>525.9</b>	<b>505.3</b>	<b>481.2</b>
Coastal / Long Distance	<b>1029.9</b>	<b>792.1</b>	<b>660.3</b>	<b>577.6</b>	<b>535.6</b>	<b>503.6</b>	<b>456.2</b>
Non Spinnaker	<b>936.4</b>	<b>747.8</b>	<b>643.9</b>	<b>581.8</b>	<b>542.9</b>	<b>517.7</b>	<b>488.6</b>

<b>Velocity Prediction in Knots for True Wind Speeds</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	<b>44.3°</b>	<b>42.4°</b>	<b>41.6°</b>	<b>42.0°</b>	<b>41.8°</b>	<b>41.3°</b>	<b>41.1°</b>
Beat VMG	<b>3.27</b>	<b>3.94</b>	<b>4.44</b>	<b>4.82</b>	<b>5.06</b>	<b>5.16</b>	<b>5.21</b>
52°	<b>5.07</b>	<b>5.97</b>	<b>6.71</b>	<b>7.18</b>	<b>7.43</b>	<b>7.53</b>	<b>7.60</b>
60°	<b>5.39</b>	<b>6.30</b>	<b>7.03</b>	<b>7.43</b>	<b>7.64</b>	<b>7.77</b>	<b>7.85</b>
75°	<b>5.66</b>	<b>6.61</b>	<b>7.28</b>	<b>7.62</b>	<b>7.84</b>	<b>8.01</b>	<b>8.22</b>
90°	<b>5.67</b>	<b>6.78</b>	<b>7.49</b>	<b>7.83</b>	<b>7.97</b>	<b>8.12</b>	<b>8.49</b>
110°	<b>5.73</b>	<b>6.91</b>	<b>7.60</b>	<b>7.97</b>	<b>8.27</b>	<b>8.55</b>	<b>8.88</b>
120°	<b>5.58</b>	<b>6.72</b>	<b>7.50</b>	<b>7.90</b>	<b>8.22</b>	<b>8.56</b>	<b>9.19</b>
135°	<b>5.05</b>	<b>6.14</b>	<b>7.09</b>	<b>7.64</b>	<b>7.99</b>	<b>8.31</b>	<b>9.00</b>
150°	<b>4.28</b>	<b>5.34</b>	<b>6.23</b>	<b>6.99</b>	<b>7.45</b>	<b>7.77</b>	<b>8.25</b>
Run VMG	<b>3.70</b>	<b>4.63</b>	<b>5.39</b>	<b>6.05</b>	<b>6.46</b>	<b>7.01</b>	<b>7.80</b>
Gybe Angles	<b>144.5°</b>	<b>148.0°</b>	<b>147.5°</b>	<b>148.5°</b>	<b>150.5°</b>	<b>176.0°</b>	<b>178.0°</b>